
## THE CITY OF WINNIPEG

# BID OPPORTUNITY

**BID OPPORTUNITY NO. 159-2007**

**WINNIPEG WATER TREATMENT PROGRAM - SUPPLY OF HMI HARDWARE AND PLC AND HMI SOFTWARE CONFIGURATION SERVICES**

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**Division 1**



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# PART B - BIDDING PROCEDURES

## B1. CONTRACT TITLE

B1.1 WINNIPEG WATER TREATMENT PROGRAM - SUPPLY OF HMI HARDWARE AND PLC AND HMI SOFTWARE CONFIGURATION SERVICES

## B2. SUBMISSION DEADLINE

B2.1 The Submission Deadline is 4:00 p.m. Winnipeg time, August 15, 2007.

B2.2 Bids determined by the Manager of Materials to have been received later than the Submission Deadline will not be accepted and will be returned upon request.

B2.3 The Contract Administrator or the Manager of Materials may extend the Submission Deadline by issuing an addendum at any time prior to the time and date specified in B2.1.

## B3. SITE INVESTIGATION

B3.1 Further to GC.2.01, the Bidder may make an appointment to view the Site by contacting the Contract Administrator.

B3.2 The Bidder shall not be entitled to rely on any information or interpretation received at the Site investigation unless that information or interpretation is the Bidder's direct observation, or is provided by the Contract Administrator in writing.

## B4. ENQUIRIES

B4.1 All enquiries shall be directed to the Contract Administrator identified in D4.1.

B4.2 If the Bidder finds errors, discrepancies or omissions in the Bid Opportunity, or is unsure of the meaning or intent of any provision therein, the Bidder shall promptly notify the Contract Administrator of the error, discrepancy or omission at least five (5) Business Days prior to the Submission Deadline.

B4.3 If the Bidder is unsure of the meaning or intent of any provision therein, the Bidder should request clarification as to the meaning or intent prior to the Submission Deadline.

B4.4 Responses to enquiries which, in the sole judgment of the Contract Administrator, require a correction to or a clarification of the Bid Opportunity will be provided by the Contract Administrator to all Bidders by issuing an addendum.

B4.5 Responses to enquiries which, in the sole judgment of the Contract Administrator, do not require a correction to or a clarification of the Bid Opportunity will be provided by the Contract Administrator only to the Bidder who made the enquiry.

B4.6 The Bidder shall not be entitled to rely on any response or interpretation received pursuant to B3 unless that response or interpretation is provided by the Contract Administrator in writing.

## B5. ADDENDA

B5.1 The Contract Administrator may, at any time prior to the Submission deadline, issue addenda correcting errors, discrepancies or omissions in the Bid Opportunity, or clarifying the meaning or intent of any provision therein.

B5.2 The Contract Administrator will issue each addendum at least two (2) Business Days prior to the Submission Deadline, or provide at least two (2) Business Days by extending the Submission Deadline.

B5.2.1 Addenda will be available on the Bid Opportunities page at The City of Winnipeg, Corporate Finance, Materials Management Branch internet site at http://www.winnipeg.ca/matmgt.

B5.2.2 The Bidder is responsible for ensuring that he has received all addenda and is advised to check the Materials Management Branch internet site for addenda regularly and shortly before the Submission Deadline, as may be amended by addendum.

B5.3 The Bidder shall acknowledge receipt of each addendum in Paragraph 10 of Form A: Bid. Failure to acknowledge receipt of an addendum may render a Bid non-responsive.

**B6. SUBSTITUTES**

B6.1 The Work is based on the materials, equipment, methods and products specified in the Bid Opportunity.

B6.2 Substitutions shall not be allowed unless application has been made to and prior approval has been granted by the Contract Administrator in writing.

B6.3 Requests for approval of a substitute will not be considered unless received in writing by the Contract Administrator at least seven (7) Business Days prior to the Submission Deadline.

B6.4 The Bidder shall ensure that any and all requests for approval of a substitute:

(a) provide sufficient information and details to enable the Contract Administrator to determine the acceptability of the material, equipment, method or product as either an approved equal or alternative;

(b) identify any and all changes required in the applicable Work, and all changes to any other Work, which would become necessary to accommodate the substitute;

(c) identify any anticipated cost or time savings that may be associated with the substitute;

(d) certify that, in the case of a request for approval as an approved equal, the substitute will fully perform the functions called for by the general design, be of equal or superior substance to that specified, is suited to the same use and capable of performing the same function as that specified and can be incorporated into the Work, strictly in accordance with the Contract;

(e) certify that, in the case of a request for approval as an approved alternative, the substitute will adequately perform the functions called for by the general design, be similar in substance to that specified, is suited to the same use and capable of performing the same function as that specified and can be incorporated into the Work, strictly in accordance with the Contract.

B6.5 The Contract Administrator, after assessing the request for approval of a substitute, may in his sole discretion grant approval for the use of a substitute as an “approved equal” or as an “approved alternative”, or may refuse to grant approval of the substitute.

B6.6 The Contract Administrator will provide a response in writing, at least two (2) Business Days prior to the Submission Deadline, only to the Bidder who requested approval of the substitute.

B6.6.1 The Bidder requesting and obtaining the approval of a substitute shall be entirely responsible for disseminating information regarding the approval to any person or persons he wishes to inform.

B6.7 If the Contract Administrator approves a substitute as an “approved equal”, any Bidder may use the approved equal in place of the specified item.

B6.8 If the Contract Administrator approves a substitute as an “approved alternative”, any Bidder bidding that approved alternative shall base his Total Bid Price upon the specified item but may also indicate an alternative price based upon the approved alternative. Such alternatives will be evaluated in accordance with B16.

B6.9 No later claim by the Contractor for an addition to the price(s) because of any other changes in the Work necessitated by the use of an approved equal or an approved alternative will be considered.

**B7. BID SUBMISSION**

B7.1 The Bid shall consist of the following components:

(a) Form A: Bid;

(b) Form B: Prices;

(c) Form N: Facotory Testing Location; and

(d) Form G1: Bid Bond and Agreement to Bond, or
Form G2: Irrevocable Standby Letter of Credit and Undertaking, or
a certified cheque or draft.

B7.2 All components of the Bid shall be fully completed or provided, and submitted by the Bidder no later than the Submission Deadline, with all required entries made clearly and completely, to constitute a responsive Bid.

B7.3 The Bid Submission shall be submitted enclosed and sealed in an envelope clearly marked with the Bid Opportunity number and the Bidder's name and address.

B7.3.1 Samples or other components of the Bid Submission which cannot reasonably be enclosed in the envelope may be packaged separately, but shall be clearly marked with the Bid Opportunity number, the Bidder's name and address, and an indication that the contents are part of the Bidder’s Bid Submission.

B7.4 Bidders are advised not to include any information/literature except as requested in accordance with B7.1.

B7.5 Bidders are advised that inclusion of terms and conditions inconsistent with the Bid Opportunity document, including the General Conditions, may result in the Bid being determined to be non-responsive.

B7.6 Bids submitted by facsimile transmission (fax) or internet electronic mail (e-mail) will not be accepted.

B7.7 Bids shall be submitted to:

The City of Winnipeg
Corporate Finance Department
Materials Management Branch
185 King Street, Main Floor
Winnipeg MB R3B 1J1

**B8. BID**

B8.1 The Bidder shall complete Form A: Bid, making all required entries.

B8.2 Paragraph 2 of Form A: Bid shall be completed in accordance with the following requirements:

(a) if the Bidder is a sole proprietor carrying on business in his own name, his name shall be inserted;

(b) if the Bidder is a partnership, the full name of the partnership shall be inserted;

(c) if the Bidder is a corporation, the full name of the corporation shall be inserted;

(d) if the Bidder is carrying on business under a name other than his own, the business name and the name of every partner or corporation who is the owner of such business name shall be inserted.

B8.2.1 If a Bid is submitted jointly by two or more persons, each and all such persons shall identify themselves in accordance with B8.2.

B8.3 In Paragraph 3 of Form A: Bid, the Bidder shall identify a contact person who is authorized to represent the Bidder for purposes of the Bid.

B8.4 Paragraph 12 of Form A: Bid shall be signed in accordance with the following requirements:

(a) if the Bidder is a sole proprietor carrying on business in his own name, it shall be signed by the Bidder;

(b) if the Bidder is a partnership, it shall be signed by the partner or partners who have authority to sign for the partnership;

(c) if the Bidder is a corporation, it shall be signed by its duly authorized officer or officers and the corporate seal, if the corporation has one, should be affixed;

(d) if the Bidder is carrying on business under a name other than his own, it shall be signed by the registered owner of the business name, or by the registered owner's authorized officials if the owner is a partnership or a corporation.

B8.4.1 The name and official capacity of all individuals signing Form A: Bid shall be printed below such signatures.

B8.4.2 All signatures should be witnessed, except where a corporate seal has been affixed.

B8.5 If a Bid is submitted jointly by two or more persons, the word "Bidder" shall mean each and all such persons, and the undertakings, covenants and obligations of such joint Bidders in the Bid and the Contract, when awarded, shall be both joint and several.

## B9. PRICES

B9.1 The Bidder shall state a price in Canadian funds for each item of the Work identified on Form B: Prices.

B9.1.1 Prices on Form B: Prices shall include:

(a) duty;

(b) freight and cartage;

(c) Provincial and Federal taxes [except the Goods and Services Tax (GST) and Manitoba Retail Sales Tax (MRST, also known as PST), which shall be extra where applicable] and all charges governmental or otherwise paid;

(d) profit and all compensation which shall be due to the Contractor for the Work and all risks and contingencies connected therewith.

B9.2 The quantities listed on Form B: Prices are to be considered approximate only. The City will use said quantities for the purpose of comparing Bids.

B9.3 The quantities for which payment will be made to the Contractor are to be determined by the Work actually performed and completed by the Contractor, to be measured as specified D24.

## B10. FACTORY TESTING LOCATION

B10.1 The Bidder shall state the location where ~~were~~ he will perform factory acceptance testing on Form N: Factory Testing Location.

## B11. QUALIFICATION

B11.1 The Bidder shall:

(a) undertake to be in good standing under The Corporations Act (Manitoba), or properly registered under The Business Names Registration Act (Manitoba), or otherwise properly registered, licensed or permitted by law to carry on business in Manitoba, or if the Bidder

does not carry on business in Manitoba, in the jurisdiction where the Bidder does carry on business; and

(b) be financially capable of carrying out the terms of the Contract; and

(c) have all the necessary experience, capital, organization, and equipment to perform the Work in strict accordance with the terms and provisions of the Contract; and

(d) be pre-qualified to participate in this Bid Opportunity by having submitted a qualification submission pursuant to Bid Opportunity 118-2007 and by having their qualification submission accepted by the City.

B11.2 The following bidders have successfully been pre-qualified as eligible for participation in this Bid Opportunity:

(a) Celco Controls Ltd.;

(b) Delco Automation Inc.;

(c) SNC-Lavalin Engineers & Constructors Inc.;

(d) Tartan Engineering Ltd.; and

(e) UMA Engineering Ltd..

B11.3 The Bidder and any proposed Subcontractor (for the portion of the Work proposed to be subcontracted to them) shall:

(a) be responsible and not be suspended, debarred or in default of any obligations to the City a list of suspended or debarred individuals and companies is available on the Information Connection page at The City of Winnipeg, Corporate Finance, Materials Management Branch internet site at http://www.winnipeg.ca/matmgt.

B11.4 The Bidder and/or any proposed Subcontractor (for the portion of the Work proposed to be subcontracted to them) shall:

(a) have successfully carried out work similar in nature, scope and value to the Work; and

(b) be fully capable of performing the Work required to be in strict accordance with the terms and provisions of the Contract; and

(c) have a written workplace safety and health program, if required, pursuant to The Workplace Safety and Health Act (Manitoba).

B11.5 The Bidder shall submit, within three (3) Business Days of a request by the Contract Administrator, proof satisfactory to the Contract Administrator of the qualifications of the Bidder and of any proposed Subcontractor.

B11.6 The Bidder shall provide, on the request of the Contract Administrator, full access to any of the Bidder's equipment and facilities to confirm, to the Contract Administrator's satisfaction, that the Bidder's equipment and facilities are adequate to perform the Work.

## B12. BID SECURITY

B12.1 The Bidder shall provide bid security in the form of:

(a) a bid bond, in the amount of at least ten percent (10%) of the Total Bid Price, and agreement to bond of a company registered to conduct the business of a surety in Manitoba, in the form included in the Bid Submission (Form G1: Bid Bond and Agreement to Bond); or

(b) an irrevocable standby letter of credit, in the amount of at least ten percent (10%) of the Total Bid Price, and undertaking issued by a bank or other financial institution registered to conduct business in Manitoba and drawn on a branch located in Winnipeg, in the form included in the Bid Submission (Form G2: Irrevocable Standby Letter of Credit and Undertaking); or

(c) a certified cheque or draft payable to "The City of Winnipeg", in the amount of at least fifty percent (50%) of the Total Bid Price, drawn on a bank or other financial institution registered to conduct business in Manitoba.

B12.1.1 If the Bidder submits alternative bids, the bid security shall be in the amount of the specified percentage of the highest Total Bid Price submitted.

B12.1.2 All signatures on bid securities shall be original, and shall be witnessed or sealed as required.

B12.2 The bid security of the successful Bidder and the next two lowest evaluated responsive and responsible Bidders will be released by the City when a Contract for the Work has been duly executed by the successful Bidder and the performance security furnished as provided herein. The bid securities of all other Bidders will be released when a Contract is awarded.

B12.2.1 Where the bid security provided by the successful Bidder is in the form of a certified cheque or draft pursuant to B12.1(c), it will be deposited and retained by the City as the performance security and no further submission is required.

B12.2.2 The City will not pay any interest on certified cheques or drafts furnished as bid security or subsequently retained as performance security.

B12.3 The bid securities of all Bidders will be released by the City as soon as practicable following notification by the Contract Administrator to the Bidders that no award of Contract will be made pursuant to the Bid Opportunity.

## B13. OPENING OF BIDS AND RELEASE OF INFORMATION

B13.1 Bids will not be opened publicly.

B13.2 Following the Submission Deadline, the names of the Bidders and their Total Bid Prices (unevaluated, and pending review and verification of conformance with requirements) will be available on the Closed Bid Opportunities (or Public/Posted Opening & Award Results) page at The City of Winnipeg, Corporate Finance, Materials Management Branch internet site at http://www.winnipeg.ca/matmgt.

B13.3 After award of Contract, the name(s) of the successful Bidder(s) and the Contract Amount(s) will be available on the Closed Bid Opportunities (or Public/Posted Opening & Award Results) page at The City of Winnipeg, Corporate Finance, Materials Management Branch internet site at http://www.winnipeg.ca/matmgt.

B13.4 The Bidder is advised that any information contained in any Bid may be released if required by City policy or procedures, by The Freedom of Information and Protection of Privacy Act (Manitoba), by other authorities having jurisdiction, or by law.

## B14. IRREVOCABLE BID

B14.1 The Bid(s) submitted by the Bidder shall be irrevocable for the time period specified in Paragraph 11 of Form A: Bid.

B14.2 The acceptance by the City of any Bid shall not release the Bids of the next two lowest evaluated responsive Bidders and these Bidders shall be bound by their Bids on such Work for the time period specified in Paragraph 11 of Form A: Bid.

## B15. WITHDRAWAL OF BIDS

B15.1 A Bidder may withdraw his Bid without penalty by giving written notice to the Manager of Materials at any time prior to the Submission Deadline.

B15.1.1 Notwithstanding GC.7.05(2), the time and date of receipt of any notice withdrawing a Bid shall be the time and date of receipt as determined by the Manager of Materials.

B15.1.2 The City will assume that any one of the contact persons named in Paragraph 3 of Form A: Bid or the Bidder's authorized representatives named in Paragraph 12 of Form A: Bid, and only such person, has authority to give notice of withdrawal.

B15.1.3 If a Bidder gives notice of withdrawal prior to the Submission Deadline, the Manager of Materials will:

(a) retain the Bid until after the Submission Deadline has elapsed;

(b) open the Bid to identify the contact person named in Paragraph 3 of Form A: Bid and the Bidder's authorized representatives named in Paragraph 12 of Form A: Bid; and

(c) if the notice has been given by any one of the persons specified in B15.1.3(b), declare the Bid withdrawn.

B15.2 A Bidder who withdraws his Bid after the Submission Deadline but before his Bid has been released or has lapsed as provided for in B14.2 shall be liable for such damages as are imposed upon the Bidder by law and subject to such sanctions as the Chief Administrative Officer considers appropriate in the circumstances. The City, in such event, shall be entitled to all rights and remedies available to it at law, including the right to retain the Bidder's bid security.

## B16. EVALUATION OF BIDS

B16.1 Award of the Contract shall be based on the following bid evaluation criteria:

(a) compliance by the Bidder with the requirements of the Bid Opportunity (pass/fail);

(b) qualifications of the Bidder and the Subcontractors, if any, pursuant to B11 (pass/fail);

(c) Evaluated Bid Price;

(d) economic analysis of any approved alternative pursuant to B6.

B16.2 Further to B16.1(a), the Award Authority may reject a Bid as being non-responsive if the Bid Submission is incomplete, obscure or conditional, or contains additions, deletions, alterations or other irregularities. The Award Authority may reject all or any part of any Bid, or waive technical requirements or minor informalities or irregularities if the interests of the City so require.

B16.3 Further to B16.1(b), the Award Authority shall reject any Bid submitted by a Bidder who does not demonstrate, in his Bid or in other information required to be submitted, that he is responsible and qualified.

B16.4 Further to B16.1(c), the Evaluated Bid Price shall be the Total Bid Price shown on Form B: Prices adjusted, for the comparison of bids only, by adding the estimated cost to the City for witnessing factory acceptance tests at the location specified by the Bidder in Form N: Factory Testing Location.

B16.4.1 If there is any discrepancy between the Total Bid Price written in figures, the Total Bid Price written in words and the sum of the quantities multiplied by the unit prices for each item, the sum of the quantities multiplied by the unit prices for each item shall take precedence.

B16.4.2 This Contract will be awarded as a whole.

## B17. AWARD OF CONTRACT

B17.1 The City will give notice of the award of the Contract or will give notice that no award will be made.

B17.2 The City will have no obligation to award a Contract to a Bidder, even though one or all of the Bidders are determined to be responsible and qualified, and the Bids are determined to be responsive.

B17.2.1 Without limiting the generality of B17.2, the City will have no obligation to award a Contract where:

(a) the prices exceed the available City funds for the Work;

(b) the prices are materially in excess of the prices received for similar work in the past;

(c) the prices are materially in excess of the City's cost to perform the Work, or a significant portion thereof, with its own forces;

(d) only one Bid is received; or

(e) in the judgment of the Award Authority, the interests of the City would best be served by not awarding a Contract.

B17.3 Where an award of Contract is made by the City, the award shall be made to the responsible and qualified Bidder submitting the lowest evaluated responsive Bid.

B17.3.1 Following the award of contract, a Bidder will be provided with information related to the evaluation of his Bid upon written request to the Contract Administrator.

# PART C - GENERAL CONDITIONS

## C1. GENERAL CONDITIONS

C1.1 The *General Conditions for the Supply and Delivery of Goods* (Form 21: 88 03) are applicable to the Work of the Contract.

C1.1.1 The *General Conditions for the Supply and Delivery of Goods* are available on the Information Connection page at The City of Winnipeg, Corporate Finance, Materials Management Branch internet site at http://www.winnipeg.ca/matmgt.

# PART D - SUPPLEMENTAL CONDITIONS

## GENERAL

### D1. GENERAL CONDITIONS

D1.1 In addition to the *General Conditions for the Supply and Delivery of Goods*, these Supplemental Conditions are applicable to the Work of the Contract.

D1.2 The General Conditions are amended by striking out “The City of Winnipeg Act” wherever it appears in the General Conditions and substituting “The City of Winnipeg Charter”.

D1.3 The General Conditions are amended by striking out “Board of Commissioners” or “Commissioner” wherever it appears in the General Conditions and substituting the “Chief Administrative Officer”.

D1.4 The General Conditions are amended by striking out “Tender Package” wherever it appears in the General Conditions and substituting “Bid Opportunity”.

D1.5 The General Conditions are amended by striking out “Tender Submission” wherever it appears in the General Conditions and substituting “Bid Submission”.

D1.6 The General Conditions are amended by striking out “Bidding Instructions” wherever it appears in the General Conditions and substituting “Bidding Procedures”.

### D2. SCOPE OF WORK

D2.1 The Work to be done under the Contract shall consist of the supply and installation of HMI hardware and the provision of PLC and HMI software configuration services.

D2.2 The major components of the Work are as follows:

(a) As specified in Section 17015.

(b) Following completion of Performance Verification, provide commissioning assistance to the Contract Administrator during the Commissioning Period. This assistance shall be provided at the Contract Administrator’s request.

(c) Provide training to City personnel during the Commissioning Period and Warranty Period as specified.

(d) The City will develop a User Requirement Specification and provide it to the Contractor at the pre-construction meeting held pursuant to D14.2(b).

### D3. DEFINITIONS

D3.1 When used in this Bid Opportunity:

(a) **Acceptable Shop Drawings** means all required Shop Drawings have been reviewed by the Contract Administrator and have been annotated and stamped as “reviewed” or “reviewed as modified” in accordance with Section 01300 of this Bid Opportunity

(b) **API** means American Petroleum Institute

(c) **CEMA** means Canadian Electrical Manufacturer’s Association

(d) **CSA** means Canadian Standards Association

(e) **City Supplied Equipment** means equipment supplied and installed by the City under a separate contract which shall be controlled by the PLC and HMI hardware supplied and programmed under this Contrac.

(f) **City Warehouse** means the enclosed and heated City owned warehouse located at 1500 Plessis Road, Winnipeg, Manitoba

(g) **Commissioning Operations Agent** means a qualified operations team, retained by the City under a separate contract, that takes primary responsibility for operation of the WTP during the Commissioning Period

(h) **Commissioning Period** means the time between the completion of Performance Verification and Total Performance during which a system is operated under Commissioning Operations Agent's control to demonstrate to the City it that it operates in conformance with the design intent

(i) **Contract Work Schedule** means a Gantt Charter developed by the Contractor developed using the critical path method which shows the proposed progress of the major items of work which are to be performed under this Contract

(j) **Control System Integrator** means the Contractor

(k) **DAF** means Dissolved Air Flotation

(l) **DBPS** means Deacon Booster Pumping Station

(m) **EEMAC** means Electrical and Electronic Manufacturer Association of Canada

(n) **FAT** means factory acceptance test

(o) **FDS** or **Functional Design Specification** means a submittal prepared by the Contractor that details the solution he will supply and install to meet the City defined requirements for the WTP control system. The FDS shall provide the basis of the software configuration and shall be validated during Performance Verification to ensure that all required functions are present and that they operate correctly

(p) **FS** means Federal Specifications

(q) **Furnish** means supply

(r) **GOX** means gaseous oxygen

(s) **HDS** or **Hardware Design Specification** means a submittal prepared by the Contractor that fully describes all the hardware aspects of the Work

(t) **I&C** means instrumentation and control

(u) **I/O** means input/output

(v) **ILD** means instrument loop diagram

(w) **IEC** means International Electrotechnical Commission

(x) **IEEE** means Institute of Electrical and Electronics Engineers

(y) **ISA** means the Instrumentation Systems and Automation Society

(z) **ISO** means International Organization for Standardization

(aa) **HMI** means human machine interface

(bb) **LOX** means liquid oxygen

(cc) **Manufacturer** means the person, partnership or corporation responsible for the manufacture and fabrication of equipment supplied by the Contractor for the completion of the Work

(dd) **Manufacturer's Representative** means a trained serviceman empowered by the Manufacturer to provide installation, testing, and commissioning assistance to the Contractor in his performance of those functions

(ee) **Material** means any things, including Goods, parts and equipment, which are to form part of the permanent Work

(ff) **MCC** means motor control centre

(gg) **MV** means medium voltage

(hh) **NEMA** means National Electrical Manufacturers Association

(ii) **NFPA** means National Fire Protection Association

(jj) **O&M** means operation and maintenance

(kk) **OSHA** means Occupational Safety and Health Act

(ll) **P&ID** means process and instrumentation diagram

(mm) **PLC** means programmable logic controller

(nn) **Project Master Schedule** means a schedule developed by the Contract Administrator which includes and coordinates the Contract Work Schedules of several City contracts, including this Contract

(oo) **Professional Engineer** means a professional engineer registered in the Province of Manitoba

(pp) **Performance Verification** means all factory and field tests, demonstrations and other activities required from the Contractor to complete all required Forms 103 – Certificate of Satisfactory Performance and to demonstrate to the Contract Administrator's satisfaction that the equipment installed under this Contract is performing as specified herein

(qq) **Process Unit** means a complete equipment package supplied either by the Contractor or as part of City Supplied Equipment and which includes individual process components, skid mounted equipment and any related appurtenances

(rr) **PVC** means polyvinyl chloride

(ss) **Record Drawings** means a minimum of one (1) complete set of Contract Documents and Certified Shop Drawings maintained at the Contractor's Site office on which the Contractor clearly shall clearly record in red pencil all Addenda, Change Orders, Field Instructions, and other revisions or as-built conditions which deviate from the original Contract Documents or Certified Shop Drawings

(tt) **RTD** means resistance temperature detector

(uu) **RWPS** means raw water pumping station.

(vv) **SAT** means Site acceptance test

(ww) **SCADA** means supervisory control and data acquisition

(xx) **SDS** or **Software Design Specification** means a submittal prepared by the Contractor that describes how the software will be encoded in a structured and efficient manner

(yy) **SPLC** or **S-PLC** means the DBPS master PLC

(zz) **SQL** means standard query language and is a computer language for the retrieval and management of data in relational database management systems

(aaa) **Substantial Performance** shall have the meaning attributed to it in the Builders' Liens Act (Manitoba), or any successor legislation thereto

(bbb) **Supply Contractor** means a contractor retained by the City, under a separate contract, to supply City Supplied Equipment which shall be controlled by the PLC and HMI hardware supplied and programmed under this Contract

(ccc) **Supplemental Training** means training provided by qualified Manufacturers' Representatives during the Warranty Period

(ddd) **Systems Integrator** means Control System Integrator

(eee) **TEFC** means totally enclosed fan-cooled

(fff) **TPSH** means twisted pair shielded cable

(ggg) **ULC** means Underwriter's Laboratories of Canada

(hhh) **UPS** means uninterruptible power supply

(iii) **URS** or **User Requirement Specification** means a written explanation, prepared by the City, of the control philosophy for equipment shown on the P&IDs

(jjj) **UV** means ultraviolet

(kkk) **UVM** means UV master PLC

(lll) **VFD** means variable frequency drive

(mmm) **VSD** means variable speed drive

(nnn) **Vendor Package** means a manufactured equipment package supplied and installed by the Contractor

(ooo) **WTP** means the Winnipeg Water Treatment Plant and includes the structure and all equipment and materials supplied and installed into the building, under multiple construction contracts, including portions of the Work provided under this Contract

(ppp) **WTP Facility** means the Winnipeg Water Treatment Plant and all ancillary support facilities located on the Site identified in E3.3, including all structures, equipment and materials supplied and installed into the buildings, under multiple construction contracts, including portions of the Work provided under this Contract

D3.2 The definitions of technical terms, abbreviations, and symbols will be those of the American Society for Testing and Materials, Canadian Standards Association and the applicable Codes and Standards. In the event of a dispute, the Contract Administrator's decision will be final.

D3.3 Certain definitions related to the technical components of the Work shall be as defined in Section 17010.

D3.4 The Manufacturer and Manufacturer's Representative are not parties to this Contract. All work required from the Manufacturer and Manufacturer's Representative shall be provided and coordinated by the Contractor.

D3.5 Specialized terms relating to instrumentation and control and which are not explicitly defined herein shall be as defined in The Instrumentation Systems and Automation Society (ISA) S51.1, National Electrical Manufacturer's Association (NEMA) Industrial Control and Systems (ICS) 1, American National Standards Institute (ANSI)/Institute of Electrical and Electronic Engineers (IEEE) Std 100, and the Communications Standard Dictionary, by Martin H. Weik.

## D4. CONTRACT ADMINISTRATOR

D4.1 The Contract Administrator is UMA Projects (CM) Ltd., represented by:

Bill Richert, P. Eng.
1479 Buffalo Place
Winnipeg, MB
R3T 1L7

e-mail: bill.richert@uma.aecom.com

Telephone No. (204) 986-6053
Facsimile No. (204) 986-8393

D4.2 Before commencement of Work, the Contract Administrator will identify additional personnel representing the Contract Administrator and their respective roles and responsibilities for the Work.

## D5. CONTRACTOR'S SUPERVISOR

D5.1 Further to GC.5.02(2), the Contractor shall employ and keep on the Work, at all times during the performance of the Work, a competent supervisor and assistants, if necessary, acceptable to the Contract Administrator. The supervisor shall represent the Contractor on the Site. The supervisor shall not be replaced without the prior consent of the Contract Administrator unless the supervisor proves to be unsatisfactory to the Contractor and ceases to be in his employ.

D5.2 Before commencement of Work, the Contractor shall identify his designated supervisor and any additional personnel representing the Contractor and their respective roles and responsibilities for the Work.

D5.3 Further to GC.5.02(3), the Contract Administrator may give instructions or orders to the Contractor's supervisor and such instructions or orders shall be deemed to have been given to the Contractor.

**D6. NOTICES**

D6.1 GC.7.05 is hereby amended to delete reference to "registered mail" and to replace same with "ordinary mail".

D6.2 GC.7.05 is further amended hereby to include delivery by facsimile transmission (fax) as an acceptable means of delivering notices, consents, approvals, statements, authorizations, documents or other communications required or permitted to be given under this Contract. Deliveries by fax will be deemed to have been received on the day of delivery, if a business day, or if not a business day, on the business day next following the day of delivery.

D6.3 Further to GC.7.05, all notices, consents, approvals, statements, authorizations, documents or other communications to the City, except as expressly otherwise required in D6.4, D6.5 or elsewhere in the Contract, shall be sent to the attention of the Contract Administrator at the address or facsimile number identified in D4.1.

D6.4 All notices of appeal to the Chief Administrative Officer shall be sent to the following address or facsimile number:

The City of Winnipeg
Chief Administrative Officer Secretariat
Attn: Chief Administrative Officer
Administration Building, 3rd Floor
510 Main Street
Winnipeg MB R3B 1B9

Facsimile No.: (204) 949-1174

D6.5 All notices, requests, nominations, proposals, consents, approvals, statements, authorizations, documents or other communications required to be submitted or returned to the City Solicitor shall be sent to the following address or facsimile number:

The City of Winnipeg
Corporate Services Department
Legal Services Division
Attn: City Solicitor
185 King Street, 3rd Floor
Winnipeg MB R3B 1J1

Facsimile No.: (204) 947-9155

**SUBMISSIONS**

**D7. AUTHORITY TO CARRY ON BUSINESS**

D7.1 The Contractor shall be in good standing under The Corporations Act (Manitoba), or properly registered under The Business Names Registration Act (Manitoba), or otherwise properly registered, licensed or permitted by law to carry on business in Manitoba, or if the Contractor does not carry on business in Manitoba, in the jurisdiction where the Contractor does carry on business, throughout the term of the Contract, and shall provide the Contract Administrator with evidence thereof upon request.

**D8. WORKERS COMPENSATION**

D8.1 The Contractor shall be registered with the Workers Compensation Board of Manitoba, shall provide and maintain Workers Compensation coverage throughout the term of the Contract, and shall provide the Contract Administrator with evidence thereof upon request.

## D9. INSURANCE

D9.1 The City will provide and maintain the following Project Insurance Coverages:

(a) Builder's Risk Insurance in the amount of one hundred percent (100%) of the total project cost.

(i) The Contractor shall be responsible for deductibles up to $25,000.00 maximum of any one loss.

(b) Wrap-Up Liability Insurance in an amount of no less than 10 million dollars ($10,000,000.00)

(i) The Contractor shall be responsible for deductibles up to $25,000.00 maximum of any one loss.

(c) The City of Winnipeg will carry such insurance to cover all parties engaged in the Work in this Contract. Provision of this insurance by the City of Winnipeg is not intended in any way to relieve the Contractor from his obligations under the terms of the Contract. Specifically, losses relating to deductibles for insurance, as well as losses in excess of limits of coverage and any risk of loss that is not covered under the terms of the insurance provided by the City of Winnipeg remains with the Contractor.

D9.2 The Contractor shall provide and maintain the following insurance coverage at all times during the performance of the Work:

(a) Automobile liability insurance for owned and non-owned automobiles used for or in connection with the work in the amount of at least two million dollars ($2,000,000.00).

(i) Deductibles shall be borne by the Contractor;

(ii) The Contractor shall not cancel, materially alter, or cause the policy to lapse without providing at least fifteen (15) Calendar Days prior written notice to the Contract Administrator;

(iii) The Contractor shall provide the Contract Administrator with evidence of insurance of the policy at least two (2) Business Days prior to the commencement of any Work on the Site but in no event later than seven (7) Calendar Days from notification of the award of Contract.

D9.3 The Contractor shall not cancel, materially alter, or cause each policy to lapse without providing at least fifteen (15) Calendar Days prior written notice to the Contract Administrator.

## D10. PERFORMANCE SECURITY

D10.1 The Contractor shall provide and maintain performance security until the expiration of the warranty period in the form of:

(a) a performance bond of a company registered to conduct the business of a surety in Manitoba, in the form attached to these Supplemental Conditions (Form H1: Performance Bond), in the amount of fifty percent (50%) of the Contract Price; or

(b) an irrevocable standby letter of credit issued by a bank or other financial institution registered to conduct business in Manitoba and drawn on a branch located in Winnipeg, in the form attached to these Supplemental Conditions (Form H2: Irrevocable Standby Letter of Credit), in the amount of fifty percent (50%) of the Contract Price; or

(c) a certified cheque or draft payable to "The City of Winnipeg", drawn on a bank or other financial institution registered to conduct business in Manitoba, in the amount of fifty percent (50%) of the Contract Price.

D10.1.1 Where the performance security is in the form of a certified cheque or draft, it will be deposited by the City. The City will not pay any interest on certified cheques or drafts furnished as performance security.

D10.2 If the bid security provided in his Bid was not a certified cheque or draft pursuant to B12.1(c), the Contractor shall provide the City Solicitor with the required performance security within seven (7) Calendar Days of notification of the award of the Contract by way of and prior to the commencement of any Work on the Site.

## D11. SUBCONTRACTOR LIST

D11.1 The Contractor shall provide the Contract Administrator with a complete list of the Subcontractors whom the Contractor proposes to engage (Form J: Subcontractor List) at least two (2) Business Days prior to the commencement of any Work on the Site.

## D12. DETAILED WORK SCHEDULE

D12.1 The Contract Administrator has developed a Project Master Schedule for the Work. This schedule will be available in the offices of the Contract Administrator and will be updated as required as the Work progresses.

D12.2 The Contractor shall, within fifteen (15) Business Days of award of Contract, prepare a detailed Contract Work Schedule for his work based on a critical path method (CPM) approach.

D12.3 The schedule shall conform to the Project Master Schedule and show, in a clear graphical manner, through the use of Gantt charts, in a maximum of weekly stages, the proposed progress of the main items, structures and subtrades of the contract and indicate the labour, construction crews, plant and equipment to be employed. Indicate the delivery date of major pieces of equipment to be supplied. The schedule shall be predicated on the completion of all work on or before the date of Substantial Performance.

D12.4 The Contract Work Schedule shall be updated as the Work requires and submitted to the Contract Administrator.

D12.5 Upon acceptance by the Contract Administrator, distribute copies of the revised schedule to Subcontractors and other concerned parties.

D12.6 The Contractor shall instruct recipients to report to the Contractor immediately any problems anticipated by the timetable shown in the Contract Work Schedule.

D12.7 While it is intended that the Contractor shall be allowed, in general, to carry on the Contract in accordance with such general plans as may appear to him to be most desirable, the Contract Administrator, at his discretion, may direct the order in which, and points at which, parts of the Work shall be undertaken.

D12.8 This control shall be exercised in the interests of the City so that the work or other Contractors who may be working on the site may be coordinated with the work on this Contract. A program of work will be drawn up and agreed to before the commencement of the Contract.

D12.9 The Contract Administrator shall be notified immediately when the work under the Contract Work Schedule will adversely affect the work of other Contractors and the critical path of the Project Master Schedule as the work under the Contractor's Contract Work Schedule is an integral part of the Project Master Schedule.

D12.10 The Contractor shall be familiar with all other Contract Work Schedules as contracted by the City with other Contractors and the critical path of the Project Master Schedule.

## D13. SECURITY CLEARANCE

D13.1 Each individual proposed to perform Work under the Contract shall be required to obtain a Criminal Record Search Certificate from the police service having jurisdiction at his place of residence.

D13.2 Prior to the commencement of any Work, and during the term of the Contract if additional or replacement individuals are proposed to perform Work, the Contractor shall supply the Contract Administrator with a Criminal Record Search Certificate obtained not earlier than one (1) year prior to the Submission Deadline, or a certified true copy thereof, for each individual proposed to perform the Work.

D13.3 Any individual for whom a Criminal Record Search Certificate is not provided, or for whom a Criminal Record Search Certificate indicates any convictions or pending charges related to property offences or crimes against another person, will not be permitted to perform any Work.

D13.4 Any Criminal Record Search Certificate obtained thereby will be deemed valid for the duration of the Contract subject to a repeated records search as hereinafter specified.

D13.5 Notwithstanding the foregoing, at any time during the term of the Contract, the City may, at its sole discretion and acting reasonably, require an updated criminal records search. Any individual who fails to provide a satisfactory Criminal Record Search Certificate as a result of a repeated criminal records search will not be permitted to continue to perform any Work.

## SCHEDULE OF WORK

### D14. COMMENCEMENT

D14.1 The Contractor shall not commence any Work until he is in receipt of a notice of award from the City authorizing the commencement of the Work.

D14.2 The Contractor shall not commence any Work on the Site until:

(a) the Contract Administrator has confirmed receipt and approval of:
  (i) evidence of authority to carry on business specified in D7;
  (ii) evidence of the workers compensation coverage specified in D8;
  (iii) evidence of the insurance specified in D9;
  (iv) the performance security specified in D10;
  (v) the Subcontractor list specified in D11;
  (vi) the detailed work schedule specified in D12; and
  (vii) the security clearances specified in D13.

(b) the Contractor has attended a meeting with the Contract Administrator, or the Contract Administrator has waived the requirement for a meeting.

D14.3 The Contractor shall commence the Work within seven (7) Calendar Days of receipt of the notice of award.

### D15. SCHEDULE RESTRICTIONS

D15.1 In order for the Contractor to complete Performance Verification, the City must complete the satisfactory installation of the City Supplied Equipment to be controlled by the Material supplied and installed under this Contract. The City expects to complete the satisfactory installation of the City Installed Equipment by October 31, 2008.

D15.2 The Contractor shall not begin delivery of Materials to the Site until receiving written acceptance of all Factory Acceptance Tests from the Contract Administrator.

### D16. CRITICAL STAGES

D16.1 The Contractor shall achieve critical stages of the Work in accordance with the following requirements:

(a) October 31, 2007: Contractor to complete HDS, FDS and SDS;

(b) May 31, 2008: Contractor to complete all fabrication and factory testing and to begin the delivery of the PLC and HMI hardware to the WTP Site; and

(c) December 1, 2008: Complete Performance Verification.

## D17. SUBSTANTIAL PERFORMANCE

D17.1 The Contractor shall achieve Substantial Performance by December 1, 2008.

D17.2 When the Contractor considers the Work to be substantially performed, the Contractor shall arrange, attend and assist in the inspection of the Work with the Contract Administrator for purposes of verifying Substantial Performance. Any defects or deficiencies in the Work noted during that inspection shall be remedied by the Contractor at the earliest possible instance and the Contract Administrator notified so that the Work can be reinspected.

D17.3 The date on which the Work has been certified by the Contract Administrator as being substantially performed to the requirements of the Contract through the issue of a certificate of Substantial Performance is the date on which Substantial Performance has been achieved.

D17.4 Substantial Performance cannot be completed without the completion of Performance Verification.

## D18. TOTAL PERFORMANCE

D18.1 The Contractor shall achieve Total Performance by December 31, 2008.

D18.2 When the Contractor or the Contract Administrator considers the Work to be totally performed, the Contractor shall arrange, attend and assist in the inspection of the Work with the Contract Administrator for purposes of verifying Total Performance. Any defects or deficiencies in the Work noted during that inspection shall be remedied by the Contractor at the earliest possible instance and the Contract Administrator notified so that the Work can be reinspected.

D18.3 The date on which the Work has been certified by the Contract Administrator as being totally performed to the requirements of the Contract through the issue of a certificate of Total Performance is the date on which Total Performance has been achieved.

D18.4 Total Performance cannot be completed without the completion of Form 104 and Form T1.

## D19. LIQUIDATED DAMAGES

D19.1 If the Contractor fails to achieve Substantial Performance or Total Performance in accordance with the Contract by the day fixed herein for Substantial Performance, the Contractor shall pay the City the following amounts per Calendar Day for each and every Calendar Day following the days fixed herein for same during which such failure continues:

(a) Substantial Performance – two thousand, six hundred dollars ($2,600.00);

(b) Total Performance – six hundred dollars ($600).

D19.2 The amount specified for liquidated damages in D19.1 is based on a genuine pre-estimate of the City's damages in the event that the Contractor does not achieve Substantial Performance by the day fixed herein for same.

D19.3 The City may reduce any payment to the Contractor by the amount of any liquidated damages assessed.

## CONTROL OF WORK

## D20. JOB MEETINGS

D20.1 Following the delivery of Materials to the Site, regular weekly job meetings will be held at the Site. These meetings shall be attended by a minimum of one representative of the Contract Administrator, one representative of the City and one representative of the Contractor. Each representative shall be a responsible person capable of expressing the position of the Contract Administrator, the City and the Contractor respectively on any matter discussed at the meeting

including the Work schedule and the need to make any revisions to the Work schedule. The progress of the Work will be reviewed at each of these meetings.

D20.2 The Contract Administrator reserves the right to cancel any job meeting or call additional job meetings whenever he deems it necessary.

**D21. PRIME CONTRACTOR – THE WORKPLACE SAFETY AND HEALTH ACT (MANITOBA)**

D21.1 UMA Projects (CM) Ltd. shall be the Prime Contractor and shall serve as, and have the duties of the Prime Contractor in accordance with The Workplace Safety and Health Act (Manitoba).

D21.2 As Prime Contractor, UMA Projects (CM) Ltd. will administer a Safety and Health Management Plan. Compliance with this Plan will be mandatory for all personnel on the construction site and orientation of all staff by the Prime Contractor's Safety Officer will be required.

D21.3 The Water Treatment Program Project Safety and Health Management Plan is available on the City of Winnipeg, Corporate Finance, Materials Management Branch internet site at http://www.winnipeg.ca/matmgt/projects.

**D22. COOPERATION WITH OTHERS**

D22.1 The Contractor shall note that several other construction contracts will be underway at the time of construction, including, but not limited to:

(a) Bid Opportunity 682-2005 Winnipeg Water Treatment Program – Supply of Standby Generator and 5kV Switchgear;

(b) Bid Opportunity 498-2006 Water Treatment Program – Construction of Generator Building and Ancillary Buildings;

(c) Bid Opportunity 742-2005 Winnipeg Water Treatment Program – The Supply and Installation of Water Treatment Plant Process Mechanical and Electrical;

(d) Bid Opportunity 571-2005 Winnipeg Water Treatment Program – Supply of Deacon Booster Pumps;

(e) Bid Opportunity 37-2006 Winnipeg Water Treatment Program - Surge Tower Construction;

(f) Bid Opportunity 791-2006 Winnipeg Water Treatment Program – Construction of Water Treatment Plant Overflow and Supernatant Lines; and

(g) Bid Opportunity 36-2006 . Winnipeg Water Treatment Program – Construction of Surge Tower Overflow Piping.

D22.2 Bid Opportunities for the above are available at the City of Winnipeg Materials Management website at http://www.winnipeg.ca/matmgt/bidopp.asp.

D22.3 The Contractor will not have exclusive use of the Site. The Contractor shall coordinate activities with others and minimize disruptions to others, where possible.

**MEASUREMENT AND PAYMENT**

**D23. PAYMENT**

D23.1 Further to GC.9.03, effective January 1, 2007 the City may at its option pay the Contractor by direct deposit to the Contractor's banking institution.

**D24. PAYMENT SCHEDULE**

D24.1 Further to GC.9.01, payment shall be in accordance with the unit prices submitted on Form B: Prices and the following payment schedule:

(a) Items 1.0 and 1.1 on Form B: Prices: The unit price will be paid upon the completion of Form 100: Certificate of Equipment Delivery for all Materials.

(b) Items 2.0 and 2.1 on Form B: Prices:

(i) 15% of the unit price will be paid upon the completion of each acceptable factory acceptance test. The factory acceptance test will be considered complete upon the delivery of a FAT report (in a format acceptable to the Contract Administrator) and upon delivery of the tested software.

(ii) 25% of the unit price will be paid upon the completion of Performance Verification.

(c) Items 3.0, 3.1, 3.2 and 3.3 on Form B: Prices: The unit price will be paid once the programming containing the additional I/O is verified either as part of a FAT or upon the completion of Performance Verification.

(d) Items 4.0, 4.1, 4.2 and 4.3 on Form B: Prices: The unit price will be paid once the programming containing the additional I/O is verified either as part of a FAT or upon the completion of Performance Verification.

(e) Items 5.0, 5.1 and 5.2 on Form B: Prices: The unit price will be paid on the basis of time spent on Site. Timesheets shall be submitted by the Contractor and approved by the Contract Administrator. The unit prices in Form B: Prices shall be inclusive of all overhead (including small tool costs) and profit. No additional mark-up shall be applied to any labour performed by any Subcontractor during the provision of these services on Site.

(f) Item 6.0 and 2.2 on Form B: Prices: The unit price will be paid upon completion of Form T1.

(g) Supplemental Training is included in the unit price for item 6.1 in Form B: Prices, and will be paid on the basis of time spent on Site. Timesheets shall be submitted by the Contractor and approved by the Contract Administrator. The hourly rate shall be inclusive of all overhead and profit. No additional mark-up shall be applied to any labour performed by any Subcontractor Manufacturer or Manufacture's Representative during the provision of Supplemental Training.

D24.1.1 Further to D24.1:

(a) Any payment made by the City to the Contractor on account of a progress estimate shall be less any holdback required to be made by the Builders' Liens Act (Manitoba), and such holdbacks or other amounts which the City is entitled to withhold pursuant to the Contract.

(b) Payment on account of the final progress estimate, including the holdback made by the City pursuant to the Builders' Liens Act (Manitoba), shall be paid to the Contractor when the time for filing liens or trust claims has elapsed, unless the City is in receipt of a lien or trust claim.

**INDEMNITY**

**D25. INDEMNITY**

D25.1 Notwithstanding GC.7.03, the Contractor shall save harmless and indemnify the City for twice the contract price plus two (2) million dollars against all costs, damages or expenses arising from actions, claims, demands and proceedings, by whomsoever brought, made or taken as a result of acts or omissions of the Contractor, his/her Subcontractors, employees or agents in the performance or purported performance of the Work, and more particularly from:

(a) accidental injury to or death of any person whether retained by or in the employ of the Contractor or not, arising directly or indirectly by reason of the performance of the Work, or by reason of any trespass on or damage to property;

(b) damage to any property owned in whole or in part by the City, or which the City by duty or custom is obliged, directly or indirectly, in any way or to any degree, to construct, repair or maintain;

(c) damage to, or trespass or encroachment upon, property owned by persons other than the City;

(d) failure to pay and obtain a discharge of a notice of claim for lien served upon the City in accordance with the requirements of The Builder's Liens Act;

(e) failure to pay a Workers Compensation assessment, or Federal or Provincial taxes;

(f) unauthorized use of any design, device, material or process covered by letters patent, copyright, trademark or trade name in connection with the Work;

(g) inaccuracies in any information provided to the City by the Contractor.

**WARRANTY**

**D26. WARRANTY**

D26.1 Further to GC.10.01, if a defect or deficiency prevents the full and normal use or operation of the Work or any portion thereof, for purposes of calculating the warranty period, time shall be deemed to cease to elapse for the defective or deficient portion, and for any portion of the Work whose use or operation is prevented by such defect or deficiency, as of the date on which the defect or deficiency is observed or the use or operation is prevented and shall begin to run again when the defect or deficiency has been corrected or the Work may be used or operated to the satisfaction of the Contract Administrator.

D26.2 Notwithstanding GC.10.01(1), the warranty period shall begin on the date of Total Performance and shall expire one (1) year thereafter, except where longer warranty periods are specified in the respective Specification sections, in which case it shall expire when provided for thereunder.

D26.2.1 For the purpose of Performance Security, the warranty period shall be one (1) year .from the date of Total Performance.

D26.3 Further to GC.10.01(3), during the warranty period, the Contractor shall provide telephone support to the City, during normal business hours via a toll free number and at no additional cost to the City.

D26.3.1 Following the completion of the warranty period, the Contractor shall have an annual software, maintenance and support program that complies with clause 2.3.13.3 of Section 17550. This extended annual software, maintenance and support program shall be available for the City to procure, but is additional to the Work.

**FORM H1: PERFORMANCE BOND**
(See D10)

KNOW ALL MEN BY THESE PRESENTS THAT

_____
(hereinafter called the "Principal"), and

_____ ,
(hereinafter called the "Surety"), are held and firmly bound unto **THE CITY OF WINNIPEG** (hereinafter called the "Obligee"), in the sum of

_____

_____ dollars ($_____.____)

of lawful money of Canada to be paid to the Obligee, or its successors or assigns, for the payment of which sum the Principal and the Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS the Principal has entered into a written contract with the Obligee dated the

_____ day of _____ , 20____ , for:

BID OPPORTUNITY NO. 159-2007

WINNIPEG WATER TREATMENT PROGRAM - SUPPLY OF HMI HARDWARE AND PLC AND HMI SOFTWARE CONFIGURATION SERVICES

which is by reference made part hereof and is hereinafter referred to as the “Contract”.

NOW THEREFORE the condition of the above obligation is such that if the Principal shall:

(a) carry out and perform the Contract and every part thereof in the manner and within the times set forth in the Contract and in accordance with the terms and conditions specified in the Contract;
(b) perform the Work in a good, proper, workmanlike manner;
(c) make all the payments whether to the Obligee or to others as therein provided;
(d) in every other respect comply with the conditions and perform the covenants contained in the Contract; and
(e) indemnify and save harmless the Obligee against and from all loss, costs, damages, claims, and demands of every description as set forth in the Contract, and from all penalties, assessments, claims, actions for loss, damages or compensation whether arising under "The Workers Compensation Act", or any other Act or otherwise arising out of or in any way connected with the performance or non-performance of the Contract or any part thereof during the term of the Contract and the warranty period provided for therein;

THEN THIS OBLIGATION SHALL BE VOID, but otherwise shall remain in full force and effect. The Surety shall not, however, be liable for a greater sum than the sum specified above.

AND IT IS HEREBY DECLARED AND AGREED that the Surety shall be liable as Principal, and that nothing of any kind or matter whatsoever that will not discharge the Principal shall operate as a discharge or release of liability of the Surety, any law or usage relating to the liability of Sureties to the contrary notwithstanding.

IN WITNESS WHEREOF the Principal and Surety have signed and sealed this bond the

_____ day of _____ , 20____ .

SIGNED AND SEALED
in the presence of:

_____
(Witness)

_____
(Name of Principal)

Per: _____ (Seal)

Per: _____

_____
(Name of Surety)

By: _____ (Seal)
(Attorney-in-Fact)

**FORM H2: IRREVOCABLE STANDBY LETTER OF CREDIT**
**(PERFORMANCE SECURITY)**
(See D10)

_____
(Date)

The City of Winnipeg
Corporate Services Department
Legal Services Division
185 King Street, 3rd Floor
Winnipeg MB R3B 1J1

RE: PERFORMANCE SECURITY - BID OPPORTUNITY NO. 159-2007

WINNIPEG WATER TREATMENT PROGRAM - SUPPLY OF HMI HARDWARE AND PLC AND HMI SOFTWARE CONFIGURATION SERVICES

Pursuant to the request of and for the account of our customer,

_____ ,
(Name of Contractor)

_____
(Address of Contractor)

WE HEREBY ESTABLISH in your favour our irrevocable Standby Letter of Credit for a sum not exceeding in the aggregate

_____

_____ Canadian dollars.

This Standby Letter of Credit may be drawn on by you at any time and from time to time upon written demand for payment made upon us by you. It is understood that we are obligated under this Standby Letter of Credit for the payment of monies only and we hereby agree that we shall honour your demand for payment without inquiring whether you have a right as between yourself and our customer to make such demand and without recognizing any claim of our customer or objection by the customer to payment by us.

The amount of this Standby Letter of Credit may be reduced from time to time only by amounts drawn upon it by you or by formal notice in writing given to us by you if you desire such reduction or are willing that it be made.

Partial drawings are permitted.

We engage with you that all demands for payment made within the terms and currency of this Standby Letter of Credit will be duly honoured if presented to us at:

_____
(Address)

and we confirm and hereby undertake to ensure that all demands for payment will be duly honoured by us.

All demands for payment shall specifically state that they are drawn under this Standby Letter of Credit.

Subject to the condition hereinafter set forth, this Standby Letter of Credit will expire on

_____ .
(Date)

It is a condition of this Standby Letter of Credit that it shall be deemed to be automatically extended from year to year without amendment from the present or any future expiry date, unless at least 30 days prior to the present or any future expiry date, we notify you in writing that we elect not to consider this Standby Letter of Credit to be renewable for any additional period.

This Standby Letter of Credit may not be revoked or amended without your prior written approval.

This credit is subject to the Uniform Customs and Practice for Documentary Credit (1993 Revision), International Chamber of Commerce Publication Number 500.

_____
(Name of bank or financial institution)

Per: _____
(Authorized Signing Officer)

Per: _____
(Authorized Signing Officer)

**FORM J: SUBCONTRACTOR LIST**
(See D11)

WINNIPEG WATER TREATMENT PROGRAM - SUPPLY OF HMI HARDWARE AND PLC AND HMI SOFTWARE CONFIGURATION SERVICES

| Name | Address |
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# PART E - SPECIFICATIONS

## GENERAL

## E1. APPLICABLE SPECIFICATIONS AND DRAWINGS

E1.1 These Specifications shall apply to the Work.

E1.2 The following are applicable to the Work:

| Specification No. | Specification Title |
|---|---|
| **Division 1** | |
| 01300 | Submittals |
| 01600 | Material and Equipment |
| 01650 | Equipment Installation |
| 01664 | Training |
| 01670 | Commissioning |
| 01730 | Operation and Maintenance Manuals |
| **Division 17** | |
| 17010 | General Requirements |
| 17015 | Scope of Work |
| 17020 | Field Services |
| 17040 | Factory Acceptance Testing |
| 17041 | PCS Field Testing |
| 17500 | Plant Control System |
| 17501 | Historian System |
| 17503 | Plant Communication Networks |
| 17550 | HMI/SCADA and PLC Custom Software |
| 17600 | PLC I/O Index |
| 17600-A | PLC I/O Index |
| 17950 | Projection Video |
| **Appendix A** | Deacon SPLC |
| **Appendix B** | UVM Communication Database |

E1.3 The following drawings are provided for information purposes only:

| Consultant Drawing No. | City Drawing No. | Drawing Title |
|---|---|---|
| WC-P0001 | 1-0601C-G-P0001-001-03D | Process - Hydrogen Peroxide Storage - Process & Instrumentation Diagram |
| WC-P0002 | 1-0601C-G-P0002-001-02D | Process - Hydrogen Peroxide and Chemical Feed Systems - Process & Instrumentation Diagram |
| WC-P0003 | 1-0601C-G-P0003-001-01D | Process - Sodium Bisulphite Offloading and Storage - Process & Instrumentation Diagram |
| WC-P0004 | 1-0601C-G-P0004-001-02D | Process - Sodium Bisulphite Chemical Feed Systems - Process & Instrumentation Diagram |
| WC-P0005 | 1-0601C-G-P0005-001-01D | Process - Dry Polymer Bulk Bag Unloading and Conveyance - Process & Instrumentation Diagram |
| WC-P0006 | 1-0601C-G-P0006-001-01D | Process - Polymer Preparation Systems DAF/Filter - Process & Instrumentation Diagram |
| WC-P0007 | 1-0601C-G-P0007-001-01D | Process - Polymer Preparation Systems Residuals - Process & Instrumentation Diagram |
| WC-P0008 | 1-0601C-G-P0008-001-01D | Process - Polymer Feed Tanks DAF/Filters - Process & Instrumentation Diagram |
| WC-P0009 | 1-0601C-G-P0009-001-01D | Process - Polymer Feed Tanks Residuals - Process & Instrumentation Diagram |
| WC-P0014 | 1-0601C-G-P0014-001-02D | Process - Polymer Filter Feed Pumps - Process & Instrumentation Diagram |
| WC-P0015 | 1-0601C-G-P0015-001-01D | Process - Polymer Sludge Feed Pumps - Process & Instrumentation Diagram |
| WD-P0001 | 1-0601D-G-P0001-001-00D | Process – Process Flow Diagram |
| WD-P0003 | 1-0601D-G-P0003-001-00D | Process – Branch I Booster Pumps – Process and Instrumentation Diagram |
| WD-P0004 | 1-0601D-G-P0004-001-00D | Process – Branch I Booster Pumps – Process and Instrumentation Diagram |
| WD-P0005 | 1-0601D-G-P0005-001-00D | Process – Branch II – Process and Instrumentation |
| WD-P0006 | 1-0601D-G-P0006-001-00D | Process – Branch II – Process and Instrumentation |
| WD-P0007 | 1-0601D-G-P0007-001-00D | Process – Branch I – UV Reactor 1100 - Process and Instrumentation Diagram |
| WD-P0008 | 1-0601D-G-P0008-001-00D | Process – Branch I – UV Reactor 1200 - Process and Instrumentation Diagram |

| Consultant Drawing No. | City Drawing No. | Drawing Title |
|---|---|---|
| WD-P0009 | 1-0601D-G-P0009-001-00D | Process – Branch II – UV Reactor 2100 - Process and Instrumentation Diagram |
| WD-P0010 | 1-0601D-G-P0010-001-00D | Process – Branch II – UV Reactor 2200 - Process and Instrumentation Diagram |
| WD-P0011 | 1-0601D-G-P0011-001-00D | Process – Branch II – UV Reactor 2300 - Process and Instrumentation Diagram |
| WD-P0012 | 1-0601D-G-P0012-001-00D | Process – Branch II – UV Reactor 2400 - Process and Instrumentation Diagram |
| WD-P0013 | 1-0601D-G-P0013-001-00D | Process – Branch I Discharge – Process and Instrumentation Diagram |
| WD-P0014 | 1-0601D-G-P0014-001-00D | Process – Branch I and Branch II Valve Chambers - Process and Instrumentation Diagram |
| WF-P0001 | 1-0601F-G-P0001-001-02D | Process - Filter No.1 - Process and Instrumentation Diagram |
| WF-P0002 | 1-0601F-G-P0002-001-02D | Process - Filter No.2 - Process and Instrumentation Diagram |
| WF-P0003 | 1-0601F-G-P0003-001-02D | Process - Filter No.3 - Process and Instrumentation Diagram |
| WF-P0004 | 1-0601F-G-P0004-001-02D | Process - Filter No.4 - Process and Instrumentation Diagram |
| WF-P0005 | 1-0601F-G-P0005-001-02D | Process - Filter No.5 - Process and Instrumentation Diagram |
| WF-P0006 | 1-0601F-G-P0006-001-02D | Process - Filter No.6 - Process and Instrumentation Diagram |
| WF-P0007 | 1-0601F-G-P0007-001-02D | Process - Filter No.7 - Process and Instrumentation Diagram |
| WF-P0008 | 1-0601F-G-P0008-001-02D | Process - Filter No.8 - Process and Instrumentation Diagram |
| WF-P0009 | 1-0601F-G-P0009-001-02D | Process - Backwash Supply Pumps - Process and Instrumentation Diagram |
| WF-P0010 | 1-0601F-G-P0010-001-01D | Process - Air Scour Supply Blowers - Process and Instrumentation Diagram |
| WF-P0011 | 1-0601F-G-P0011-001-01D | Process - Filtration - Process and Instrumentation Diagram |
| WF-P0012 | 1-0601F-G-P0012-001-01D | Process - Backwash Area Process Sump Pumps - Process and Instrumentation Diagram |
| WF-P0013 | 1-0601F-G-P0013-001-01D | Process - Backwash Supply Pumps - Process and Instrumentation Diagram |
| WF-P0014 | 1-0601F-G-P0014-001-02D | Process - Filtration - Process and Instrumentation Diagram |
| WH-A0100 | 1-0601H-E-A0100-001-06D | Automation / I & C - Plant Communication Network – Overall Block Cable Diagram |
| WH-A0101 | 1-0601H-C-A0101-001-01D | Automation / I & C - Plant Communication Network - Fibre Optic Cable Routing Diagram |
| WH-A0102 | 1-0601H-E-A0102-001-01D | Automation / I & C - Plant Communication Network - Block Diagram |
| WH-A0103 | 1-0601H-E-A0103-001-01D | Automation / I & C - Plant Communication Network - Block Diagram |
| WH-A0104 | 1-0601H-E-A0104-001-01D | Automation / I & C - Plant Communication Network - Block Diagram |
| WH-A0105 | 1-0601H-E-A0105-001-01D | Automation / I & C - Plant Communication Network - Block Diagram |
| WH-A0106 | 1-0601H-E-A-0106-001-04D | Automation / I & C - Plant Communication Network - Block Cable Diagram |
| WH-P0001 | 1-0601H-G-P0001-001-02D | Process - Sanitary Sump - Fire Pump Room - Process and Instrumentation Diagram |
| WH-P0002 | 1-0601H-G-P0002-001-02D | Process - Sanitary Sump - Backwash Pump Gallery - Process and Instrumentation Diagram |
| WH-P0003 | 1-0601H-G-P0003-001-01D | Process - Sanitary Sump - Elevator Pit - Process and Instrumentation Diagram |
| WH-P0004 | 1-0601H-G-P0004-001-01D | Process - Sanitary Sump - Administration Area - Process and Instrumentation Diagram |
| WH-P0005 | 1-0601H-G-P0005-001-02D | Process - Potable Water - Process & Instrumentation Diagram |
| WH-P0006 | 1-0601H-G-P0006-001-02D | Process - Fire Pumps - Process and Instrumentation Diagram |
| WH-P0007 | 1-0601H-G-P0007-001-02D | Process - Process Sump - Fire Pump Room - Process and Instrumentation Diagram |
| WH-P0008 | 1-0601H-G-P0008-001-01D | Process - Compressed Air System - Process and Instrumentation Diagram |
| WH-P0009 | 1-0601H-G-P0009-001-00D | Process - Sanitary Sump and Existing Sanitary Tank, Process and Instrumentation Diagram |
| WH-P0010 | 1-0601H-G-P0010-001-00D | Process - Cell 3 Raw Water - Valve Chamber Air Gap Monitoring |
| WI-P0001 | 1-0601I-G-P0001-001-01D | Process - Raw Water Pump Station Area - Process and Instrumentation Diagram |
| WI-P0002 | 1-0601I-G-P0002-001-01D | Process - Raw Water Pump Station Area - Process and Instrumentation Diagram |
| WI-P0003 | 1-0601I-G-P0003-001-01D | Process - Raw Water Pump Station Area - Process and Instrumentation Diagram |
| WI-P0004 | 1-0601I-G-P0004-001-01D | Process - Raw Water Pump Station Area - Process and Instrumentation Diagram |
| WL-P0002 | 1-0601L-G-P0002-002-03D | Process - Dewatering Pump Station, Process and Instrumentation Diagram |
| WL-P0003 | 1-0601L-D-P0003-001-02D | Construction Standards - Process and Instrumentation - Identification |
| WL-P0004 | 1-0601L-D-P0004-001-02D | Construction Standards - Process and Instrumentation - Symbols |
| WM-E0010 | 1-0601M-D-E0010-001-01D | Electrical - Symbols - Legend |
| WM-E0011 | 1-0601M-D-E0011-001-01D | Electrical - Symbols - Legend |
| WM-H0001 | 1-0601M-D-H0001-001-01D | Mechanical - Legend and Symbols |
| WM-G0001 | 1-0601M-G-G0001-001-01D | General - Main Process - Hydraulic Profile |
| WM-G0002 | 1-0601M-D-G0002-001-00D | General - Residuals Handling - Hydraulic Profile |

| Consultant Drawing No. | City Drawing No. | Drawing Title |
|---|---|---|
| WM-G0003 | 1-0601M-G-G0003-001-01D | General - Process Flow Diagram |
| WM-P0001 | 1-0601M-D-P0001-001-01D | Construction Standards - Process and Instrumentation - Identification |
| WM-P0002 | 1-0601M-D-P0002-001-01D | Construction Standards - Process and Instrumentation - Symbols |
| WO-P0001 | 1-0601O-G-P0001-001-00D | Ozonation Area - Liquid Oxygen Storage System No.1 - Process and Instrumentation Diagram |
| WO-P0002 | 1-0601O-G-P0002-001-00D | Ozonation Area - Liquid Oxygen Storage System No.2 - Process and Instrumentation Diagram |
| WO-P0003 | 1-0601O-G-P0003-001-01D | Ozonation Area - GOX Preparation System - Process and Instrumentation Diagram |
| WO-P0004 | 1-0601O-G-P0004-001-01D | Ozonation Area - Nitrogen Boost Unit - Process and Instrumentation Diagram |
| WO-P0005 | 1-0601O-G-P0005-001-01D | Ozonation Area - Ozone Generator No. 1 - Process and Instrumentation Diagram |
| WO-P0006 | 1-0601O-G-P0006-001-01D | Ozonation Area - Ozone Generator No. 2 - Process and Instrumentation Diagram |
| WO-P0007 | 1-0601O-G-P0007-001-01D | Ozonation Area - Ozone Generator No. 3 - Process and Instrumentation Diagram |
| WO-P0008 | 1-0601O-G-P0008-001-01D | Ozonation Area - Ozone Flow Control No.1 - Process and Instrumentation Diagram |
| WO-P0009 | 1-0601O-G-P0009-001-01D | Ozonation Area - Ozone Flow Control No.2 - Process and Instrumentation Diagram |
| WO-P0010 | 1-0601O-G-P0010-001-02D | Ozonation Area - Ozone Contactor No 1 - Process and Instrumentation Diagram |
| WO-P0011 | 1-0601O-G-P0011-001-01D | Ozonation Area - Ozone Contactor No 2 - Process and Instrumentation Diagram |
| WO-P0012 | 1-0601O-G-P0012-001-01D | Ozonation Area - Ozone Destruct Unit No. 1 - Process and Instrumentation Diagram |
| WO-P0013 | 1-0601O-G-P0013-001-01D | Ozonation Area - Ozone Destruct Unit No. 2 - Process and Instrumentation Diagram |
| WO-P0014 | 1-0601O-G-P0014-001-01D | Ozonation Area - Ozone Destruct Unit No. 3 - Process and Instrumentation Diagram |
| WO-P0015 | 1-0601O-G-P0015-001-01D | Ozonation Area - Open Loop Cooling Water Supply - Process and Instrumentation Diagram |
| WO-P0016 | 1-0601O-G-P0016-001-01D | Ozonation Area - Cooling Water Skid No.1 - Process and Instrumentation Diagram |
| WO-P0017 | 1-0601O-G-P0017-001-01D | Ozonation Area - Cooling Water Skid No.2 - Process and Instrumentation Diagram |
| WO-P0018 | 1-0601O-G-P0018-001-01D | Ozonation Area - Cooling Water Skid No.3 - Process and Instrumentation Diagram |
| WO-P0019 | 1-0601O-G-P0019-001-01D | Ozonation Area - Power Supply Unit No.1 - Process and Instrumentation Diagram |
| WO-P0020 | 1-0601O-G-P0020-001-01D | Ozonation Area - Power Supply Unit No.2 - Process and Instrumentation Diagram |
| WO-P0021 | 1-0601O-G-P0021-001-01D | Ozonation Area - Power Supply Unit No.3 - Process and Instrumentation Diagram |
| WO-P0022 | 1-0601O-G-P0022-001-01D | Ozonation Area - Dissolved Ozone Sampling System No.1 - Process and Instrumentation Diagram |
| WO-P0023 | 1-0601O-G-P0023-001-01D | Ozonation Area - Dissolved Ozone Sampling System No.2 - Process and Instrumentation Diagram |
| WP-P0001 | 1-0601P-G-P0001-001-01D | Process - Process and Instrumentation Diagram |
| WP-P0002 | 1-0601P-G-P0002-001-01D | Process - Process and Instrumentation Diagram |
| WP-P0003 | 1-0601P-G-P0003-001-01D | Process - Process and Instrumentation Diagram |
| WP-P0004 | 1-0601P-G-P0004-001-01D | Process - Flocculation /DAF Tank 1 - Process and Instrumentation Diagram |
| WP-P0005 | 1-0601P-G-P0005-001-01D | Process - Flocculation /DAF Tank 2 - Process and Instrumentation Diagram |
| WP-P0006 | 1-0601P-G-P0006-001-01D | Process - Flocculation /DAF Tank 3 - Process and Instrumentation Diagram |
| WP-P0007 | 1-0601P-G-P0007-001-01D | Process - Flocculation /DAF Tank 4 - Process and Instrumentation Diagram |
| WP-P0008 | 1-0601P-G-P0008-001-01D | Process - Flocculation /DAF Tank 5 - Process and Instrumentation Diagram |
| WP-P0009 | 1-0601P-G-P0009-001-01D | Process - Flocculation /DAF Tank 6 - Process and Instrumentation Diagram |
| WP-P0010 | 1-0601P-G-P0010-001-01D | Process - Flocculation /DAF Tank 7 - Process and Instrumentation Diagram |
| WP-P0011 | 1-0601P-G-P0011-001-01D | Process - Flocculation /DAF Tank 8 - Process and Instrumentation Diagram |
| WP-P0012 | 1-0601P-G-P0012-001-01D | Process - Recycle System 1 Of 2 - Process and Instrumentation Diagram |
| WP-P0013 | 1-0601P-G-P0013-001-01D | Process - Recycle System 2 Of 2 - Process and Instrumentation Diagram |
| WP-P0014 | 1-0601P-G-P0014-001-01D | Process - Recycle System 1 Of 2 - Process and Instrumentation Diagram |
| WP-P0015 | 1-0601P-G-P0015-001-01D | Process - Recycle System 2 Of 2 - Process and Instrumentation Diagram |
| WP-P0016 | 1-0601P-G-P0016-001-01D | Process - DAF Compressors - Process and Instrumentation Diagram |
| WP-P0017 | 1-0601P-G-P0017-001-01D | Process - DAF Effluent Channel - Process and Instrumentation Diagram |
| WP-P0018 | 1-0601P-G-P0018-001-01D | Process - DAF Float Sumps - Sheet 1 Of 2 - Process and Instrumentation Diagram |
| WP-P0019 | 1-0601P-G-P0019-001-01D | Process - DAF Float Sumps - Sheet 2 Of 2 - Process and Instrumentation Diagram |
| WP-P0020 | 1-0601P-G-P0020-001-01D | Process - DAF Sump Pumps - Process and Instrumentation Diagram |
| WR-P0001 | 1-0601R-G-P0001-001-01D | Process - Inlet Channel - Process and Instrumentation Diagram |
| WR-P0002 | 1-0601R-G-P0002-001-01D | Process - Washwater Recovery Tank 1 - Process and Instrumentation Diagram |
| WR-P0003 | 1-0601R-G-P0003-001-01D | Process - Washwater Recovery Tank 2 - Process and Instrumentation Diagram |
| WR-P0004 | 1-0601R-G-P0004-001-01D | Process - Washwater Recovery Tank 3 - Process and Instrumentation Diagram |
| WR-P0005 | 1-0601R-G-P0005-001-01D | Process - Washwater Recovery Tank 4 - Process and Instrumentation Diagram |

| Consultant Drawing No. | City Drawing No. | Drawing Title |
|---|---|---|
| WR-P0006 | 1-0601R-G-P0006-001-01D | Process - Washwater Recovery Tanks - Process and Instrumentation Diagram |
| WR-P0007 | 1-0601R-G-P0007-001-02D | Process - Supernatant Pump Station - Process and Instrumentation Diagram |
| WR-P0008 | 1-0601R-G-P0008-001-01D | Process - Gravity Thickener - Process and Instrumentation Diagram |
| WR-P0009 | 1-0601R-G-P0009-001-01D | Process - Thickened Sludge Equalization Tanks - Process and Instrumentation Diagram |
| WS-P0001 | 1-0601S-G-P0001-001-02D | Bulk Sulphuric Acid Offloading and Storage – Process and Instrumentation Diagram |
| WS-P0002 | 1-0601S-G-P0002-001-03D | Sulphuric Acid Feed System 1 of 2 – Process and Instrumentation Diagram |
| WS-P0003 | 1-0601S-G-P0003-001-02D | Sulphuric Acid Feed System 2 of 2 – Process and Instrumentation Diagram |
| WS-P0004 | 1-0601S-G-P0004-001-02D | Bulk Ferric Chloride Offloading and storage – Process and Instrumentation Diagram |
| WS-P0005 | 1-0601S-G-P0005-001-04D | Ferric Chloride Feed System 1 of 3– Process and Instrumentation Diagram |
| WS-P0006 | 1-0601S-G-P0006-001-03D | Ferric Chloride Feed System 2 of 3 – Process and Instrumentation Diagram |
| WS-P0007 | 1-0601S-G-P0007-001-02D | Ferric Chloride Feed System 3 of 3– Process and Instrumentation Diagram |
| WS-P0008 | 1-0601S-G-P0008-001-02D | Sodium Hydroxide Offloading and Storage – Process and Instrumentation Diagram |
| WS-P0009 | 1-0601S-G-P0009-001-03D | Sodium Hydroxide Feed System 1 of 3 – Process and Instrumentation Diagram |
| WS-P0010 | 1-0601S-G-P0010-001-02D | Sodium Hydroxide Feed System 2 of 3 – Process and Instrumentation Diagram |
| WS-P0011 | 1-0601S-G-P0011-001-01D | Sodium Hydroxide Feed System 3 of 3 – Process and Instrumentation Diagram |
| WS-P0012 | 1-0601S-G-P0012-001-03D | Bulk Ammonia Offloading and Storage – Process and Instrumentation Diagram |
| WS-P0013 | 1-0601S-G-P0013-001-02D | Bulk Ammonia Offloading and Storage – Process and Instrumentation Diagram |
| WS-P0014 | 1-0601S-G-P0014-001-02D | Process – Ammonia Feed System - Process and Instrumentation Diagram |
| WT-P001 | 1-0601T-G-P0001-001-08D | Process - Process and Instrumentation Diagram |
| WY-P0010 | 1-0601Y-G-P0010-001-01D | Process – Surge Tower – Process and Instrumentation Diagram |

E1.4 Bidders are reminded that requests for approval of substitutes as an approved equal or an approved alternative shall be made in accordance with B6.

## E2. OFFICE FACILITIES

E2.1 The City will provide the Contractor without cost use of the Control Room as an office space, including:

(a) 120V power from convenience receptacles,

(b) space heating;

(c) Communication connection for one telephone and internet. The Contractor shall supply and install the telephone service from the City's existing telephone service pedestal that is located south of the WTP.

E2.2 The Contractor may arrange for additional facilities with the approval of the Contract Administrator and with the cost borne by the Contractor.

## E3. SITE ROADS AND WORK SITE ACCESS

E3.1 The Contractor shall have access to the Site on Business Days between 07:00 and 18:00 unless otherwise approved by the Contract Administrator.

E3.2 Access to the work site is restricted and cooperation with other contractors on site is necessary in the best interest of all parties.

E3.3 The Site is located on Provincial Road 207, 3.2 km north of Highway 1 in Dugald, Manitoba.

E3.3.1 The Site address is PR 207, Lot 57082, Dugald, Manitoba.

## E4. SANITATION FACILITY

E4.1 Portable toilets may be provided by the Contractor. Any portable toilet shall be cleaned on a weekly basis and provided with regular maintenance as required to ensure proper operation.

E4.2 Portable toilets shall be located in an area acceptable to the Contract Administrator.

## E5. WASTE CONTAINER

E5.1 A waste container to dispose of garbage produced from the site shall be provided by the Contractor. It shall be located in a safe, convenient location, and be emptied as necessary by the Contractor. The provision, maintenance and removal of a waste container shall be considered a subsidiary obligation of the Contractor.

## E6. RECORD DRAWINGS

E6.1 The Contractor shall keep one (1) complete set of white prints at their Site office, including all Addenda, Change Orders, Field Instructions, and other revisions for the purposes of Record Drawings. As the Work proceeds, the Contractor shall clearly record in red pencil all as-built conditions which deviate from the original Contract documents.

E6.2 The Record Drawings shall be available for review by the Contract Administrator upon request at any time during the performance of the Work.

E6.3 Prior to achieving Substantial Performance, the Contractor shall submit the Record Drawings prepared to the Contract Administrator for his review and use. If, in the opinion of the Contract Administrator, the Record Drawings are incomplete or inaccurate, the Record Drawings will be returned to the Contractor and the Contractor shall revise and resubmit the Record Drawings at his cost.

E6.4 Substantial Performance cannot be achieved without the submission of Record Drawings that are acceptable to the Contract Administrator.

**SUBMITTALS**

## 1. SHOP DRAWINGS

### 1.1 General

.1 Arrange for the preparation of clearly identified Shop Drawings as specified or as the Contract Administrator may reasonably request. Shop Drawings are to clearly indicate materials, methods of construction, and attachment or anchorage, erection diagrams, connections, explanatory notes, and other information necessary for completion of the Work. Where articles or equipment attach or connect to other articles or equipment, clearly indicate that all such attachments and connections have been properly coordinated, regardless of the trade under which the adjacent articles or equipment will be supplied and installed. Shop Drawings are to indicate their relationship to design Drawings and Specifications. Notify the Contract Administrator of any deviations in Shop Drawings from the requirements of the Contract Documents to allow the Contract Administrator to assess the deviations.

.2 Where all or part of the Shop Drawings are to be prepared under the stamp and seal of a Professional Engineer registered in the Province of Manitoba, the Contract Administrator will limit that review to an assessment of the completeness of the part of the submission so stamped and sealed.

### 1.2 Submission Requirements

.1 Coordinate each submission with requirements of the Work and Contract Documents. Individual submissions will not be reviewed until all related information is available.

.2 Accompany all submissions with a transmittal letter, in duplicate, containing:

.1 Date

.2 Project title and Bid Opportunity number

.3 Contractor's name and address

.4 Specification Section number for each submittal

.5 Submittal number and revision number in the following format:

.1 159-2007 - Spec Section # - Submittal # - Revision # (e.g. 159-2007-15200-001-1)

.2 The first submittal is numbered 1 with sequential numbering after that for revisions

.6 Identification and quantity of each Shop Drawing product

.7 Equipment tag number

.8 Other pertinent data

.3 Submissions shall include:

.1 Date and revision dates

.2 Project title and number

.3 Name, email address and address of:

.1 Contractor

.2 Manufacturer

.4 Contractor's stamp, signed by Contractor's authorized representative, certifying approval of submissions, verification of field measurements and compliance with Contract Documents.

.5 As required in the specifications, the seal and signature of a Professional Engineer registered in the Province of Manitoba.

.4 Details of appropriate portions of work as applicable:

.1 Refer to Division 17 for specific submittal requirements.

**1.3 Drawings**

.1 Original Drawings or modified standard Drawings provided by the Contractor to illustrate details of portions of Work which are specific to project requirements.

.2 Maximum sheet size: 850 x 1050 mm.

.3 Submit digital (pdf) copies of Shop Drawings. The Contract Administrator will return one copy with comments transcribed.

.4 Cross-reference Shop Drawing information to applicable portions of the Contract Documents.

.5 Include reviewed Shop Drawings in all O&M Manuals.

**1.4 Product Data**

.1 Product Data; Manufacturer’s catalogue sheets, brochures, literature, performance charts, and diagrams used to illustrate standard manufactured products.

.2 Submit one (1) copy of product data electronically.

.3 Sheet size: 215 x 280 mm.

**1.5 Procedure and Routing**

.1 The Contractor shall provide a pdf version of the Shop Drawings and corresponding submittal forms to the Contract Administrator via email for review. Each submittal shall have a unique number. These electronic files shall be named according to Section 01300 -

Submittals, Clause 1.3.2.5.1. and be complete with the information specified in Clause 1.3 Submission Requirements.

.2 When the total size of the email is greater than 5 MB, the Contractor shall post the pdf version of the Shop Drawings and submittal transmittal form(s) to an accessible place on the internet (provided by the Contract Administrator) and an e-mail notification is to be sent to Contract Administrator listed above when posting is complete.

.3 The routing and the names of individuals responsible for receiving submittals will be identified by the Contract Administrator at the pre-construction meeting held pursuant to D4.2.

.4 Upon review of the Shop Drawings, the Contract Administrator will e-mail the pdf version of the annotated Shop Drawings and corresponding transmittal form(s) to the Contractor. When the total size of the email is greater than 5 MB, the Contract Administrator will post the pdf version of the Shop Drawings and corresponding transmittal form(s) to the same accessible place on the internet and an e-mail notification will be sent to the Contractor. Two (2) printed copies of the reviewed Shop Drawings will be sent back to the Contractor.

## 1.6 Shop Drawing Review

.1 Shop Drawing review by the Contract Administrator is solely to ascertain conformance with the general design concept. Responsibility for the approval of detail design inherent in Shop Drawings rests with the Contractor and review by the Contract Administrator shall not imply such approval.

.2 Review by the Contract Administrator shall not relieve the Contractor of his responsibility for errors or omissions in Shop Drawings or for proper completion of the Work in accordance with the Contract Documents.

.3 Shop Drawings will be returned to the Contractor with one of the following notations:

.1 When stamped "REVIEWED", distribute additional copies as required for execution of the Work.

.2 When stamped "REVIEWED AS MODIFIED", ensure that all copies for use are modified and distributed, same as specified for "REVIEWED".

.3 When stamped "REVISE AND RE-SUBMIT", make the necessary revisions, as indicated, consistent with the Contract Documents and submit again for review.

.4 When stamped "NOT REVIEWED", submit other drawings, brochures, etc., for review consistent with the Contract Documents.

.5 Only Shop Drawings bearing "REVIEWED" or "REVIEWED AS MODIFIED" shall be used on the Work unless otherwise authorized by the Contract Administrator.

.4 After submittals are stamped "REVIEWED" or "REVIEWED AS MODIFIED", no further revisions are permitted unless re-submitted to the Contract Administrator for further review.

.5 Any adjustments made on Shop Drawings by the Contract Administrator are not intended to change the Contract Price. If it is deemed that such adjustments affect the Contract Price, clearly state as such in writing prior to proceeding with fabrication and installation of Work.

.6 Make changes in Shop Drawings which the Contract Administrator may require consistent with Contract Documents. When re-submitting, notify the Contract Administrator in writing of any revisions other than those requested by the Contract Administrator.

.7 Shop Drawings indicating design requirements not included in the Contract Documents require the seal of a Professional Engineer registered in the Province of Manitoba. If requested, submit engineering calculations for review, sealed by a Professional Engineer.

## 1.7 Operating and Maintenance Manuals

.1 Refer to Section 01730 – Operations and Maintenance Manuals.

**END OF SECTION**

**MATERIAL AND EQUIPMENT**

## 1. PRODUCTS

### 1.1 Quality of Materials

.1 Supply and Install new materials, equipment and articles incorporated in the Work, not damaged or defective and of the best quality (compatible with specifications) for the purpose intended. If requested furnish evidence as to type, source. and quality of products provided.

.2 Defective materials, equipment, and articles whenever found may be rejected regardless of previous inspection. Inspection by the Contract Administrator or an inspector does not relieve the Contractor of his responsibility but is merely a precaution against oversight or error. Remove and replace defective materials at own expense and be responsible for all delays and expenses caused by rejection.

.3 Should any dispute arise as to the quality or fitness of materials, equipment or articles, the decision rests strictly with the Contract Administrator based upon the requirements of the Contract Documents.

.4 Unless otherwise indicated in the Specifications, maintain uniformity of manufacturer for any particular or like item throughout the building.

.5 Permanent labels, trademarks and nameplates on materials, equipment and articles are not acceptable in prominent locations except where required for operating instructions and when located in mechanical or electrical rooms.

### 1.2 Storage, Handling, and Protection of Materials

.1 Handle and store materials in a manner to prevent damage, contamination, deterioration and soiling and in accordance with Manufacturer's recommendations when applicable.

.2 Store packaged or bundled products in original and undamaged condition with manufacturers' seals and labels intact. Do not remove packaging or bundling until required in the Work.

.3 Materials subject to damage from weather are to be stored in weatherproof enclosures.

.4 Remove and replace damaged products at own expense.

### 1.3 Manufacturers' Directions

.1 Unless otherwise specified, install or erect all products in accordance with Manufacturers' recommendations. Do not rely on labels or enclosures provided with products. Obtain instructions directly from Manufacturers.

.2 Notify the Contract Administrator, in writing, of any conflicts between the Specifications and Manufacturers' instructions so that the Contract Administrator may establish the course of action.

.3 Improper installation or erection of products due to failure in complying with these requirements authorizes the Contract Administrator to require any removal and re-installation that may be considered necessary, at no increase in Contract Price.

### 1.4 Transportation Costs of Materials

.1 Pay all costs for transportation of materials required for the Work.

## 2. WORKMANSHIP

### 2.1 General Requirements

.1 Workmanship is to be of the best quality executed by workers fully experienced and skilled in their respective trades.

.2 At all times enforce discipline and good order among workers. Do not employ any unfit person or anyone unskilled in the duties assigned to him. The Contract Administrator reserves the right to require the removal from site of workers deemed incompetent, careless, insubordinate or otherwise objectionable.

.3 Decisions as to the quality or fitness of workmanship in cases of any dispute rests solely with the Contract Administrator whose decision is final.

### 2.2 Coordination

.1 Coordinate the work of all Subcontractors.

.2 Ensure that all Subcontractors examine the Drawings and Specifications for other parts of the Work which may affect the performance of their work.

.3 Ensure that sleeves, openings and miscellaneous equipment bases are Supply and Install as required for the Work.

.4 Ensure that items to be built in are supplied when required with all necessary templates, measurements and shop drawings.

### 2.3 Concealment

.1 In finished areas conceal all pipes, ducts and wiring except where indicated otherwise on Drawings or in Specifications.

.2 Before installation inform the Contract Administrator if there is a contradictory situation. Install as directed.

**2.4 Location of Fixtures**

.1 Consider the location of fixtures, outlets, and other mechanical and electrical items indicated on Drawings as approximate. The actual location of these items is to be as required or directed due to Site conditions at the time of installation and as is reasonable.

.2 Before installation inform the Contract Administrator if there is a contradictory situation. Install as directed.

**2.5 Fastenings**

.1 Supply and Install metal fastenings and accessories in same texture, colour and finish as adjacent material unless otherwise specified.

.2 Prevent electrolytic action between dissimilar metals and materials.

.3 Use non-corrosive, non-staining fasteners, and anchors for securing exterior work unless otherwise specified.

.4 Space anchors within their load limit or shear capacity and ensure that they provide positive permanent anchorage. Wood plugs are not acceptable.

.5 Keep exposed fastenings to a minimum, space evenly and lay out neatly.

.6 Fastenings which cause spalling or cracking of material to which anchorage is made are not acceptable.

**2.6 Protection of Work In Progress**

.1 Adequately protect all work completed and in progress. Repair or replace all damaged work.

.2 Prevent overloading of any part of the Work.

**2.7 Cleaning**

.1 Remove waste materials and debris from the Site at regular intervals. Do not burn waste materials and debris on Site.

**3. MEASUREMENT**

**3.1 Metric Project**

.1 Unless otherwise noted, this Project has been designed and is to be constructed in the S.I. nominal metric system of measurements.

.2 During construction, when specified metric elements are unattainable at the time they are required to meet the Contract Work Schedule, the Contractor shall notify the Contract

Administrator in writing and suggest alternative substitutions. Costs due to these substitutions shall be borne by the Contractor.

**END OF SECTION**

# EQUIPMENT INSTALLATION

## 1. INTENT

.1 This Section describes general requirements for all equipment supplied under the Contract relating to the installation, supervision of installation, testing, operation, and Performance Verification. The Contractor shall be responsible for the installation work, testing, operation, and Performance Verification of equipment in this Contract.

## 2. EXPERTISE AND RESPONSIBILITY

.1 The Contract Administrator recognizes the expertise of the Manufacturer.

.2 Should the Contract Administrator issue an Addendum, Field Order, Change Order, or Instruction to change the Work which would, in the opinion of the Contractor, compromise the success or safety of the Work, then it shall be incumbent on the Contractor to notify in the Contract Administrator in writing to this effect within two (2) days.

## 3. EQUIPMENT DELIVERY

.1 The Contractor shall be responsible for equipment delivery to the Site. When the Contractor accepts the equipment delivery, he shall certify the delivery by completing Form 100 – Certificate of Equipment Delivery, attached to this specification for each individual equipment.

.2 The Contractor shall be responsible for all Plant, Materials in his custody at the Site or any alternative storage location.

.3 The Contractor shall ensure that he is fully informed of precautions to be taken in the unloading of equipment and its subsequent storage including any required maintenance.

.4 If equipment off-site storage is required, then the second move of the equipment to the Site will be at the Contractor’s cost.

## 4. INSTALLATION

.1 The Contractor shall conduct a detailed inspection of the installation including alignment, electrical connections, belt tensions, rotation direction, running clearances, lubrication, workmanship and all other items as required to ensure successful operation of the equipment.

.2 The Contractor shall identify any outstanding deficiencies in the installation.

.3 The deficiencies shall be rectified by the Contractor will be required to re-inspect the installation, at the Contractor’s cost.

.4 When the Contractor accepts the installation, he shall certify the installation by completing Form 102 – Certificate of Satisfactory Installation, attached to this specification.

.5 Deliver the completed Form 102 to the Contract Administrator prior to departure of the Contractor from the site.

.6 Tag the equipment with a 100 x 200 mm card stating "Equipment Checked. Do Not Run." stenciled in large black letters. Sign and date each card.

.7 Provide separate copies of Form 102 for different equipment.

## 5. OPERATION AND PERFORMANCE VERIFICATION

.1 Materials will be subjected to a demonstration, running test, and performance test after the installation has been verified and any identified deficiencies have been remedied.

.2 During the demonstration, running tests, and performance tests, the Contractor shall operate equipment as required to complete the Performance Verification required from all Divisions of this Specification.

.3 Inform the Contract Administrator at least fourteen (14) days in advance of conducting the tests. The tests may be concurrent with the inspection of satisfactory installation if mutually agreed by the Contractor and the Contract Administrator.

.4 The Contractor shall conduct all necessary checks to equipment or other work needed prior to confirming the Materials are ready to run.

.5 The Contractor shall then operate the Material for at least one (1) hour to demonstrate to himself the operation of the Material and any required ancillary services. Any remedial measures required to ensure satisfactory operation shall be promptly undertaken.

.6 Demonstration:

.1 The Contractor shall then notify the Contract Administrator of his readiness to demonstrate the operation of the Materials. The Contract Administrator shall attend, as expeditiously as possible.

.7 Running Test:

.1 The Contractor shall participate in multiple demonstration and running test and the request of the Contract Administrator

.8 Performance Tests:

.1 Performance tests shall be conducted subsequent to the running tests, as practicable and scheduling of the Performance test shall be agreed between the Contract Administrator, and the Contractor.

.2 The Materials shall be run continuously for a minimum of seven (7) days (168 hours) or as specified.

.3 Performance tests shall be as dictated in the technical specifications for each item of Material or as reasonably required by the Contract Administrator to prove adherence to the requirements listed in the specification. Performance tests will include control of the complete water treatment process.

.4 The Contractor shall submit the results of the performance tests within twenty four (24) hours to the Contract Administrator, and final documented and summarized results in a format acceptable to the Contract Administrator within seven (7) Calendar Days. The Contract Administrator reserves the right to request additional testing. No Materials shall be accepted and handed over to the City prior to the satisfactory completion of the performance test(s) and receipt of the test reports.

.5 Performance testing will include the chemicals intended to be used in the water treatment process and also will be conveyed to the intended application point.

.9 Unless otherwise specified, all water, chemicals, power (except portable generators), or any other ancillary services required to complete the initial demonstration, running test and performance tests are the responsibility of the City. Operational decision to release water shall be the City's.

.10 Should the initial demonstration, running test or performance tests reveal any defects, then those defects shall be promptly rectified and the demonstration, running tests, and/or performance tests shall be repeated to the satisfaction of the Contract Administrator. Additional costs incurred by the Contractor, the Contract Administrator, or the City, due to repeat demonstration, running tests, and/or performance tests shall be the responsibility of the Contractor if, in the opinion of the Contract Administrator, the failure is a result of the Contractor's deficiency.

.11 On successful completion of the demonstration, running test, and performance tests, Form 103 – Certificate of Equipment Satisfactory Performance attached to this Specification will be signed by the Contractor and the Contract Administrator for each individual Materials. Refer to Section 17041 submittals clause 1.2.2.

.12 The Contractor shall affix to the tested equipment a 100 x 200 mm card reading "Operable Condition - Do Not Operate without Contractor's Permission." stenciled on in large black letters.

## CERTIFICATE OF EQUIPMENT DELIVERY
## FORM 100

We certify that the equipment listed below has been received and delivered into the care of the Contractor. The equipment has been found to be in satisfactory condition. No defects in the equipment were found.

**PROJECT:** _____

**ITEM OF EQUIPMENT:** _____

_____

**TAG NO:** _____

**REFERENCE SPECIFICATION:** _____

_____ _____
(Authorized Signing Representative of the Contractor) Date

_____ _____
(Authorized Signing Representative of the Manufacturer) Date

_____ _____
(Authorized Signing Representative of the Contract Administrator) Date

## CERTIFICATE OF READINESS TO INSTALL
## FORM 101

I have familiarized the Contractor of the specific installation requirements related to the equipment listed below and am satisfied that he understands the required procedures.

**PROJECT:** _____

**ITEM OF EQUIPMENT:** _____

_____

**TAG NO:** _____

**REFERENCE SPECIFICATION:** _____

_____ _____
(Authorized Signing Representative of the Manufacturer) Date

I certify that I have received satisfactory installation instructions from the equipment Manufacturer/ Supplier.

_____ _____
(Authorized Signing Representative of the Contractor) Date

## CERTIFICATE OF SATISFACTORY INSTALLATION
## FORM 102

I have completed my check and inspection of the installation listed below and confirm that it is satisfactory and that defects have been remedied to my satisfaction except any as noted below:

**PROJECT:** _____

**ITEM OF EQUIPMENT:** _____

_____

**TAG NO:** _____

**REFERENCE SPECIFICATION:** _____

**OUTSTANDING DEFECTS:** _____

_____ _____
(Authorized Signing Representative of the Manufacturer) Date

_____ _____
(Authorized Signing Representative of the Contractor) Date

_____ _____
(Authorized Signing Representative of the Contract Administrator) Date

## CERTIFICATE OF EQUIPMENT SATISFACTORY PERFORMANCE
## FORM 103

We certify that the equipment listed below has been continuously operated for at least seven (7) consecutive days and that the equipment operates satisfactorily and meets its specified operating criteria. No defects in the equipment were found. The equipment is therefore classed as "conforming".

**PROJECT:** _____

**ITEM OF EQUIPMENT:** _____

_____

**TAG NO:** _____

**REFERENCE SPECIFICATION:** _____

_____ _____
(Authorized Signing Representative of the Manufacturer) Date

_____ _____
(Authorized Signing Representative of the Contractor) Date

_____ _____
(Authorized Signing Representative of the Contract Administrator) Date

1. Acknowledgement of Receipt of O&M Manuals.

_____ _____
(Authorized Signing Representative of the City) Date

**END OF SECTION**

# TRAINING

## 1. DESCRIPTION

.1 This Section contains requirements for training the City's personnel, by persons retained by the Contractor specifically for the purpose, in the proper operation and maintenance of the equipment and systems supplied and installed under this Contract. Training for City Supplied Equipment will be provided by the Supply Contractors.

.2 Two categories of training sessions are required: one set during the Commissioning Period, and one set during the Warranty Period, within six (6) months after Total Performance. The intent of the latter training session is to enable the City's personnel to ask particular questions on the operation of the specified equipment, based on their actual experience.

.1 Provide three sessions in two different trips during the Commissioning Period.

.2 Provide Supplemental Training during the Warranty Period as requested by the Contract Administrator.

.3 Each training session will include a minimum of four (4) to eight (8) hours for each item of equipment and sub-system. Refer to the technical specifications for specific time periods for specific equipment.

.4 All training sessions will be coordinated with the Contract Administrator.

.5 Training requirements may be modified by the Contract Administrator. In this event, the Contractor will be compensated for training requirements above and beyond the training requirements of this Contract.

## 2. QUALITY ASSURANCE

.1 Training includes instruction of the City's personnel in equipment operation and preventive maintenance and instruction of mechanics, electricians, instrumentation and communications technicians in normal maintenance up to major repair.

.2 Where required by the detailed Specifications, provide on-the-job training of the City's personnel. Training sessions shall be conducted by qualified, experienced (two years minimum), factory-trained representatives of the various equipment manufacturers. Trainers shall be capable of providing "qualified trainers" in the sessions provided as agreed upon by the Contract Administrator.

## 3. SUBMITTALS

.1 Submit the following information in accordance with Section 01300 – Submittals. For phased testing and start-up activities, separate submittals can be prepared for equipment items or systems. The material will receive a "reviewed" or "reviewed as modified" status by the Contract Administrator no later than four (4) weeks prior to delivery of the training:

.1 Lesson plans and training manuals, handouts, visual aids, and other reference materials for each training session to be conducted by the Contractor.

.2 Date, time, and subject of each training session and identity and qualifications of individuals to be conducting the training.

.3 Training schedule. Concurrent classes will not be allowed unless approved by the Contract Administrator.

.4 The Contract Administrator requires a minimum of ten (10) business days to review training materials.

.2 Provide the following to verify the trainer's qualifications:

.1 Certification in related coursework.

.2 Three references for similar assignments where training was conducted for O&M staff.

## 4. LOCATION

.1 Where specified, conduct training sessions for the City's O&M personnel on the operation, care, and maintenance of the equipment and systems installed under this Contract. Training will take place at the Site or within the City of Winnipeg at an alternative site designated by the Contract Administrator, and under the conditions specified in the following paragraphs.

.2 Field training sessions will take place at the Site. Classroom training will take place at the Site or within the City of Winnipeg at an alternative location designated by the Contract Administrator. The Contract Administrator will confirm the location of classroom training.

## 5. LESSON PLANS

.1 Prepare formal written lesson plans for each training session and coordinate with the Contract Administrator. Lesson plans to contain an outline of the material to be presented along with a description of visual aids to be utilized during the session. Each plan will contain a time allocation for each subject. Furnish twenty (20) copies of final training manuals, handouts, visual aids and reference materials at least two (2) weeks prior to each training session.

## 6. FORMAT AND CONTENT

.1 Include time in the classroom and at the location of the equipment or system for each training session. As a minimum, cover the following topics for each item of equipment or system:

.1 Familiarization

.2 Safety

.3 Operation

.4 Instrumentation and Control

.5 Troubleshooting

.6 Preventive and regular maintenance

.7 Corrective maintenance

.8 Parts

.9 Local representatives

## 7. DVD RECORDING

.1 DVD record each training session to provide a permanent record for the City's use. Turn CD or DVDs over to the Contract Administrator after the training is completed. Advise all Manufacturers providing training sessions that the training material will be video recorded.

## 8. TRAINING

### 8.1 General Requirements

.1 Conduct training in conjunction with the Commissioning Period. The Contract Administrator will schedule classes such that classroom sessions are interspersed with field instruction in logical sequence. Coordinate with the Contract Administrator to have the training conducted on consecutive days, with no more than six (6) hours of classes scheduled for any one day.

.2 Provide acceptable O&M manuals prior to Form 103 Certificate of Equipment Satisfactory Performance.

.3 Contractor shall be responsible for any Audio-Visual aids required for training sessions.

### 8.2 Operator Classroom Training

.1 As a minimum, classroom equipment training for operations personnel shall include:

.1 The equipment's specific location in the WTP and an operational overview. Use slides, computer presentations, and drawings to aid discussion.

.2 Purpose and WTP function of the equipment.

.3 The operating theory of the equipment.

.4 Start-up, shutdown, normal operation, and emergency operating procedures, including system integration and electrical interlocks, if any.

.5 Safety items and procedures.

.6 Operator detection, without test instruments, of specific equipment trouble symptoms.

.7 Routine disassembly and assembly of equipment if applicable for purposes such as operator inspection of equipment.

**8.3 Operator Hands-On Training**

.1 As a minimum, hands-on equipment training for operations personnel shall include:

.1 Identifying instrumentation: Location of primary element; location of instrument readout; discuss purpose, basic operation, and information interpretation.

.2 Discussing, demonstrating, and performing standard operating procedures and round checks.

.3 Discussing and performing the preventive maintenance activities.

.4 Discussing and performing start-up and shutdown procedures.

.5 Performing the required equipment exercise procedures.

.6 Performing routine disassembly and assembly of equipment if applicable.

.7 Identifying and reviewing safety items and performing safety procedures, if feasible.

.8 Safety procedures.

**8.4 Maintenance Classroom Training**

.1 As a minimum, classroom equipment training for the maintenance and repair personnel shall include:

.1 Basic theory of operation.

.2 Description and function of equipment.

.3 Routine start-up and shutdown procedures.

.4 Password protection procedures.

.5 Normal and major repair procedures.

.6 Equipment inspection and troubleshooting procedures including the use of applicable test instruments and the "pass" and "no pass" test instrument readings.

.7 Safety procedures.

## 8.5 Maintenance Hands-On Training

.1 As a minimum, hands-on equipment training for maintenance and repair personnel shall include:

.1 Locating and identifying equipment components.

.2 Reviewing the equipment function and theory of operation.

.3 Reviewing normal repair procedures.

.4 Performing routine start-up and shutdown procedures.

.5 Reviewing and performing the safety procedures.

.6 Reviewing and using equipment manufacturer's manuals in the hands-on training.

## 8.6 Equipment and Systems for Training

.1 As a minimum, provide training during the Commissioning Period for all Materials

.2 City Supplied Equipment training during Commissioning Period will be provided by the Supply Contractors.

.3 Provide training for the equipment during the Warranty Period six (6) months after Total Performance.

.4 Coordinate and finalize with the Contract Administrator the training schedules and duration of each training session.

## 8.7 Training Completion Forms

.1 Form T1: To be completed for initial training. One (1) form is to be used for each equipment/system for which training has been provided.

## CERTIFICATE OF SATISFACTORY TRAINING
## FORM T1

We certify that the initial training for the equipment listed below has been provided as per the Specifications.

**PROJECT:** _____

**ITEM OF EQUIPMENT:** _____

_____

**TAG NO:** _____

**REFERENCE SPECIFICATION:** _____

_____ _____
(Trainer) Date

_____ _____
(Contractor) Date

_____ _____
(Authorized Signing Representative of the City) Date

**END OF SECTION**

# COMMISSIONING

## 1. GENERAL

.1 Due to the sequential tendering and construction approach for the Winnipeg WTP, the Commissioning of the WTP will be divided into several phases to improve Commissioning efficiency and reduce overall System Demonstration time. Before System Demonstration can begin, all dependant processes must have been checked out and to be determined to be conformance with the Specifications. All equipment manufacturers from other contracts must have verified the correct installation of their respective equipment and they must have performed running tests and performance tests.

.2 This Section describes the commissioning plan and the Contractor's responsibilities in the Commissioning of the process, mechanical, electrical, and other systems to be controlled as part of this Contract.

.3 Materials Supplied and Installed under this Contract and the City Supplied Equipment will be Commissioned by the Contract Administrator and the Commissioning Team with assistance from the Contractor and Supply Contractors. The Contractor shall provide the services of a qualified representative to assist in the System Demonstration and Performance Verification of all of the equipment installed under this Contract. System Demonstration and training activities cannot begin until Forms 102 and 103 have been completed for all equipment installed under this Contract.

.4 The Contractor shall refer to Sections 01300 - Submittals, 01650 – Equipment Installation, 01664 - Training, and Division 17 for details on the System Demonstration procedures not included in this section.

.5 System Demonstration of the main WTP is expected to begin in 2008. The WTP Start-up and System Demonstration procedures will also be linked to Start-up and System Demonstration of facilities such as the Sodium Hypochlorite and Chemical Storage Buildings.

.6 The Contractor shall note that for materials and equipment installed in this Contract, warranty will not begin until issuance of Total Performance.

## 2. DEFINITIONS

.1 System: For the purpose of this Section, a system shall be defined as the equipment, piping, controls, ancillary devices, electrical power, etc. which together perform a specific function at the facility.

.2 Sub System: For the purpose of this Section, a Sub System is defined as a smaller grouping of equipment, piping, controls, ancillary power, electrical devices, etc which performs an even more specific function than a System.

.3 Commissioning: The process of ensuring that systems and sub-systems are installed, functionally tested, and capable of being operated and maintained to perform in conformity

with the design intent over the long-term. Commissioning is a process that is not limited to the start-up period.

.4 Start-up: All inspection, preparation, testing, adjustment calibration and tuning required to put devices and systems into operating condition. Start-up includes; Demonstration, Running Tests, and Performance Tests.

.5 Demonstration: During Start-up, comprises of running equipment supplied and installed from other contracts for one (1) hour to demonstrate that equipment is properly installed.

.6 Running Test: During Start-up, comprises of running equipment supplied and installed from other contracts continuously for a minimum of three (3) days (72 hours) or as specified. During this period, as practicable, maximum, average, and minimum conditions will be simulated.

.7 Performance Test: During Start-up, comprises of equipment supplied and installed from other contracts running continuously for a minimum period of seven (7) days (168 hours) or as specified. The Performance Test will be conducted subsequent to the Running Test as advised by the Contract Administrator. On successful completion of Demonstration, Running Tests, and Performance Tests, Form 103 – Certificate of Equipment Satisfactory Performance shall be completed.

.8 System Demonstration: For the purpose of this Specification Section, shall be defined as the successful operation of process treatment trains in accordance with its design requirements for a total period of forty two (42) days, the last seven (7) of which shall be consecutive, unless otherwise specified. On successful completion of System Demonstration, Form 104 – Certificate of Satisfactory Process Performance will be completed.

.9 Commissioning Team: Team led by the Contract Administrator which is made up of members from the City, Commissioning Operations Agent, and Contract Administrator. The Commissioning Team will coordinate System Demonstration activities through the Contract Administrator and develop an overall commissioning plan and schedule.

## 3. SEQUENCE

.1 The general sequence of events is summarized by the following table. Due to the phased nature of construction, this sequence of events will be further developed by the Contract Administrator to suit specific equipment, system, sub systems, processes, and critical events.

| SEQUENCE ITEM | DESCRIPTION |
|---|---|
| **A. Equipment** | 1) Contract Administrator, Contractor inspect equipment delivery<br>2) Contractor accepts equipment delivery<br>3) Contractor Sign-off Form 100 – Certificate of Equipment Delivery<br>4) Equipment stored on Site or City Warehouse |

| Delivery | |
|---|---|
| **B. Complete Installation and Demonstration and Running Tests** | 1) Supply Contractor to provide installation instructions/training to Contractor<br>2) Supply Contractor to Complete Form 101 – Certificate of Readiness to Install<br>3) Contractor to complete installation<br>4) Supply Contractor to inspect installation<br>5) Supply Contractor to complete Form 102-Certificate of Satisfactory Installation<br>6) Begin Start-up Process<br>7) Complete One (1) hour Demonstration<br>8) Complete minimum three (3) day Running Test<br>9) Complete process related deficiency list items<br>10) Tag all components ready for Performance Testing |
| **C. Performance Testing and Completion of Start-up** | 1) Contractor to inform Contract Administrator 14 days in advance of Performance Testing<br>2) Confirm required staff is available<br>3) Review safety procedures as required with Contract Administrator<br>4) Review operational requirements (output & performance) with Contract Administrator<br>5) Supply Contractor or Manufacturers Representatives to conduct all necessary checks prior to confirming equipment ready to run<br>6) Commence Performance Testing period – minimum seven (7) days<br>7) Sign-off Form 103 – Certificate of Equipment Satisfactory Performance<br>8) Within 14 days of Substantial Performance, provide final O&M manuals |
| **D. System Demonstration** | 1) After Form 103 completed, Commissioning Operations Agent to operate and maintain the WTP<br>2) Review safety procedures as required with Contract Administrator<br>3) Review operational requirements (output & performance) with Contract Administrator<br>4) Commence System Demonstration Testing |
| **E. Training** | 1) After completion of Form 103 and prior to completion of Form T1, Contractor to include Manufacturers Representative training as part of the Work<br>2) Supply Contractors include training as part of their contracts<br>3) After all training included in Contract complete, sign-off Form T1 – Certificate of Satisfactory Training |
| **F. Total Performance** | 1) Completion of Form T1 and successful Performance Testing<br>2) Final completion and cleanup<br>3) Complete Form 104 – Certificate of Satisfactory Process Performance<br>4) Certificate of Total Performance complete<br>5) Provide warranty services as provided under the Contract |

.2 Final O&M Manuals shall be available as per the requirements of Section 01730 – Operation and Maintenance Manuals, at least fourteen (14) days prior to the start of System Demonstration and prior to the completion of Form 103 – Certificate of Satisfactory Performance.

.3 During Start-up, start and run systems in manual mode. Turn separate items of equipment to automatic in a planned and logical manner as directed by the Contract Administrator.

Ensure that the control system is operating the equipment in a manner which precludes damage to the equipment and which is consistent with the process operating requirements.

.4 System Demonstration Testing Period of forty two (42) days. The equipment shall operate continuously and successfully through the last seven (7) days of the Sytem Demonstration Period as approved by the Contract Administrator.

## 4. COMMISSIONING ROLES AND RESPONSIBILITIES

.1 Contractor:

.1 Maintenance of equipment and subsystems.

.2 Red tag, lockout and maintain control of all power supplies, valves, etc.

.3 Attend Commissioning related meetings in Winnipeg.

.4 Operate all equipment under the direction of the Supply Contractors and Manufacturers Representatives as required to demonstrate Satisfactory Equipment Performance. Issue Form 103 – Certificate of Satisfactory Performance.

.5 After completion of Form 103, green tag, and turn over control of all power supplies, valves, etc., to the Commissioning Operations Agent.

.6 List of all personnel who the Contractor plans for System Demonstration and hand-over with information indicating their qualifications for this work.

.7 Operate all equipment installed under this Contract, and with the assistance of the Supply Contractors and Manufacturers Representatives as required, to complete Performance Verification.

.8 Provide the Contract Administrator with red-lined drawings for record drawing preparation.

## 5. COMMISSIONING PLAN

.1 The Commissioning Team will develop a detailed methodology for the System Demonstration of each system at least ninety (90) Calendar Days prior to planned start of System Demonstration. The plan will include the following:

.1 Detailed schedule of events, including but not limited to the schedule for completion of testing of all component parts of the system in accordance with Section 01650 – Equipment Installation prior to System Demonstration.

.2 Methods and criteria for water management; sending water to the City, recycling or disposing of partially treated water, emergency overflows, and disposing of any sludge

or other residual solids generated during the Commissioning Period and during Performance Verification.

.3 Sampling and analytical program for tests necessary to verify compliance with specified performance criteria.

.4 Workplace Health and Safety Plan.

.5 Chemical handling procedures and responsibilities.

.6 Contingency plans in the event of a process malfunction.

.7 Drawings and sketches as required to illustrate the planned sequence of events.

.8 List and details for all temporary equipment (pumps, etc.) required to facilitate System Demonstration.

## 6. PREPARATION FOR START-UP AND SYSTEM DEMONSTRATION

.1 Wiring will be finished and tested. Form 103 shall be completed.

.2 Control systems shall be completed and the related control software debugged, as per Divisions 17.

.3 Temporary equipment shall be installed and tested as necessary to ensure that it functions reliably and consistently through the Commissioning Period.

.4 Prior to completing Form 103, all applicable regulatory inspections shall be completed to the satisfaction of the governing authorities.

## 7. CONTROLS

.1 All controls installed by the Contractor shall have Performance Verification completed prior to System Demonstration.

.2 The Contract Administrator will arrange for the simulation of the control sequences or will allow for the operation of the system without the features included in the work of others. Every effort shall be made to ensure that the Commissioning Period provides for the full and comprehensive operation of the equipment under all anticipated normal and adverse operating conditions.

## 8. UTILITY SERVICES

.1 Utility services will be provided by the City as specified in Section 01650 - Equipment Installation. Provision of these services will be limited to reasonable levels as determined by the Contract Administrator.

## 9. MANPOWER

.1 Supply all competent staff required during the Commissioning Period as requested by the Contract Administrator to assist the Commissioning Team, Operations Agent, and City's staff in the operation of the WTP.

.2 Supply competent staff capable of maintaining, repairing and adjusting the equipment and controls to achieve the intended design functions during the Commissioning Period.

.3 Ensure equipment Manufacturer's Representatives are available as necessary to certify adjustments in equipment, to guide in setting correct operating limits, to provide training, and to generally provide input as required for the appropriate operation of the equipment.

## 10. OPERATING DESCRIPTIONS

.1 Operating descriptions have been prepared for the WTP systems. To some degree, the intent of these have been included in the Drawings and technical Specifications. Information outlining the operating requirements is available from the Contract Administrator.

## 11. COMMISSIONING PERIOD

.1 All components and systems will be operated in the automatic/manual and the remote/local modes as required to prove proper operation.

.2 Samples of process flows, when necessary to prove performance, will be obtained and analyzed on a regular basis by others.

## 12. ACCEPTANCE

.1 System Demonstration shall be considered acceptable when the process has operated in a stable manner, satisfying the design criteria for a period of forty two (42) days, the last seven (7) of which shall be continuous and consecutive, unless otherwise specified.

.2 When the Contractor achieves Total Performance, the process Systems will be formally accepted for operation and routine maintenance by the Commissioning Operations Agent. On successful completion of System Demonstration and Training, Form 104: Certificate of Satisfactory Process Performance, attached to this specification will be signed by the representative of the Manufacturer, Contractor, Contract Administrator, and City.

.3 An acceptance meeting must be held at the end of the System Demonstration test to confirm the status of each system. Contractor shall attend the acceptance meeting.

## CERTIFICATE OF SATISFACTORY PROCESS PERFORMANCE
## FORM 104

We certify that the equipment listed below has been operated and tested as per the Specifications using water and that the equipment meets its Performance Testing Criteria. The equipment is therefore classed as "conforming".

**PROJECT:** _____

**SYSTEM DESCRIPTION:** _____

_____

**TAG NO (S):** _____

**REFERENCE SPECIFICATION (S):** _____

| | |
|---|---|
| (Authorized Signing Representative of the Manufacturer) | Date |
| (Authorized Signing Representative of the Contractor) | Date |
| (Authorized Signing Representative of the Contract Administrator) | Date |
| (Authorized Signing Representative of the Commissioning Operations Agent) | Date |
| (Authorized Signing Representative of the City of Winnipeg) | Date |

**END OF SECTION**

# OPERATION AND MAINTENANCE MANUALS

## 1. DESCRIPTION

.1 This Section supplements the requirements for the provision of O&M Manuals as described in Section 01300 – Submittals.

.2 Furnish complete operations manuals and maintenance information as specified in this Section for installation, check-out, operation, maintenance, and programming logic flow diagram.

.3 Customize the operations manuals and maintenance information to describe the equipment actually Supplied and Installed. Do not include extraneous data for models, options, or sizes not Supplied and Installed (cross out or remove if required). When more than one model or size of equipment type is furnished, show the information pertaining to each model, option, or size.

.4 Assemble, coordinate, bind, and index required data into an administrator O&M Manual.

.5 Assemble, coordinate, bind, and index required data into an operator O&M Manual.

.6 Three (3) draft copies of the manuals shall be submitted a minimum of sixty (60) days prior to Substantial Performance of the Work for review and comments. A maximum of eight (8) weeks after review, twelve (12) copies of the final manuals shall be supplied.

.7 In addition to hard copies, submit a draft, review and final version of the O&M Manual electronically, concurrently with the submission of hard copies.

.8 Materials: Label each Section with tabs protected with celluloid covers, fastened to hard paper dividing sheets.

.9 Type lists and notes.

.10 Drawings, diagrams and Manufacturer's literature must be legible. Drawings larger than 280 x 430 mm must be folded and placed inside plastic pockets.

## 2. OPERATION AND MAINTENANCE MANUAL CONTENTS AND ORGANIZATION

.1 Provide the Manufacturer’s standard O&M manuals for the equipment or instruments supplied. If the Manufacturer's standard manuals do not contain all the required information, provide the missing information in supplementary documents and Drawings inserted behind appropriate tabs in the manual binder.

.2 When more than one (1) piece of identical equipment or instruments are supplied, provide only one (1) set of operations manuals.

.3 One (1) set of operations manuals may be provided when more than one (1) piece of similar equipment or instruments are supplied, such as different sizes of the same model, and all similar pieces are covered in the same standard Manufacturer's O&M manual.

.4 When similar equipment or instruments are provided by the same Manufacturer, but are not covered in the same standard Manufacturer's O&M manual, their specific manuals may be bound in the same 3-ring binder. Separate specific manuals with tab dividers labelled with the appropriate equipment numbers.

.5 Provide a cover sheet, bound as the first page of each manual, with the following information:

.1 Contract name and number.

.2 Equipment number or, if more than one (1) piece of equipment is provided, equipment numbers for equipment or instruments covered by the manual. Include functional description of equipment after each number.

.6 Provide a table of contents listing the contents of the manual and identifying where specific information can be located.

.7 Insert the specific information described below in the O&M manuals in a format similar to that listed:

.1 Tab 1 – General Information:

.1 Functional title of the system, equipment, material, or instrument.

.2 Relevant Specification Section number and Drawing reference.

.3 Address and telephone number of the Manufacturer and the nearest Manufacturer's Representative.

.2 Tab 2 - Equipment Data:

.1 Insert Specification Section and completed Equipment and Instrumentation Data sheets for equipment supplied. Attach all Addenda, Change Orders, and change directives that refer to that specific item of equipment.

.3 Tab 3 – Operation Information:

.1 Include the Manufacturer's recommended step-by-step procedures for starting and stopping under normal and emergency operation. Include all specified modes of operation including recommended operation after the assembly or equipment has been in long-term storage.

.2 Provide control diagrams with data and information to explain operation and control of systems and specific equipment. Identify normal operating setpoints and alarm conditions.

.3 Provide technical information on all alarms and monitoring devices provided with the equipment.

.4 Provide troubleshooting information. Clearly identify which problems to look for and how to solve them.

.4 Tab 4 - Technical Data:

.1 Insert Manufacturer's Technical Specification and data sheets.

.2 Insert Manufacturer's certified performance and calibration curves for the equipment and instruments.

.5 Tab 5 - Maintenance Information:

.1 Include the description and schedule for all Manufacturers' recommended routine preventative maintenance procedures including specific lubrication recommendations. Indicate whether procedure is to be done daily, weekly, monthly, quarterly, semi-annually, annually, or fill in hours of operation.

.6 Tab 6 - Maintenance Instructions:

.1 Provide requirements to set up and check out each system for use. Include all required and recommended step-by-step inspections. Include protective device settings, warnings, and cautions to prevent equipment damage and to insure personnel safety.

.2 Provide Manufacturer's description of routine preventive maintenance, inspections, tests, and adjustments required to ensure proper and economical operation and to minimize corrective maintenance and repair.

.3 Provide Manufacturer's recommendations on procedures and instructions for correcting problems and making repairs.

.4 Provide step-by-step procedures to isolate the cause of typical malfunctions. Describe clearly why the checkout is performed and what conditions are to be sought. Identify tests or inspections and test equipment required to determine whether parts and equipment may be reused or require replacement.

.5 Provide step-by-step procedures and list special required tools and supplies for removal, replacement, disassembly, and assembly of components, assemblies, subassemblies, accessories, and attachments. Provide tolerances, dimensions, settings, and adjustments required.

.7 Tab 7 - Assembly Drawings:

.1 Provide Drawings which completely document the equipment, assembly, subassembly, or material for which the instruction is written. Provide the following Drawings as applicable: fabrication details, wiring and connection diagrams, electrical and piping schematics, block or logic diagrams, Shop Drawings, installation Drawings, layout and dimension Drawings, and electrical component fabrication Drawings.

.2 Provide clear and legible illustrations, Drawings, and exploded views to enable easy identification of the items. When illustrations omit the part numbers and description, both the illustrations and separate listing shall show the index, reference, or key number which will cross-reference the illustrated part to the listed part. Parts shown in the listings shall be grouped by components, assemblies, and subassemblies.

.8 Tab 8 - Bills of Materials:

.1 Provide a clear, legible copy of the Bill of Materials that was shipped with the equipment. The Bill of Materials should list all equipment, instruments, components, accessories, tools, and other items that were shipped with the equipment.

## 3. FIELD CHANGES

.1 Following the acceptable installation and operation of an equipment item, modify and supplement the item's instructions and procedures to reflect any field changes or information requiring field data.

## 4. COMMISSIONING DATA

.1 Provide in hard cover 3-ring binders for 215 x 280 mm paper labelled "Commissioning Data" one (1) copy of:

.1 All completed equipment testing forms.

.2 All completed equipment checklists and performance reports, including noise and vibration analysis, instrumentation calibration data, and all other relevant information.

.3 All system performance reports.

## 5. WARRANTIES

.1 Provide in hard cover 3-ring binders for 215 x 280 mm paper labelled "Warranties" one (1) copy of:

.1 Manufacturers' standard Warrants and Guarantees. Include the name and telephone number of the contact person. Indicate the time frame of each Warrant or Guarantee on the list.

**END OF SECTION**

# 1. GENERAL

## 1.1 Requirements of Work

.1 This Section defines the general requirements for the programming, design, supply, installation, testing, and performance verification of the PCS. The PCS will form a subsystem of the overall WTP control system which contains City Supplied Equipment as specified in this and other Sections of the Specification.

.2 Provide all labour, products, and services in necessary quality and quantities to meet the performance requirements for the contract and provide a fully operational system.

.3 Component subsystems of the PCS to be provided under this Contract will include, but are not limited to, the following:

.1 Primary and Standby Servers

.2 Engineering Workstations

.3 Operator Workstations

.4 Software Licenses

.5 Projector System

.4 Definitions:

.1 PCS (Plant Control System) – a generic term for all components and systems of the WTP Facility digital control and information systems, including but not limited to PLC,s, SCADA/HMI subsystems.

.2 PLC (Programmable Logic Controller) – a generic term for the process controllers that sense and manipulate field sensors and control devices.

.3 SCADA/HMI (Supervisory Control and Data Acquisition) – a generic term for the system of servers and workstations which allow the operators of WTP Facility to monitor conditions, alarms, historical trends etc.

.4 HMI (Human-Machine Interface): Computer work station with necessary software applications that acts as the primary interface between the operator and the PCS. Typical applications allow for viewing of the various process area real-time graphics, viewing alarms, changing of process parameters and modes and other operator viewing and control actions.

.5 Ethernet – a generic term for the installed local area network (LAN)

.6 Modbus (MB) – a registered trade name for a communications protocol based on master/slave architecture.

.7 Modbus TCP/IP (MB TCP/IP) – a registered name for implementing Modbus using TCP/IP as the common transport protocol, and Ethernet as the physical network.

.8 OPC (OLE for Process Control) – a registered trade mark for an inter-operable software communication standard.

.9 BMS (Building Management System) – an acronym for the HVAC control systems in the WTP Facility.

.5 Documentation provided to the Contractor shall be formatted as follows:

.1 P&IDs – Depict the general intent of the control systems and are to be used as the governing document for the scope of Work.

.2 User Requirement Specification (URS)- provides a written explanation of the control philosophy for process equipment as depicted on P&ID'S.

.3 I/O Index – A sorted index of the control system I/O points shown on the P&IDs, giving the supporting documentation as per the instrument index.

.4 Plant Communication Network Diagrams.

.6 Documentation provided by the Contractor shall include as a minimum:

.1 Functional Design Specification (FDS) – a developed and expanded version of the URS.

.2 Software Design Specification (SDS) – describes in detail how the software will be coded in a structured and efficient manner.

.3 Hardware specification. Fully describes all the hardware aspects of the Control System.

.4 Equipment installation instructions, service manuals, O&M manuals, bills of materials, and recommended spare parts lists.

.5 Schematics and interconnection wiring diagrams sealed by a Professional Engineer registered in the Province of Manitoba.

.6 Records of conductor identification, field terminals, cable lists, changes, etc.

.7 I/O (Input and Output) list for digital or programmable systems

.8 Records of as-built information for the complete PCS system.

.7 References:

.1 This Specification contains references to the following documents. They are a part of this Section as specified and modified. In case of conflict between the requirements of this Section and those of the listed documents, the requirements of this Section prevail.

.2 API RP550-86, Manual on Installation of Refinery Instruments and Control Systems, Part I--Process Instrumentation and Control Sections 1 through 13.

.3 ANSI/UL 1988, Standard for Software in Programmable Components.

.4 C22.1-06, Canadian Electrical Code.

.5 BS EN 60073: 2002, Basic and safety principles for man machine interface, marking and identification.

.6 IEC 61508, Functional Safety of Electrical Safety-Related Systems.

.7 IEC 61511, Functional Safety - Safety instrumented systems for the process industry sector.

.8 EEMUA 191, Alarm systems - a guide to design, management and procurement.

.9 ISA RP12.6, Installation of Intrinsically Safe Systems for Hazardous (Classified) Locations.

.10 ISA S5.4, Instrument Loop Diagrams.

.11 ISA S51.1, Process Instrumentation Terminology.

.12 NEMA 25085, Enclosures for Industrial Controls and System.

.13 NEMA ICS 1, General Standards for Industrial Control and Systems.

.14 NEMA ICS 2, Industrial Control Devices, Controllers, and Assemblies.

.15 NFPA 70, NEC.

.16 UL 1012, Power Supplies.

.8 Codes, Rules, Permits and Fees:

.1 Give all required notices, submit Drawings, obtain all permits, licenses, and certificates, and pay all fees required for this Work.

.2 Furnish a certificate of final inspection and approvals from inspection authorities to the Contract Administrator.

.9 Standards of Workmanship:

.1 Arrange and install products to fit properly into designated building spaces.

.2 Install products in accordance with the recommendations and ratings of the product Manufacturers.

## 1.2 Equipment

.1 Receiving, storing, and protection of components during construction:

.1 Examine each component upon delivery to Site. Report all damage noted to the Contract Administrator prior to accepting or rejecting delivery. Perform a preliminary examination upon delivery to ensure that:

.1 All components supplied for work carried out under this Section of the Specifications comply with the requirements described therein.

.2 Itemize all non-conformities noted above and forward them to the Contract Administrator. Any delays in construction resulting from the delivery to Site of non-conforming components shall be borne by the Contractor.

.3 Ensure that covers where required are properly installed on all equipment. Provide all covers, padding, guards, etc. as required to guard any equipment against damage.

.2 Take all necessary precautions to ensure that equipment is supplied free of damage. If deemed necessary by the Contract Administrator, damaged equipment shall be replaced with new product at no additional cost to the City. The Contractor shall bear any costs due to construction delays resulting from the delay in delivery of acceptable equipment.

## 1.3 Documentation

.1 Submittals:

.1 Submit Shop Drawings for all products supplied by this Division. Submit Shop Drawings for review prior to purchase of any products or equipment and sufficiently in advance to allow ample time for checking.

.2 Contractor to review, modify, and approve the Shop Drawings prior to submitting Shop Drawings to the Contract Administrator for review. Contractor approval of a Drawing indicates the following:

.1 The Drawing has been checked by the person making the approval.

.2 The equipment or material complies in all respects with the requirements of the Specifications and Drawings.

.3 The quantities indicated are correct.

.4 The physical dimensions of the components are such that they can be installed without interference with the building structure or other equipment, and after installation, there are sufficient clearances on all sides for maintenance, servicing and operation of the equipment.

.5 The points of attachment are clearly indicated, i.e. TOP, BOTTOM, SIDE, etc.

.6 The arrangement and location are properly oriented.

.7 The product is suitable for its intended use.

.8 The submission consists of sufficient information to adequately convey the scope of supply and the specific product to be supplied is highlighted.

.9 The submission contains sufficient information to install the equipment or systems.

.10 The submission contains programming logic flow diagrams.

.3 Stamp and sign the Shop Drawing to show approval, indicating the above has been complied with. If Contractor revisions are too extensive, return the submission to the Manufacturer for revision, then repeat the Shop Drawing approval process before submitting to the Contract Administrator.

.4 Manufacture of products shall conform to Shop Drawings marked as reviewed by the Contract Administrator and returned to the Contractor.

.5 Keep one (1) complete, maintained set of Shop Drawings at the Job Site during the construction period. Record modifications and changes as they arise during the construction period and incorporate these changes in the Record Drawings.

.6 Refer to Division 1 for further information on Shop Drawing submittals.

.2 O&M Manuals:

.1 Refer to Division 1 for general O&M manual submittal information.

.2 In addition to the requirements specified in Division 1, provide the following information:

.1 Table of Contents – Arrange contents sequentially by systems under section numbers. Label tabs of dividers between each to match section numbers in the Table of Contents.

.2 Systems Descriptions – A brief synopsis of each system typed and inserted at the beginning of each section.

.3 O&M instructions of all equipment and controls – These operating instructions need not be Manufacturer's data but may be typewritten instructions in simple language to guide the City in the proper O&M of this installation.

.4 A copy of all wiring diagrams complete with wiring coding.

.5 Include type and accuracy of instruments used.

.6 Set of final reviewed Shop Drawings.

.7 Provide a tabulated list of all consumables utilized (fuses, lamps, etc.) indicating where used, type, rating and reorder details.

.3 Record Drawings:

.1 Maintain on Site a complete set of Record Drawings.

.2 In addition to the requirements stated in E9, record the following information on the Drawings:

.1 All changes alterations or additions

.2 All instrumentation cable and control tubing

.3 All changes to the numbers and location of outlets, motors, panels and end devices that may occur during the course of the Work.

## 2. PRODUCTS

### 2.1 General

.1 Refer to the requirements of Division 1**.**

.2 Selected Products:

.1 The design is based on the use of the first named product where multiple products have been listed.

.3 Quality of Products:

.1 All products provided should be CSA approved, ULC approved where applicable, and new unless otherwise specified.

.2 If products specified are not CSA approved, obtain special approval of the relevant provincial regulatory authority. Pay all applicable charges levied and make all modifications required for approval.

.3 Products provided, if not specified, shall be new, of a quality best suited to the purpose required and there use subject to approval by the Contract Administrator .

.4 Uniformity of Manufacture:

.1 Unless otherwise specifically called for in the Specification, uniformity of manufacture to be maintained for similar products throughout the Work.

.5 Product Finishes:

.1 Contractor to specify proposed finishes to be used for Contract Administrator’s review.

.6 Use of Products During Construction:

.1 Any equipment used for temporary or construction purposes is to be approved by the Contract Administrator. Clean and restore to "as new" condition all equipment prior to the time of Substantial Performance.

**2.2 Identification**

.1 Refer to Device Naming Standard in appendix.

.2 Provide and identify the equipment tag number (where applicable) and the device name, function on the label.

.3 Identify all wires where they terminate at the marshalling panels, junction boxes, control panels, and field devices with a heat shrink sleeve with machine printed labelling.

.4 Clearly mark all panels, pull boxes, junction boxes, etc. to indicate the nature of service.

**3. EXECUTION**

**3.1 Product Handling**

.1 Use all means necessary to protect the products included in this Division before, during and after installation, and to protect products and installed Work of all other trades.

.2 Any damage to the products and/or installed Work shall be repaired or replaced to the approval of the Contract Administrator by the Contractor.

.3 Remove advertising labels from all products installed that have such labels attached. Identification or CSA labels are not to be removed.

.4 Remove dirt, rubbish, grease, etc. resulting from Work performed under this Division of the Contract from all surfaces.

**3.2 Separation of Services**

.1 Maintain separation between the electrical wiring system, piping, ductwork, and the instrumentation cables so that each system is isolated (except at approved connections to such systems) to prevent galvanic corrosion. In particular, contact between dissimilar metals, such as copper and aluminum, in damp or wet locations is unacceptable.

.2 Do not support wiring from pipes, ductwork, etc. Hangers for suspended ceilings may be used for the support of wiring only when approval is obtained from the Contract Administrator and the ceiling installer, and only if approved clips or hangers are used.

.3 Classifications of Circuits:

.1 The circuit categorization shall of first priority follow Canadian Electrical Code with respect to separation for electrical safety and the following shall apply with respect to electro-magnetic compatibility:

| | |
|---|---|
| Very Noisy | High voltage circuits and their associated grounding |
| | High current (>200 A) LV circuits. |
| | Harmonic-rich LV circuits. |
| | DC circuits: un-suppressed or above 50 V. |
| Noisy | Low current class two (2) circuits. |
| | Medium power pulsed or radio frequency circuits. |
| Indifferent | ELV digital status circuits. |
| | Intrinsically safe circuits. |
| | Telecommunications circuits. |
| | Fire alarm and emergency lighting circuits (note that some fire alarm circuits may fall into the category of signal circuits). |
| | Any other emergency, shutdown, or high integrity circuit (e.g. toxic gas alarm). |
| Sensitive | Analogue signal circuits. |
| | Data communication circuits. |
| Very Sensitive | Low level voltage and current signals (e.g. from instrument sensors). |

.4 Separation of Circuits:

.1 This Section relates to the running of cables carrying differing types of circuits in close proximity to one another and to other services. Sensitive circuits shall normally be run in overall shielded cable. Very sensitive circuits shall normally be run in individually twisted pair shielded cable.

.2 For cables sharing the same support/containment system, the following shall provide guidance to minimize extraneous interference.

| **Segregation between circuits** | **Very Noisy** | **Noisy** | **Indifferent** | **Sensitive** | **Very Sensitive** |
|---|---|---|---|---|---|
| Very Noisy | Thermal grouping as per CE Code. | 150 mm | 300 mm | 300 mm | 300 mm |
| Noisy | 150 mm | Thermal grouping as per CEC. | 150 mm | 150 mm | 150 mm |
| Indifferent | 300 mm | 150 mm | Separation of circuit types. | 100 mm | 100 mm |
| Sensitive | 300 mm | 150 mm | 100 mm | Touching | 50 mm |
| Very Sensitive | 300 mm | 150 mm | 100 mm | 50 mm | Touching |

**3.3 Testing**

.1 Check and document the operation of final control elements such as actuators, etc. by manual control before checking with automatic control.

.2 Record all device settings and perform operational test on all

.3 Sign and date all test reports. Submit the test reports to the Contract Administrator within five (5) business days of testing.

**3.4 Testing of Communication Based Devices**

.1 Configure device address for all devices on a communication link.

.2 Check all read/write functions between the PCS and the device.

.3 Functionally check the communications based I/O by forcing a control function from the PCS and verifying the operation of the equipment or operating the equipment or device and verifying the information is read into the PCS.

.4 Provide a test sheet for each communication link that lists each device on the link. Record all relevant data addressing properties and memory locations.

**3.5 Calibration and Configuration**

.1 Assign addresses for all addressable devices on the Modbus TCP/IP networks. Verify that devices respond to the assigned address, label each device with the address and maintain a permanent record of the addressing scheme.

**3.6 Performance Verification**

.1 Provide for PLC I/O verification and participation in the equipment installation and WTP Facility operational testing conducted by other Contracts.

.2 Provide for overall PCS field and site acceptance testing.

.3 Provide two (2) weeks written notice to the Contract Adminisstrator prior to energizing any system to allow for inspection of the following:

.1 Proper installation.

.2 Proper connections.

.4 Performance Verification of the PCS systems to include but not be limited to the following:

.1 Verify signal levels and wiring connections to PLCs for all instrumentation and control equipment.

.2 Verify communications and addressing of all equipment.

.3 Functionally check programmed logic.

.4 Adjust controlled logic under operating conditions.

.5 Verify all local and control room operator station graphics and programs.

.6 Coordinate with Other Contractors to verify signals and operation of the PLCs and local operator stations.

.7 Instruct construction personnel in correct method of equipment and operator station operation used for testing.

.8 Instruct City personnel at hand-over in correct methods of operating the equipment and operator stations.

.5 During performance verification and site acceptance testing demonstrate to the Contract Administrator and commissioning team proper operation of Materials and collection of historical information.

.6 Participate during performance verification and then commissioning by adjusting or modifying programmed logic and controls to meet the operational requirements.

**END OF SECTION**

**SCOPE OF WORK**

## 1. GENERAL

### 1.1 Section Includes

.1 This Section outlines the general scope of work. The intent is to provide a fully operational PCS to monitor and control the City of Winnipeg WTP. The work required to provide the system shall include the design, hardware and software supply, installation, testing, programming and configuration, personnel training and documentation.

### 1.2 Project Description

.1 The PCS consists of the following main component systems:

.1 PLC controllers in the WTP Facility areas supplied by the City

.2 Eight (8) Local Operator Workstations in individual areas supplied under this Contract

.3 Main PCS Realtime and Historical server systems in individual primary and backup server rooms, supplied and installed under this Contract

.4 Four Main PCS system workstations in the WTP control room supplied and installed under this Contract.

.5 Two PCS Engineering workstations supplied and installed under this Contract.

.6 A plant-wide communications network consisting of fibre optic cable for connecting all DCU areas to the server rooms. Applications and communication end devices such as routers, switches, media converters, etc all supplied by the City.

.2 The Contractor shall provide a minimum tag license of 25,000 tags for the SCADA HMI System.

.1 Information in the Contract Documents shall allow for quantifying the PCS requirements.

### 1.3 Work Included

.1 Review Contract Documents to determine the complete PCS system requirements. The Contractor will be required to produce a work schedule in a compatible format with the Schedule, and submit it for approval. The submission task milestones will be compliant with the milestones of the Schedule.

.2 Develop and submit shop drawings for all equipment in accordance with Section 01300 – Submittals.

.3 Conduct specific development training courses for the City and the Contract Administrator.

**SCOPE OF WORK**

.4 Provide all PCS computer hardware and software as indicated on the Drawings and Specifications. Provide the system from a single Manufacturer.

.5 Provide redundant OPC client and server communication services.

.6 Provide programming and configuration services to develop all PCS software applications as follows:

.1 Provide graphics, report generation, and control programming.

.2 Provide an integrated development environment that maintains a single repository for information common to the control, graphics and database configurations. All database information will be referenced by an alphanumeric global I/O Point name using ISA standard.

.3 Provide process control logic programming compatible with the IEC 1131-03 standard. Provide real-time execution diagnostics in the same graphical format with on-screen representation real-time status and data.

.4 Provide maintenance diagnostics software, diagnostic trending and loop tuning software as standard to analyse the PCS System performance and process.

.5 Provide system software management tools for all computer-based equipment provided in the PCS system. These tools are to include all operating system functions such as identifying, copying and renaming files, security management, disk optimization, driver management, etc.

.6 Provide system administrative software tools to access and maintain a database of revision, calibration and service status system components.

.7 Provide a PCS System that automatically maintains a current backup of system configuration and operating parameters to permit loading of replacement control and I/O processors.

.7 Install and test all PCS computer equipment.

.8 Conduct integration, FAT and SAT tests.

.9 Program and test the following server based applications:

.1 Historical server configuration

.2 Calculated or contrived process data

.3 Report generation

.4 OPC client- server access to/from PCS

.5 Fail-over and system recovery

.6 Communications, security, and alarming systems

.7 Operator and maintenance graphical environment

.10 Connect PCS computer equipment to UPS power sources provided in each Process Area.

.11 Connect PCS computer equipment to the WTP Facility PCS communications network provided by the City.

.12 Test PCS programmed applications with Other Contractors.

.13 Commission local PLC and operator workstations as independent systems for use during testing and commissioning by Other Contracts.

.14 Supply SST PICS simulation software and develop simulation programs to enable the PCS to be fully tested at the FAT. The simulation software shall also be developed by the Contractor so that it can be used as an operator training tool by the City.

.15 The I/O list 17600a which forms part of the Contract documentation includes I/O designated as spare. The Contractor shall allow in the tender for both PLC and HMI/SCADA programming services associated with those indicated spares.

.16 Two further I/O lists are included as appendices (UVMDATA6 and Deacon_SPLC), the Contractor shall provide HMI/SCADA integration services for all the I/O shown in those lists.

.17 Supply and install projection video engineering services relating to installation of projection video equipment.

.18 Conduct PCS specific operator and maintenance training and produce training manuals. The manuals will also be available electronically for inclusion in the City's maintenance management system.

.19 Participate in WTP Facility operations testing and during the Commissioning Period.

.20 Participate in WTP Facility operations testing and during the Performance Verification.

.21 Conduct PCS Site Acceptance Testing period when the WTP Facility is running on water. Respond to system problems during this period and take corrective action as required.

.22 Rectify outstanding deficiencies.

.23 Provide Warranty Services Support.

### 1.4 Work Not Included

.1 All the PLC hardware, fibre optic cabling, patch panels etc shall be City Supplied Equipment. See drawing WB-A0001 for further information.

.2 PLC programming of the Ozone (CP-O30, CP-O31, CP-O32, CP-O33), DAF (CP-P31, CP-P32), Sodium Hypochlorite Generation (CP-J11) and Polymer Makeup (CP-C11) systems will be by others.

.3 Inter area cable distribution equipment such as conduit and cable tray.

.4 Control room consoles and desks.

## 2. PRODUCTS (NOT USED)

## 3. EXECUTION (NOT USED)

**END OF SECTION**

# FIELD SERVICES

## 1. GENERAL

### 1.1 Scope of Work

.1 This Section describes the requirement for field services required to unload, place, install, connect, modify, test, verify and document the installation of all components, training, programming and configuration services for the PCS.

.2 Provide all labour, equipment, and materials required for the installation, testing and performance verification of the PCS.

.3 Provide network connections and power supply connections, from the electrical distribution points for all equipment requiring a 120 VAC power.

### 1.2 Submittals

.1 Submit the proposed forms for documenting the checkout and verification phases of all of the Work.

### 1.3 Qualifications

.1 Provide the services of qualified installers for any equipment and communications cable required from the patch panel to PCS. For fibre optic media systems use personnel expressly trained at splicing, terminating, and testing of fiber optic cabling.

## 2. PRODUCTS

### 2.1 Equipment

.1 Provide all equipment necessary for the un-loading, handling, and placement of all PCS equipment.

.2 Provide all equipment necessary for the testing and commissioning of the PCS.

### 2.2 Material

.1 Supply and Install all materials necessary for the installation and wiring of the PCS.

.2 Supply and Install all materials necessary for the installation of the communications media and peripherals.

## 3. EXECUTION

### 3.1 Installation

.1 Provide for the off-loading and placement of all equipment in the field.

**FIELD SERVICES**

.2 Inspect equipment for mechanical and electrical damage prior to shipping, arrival at site, during unpacking and after final placement of equipment. Replace or repair any damaged equipment to the satisfaction of the Contract Administrator.

.3 Prepare damage reports and make all claims against the carrier.

.4 Provide adequate protection for the equipment after installation. Do not install equipment in locations that are not sufficiently complete to maintain the proper environmental conditions for the equipment.

.5 Certify in writing that equipment has been installed as per drawings and recommended installation procedures. Report any discrepancies to the Contract Administrator.

.6 Supply and install the AC power supply from the electrical distribution points and connect to systems ground for the equipment. Certify in writing that equipment power and grounding requirements have been satisfied. Report any discrepancies.

.7 Make adjustments necessary to place equipment in trouble-free operation.

.8 Certify that the system is ready for field testing.

.9 Update and submit as-built drawings and CAD files for the installed systems.

**END OF SECTION**

# FACTORY ACCEPTANCE TESTING

## 1. GENERAL

### 1.1 Section Includes

.1 This Section describes the FAT required to demonstrate that the PCS hardware, and operating and application software supplied are in conformance with requirements. It is planned that there will be at least five (5) FATs, which will be performed throughout the programming phase of the project. These different FATs will be staged so that the completion of a specific Process Area can be demonstrated following the completion of the software development. The Contractor will submit a schedule of proposed FAT thirty (30) days after Contract award showing an acceptable division of the work.

.2 Provide all labour, materials, equipment and incidentals, specified and required to perform FAT, before shipment, at the Contractor's facility to verify that system components are functioning properly and that they meet the functional and performance requirements of the Contract Documents.

.3 The system includes but is not necessarily limited to the following major equipment which are specified in Section 17010 – General Requirements.

.4 Tag Database: Minimum ten (10) business days prior to the FAT provide the complete System Software Documentation, including the Tag Database, and all I/O address assignments.

.5 Submit information on FAT procedures to verify that testing shall fulfill the requirements of the Functional Design Specification and design documentation. Submittal shall be made at least two weeks in advance of any scheduled testing and shall include dates of scheduled tests.

.6 Notify the Contract Administrator in writing at least fifteen (15) business days before expected initiation of each test. The City and their representatives will be present at the Contractor's facilities during operational test of system equipment, either for individual units or as an integrated system. Presence of the City or their representatives during testing does not relieve the Contractor from conforming to the requirements of the Contract Documents and shall in no way imply acceptance of the equipment.

### 1.2 Inspection

.1 All PCS equipment shall be inspected for conformance with the Specifications.

### 1.3 Submittals

.1 Include the following information in the submittal for this Section:

.1 A detailed step-by-step test procedure for each test at least fifteen (15) business days in advance of each scheduled test date.

.2 Confirm, in writing, times and dates fifteen (15) business days before a test.

**1.4 Hardware Test**

.1 Demonstrate that all system hardware has been tested and is capable of running diagnostic software without error.

.2 All system components shall be tested to verify proper operation of the equipment as stand alone units. Test shall include, but not be limited to, the following:

.1 AC/DC power checks.

.2 Power fail/restart tests.

.3 Diagnostics checks.

.4 Test demonstrating that all specified equipment functional capabilities are working properly.

.3 All system components shall be tested to verify that communication between units is working properly.

**1.5 Ethernet Communications Test**

.1 Demonstration of communication between PLCs and other devices connected on Ethernet shall be included in the Test Procedure as specified in 1.3.1.1.

**1.6 Software Testing**

.1 Demonstrate all the functions of the PCS using all software for the project specific database, control programs and reports.

.1 All functions of the operator stations including each of the display types described in Section 17500 – Plant Control System operator station. Test the trending and alarm systems.

.2 All software control modules used for communication with field devices.

.3 The report compiler by defining and printing a simple daily report and a simple monthly report.

.4 The historical data collection and retrieval by collecting, storing and retrieving data.

.5 Historical trending.

.6 Storage and retrieval of operator entered data.

.2 The configured Operator Station Software and Control Logic programming will be tested as part of the FAT.

.3 All inputs and outputs shall be simulated. The FAT shall demonstrate all hardware and software associated with the I/O points performs the functions intended.

.4 System performance shall be tested using an integrated system approach, including all developed software and hardware where applicable.

.5 The Contractor shall simulate all the I/O on the WTP Facility using simulation software.

.1 The Contractor shall provide the simulation software and all necessary licences, which shall be handed to the City at the completion of the FAT process.

.2 The Contractor shall be responsible for writing all the simulation programs so that the PCS can be fully tested.

.3 The simulation software shall be SST PICS Pro Simulation Software.

.4 Simulation of I/O by using wired switches, potentiometers etc. shall not be allowed.

.6 The City and their representatives will be present during the tests. Log each test result and provide the Contract Administrator with a deficiency list at the end of each Area tests. Rectify any deficiencies within two weeks of completion of the Area FAT.

.7 If a test or a portion of a test fails, it may be re-tested at the end of the FAT. Trouble shooting and repair shall not interfere with continuation of the FAT. If a test or portion of a test fails to the point where it needs to be rescheduled at a later date, tests shall be required at no additional expense of the City. Include expenses for the City and their representatives, for travel, accommodations, and sustenance of the same quality used for the original test. Re-test expenses shall be for a maximum of three persons.

**1.7 Test duration**

.1 Provide FAT for Real Time Servers, Historian, Workstations, Engineering Stations, Hardware, Ethernet Communications, Software and Integrated System.

.2 The FAT duration shall be proposed by the Contractor in his schedule, it is envisaged that no area test shall take longer than five (5) business days.

**1.8 Release of PCS for Shipment**

.1 The development of testing schedules shall be produced in conjunction with the Project Master Schedule. Prior to shipping provide the following:

.1 Shipment method and the details of the insurance coverage.

.2 Details of storage requirements.

.3 Loading and unloading requirements.

.4 Physical dimensions and weight.

.5 A signed letter stating that all deficiencies noted during in-factory acceptance testing have been corrected and retested.

**1.9 Testing Aids and Equipment**

.1 Provide the following documentation:

.1 One copy of approved submittals applicable to the equipment to be tested.

.2 One master copy of each FAT procedure.

.3 A complete inventory of the equipment to be tested including make, model, and serial number.

.2 Provide use of the following test equipment:

.1 Off-line diagnostic and test programs.

.2 Any other special test equipment that is required to demonstrate the proper operation of the system.

**1.10 Test Schedule**

.1 General:

.1 Testing will, in general, be limited to a maximum of ten (10) hours per day.

.2 A meeting will be held each morning to review the day's test schedule.

.3 A meeting will be held each evening to review the day's test results and to review or revise the next day's test schedule.

**2. PRODUCTS**

**2.1 I/O Simulation Software**

.1 The simulation software shall be SST PICS Pro Simulation Software.

**3. EXECUTION (NOT USED)**

**END OF SECTION**

**PCS FIELD TESTING**

## 1. GENERAL

### 1.1 General Requirements

.1 This Section describes the requirements for site acceptance tests. Demonstrate the performance of the PCS by testing all components and functions of the PCS. The test will be conducted in three phases:

.2 PLC Area Acceptance Testing

.3 PCS Equipment Testing

.4 Overall System Performance Verification and Testing

### 1.2 Submittals

.1 Include the following information in the submittal for this Section.

.2 Process methodology statement stating how and what will be done by the Contractor during the acceptance testing, what the impact on the WTP Facility will be. The methodology statement will be prepared by the Contractor with the Contract Administrator providing input, and must be approved.

.3 Test schedule for each Process Unit and Process Area, and for the PCS Equipment.

.4 Process Area control strategy test procedures.

.5 PCS Equipment test procedures.

.6 System performance test procedures.

### 1.3 Sign-off forms.

.1 Within two (2) weeks following completion of any acceptance tests, submit acceptance test report to the Contract Administrator.

### 1.4 Coordination of Work

.1 Coordinate all work of this Section with the Other Contractors responsible for the construction of the related work, with City operations and the Contract Administrator.

### 1.5 Maintenance of Plant Operations

.1 Schedule field testing which affects the WTP Facility operation through the Contract Administrator on a daily basis.

.2 Do not perform testing which may affect WTP Facility operation without the Contract Administrator’s approval.

### 1.6 Preliminary Testing Procedures

.1 Meet the following conditions prior to the start of any testing:

.2 Correct deficiencies noted during installation

.3 Have on Site documentation pertinent to the equipment being tested

.4 Keep on Site labelled, and properly stored spare parts, expendables and test equipment pertinent to the equipment being tested

.5 Keep copies of programs pertinent to the equipment being tested on Site

.6 Perform tests by following the appropriate operation and maintenance manuals precisely unless otherwise approved by the Contract Administrator. Lack of complete, detailed manuals will be cause for declaring the test to have failed regardless of the actual test results.

### 1.7 Order of Testing

.1 The Contract Administrator will determine the unit process testing sequence for all portions of the works.

.2 The Contract Administrator will determine testing sequence for all other portions of the Contract.

## 2. PRODUCTS

### 2.1 General

.1 Provide any tools, testing equipment, temporary configuration programs, terminals and other accessories required to fully test and verify the proper connection and operation the PCS.

## 3. EXECUTION

### 3.1 General

.1 Meet the following conditions prior to the start of any acceptance testing.

.2 Have on Site documentation pertinent to the equipment being tested. Provide a detailed description of the testing methodology to be used to ensure satisfactory performance of the PCS equipment.

.3 Keep on Site, labelled, and properly stored spare parts, expendables and test equipment pertinent to the equipment being tested.

.4 Have the Contract Administrator review acceptance test schedules and acceptance test procedures.

.5 Perform the acceptance testing on a per Process Area basis. Test no more than one Process Area at any given time. Obtain approval from the Contract Administrator prior to conducting any testing which may affect operations. Schedule any testing which affects the system operation through the Contract Administrator on a daily basis.

**3.2 Process Area Acceptance Testing**

.1 Organize acceptance testing sequentially by Process Area and in line with the master schedule. Include testing of all I/Os, PLC functions and communications for each Process Area.

.2 Check each Process Area against drawings and database lists. Test each PLC and corresponding data communication links.

.3 Check all I/O from the field to the PCS. Include instruments, control devices, panels, termination cabinets, input/output cards, and other devices in the I/O to ensure proper operation. The applicable Other Contractor will be in attendance during I/O field checks

.4 Document the testing and submit to the Contract Administrator. Include the following:

.1 I/O name.

.2 I/O description.

.3 Drawing reference.

.4 Type of test(s) performed.

.5 Date tested.

.6 Signature of tester and date.

.7 Signature of Contract Administrator and date.

.5 Test the PCS Equipment as follows:

.1 Check equipment against inventory lists.

.2 Certify that the equipment has been installed properly.

.3 Power up the PCS Equipment and run diagnostics to verify proper operation.

.4 Load the application system software from backup tapes/disks.

.5 Verify peripheral operation and peripheral failure operation.

.6 Check polling of remotes.

.7 Verify that data is not lost on failover to the backup communication processor.

.8 Verify that data is not lost on failover to the standby PCS node.

.9 Verify historical data is not lost if the system server is down for less than 72 hours.

.10 Test input/output, display, control, and report generation software.

.11 Test historical data collection capabilities.

.12 Test trending functions.

.13 Certify that the system is ready for performance testing.

.14 Test operation of the Local Area Network associated with the PCS Equipment.

.15 Test all alarm functions and alarm history files.

.16 Test system automatic backup and restore procedures.

.6 Document tests and submit to the Contract Administrator. Include the following:

.1 Description of functions tested.

.2 Tests performed.

.3 Copies of messages, displays, reports, and trends which verify operation.

.4 Signature of tester and date.

.5 Signature of the Contract Administrator's and date.

.6 Problem description, if any.

.7 Performance Verification.

.8 Completed Form 102 for each individual Materials.

.9 Completed Form 103 for each individual Materials.

.7 After Process Area Testing and PCS Equipment Testing have been completed, perform an performance verification to verify the system performance. Provide on Site personnel for the Integrated System Performance Test duration.

.8 Participate in tests over a forty two (42) day period when the WTP Facility is operating. Any deficiencies will be promptly corrected and the test restarted. If deficiencies remain uncorrected at the end of the test period, the test period will be extended on a day-to-day basis at the Contractor's expense until proper operation can be demonstrated. Final Acceptance will only be achieved when the requirements of the integrated systems testing has been successfully demonstrated to the Contract Administrator's satisfaction.

.9 Use the communications statistics to verify that the average PCS Equipment to PLC communications availability is greater than 99.99%. Failure of data communication equipment will not count as downtime.

.10 Demonstrate an availability of 99.99% or better for the system. Availability is defined as:

.1 (Test Duration - Downtime)/Test Duration

.11 The system is down if a PLC cannot be accessed from the operator station because of a hardware/software failure, an operational PLC is not polled, alarm and event reporting functions are lost, trend or historical data is lost, or operator commands cannot be carried out because of a hardware/software failure.

.12 Failover to a backup device will not be counted as downtime provided the backup device assumed proper operation.

.13 Make necessary operational adjustments to the system while the WTP Facility is operating.

.14 Demonstrate the historical logging and reporting functions of the system.

.15 Demonstrate system response times for operator displays and data update to or from remote sites. Perform outstanding FAT reruns the Contract Administrator may elect to perform.

**END OF SECTION**

# PLANT CONTROL SYSTEM

## 1. GENERAL

### 1.1 General Requirements

.1 This Section specifies the general performance requirements for certain PCS components. Information in this Section outlines the minimum requirements that all proposed systems must meet.

.2 Design, supply, install, and provide Performance Verification PCS and communications systems necessary to meet the specifications.

.3 Supply and install necessary hardware, software, programming and testing services for a fully functional PCS.

.4 Refer to Section 17010 – General Requirements.

### 1.2 Submittals

.1 Refer to Section 01300 – Submittals for the general requirements for submittals.

.2 In addition to requirements in Section 01300 – Submittals submit the following specific information:

.1 System description

.2 Schematic diagram showing all components and cabling

.3 Detailed information for the system hardware and software

.4 Installation and maintenance instructions

### 1.3 Definitions:

.1 Refer to Section 17010 – General Requirements for general definitions of terms.

### 1.4 PCS Primary Objectives

.1 Primary performance objectives, philosophies and capabilities of the PCS are listed by categories outlined below. Similar features and functions may be listed in several categories.

.2 Provide a written description of how the proposed system or implementation will be configured to meet the objective, philosophy or capability.

### 1.5 Overall System Objectives

.1 Provide a reliable and robust PCS suited to the data acquisition and control needs of the City of Winnipeg WTP.

.2 Program and configure application software using the PCS Configuration Guidelines as the basis of design. Update the Configuration Guidelines as the programming work progresses to include specific information about the installed systems and configured applications. At completion of the project the Configuration Guideline documents should include all information relevant to the programmed or configured applications and form the basis of a standard that can be applied for future development.

.3 Program the PCS to provide the operation as described in the User Requirement Specification, which will be provided to the Contractor at Contract Award. Configured programs and applications are to allow for closely monitoring and controlling all the treatment plant operations and systems. Applications should be intuitive and provide rapid, repeatable responses to process changes, start-up/shut-down operations and optimized to maintain and return WTP Facility control to steady state operation. Controls shall provide a functional level of automation consistent with the operational and process needs within the WTP Facility and consistent with the experience of other similar applications within the Water Treatment Industry.

.4 Provide PCS Configuration Management software capable of managing all aspects of the PCS and for managing the current and any "future" configured points in the real-time and historical databases.

.5 Provide the City operators with an accurate representation of the real-time and historical plant status through the operator stations. Include applications for managing alarms, viewing historical trend data and generating ad-hoc reports from the data.

.6 Provide security access control of all system elements. Implement security access for standard operator login and inhibit access to standard desktop applications and operating system functions.

.7 Provide daily, weekly, monthly and annual reports that include WTP Facility operational performance data. Reports can be manually prompted or automatically generated on a time or event basis and automatically stored online.

.8 Provide process graphic displays, alarming capability and reporting generation capabilities in conjunction with the requirements of the PCS programming manual.

.9 Provide process controls designed for normal operation in the automatic mode with the flexibility to allow for operator manual intervention.

## 1.6 Data Accessibility

.1 Provide trending capability to provide City personnel with an historical and analytical perspective of the WTP Facilities' real-time and long-term operations. Remote access of real time data shall be provided as well.

.2 Provide ad-hoc report and trending capabilities to aid the documentation and analysis of process disturbances or investigations.

.3 Provide PCS access to all process data from any operator station in the WTP Facility.

.4 Provide control to any process area through a permission granting security system.

.5 Provide permanent electronic archiving and retrieval of process data, operator intervention and system configuration for analysis and reporting purposes via a dedicated plant Historian.

.6 Provide permanent archiving of data to a discrete remote drive on the PCS Server workstations (frequency to be determined by City).

.7 Automatically generate reports required by the City.

.8 Provide OPC client capability to communicate with City of Winnipeg Water Distribution SCADA system. The system is currently located at the McPhillips Facility, but will be re-located to the WTP in the future.

**1.7 Reliability/Availability**

.1 Provide a PCS that has maximum availability of upwards of 99.99%, minimum hardware and software mean time between failure (MTBF) of 99.99%. Hardware MTBF will be that stated in the manufacturer's literature as a result of hardware component testing. Software MTBF is defined when a software failure is detected by the system watchdog (or health messages) that results in the PCS having to reboot during the field test period (42 days) See Section 17041 – PCS Field Testing for further details on availability.

.2 A system architecture that is fault tolerant shall be provided such that a single point failure will have minimal impact on the over-all system performance. Minimal impact can be defined as the consequence when a fault or abnormal change in the PCS operation occurs, and the effects on the process control system are not substantive to create any transmitted impact on the treatment process in question. Each sub-system of PCS System shall implement a "bumpless" transition to a known safe state upon the detection of a failure and to initiate alarming of that failure.

**1.8 System Performance**

.1 Provide a standard PCS system. Do not provide software or hardware components that have been customized for this application or components, which are still in development. A standard system is one which is available at the time of proposal, internally released to the supplier's manufacturing department and is fully supported with internal test procedures, full documentation, and training courses.

.2 Provide the process operator with a single "window" to process control and to any logically connected equipment within the WTP Facility. Permit the operator to open as a minimum up to eight multiple process graphic viewing windows without degrading the operator station performance.

.3 Process operator actions will be executed, and operator information displays and graphics will be refreshed in 1 second (average) with the maximum of 2 seconds for the static and dynamic data fields.

.4 The response times to process a change of state of field inputs and outputs through the configured control algorithms will have an average elapsed time of 1 second, maximum 2 seconds for control related actions following an operator request, to the instant the request is executed at the PLC.

.5 Provide process diagnostic and self-diagnostic control graphics, which measure and record control performance.

.6 Provide graphic screens to indicate physical system performance including fault/healthy status identifying processor usage, physical storage availability, memory usage, and network status.

.7 Provide a configuration management application which provides complete security capabilities to selectively restrict configuration, control or data access and to maintain configuration and data integrity.

.8 Provide automatically generated management reports for WTP Facility power usage, quantity of chemicals used, WTP Facility performance e.g. allow for typically 20 parameters. The report request time from initiation to physical display or start of printing should not exceed 10 seconds. Report request time can be defined as the elapsed time from the instant a report request is made to the instant the printing of the report commences.

**1.9 Documentation**

.1 Provide documentation, electronic media support training materials and local support services sufficient to assure that the City will be able to sustain the PCS knowledge among its management, operations, configuration, and maintenance personnel.

**1.10 Ease of Integration**

.1 It is the intention that the City will import and export process data from the PCS for the following purposes:

.1 Use in their Asset Management system.

.2 Generation and use of ad hoc reports and studies of process data from the Historical server;

.3 Access to electronic information of operations and maintenance information.

**1.11 Predicted Life Cycle**

.1 Provide a system that will have a useful service life of ten years with a technical migration path for future upgrades and phased equipment replacement beyond that period.

.2 Provide Wonderware approved hardware and software upgrades throughout the period of the staged delivery of the complete PCS system to all installed PCS equipment such that the entire system is maintained uniformly at the most recent revision level.

.3 Use components that are acknowledged as an open standard, e.g. IEEE802 Ethernet standard, and are interchangeable for other common components supporting similar standards.

## 2. PRODUCTS

### 2.1 PLC Panels

.1 The PLC Panels which form an integral part of the PCS are shown on the Contract Drawings. All PLC Panels and their contents are City Supplied Equipment

### 2.2 PCS Server and Operator Station Minimum Requirements

.1 Equipment supplied under this Contract will be the latest revision available from the manufacturer for commercial use. There shall be seven (7) SCADA servers with the following minimum hardware and software requirements for each server: HP ProLiant ML350 G5 Server rack mounted – including Intel® Dual-Core XEON Processor (2 x 3.20GHz, 1MB Cache, 800MHz FSB), HP LP2065 20.1-inch Flat Panel Monitor with ATI FireMV™ 2400 PCI Express 4 Port Graphics Card, Microsoft Server 2003, 2.0GB DDR2 400 MHz SDRAM (4 DIMMs in 2 pairs, dual-channel architecture), USB Keyboard, 2 x 80GB SATA HDD mirrored, 3-button USB Optical Mouse, 16X/8X DVD +/-RW, and redundant fans and power supply.

.2 One (1) Historical Raid with the following proposed minimum requirements: HP MSA 1000 SAN with 10x 72GB SATA HDD.

.3 Two (2) Engineering workstations with the following proposed minimum requirements: HP xw6200 Workstation – including Intel® XEON Processor (2 x 3.20GHz, 1MB Cache, 800MHz FSB), 2x 74GB SATA HDD mirrored, 2 x HP L2035 20.1-inch Flat Panel Monitor with NVIDIA Quadro FX 1400 Graphics Card, Microsoft XP Professional, 2.0GB DDR2 400 MHz SDRAM (4 DIMMs in 2 pairs, dual-channel architecture), USB Keyboard, and a 3-button USB Optical Mouse. There shall be 2 flat panel monitors at each workstation.

.4 One (1) Galaxy Repository workstation with the following proposed minimum requirements: HP xw4300 Workstation rack mounted – including Intel® Pentium 4 Processor (3.20GHz, 1MB Cache, 800MHz FSB), 80GB SATA HDD mirrored, HP L2035 20.1-inch Flat Panel Monitor with NVIDIA Quadro FX 1400 Graphics Card, Microsoft XP Professional, 1.0GB DDR2 667 MHz SDRAM, USB Keyboard, and a 3-button USB Optical Mouse.

.5 Four (4) Operator workstations located in the Control Room with the following proposed minimum requirements: ACP ThinManager-ready Thin Client Computers. There shall be two (2) -20.1-inch flat panel monitors, PS/2 Mouse, PS/2 Keyboard, and a Multi-Monitor Multi-Session module at each workstation.

.6 Eight (8) Operator workstations with the following proposed minimum requirements: ACP ThinManager-ready Thin Client Computers. There shall be 20.1-inch flat panel monitor, PS/2 Mouse, and PS/2 Keyboard at each workstation.

.7 One (1) HP StorageWorks Optical 30ux Stand-alone.

.8 One (1) HP Color LaserJet 4700dn printer: 100-sheet multipurpose tray, 500-sheet tray, power cable, HP Jetdirect Fast Ethernet embedded print server, duplex (automatic two-sided printing) and 160 MB.

.9 One (1) Serial Alarm Printer with Ethernet embedded print server that supports 100 Mbps.

**2.3 Software Licenses'**

.1 The Contractor shall purchase the following Software Licenses' for both the HMI/SCADA and PLC development software. All versions of the software shall be the latest at the time of purchase. On Total Performance of the Contract, the software license ownership shall be transferred to the City of Winnipeg. The list below does not include items such as operating system software, these shall be purchased by the Contractor as required to provide a fully functional PCS.

.2 The Contractor shall Purchase ten (10) user licenses' of Modicon Unity Pro PLC development software. On Total Performance the Contract the software license ownership shall be transferred to the City of Winnipeg.

.3 The Contractor shall Purchase the following list of licenses' for development and implementation of the HMI/SCADA software from Wonderware.

.1 Two (2) Industrial Application Server, 25K I/O, V2.1

.2 Two (2) Device Integration, I/O Server Licence, v8.0

.3 Eight (8) Platforms for Industrial Application Server. On Total Performance the Contract the software license ownership shall be transferred to the City of Winnipeg. All licenses required to support architecture the Specified, for 15 concurrent users.

.4 One (1) Wonderware Historian, Standard, 5,000 Tag v9.0

.5 Fifteen (15) Active Factory v9.2, per named device, single

.6 One (1) WW Basic CAL – 15 pack, with MS SQL Server CAL

.7 Fifteen (15) InTouch FOR Terminal Services View Client, v9.5

.8 Fifteen (15) Terminal Services Sessions for Industrial Application Server (per TS session)

.9 One (1) InTouch for Terminal Services Failover System, v9.5

.10 One (1) Thin Manager Software with twelve (12) Thin Manager Ready terminal connection licenses

.11 One (1) Mirrored: Thin Manager Software with twelve (12) Thin Manager Ready terminal connection licenses

.12 One (1) Instant Failover Module wit Dual Session Support, 12 client

.13 Two (2) Factory Suite A2 Development Edition Unlimited – Any Galaxy, 60K InTouch, 500InSQL, v9.5

## 3. EXECUTION

### 3.1 General

.1 Provide all labour, materials, and equipment necessary to install and test the PCS components supplied as part of this Contract.

.2 Implement control software configurations within the PLCs to perform the process control functions outlined in the URS and depicted on the P&IDs.

.3 Implement software configurations within the PCS. Implement software configuration, test and perform the process control functions outlined in the URS and depicted on the P&IDs. Test all operator functionality on the operator stations.

### 3.2 Performance Verification and Start-up

.1 Check validity of process signals from the field devices through to the operator stations and projection video equipment. Document tests and to the Contract Administrator.

.2 Test Historian performance as identified at Section 17501 – Historian System.

.3 Refer to section 17040 – Factory Acceptance Testing for details regarding field-testing, acceptance test periods and test validation for PCS equipment.

**END OF SECTION**

**HISTORIAN SYSTEM**

## 1. GENERAL

### 1.1 General

.1 This Section describes the requirements of the Historian system.

.2 Provide a primary and secondary database server connected to the process control Ethernet complete with database software application.

.3 Provide for capturing and archiving process data, generating reports, and multiple user access to any process data.

.4 Configure 1000 points in the historian system database. The licence for the software shall be sized for a 5K tag count.

.5 Provide historical database access via SQL call and ODBC interface.

.6 Provide for querying and exporting database information to an EXCEL spreadsheet.

### 1.2 Submittals

.1 Refer to requirement Section 01300 – Submittals.

.2 Submit the following information for this Section:

.1 Data sheets and catalogue literature.

.2 For each display function describe:

.1 How the operator requests the display, what options are available, what the operator can accomplish via the display, and how each function is performed.

.2 Access restriction features and the functions accessible in each access level for each display.

.3 For the reporting package describe:

.1 General report information including heading, format types, data types, and calculations.

.2 Report data correction procedures and operator interface.

.3 Recovery considerations for each report. Describe how a report can be reprinted at a later date.

.4 Report addition, modification, and deletion.

.4 For support and diagnostic packages, describe:

.1 Database management tools and functions.

.2 Backup and restore procedures and statement syntax.

.3 List the errors that are detected by each device in the system and by the operating system itself.

.4 Device failover capabilities including failure detection, device failover assignments and procedures for manual reassignment and restoration.

.5 List the online and off-line diagnostics. Describe how they are used and describe the various execution options available for each.

.5 Interface and cable data including electrical connections.

.3 Operation and Maintenance Manual Information:

.1 Refer to requirements of Section 01730 – Operation and Maintenance Manuals.

.2 Submit appropriate level of O&M Manual Information in accordance with Section 01730 - Operation And Maintenance Manual documentation.

## 2. PRODUCTS

### 2.1 Historian Server Performance Requirements

.1 The database server computer shall meet the following requirements:

.2 Provide a Historian system suitable to access data from the PCS, archive for a minimum period of one-year at a frequency of 30 seconds per archived point. Retrieval and display of data from the Historian such as historical data displays should not exceed 10 seconds (maximum).

.3 The entire system software will be capable of being reloaded within 1 hour.

.4 Provide facility for web access for 20 concurrent online users.

.5 Overall performance goals

.1 The system shall support 20 concurrent online users, accessing Historian Database software.

.2 There shall be an average of 15 concurrent online users. Response times on a test database shall meet or exceed the following:

.1 **Simple query** 0-1 second (single data item request)

.2 **Complex Inquiry** 0-3 seconds (range of data request)

.3 **Simple Update** 0-2 seconds (single data item update)

.4 **Complex update** 0-3 seconds (range of data update)

**2.2 Manufacturer and Model**

.1 Latest issue of Wonderware Industrial SQL Server Historian 9.0

**2.3 Reports**

.1 The PCS shall provide the following level of reporting functionality as a minimum:

.1 Plant Field Data Reports:

.1 These reports are daily and monthly and are segregated by WTP Facility processes (Flow, pressures, temperatures, dissolved oxygen etc.) The daily reports display the hourly averages from midnight to midnight and the monthly reports display daily averages. Both reports provide respectively daily and monthly statistical data (Minimum, Maximum, Total and Averages). Provide 30 daily reports with an average of 20 parameters per page. Provide the same number of monthly reports.

.2 Process Reports:

.1 Provide monthly reports segregated by WTP Facility processes. These reports calculate the loadings for each process. These reports also calculate the performance of the process. Total plant performance shall also be calculated. Chemical dosage calculations are also performed in these reports. These reports shall also provide statistical data (Minimum, Maximum, Total and Averages).

.3 All major equipment runtime shall be reported on daily and monthly reports. These reports should be easily configured and provided with the PCS.

**3. EXECUTION**

**3.1 Services**

.1 Supply and Install a redundant historian server.

.2 Integrate the Historian Server Hardware 20.1” Rack and Subsystems: CPU, Disk subsystem, backup subsystem, keyboard, monitor, and mouse.

.3 Configure and connect the Historian Server.

## 3.2 Final Acceptance Testing

.1 Test and demonstrate the successful integration and installation of all hardware and software systems to the City.

.2 Hardware acceptance testing will include successful demonstration of the following tasks:

.1 Files on the Historian Server shall be routed to and printed from designated printers on the process control Ethernet and WTP Facility LAN.

.2 Any Operator workstations LAN shall be able to access the Historian Server.

.3 All hard disk drives on the Historian Server shall perform file writes and reads.

.3 Software installation and configuration acceptance testing will include successful demonstration of the following tasks:

.1 Any Operator workstations will access the database and create, read, update, and delete database structures, such as tables and indexes, and create, read, update and delete records or rows in tables.

.2 System response to a remote SQL call from a workstation on the WTP Facility LAN.

## 3.3 Manufacturer's Training

.1 Provide for training of City's personnel for the equipment in accordance with Section 01664 - Training.

**END OF SECTION**

# PLANT COMMUNICATION NETWORKS

## 1. GENERAL

### 1.1 General

.1 The WTP Facility communication network will be provided by the City under other contracts.

.2 This Contractor will complete programming and testing to provide a fully operational plant communication network.

### 1.2 Communication Architectures Description

.1 The network architecture is shown on Drawing – WB-A0001.

### 1.3 Reference Standards

.1 Refer to 17010 - General Requirements for interpretation and application of references.

.2 Additional specific network compliance references are as follows:

.1 IEEE 802.1 LAN/MAN Bridging and Management

.2 IEEE 802.1D (STP) Spanning Tree Protocol

.3 IEEE 802.1p (CoS/QoS) Class of Service/Quality of Service

.4 IEEE 802.1Q (VLAN) Virtual Bridged Local Area Networks

.5 IEEE 802.1w (RSTP) Rapid Spanning Tree Protocol

.6 IEEE 802.1X User Authentication (RADIUS)

.7 IEEE 802.2 Local Area Networks, Logical Link Control (LLC)

.8 IEEE 802.3 CSMA/CD 9 (Ethernet)

.9 IEEE 802.3ab (1000Base_T)

.10 IEEE 802.3ae (10G Ethernet)

.11 IEEE 802.3af (Power over Ethernet)

.12 IEEE 802.3i (10Base-T)

.13 IEEE 802.3u (100Base-TX) Fast Ethernet

.14 IEEE 802.3u (1000Base-FX) Fiber Gigabit Ethernet

.15 IEEE 802.3x Full Duplex Flow Control

.16 IEEE 802.3z (1000Base-SX, 1000Base-LX) Gigabit Ethernet

## 2. PRODUCTS

### 2.1 Network Management Software

.1 Provide network management software that can manage and monitor all WTP Facility communication networks with automatic configuration and scheduling functions.

.2 Provide management software with the following capabilities:

.1 Auto detection of network components

.2 SNMP and RMON query

.3 Alarming monitoring for collisions, utilization and errors

.4 Incorporation of network activity statistics and alarms within the PCS system

.5 Network analysis trending for collecting, correlating and evaluating network performance

.6 Port routing and mirroring functions

.7 Port enable/disable controls

.8 Network component update management with upload/download functions

.9 Security management

.3 Provide a communication interface to the PCS system for passing of network alarm and events.

## 3. EXECUTION

### 3.1 General

.1 Coordinate the testing of the overall WTP Facility communication networks with other Contractors.

.2 Record and document all test results. Provide the Contract Administrator with a binder of all results.

## 3.2 Testing

.1 Develop a system testing methodology and testing schedule. Ensure that the schedule is coordinated with the work of other contractors. Submit information to the Contract Administrator.

.2 Test the network connection to each device and configure, verify and record all devices IP addresses. Demonstrate to the Contract Administrator that each device is addressable.

.3 Configure and record all network management settings using the network management software.

.4 Demonstrate alarms, faults and network fail-over schemes to the Contract Administrator by simulating cable breaks, component failures, disabling ports, etc. Use the network software to monitor and record these events.

**END OF SECTION**

## 1. GENERAL

### 1.1 References - General

.1 This Section provides requirements for the system performance and guidelines to the structure and programming of the HMI/SCADA and of the PLC programs.

## 2. PRODUCTS

### 2.1 System Performance

.1 The HMI/SCADA system shall meet the following performance criteria for the ultimate works point count in terms of:

.1 Speed of Operation

.2 Loading and Capacity

.3 Reliability and Availability

.2 The items given in the attached tables shall measure speed of response to operator actions:

.1 Operator Workstation Operations:

| Item | Description of Action | Average Response Time (sec's) | Maximum Acceptable Response Time (sec's) |
|---|---|---|---|
| 1 | Display refresh time to maintain current data. | 0.5 | 1 |
| 2. | Request for a mimic diagram or other display to completion of the display (including update of current active data). | 0.5 | 2 |
| 3 | Display Alarm List (30 entries). | 0.5 | 2 |
| 4 | Display Trend (4 items, 7 days at 30 minute intervals). | 1 | 3 |
| 5 | From request for current data to display the data. | 0.5 | 2 |
| 6 | Speed of screen response to keyboard or mouse operation. | 0.1 | 0.1 |
| 7 | Speed of update of information passed between workstations. | 0.5 | 2 |

.2 Control Action Responses:

| Item | Description of Action | Average Response Time (sec's) | Maximum Acceptable Response Time (sec's) |
|---|---|---|---|
| 1 | Speed of control action and acknowledgement. | 0.5 | 2 |
| 2 | From alarm occurrence/clearing to completion of display. | 0.5 | 2 |
| 3 | From alarm acceptance to silencing annunciator. | 0.5 | 1 |
| 4 | From issue of execution command to action commencement at PLC. | 1 | 2 |

.3 Interface Actions with PLC System:

| Item | Description of Action | Average Response Time (sec's) | Maximum Acceptable Response Time (sec's) |
|---|---|---|---|
| 1 | Speed of a change of state at any site device to display at the nearest Operator Workstation. | 1 | 3 |
| 2 | Speed of response from occurrence of an alarm at the Terminal Server to display at a control room workstation screen. | 1 | 3 |
| 3 | Request for data from a measured point to display at a local workstation screen. | 1 | 3 |

.4 Interface actions with Peripheral Devices:

| Item | Description of Action | Average Response Time (sec's) | Maximum Acceptable Response Time (sec's) |
|---|---|---|---|
| 1 | Initiation of a print out of a screen plot or report to a printer to start of printing. | 5 | 10 |

.5 HMI/SCADA nodes Action Response:

| Item | Description of Action | Average Response Time (sec's) | Maximum Acceptable Response Time (sec's) |
|---|---|---|---|
| 1 | Change over from duty to fully functional standby operation. | 2 | 5 |
| 2 | Speed of retrieval of Data from database to screen display. | 0.5 | 2 |
| 3 | Speed of retrieval of Data from optical storage to screen display. | 5 | 15 |

.3 The HMI/SCADA system shall be developed to meet the specified performance requirements and shall be of sufficient size to accommodate the I/O (inputs, outputs) as shown in the attached I/O list plus spares as defined in Section 17600a and derived data points alarms and control functions.

.4 Data shall be logged and stored by the following methods:

.1 Time

.2 Event

.3 Significant Change

.5 Short-term data storage shall be provided in the HMI/SCADA system for:

.1 All events and alarms states

.2 All measured analogue values

.6 Measured analogue values shall be stored on significant change or at maximum intervals of one hour. The Contract Administrator will advise what constitutes a significant change prior to Performance Verification.

.7 Changes in digital states shall be logged as they occur (i.e. as alarms or events). The maximum interval between logging digital states shall be one hour.

.8 Short-term archived stored data shall be held in the system for a minimum of 30 Calendar Days and shall be available at all times during this period for direct retrieval for the provision of reporting and trending.

.9 All stored data shall be time and date stamped by the HMI/SCADA system.

.10 Long-term archive storage facilities shall be provided in a historian server. The archiving of data shall be carried out every 24 hours.

.11 The system shall provide an automatic warning to operators when an optical disk is full and requires replacement. The system shall queue data not stored until a new disk is installed.

.12 Archived and stored data shall be provided with easy access, sorting by group and Process Area, for retrieval purposes. Groups shall be nominally as follows:

.1 Operational (plant status and alarms with provision for sorting by zones.)

.2 Flow data

.3 Analytical and consents information

.4 Fiscal metering information

.5 Energy consumption

.6 Chemical usage

.13 Data archiving shall be provided with filtering to enable recovery of archived data by Process Area, date and time periods etc.

.14 Data transfer between the distributed PLCs and the HMI/SCADA system shall be bi-directional.

.15 The data to be transferred shall be located in a single area of the PLC memory map with the data sorted into the following file structure:

| | | |
|---|---|---|
| .1 | Digital signals to HMI/SCADA (including derived signals) | integer file |
| .2 | Analogue signals to HMI/SCADA (including derived signals) | floating point file |
| .3 | Digital signals from HMI/SCADA (control signals) | integer file |
| .4 | Analogue signals from HMI/SCADA (set point values) | floating point file |

## 2.2 General System Operation and Control

.1 Refer to Standard Control and Functionality document in the Appendix.

## 2.3 HMI/SCADA Software Requirements

.1 The configured HMI/SCADA software shall provide Open Database Connectivity (ODBC) for the export/import of data to/from third party software packages, shall be an Active X container to facilitate Internet and/or Intranet remote access, and shall support multiple device drivers.

.2 The configured HMI/SCADA software shall monitor the processes and provide an operator interface to these processes such that it provides all the system requirements described in this

Specification. The automatic control or effective operation of the WTP Facility shall continue in the event of the non-availability or failure of the HMI/SCADA system.

.3 The Contractor shall provide all system software backups during the various phases of the Contract.

.4 The software shall be backed up from both file servers using the DVD writer. The disks shall be clearly marked and stored in a protective storage box and stored off-site as well.

.5 The HMI configuration software shall provide real-time data acquisition, alarm and event management, data manipulation services, historical data collection, report generation, communications to PLC's and internet/intranet access. The software shall be easy-to-use, with an object-oriented graphics development environment and shall have an open architecture, which utilizes the latest in Windows client/server and peer to peer networking technology from Microsoft. The system shall have the built-in flexibility to permit easy configuration of the system in accordance with the specific end user requirements as well as quick and easy modification by the end user in the field.

.6 The software shall consist of a suite of off-the-shelf modular components from a single software manufacturer that are tightly integrated together to perform all system functions. The suite shall contain an HMI for process visualization, Real-Time relational database for historical data collection, client tools for trending and reporting within the HMI and stand alone packages and communication drivers for PLCs. It shall be scaleable so that a small, single, stand alone application can easily be expanded into a large distributed control network with either single or redundant database servers and redundant communication servers providing information to multiple workstation clients. The software shall also have the ability to easily interface with CMMS, LIMS, and GIS systems.

.1 Development Environment Software Requirements:

.1 This Section describes the engineering development requirements of all system software functions in any combination as follows:

.1 Multi-User Development Environment:

.1 The Development Environment shall provide a simultaneous, multi-user development environment, where users are subject to security permissions based on individual system-wide roles.

.2 Object Model:

.1 The Development Environment shall utilize the concept of Application Objects. These Objects may represent real world devices such as PID loops, Motors, Pumps, Valves, etc, or informational objects such as external database readers and writers, XML readers and writers, etc. Application objects shall closely model the physical representation of WTP Facility equipment and devices and not be bound to a “tag-only”

topology. This shall include the ability to create complex, multi-variable data structures.

.3 Object and Code Re-Use:

.1 The Development Environment shall promote code re-use through standard templates, which may be customized to create new object instances, while still maintaining parent-child relationships of the object definitions.

.4 Object Repository:

.1 The Development Environment shall utilize a centralized repository for templates and application objects, object hierarchy, deployment configuration, and genealogy.

.2 The Development Environment shall allow users with configuration rights to view objects and ensure that only one person can check out for change a specific template or application object at any one time.

.3 The repository shall be used only for configuration and as such may be disconnected from a running system without affecting the operation of said system.

.2 Object Templates:

.1 The Development Environment shall provide a mechanism to develop Object Templates. These object templates shall be used to create the individual instances of the objects that perform the SCADA tasks. Object Templates shall be capable of containing other object templates in a hierarchical relationship. Objects shall contain general object configuration, I/O definitions, internal attribute definitions, internal documentation for configuration help, user defined attribute definitions, alarm definition, history definition, and contained scripts.

.2 The Development Environment shall expose Base Templates provided by the software manufacturer. An Object Toolkit shall be available to allow user to create new base objects using programming languages such as visual C and visual basic.

.3 The Object Template shall allow the configuration of historical data storage without using a separate tool.

.4 The Object Template shall allow configuration of a connection to an alarm sub-system that supports condition-oriented alarms (LoLo, Lo, Hi, HiHi, Rate-of-Change Deviation, etc.), event-oriented alarms (True/False, Fail to Open, Fail to Close, Command Disagree, etc) with pre-defined tools that will step the developer through the process of defining the configuration.

.5 Object Template Application Logic Scripts:

.1 Scripts contained by an Object Template shall utilize Microsoft .NET (dot NET) technology and compile to the .NET Common Language Runtime. The scripting shall be easy to program using English-like statements and shall not require any knowledge of any other programming logic. The user shall be able to edit or modify the logic scripts while the system is monitoring the process. The scripting language shall include selection boxes and pull-down menus to permit statements to be created without having to type tagnames or specific commands. The software shall support basic commands and operations such as IF, THEN, ELSE, ELSE IF, AND, OR, NOT, ADD, SUBTRACT, MULTIPLY, DIVIDE, EQUAL TO, NOT EQUAL TO, GREATER THAN, and LESS THAN. Additionally there shall be a full library of more complex math and system script functions available. A validate button shall be included to ensure proper syntax and provide indication of errors to eliminate any problems at runtime. On-line help for each script function shall include actual working examples that can be copied and pasted into the script editor. Dot NET functions provided by Microsoft shall utilize documentation provided by Microsoft.

.2 System logic shall support configuration of objects to automatically perform functions such as increase setpoints, perform totalisation, and check the status of process parameters to take action appropriate action.

.3 System Logic shall support the configuration of objects to monitor the status of each tagname/hiearchical name attribute in the system and perform specific functions based on the type and status of an alarm condition.

.4 System shall support the configuration of objects that perform application control to change the state of discrete points, show windows, download recipes, etc. This application logic shall also start and stop other application programs such as Excel, Word and other applications like Crystal Reports.

.5 The system shall be able to configure scripts to be executed when an instantiated object starts up, when the instantiated object goes on scan, on a condition on true, while true, on false, and while false, periodically, when the instantiated object goes off scan, and when an instantiated object shuts down.

.6 Conditional Control and Data Change Logic:

.1 The system shall support the configuration of objects that perform application control based upon a user definable state of an object and attribute or the result of an expression involving multiple object tagnames/hierarchical names; including discrete object

tagnames/hierarchical names on/off state, alarm states such as lo, lo-lo, hi, hi-hi, or equivalence to a specific value. It shall be possible to define Condition Logic scripts that execute once when the condition expression becomes true, once when the condition expression becomes false or while the condition is true or while the condition is false at a user definable rate of 50 milliseconds minimum, or when the value changes.

.6 The Development Environment shall provide a communication manager of I/O Server Application Objects to provide remote server activation, configuration operations, and extensive protocol diagnostic troubleshooting.

.3 Template Derivation, Object Instantiation, and Inheritance:

.1 New templates shall be supplied by the software manufacturer, derived from existing templates, base or user defined. A template shall inherit the entire configuration of the parent object when generating a new template instance. Templates may contain other templates in a hierarchy. Derived templates shall maintain any hierarchy that the parent template contains.

.2 The Development Environment shall be able to lock specific attributes to allow changes to the parent template to pass through to the new instance and all children of the new instance.

.4 Development Environment Views:

.1 The Development Environment shall have the ability to organize Object Templates into user configurable Template Toolboxes.

.2 The Development Environment shall have the ability to view and configure the application from a WTP Facility model perspective or from an Application Object deployment perspective and shall have the ability to view and configure objects showing the genealogy of the object from the object back to its parent template(s) and back to the base object, no matter the length of the parent to child relationship.

.5 Import/Export Utility:

.1 The Development Environment shall include a utility to support import or export into a human readable file format such as .CSV (comma separated file format) for editing in a spreadsheet application such as Microsoft Excel. It shall be possible to instantiate templates and application objects from the .CSV load by only populating the appropriate columns in the spreadsheet that are required for the instantiation/configuration of the desired objects.

.6 Deployment of Application Objects:

.1 The Development Environment shall utilize the concept of deployment. Deployment shall be defined as the remote installation of any Application Object, its children, dependencies, and any other software required and bound by the Application Object for the Application Object to successfully operate.

.2 All instantiated Application Object components shall be configured and deployed from the Development Environment to target workstations and servers.

.3 The Development Environment shall provide visual feedback as to the deployed status of any Application Object.

.4 The Development Environment shall provide visual feedback as to the status of any Application Object that has a change pending.

.2 Security:

.1 The Development and Runtime Environments shall be capable of utilizing Microsoft operating system security, for example Active Directory Domains, to allow users access to view, configure, or modify templates and Application Objects.

.2 The security system shall support an object based, hierarchical model. This model shall allow for the creation of Security Groups that contain Configuration Database Application Objects. The model shall allow for the creation of Operator Roles that can be assigned to Security Groups. Operator Roles shall allow for the assignment of configuration database permissions, and for runtime operational permissions, and access to visualization of certain windows. At a minimum, runtime operational permissions shall allow for:

.1 The access or denial of the ability to acknowledge an alarm in the runtime environment.

.2 The modification of configuration attributes which allows users to configure the attribute's value (for example, a PLC register that defines a discrete input).

.3 The modification of operational attributes which allows users with operational permissions to do certain normal day-to-day tasks like changing setpoint, output and control mode for a P&ID object, or commanding a Device object.

.4 To open and view a process or application window.

.5 The modification of tune attributes which allows users to tune the attribute in the runtime environment. Examples of tuning are attributes that adjust alarm setpoints and P&ID sensitivity.

.3 Users assigned to Operator Roles shall inherit all parameters that were assigned to the Role and Security Group.

.4 Runtime changes to object values shall be subject to security authorization. Permissions that are configured using the Development Environment shall be automatically checked at runtime for authorization including verification of identity and access permission related to the originator of the runtime change request.

.5 Users shall log in before any change to any object attribute that has been constrained is allowed.

.6 The runtime architecture shall conform to the object attribute security model defined in the configuration environment.

.7 Audit Trail:

.1 The Development environment shall provide an audit trail of Check Out/Check In, and revision history for each template or application object that includes user ID, time and date stamp, and a detailed summary of the changes made.

.2 Any runtime changes to a variable so configured shall provide an audit trail of user ID, full user name, previous value, and new value. Attributes configured for Verification shall provide an audit trail of user ID, full user name, verifier username and full user name, previous value, and new value.

.3 Run-time Environment:

.1 This Section describes the various user interface functions of the system in the runtime mode in any combination as follows:

.1 Alarm Management:

.1 Alarms shall be detected and reported by an Alarm Manager service. The Alarm Manager service shall support no less than two hundred (200) simultaneous alarm client displays. In the event of an alarm storm (hundreds or thousands of alarms detected within one second), the Alarm Manager shall report and the client shall be capable of displaying up to one thousand (1000) new alarms within ten (10) seconds of the detection of the alarms.

.2 System shall be able to alarm system resources (CPU utilization, memory, etc).

.3 Alarms shall be logged to a Microsoft SQL Server or MSDE (Microsoft Database Engine). Alarm events to be recorded shall include alarm instantiation, alarm return-of-normal, and alarm acknowledgment. Items

to be logged in addition to the alarm event shall include date and time of alarm event, Alarm Group, Alarm Tagname, Alarm Tag Type (real/integer/boolean), Alarm Type (LoLo, Lo, Hi, HiHi, ROC, Deviation, disc, etc), Operator Name and Operator Node of alarm acknowledgement, and Alarm Priority An Alarm Purge service shall be provided to automatically purge and optionally archive alarms that are older than a user defined period of days online.

.4 Alarms may be printed to a locally connected or network printer. The alarms printed from a particular node may be all alarms, only unacknowledged alarms, only acknowledged alarms, alarms from a particular alarm group or groups, alarms from a particular priority to a particular priority, or alarm from multiple alarm providers.

.2 Communications Architecture:

.1 The run-time environment shall be based on distributed, peer-to-peer system architecture. It shall be possible to scale the architecture from a single, self-contained node, to over 100 nodes. The architecture shall contain a multi-computer model that is seen as a single distributed namespace in the run-time environment and does not require replication of data from one node to another.

.2 Application Objects and their attributes shall be accessible by the objects Hierarchical Names, or globally unique Tagnames.

.3 The architecture shall allow for remote re-deployment of communication application programs without manually re-installing software.

.4 The Architecture shall allow for remote re-deployment of application objects and associated programs without re-loading software.

.5 The architecture shall be based on a publish and subscribe communications methodology versus poll-based to minimize network traffic and to ensure portability of objects upon redeployment.

.6 The architecture shall allow centralized administration and control of the runtime state of the distributed system.

.7 The architecture shall operate in real-time and be able to handle millisecond transaction and event speeds.

.8 The architecture shall be able to monitor and respond to high volumes of asynchronous data and event messages at a rate of thousands of messages per second. It shall be capable of supporting one hundred thousand (100,000) I/O and one hundred (100) nodes.

.9 Application Objects shall have the ability to connect to any I/O server utilizing the protocols of DDE/NetDDE, Suitelink, and OPC. I/O shall be defined as any input and/or output variable, including individual data acquisition points and any variable parameter generated for exchange between objects in the system. At a minimum, the data types that shall be supported are Boolean, Float, String, Integer (8, 16, and 32 bit, signed and unsigned), Time, and Elapsed time.

.3 Runtime Data Viewer:

.1 The runtime environment shall provide a utility to view the real-time status of any Application Object Attribute.

.4 SCADA System Failover:

.1 The SCADA system software shall provide redundancy for all functions within a normal SCADA controls environment. The specific components that require redundancy within the SCADA system are Application Object/Application Object Hosting, PLC communications, alarm reporting, and logging of historical process data. In redundant configuration, there shall be a Primary and a Backup system object that manages contained Primary and Backup objects. The system shall execute active objects and synchronize active objects with standby objects. In the event of detection of any failure in active object execution or communication with the active object, standby objects shall begin executing and communicating within the system.'

.2 Defined Failure Events:

.1 The SCADA system shall detect the following events within the SCADA system and network objects:

.1 Communications failure to a single PLC.

.2 Communications failure to multiple PLC(s).

.3 Communications failure to Communications Server.

.4 Application Logic Failure.

.5 Alarm Manager Failure.

.6 Data Historian rate of collection deviation.

.7 Low Disk Space on any data historian on the network.

.8 The SCADA System shall detect any or all of the possible failures and allow client data recovery without operator intervention.

.3 Application Redundancy:

.1 The system shall provide for the execution of standby application objects that become active upon the failure of execution of active objects or failure to communicate with the active objects. Separate configuration of standby objects is not required. Objects are allocated to a Primary object manager engine, which in turn insures that contained Backup objects are created and deployed as standby. In normal operation, the Primary engine along with its contained objects shall be active. The back-up engine and contained objects shall be kept in standby and shall be synchronized with their active partners on a user configurable time base. Configuration of application redundancy shall be by configuration by check-box and drag-and-drop.

.4 Alarm Redundancy:

.1 The system shall provide for the handling of alarms from standby application objects that become active upon the failure of execution of active objects or failure to communicate with the active objects. Separate configuration of alarms in standby objects is not required. As with application redundancy, objects are allocated to a Primary manager object that in turn insures that contained standby objects are created and deployed as standby for handling of alarms.

.5 Communications Redundancy:

.1 The SCADA System shall monitor the status of communications to the Communications Server(s) and the status of the Communications Server to each PLC. In the event of a communications failure the SCADA System shall transfer communications responsibility to a designated standby communications server.

.6 Data Historian Redundancy:

.1 The system shall provide for historization of data values from active objects. Upon the failure of execution of active primary objects, standby objects shall be activated and assumed the task of providing data for historization. Separate configuration of historization for standby objects shall not be required. If the Historian is off-line or unreachable, the engines servicing active objects shall store the historized data locally, and forward the buffered data to the Historian when the historian server is available. Primary and

standby object engines shall synchronize any buffered historization data. If the Historian is off-line or unreachable and the primary object engine fails, the failover engine shall assume that task of storing the historized data locally, and forward the buffered data to the Historian when the historian server is available. There shall be no practical limit, other than disk space, as to the size of the historized data stored locally.

.7 Terminal Services Fail-Over:

.1 Terminal Services thin clients shall be capable of automatically failing over to a redundant terminal server. No operator intervention shall be required. The system shall support execution of the visualization software and the engineering development tools in Terminal Services sessions while enforcing the configured operating system security model.

.5 PLC and Communications Server:

.1 The SCADA system shall include a broad range of communications servers for establishing the I/O interface between field devices such as PLC's systems and the data historian.

.6 General Purpose I/O Communications Servers:

.1 General-purpose communication I/O servers shall be available Modicon PLC'S plus various RTU's. The PLC communication servers shall support interfaces via direct serial, local control network such as Modbus Plus or via TCP/IP Ethernet. There shall be support for several hundred various devices utilizing the protocols of DDE, Suitelink, and OPC.

.7 Multi-Protocol Communications Gateway Server:

.1 A utility shall exist to translate DDE, Suitelink, and OPC to DDE, Suitelink, and OPC protocol to support legacy or third-party servers. The gateway shall allow an in-process DDE conversation on one computer to be seen as OPC on another computer without the use of NetDDE or DCOM as a transport. This utility shall operate under Windows Server2003.

.7 Full Function Operator Workstation (HMI):

.1 The SCADA system operator shall be able to execute all monitoring and supervisory control functions from this workstation. Typical operator commands include modifying setpoints for control loops, alarm acknowledgment and setpoint adjustment, auto/manual switching and on/off control of field devices and taking points or devices on/off scan. The operator shall be able to access all SCADA tagname/hierarchical names or graphic displays from any workstation on the network without knowing which

data historian or server the point or display resides on. The system software shall include an object-oriented color graphics display generator with full animation capabilities to provide users with a realistic visualization of the system process. All graphical editing operations shall be point-and-click; selecting icons from a floating and docking tool bars, pull down menus or keyboard commands. It shall be possible to perform a functional test of any graphic display by switching to the runtime mode with a single mouse click. The graphics editor shall include a broad library of complex objects and process symbols such as meters, pushbuttons, sliders, gauges, pumps, motors, tanks, valves, trends, alarms, and controller faceplates. All complex objects shall be scaleable to any size and may include animation links to provide dynamic response based on real-time data or user action. This workstation shall utilize the Windows Server2003 operating system.

.2 Runtime User Interface (HMI) Software Requirements:

.1 The software shall be licensed to support any of the following operating systems on appropriate hardware in any combination as follows:

.2 Server, workstation or desktop PC running Microsoft Windows 2003 Server.

.3 Display Navigation:

.1 Operators shall interface to all process and SCADA activities through easily recognized icons, pull down menus or full screen menus.

.2 The system runtime software shall support operator access to multiple displays at once, including split screens where the operator may view more than one process area at a time. In addition, the system shall support unlimited use of pop-up displays for additional help or diagnostic information.

.3 The system runtime software shall support multiple CRT monitors through the use of commercially available multiple monitor cards.

.4 The operator shall be able to have access to context sensitive on-line help or instructions from any display at any time during operation of the system with a single keystroke or mouse click.

.5 The operator shall be able to access displays via a pointing device and/or soft key menus with a choice of function keys, cursor control keys, or any single key on the keyboard. Display navigation shall not normally require the use of typing text commands into an alphanumeric keyboard. Supported pointing devices shall include a mouse, touch screen, light pen, or trackball.

.6 The operator shall be able to easily identify which objects are selectable from any display by simply dragging the pointing device over the object. Displaying a halo around the object shall provide confirmation that an object can be selected. Typical objects include process device symbols (pumps, motors, etc.) controller faceplates, buttons or switches or sliders.

.4 Operator Security:

.1 The Operator Workstation shall utilize the security model defined by the configuration database.

.2 The software shall utilize data level security where the ability to modify a setpoint or other value is determined in the configuration database. Any changes to the data level security model shall be seen by all operator stations without any modifications to the operator stations.

.3 The security system shall be capable of disabling access to all Microsoft Windows controls (file menu, close, minimize, etc.) and keyboard commands (Ctrl-ESC, Alt-Tab, and Ctrl-Alt-Del).

.5 Windows Service Support:

.1 The operator interface workstation shall be able to be run as a Microsoft Windows service. This provides windows service capabilities for key HMI components such as historical logging, alarms, and I/O communications. The service capabilities allow continuous operation through operating system logons and logoffs such as operator shift changes.

.1 All SCADA software shall support running as a windows service so that following a power failure or when the machine is turned on, an automatic start-up to the runtime mode will occur. This function assures unmanned station startup without compromising operating system security.

.6 Logging Operator Actions:

.1 All operator actions shall be logged to an event logger. The event logger shall keep track of each new operator log-on, log-off, setpoint change, or device control.

.2 Each event log shall record the date, time, operator logged in and the type of action taken (setpoint change, state change, etc.).

.7 Value Change Event Logging:

.1 Any configured Integer, Real, discrete, or String tag may also be configured as an event. The point shall be logged as an event any time its value changes.

.2 Events shall be logged to a Microsoft SQL Server or MSDE (Microsoft Database Engine). Items to be logged in addition to the event itself shall include date and time of the event, and Event Priority.

.8 Alarm Management Functions:

.1 The operator shall be able to view current and historical alarm information from a full screen alarm-summary display or on a small scrolling region at the bottom of

any display. The alarm information shall be displayed in chronological order with the most recent alarm at the top and priority level. The information capable of being displayed for each alarm shall include the time and date, description, tagname, alarm state, alarm type (lo, lo-lo, hi, hi-hi, rate-of-change, etc.), value, acknowledging operator, acknowledging node priority level, alarm or process area group name, and class.

.2 It shall be possible for the operator to filter the alarm display based on priority level, alarm groups or process area. In distributed network systems, alarms shall be viewed and acknowledged from any workstation and the information shall be distributed to all clients.

.3 It shall be possible to configure the system such that the operator is notified of an alarm no matter which display the operator is currently viewing. Notification shall include the option of a pop-up alarm display window, a flashing process symbol such as a process vessel, an alarm text message that is available on each display, or a dedicated alarm display window anywhere on the screen. A configurable audible signal shall be provided.

.4 The alarm summary display shall provide the built-in horizontal and vertical scroll bars to page through alarms. The display of these scroll bars shall be user-configurable.

.5 The alarm summary display shall allow for dynamic re-sizing at runtime of the column widths simply by selecting a column line and dragging it to set the column width.

.6 The alarm display shall support up to eight different combinations of colours based on the priority of the alarm and whether it is acknowledged or unacknowledged. The colours shall be user-selectable via configuration from a total of 256 colours.

.7 The alarm display object shall automatically scroll to a new alarm when the user has scrolled down the alarm list from the top.

.8 The alarm display shall retrieve alarm information by submitting an alarm query to the alarm server. The alarm query shall allow specifying a “priority” range, alarm acknowledge state, alarm group, alarm history or summary. Combinations of the parameters can be specified for the query to produce selected results.

.9 The operator shall be able to create new alarm queries, at runtime, and save the queries for re-use.

.10 The operator shall be able to select and acknowledge alarms individually, by group or process area. The operator shall also be able to acknowledge only those alarms visible in the display, only those selected, only the most recent alarm or all alarms in the system. The alarm display shall allow alarms to be selected by clicking on them with the mouse at runtime.

.11 The operator shall be able to suppress alarms on the local display. Suppressing alarms on one operator interface shall not affect the display of alarms on another operator interface. Un-suppressing previously suppressed alarms shall be via simple mouse click.

.12 The operator shall be able to shall switch to the corresponding graphics screen containing the alarm point by selecting the alarm or the alarm summary display.

.9 Thin Client Operator Workstation:

.1 The SCADA system operator shall be able to execute all monitoring and supervisory control functions from a thin client workstation or environment. No SCADA HMI software shall be required to be installed on a Thin Client Operator Workstation. This workstation shall require only the firmware or software required to initiate a Windows 2000 or 2003 Terminal Services session. The SCADA HMI shall support Windows 2000 or 2003 Server/Advanced Server/Datacenter Server with Terminal Services enabled in Application Server Mode utilizing native Remote Desktop Protocol (RDP), or Citrix Metaframe utilizing Independent Computing Architecture (ICA) protocol. The SCADA HMI shall support up to twenty five (25) sessions of the HMI software running on a single Terminal Server.

.2 No modifications to the SCADA HMI configuration shall be required to allow running in a thin client configuration. The exact same application running on a Full Function Operator Workstation (thick client) shall run in a Windows2000 or 2003 server terminal services session (Thin Client).

.3 The thin client shall run as its host operating system Win3.1, Win95, Win98, WinME, WinNT3.51, WinNT4.0, Win2000, WinXP, Embedded XP, WinCE, or Linux.

.4 The SCADA HMI shall support Microsoft Terminal Services Advanced Client running in Microsoft Internet Explorer.

.10 Process Data Analysis:

.1 The SCADA system software shall include a set of easy-to-use client software tools for real-time and historical data analysis and system reports. This client analysis software may be used by engineering, maintenance or supervisory personnel who need information from the WTP Control. The client tools shall be able to access data from multiple data historians on the SCADA system network. Users shall be required to log in with a password to access the database server. The user shall not have to know the location of the server on the network, only the name of the server. The data analysis software shall include tools for advanced trending analysis, X-Y plotting of tagnames, and viewing of reports in spreadsheet or free form format. All tools shall support full right mouse-click capability for quick menu selection of available functions.

.2 Real-Time and Historical Trend Analysis Tool:

.1 A client tool shall be included that allows users to view any or all of the tagnames in either a trend chart or tabular format. The client tool shall have a user interface that allows for easy selection of tagnames using a Windows Explorer-like browser with a search filter to quickly find tagnames in a data historian with thousands of points. The user shall be able to create folders for selected groups of tagnames and plot them individually or in groups by dragging them into the trend area. The user shall be able to save trend files for recall at a later time. It shall be possible for the user to switch from the real time to the historical viewing mode using a simple check box. Trend plots shall automatically be scaled based on the widest vertical range of the tagnames or optimized based on the maximum and minimum range within the selected time period.

.2 Real-time Trend Viewing:

.1 The user shall be able to trend up to eight different tagnames in real time including analog, discrete, string or event tagnames within the same trend. The user shall pick tagnames from the browser. The time span and vertical range of the trend shall be user configurable at run time. Standard time spans shall be configured for the last 5, 10, 30 or 60 minutes or the last 2, 4, or 8 hours. The user shall be able to adjust the range of the tagnames in run time.

.3 Historical Trend Viewing:

.1 The user shall be able to plot historical data for any tagname or groups of tagnames in the database and any user-selected start and stop time. Two hairline cursors may be turned on and dragged across the trend area to provide the user with the exact value for each trended tagname at the point of intersection. The time span and the value between the cursors shall also be displayed. It shall be possible to overlay data from different start/end times to compare the performance of equipment/compare the process for different time intervals. It shall be possible to overlay ‘live’ trends onto history traces to compare performance. The trend tool shall display statistical data for each trended analog tagname within the time period selected. Statistical values shall include the minimum, maximum, average, and standard deviation. Icons or menu pull down commands shall be available for analyzing the data and shall include commands such as horizontal, vertical or rubber band zooming pan left or right and zoom between the hairline cursors. It shall also be possible for the user to create text annotations anywhere on the trend. These annotations shall be visible from other workstations on the network with the same trend tool. It shall be possible to export the data in the trend area into a CSV file. Printing of the trends with all statistical data shall be supported.

.3 ActiveX Tools:

.1 The data analysis software shall provide ActiveX objects for the Trend and Query clients so that they may be imbedded into SCADA HMI or any other ActiveX container. A query client shall be included to allow the user to execute SQL queries that returns a result set from any SQL server database into a tabular data grid. The query ActiveX tool shall support multiple data server sources for simultaneous display of the data. An ActiveX trend object shall also be provided and support the same functions listed in Section 1.4.9.1.2 such that an operator trained on one tool is trained on the other tool.

.4 HTML Reporting Client Tool:

.1 A client tool shall be included that allows users to generate reports on any tagnames. The client tool shall have a user interface that allows selection of tagnames and previously created reports and report formats. The report tool shall allow you to set up, modify, and generate reports that present report data professionally and reliably. Types of information supported shall include historical and current data values, tagname configuration information, graphs, statistics, annotations, event and summary information and results from a query. Reports shall be generated based on data stored over a specified time period in minutes, or hours, days, weeks or months. It shall also be possible to generate reports on demand by the user at runtime. Finished reports shall be formatted in HTML so that they can be viewed with a Web Browser, stored on the server disk or sent to a printer.

.5 Excel and Word Reporting Tool:

.1 The data analysis software shall be included that allows users to easily select tagnames and historical values from the real time or historical database via a browser and then utilize them in a standard Microsoft Excel spreadsheet or Word document for reporting or presentation to management. The selection of tagnames shall be accomplished by use of drag and drop or point and click commands. It shall not be required to write any macros to retrieve the data.. The user shall have the choice of selecting real time, absolute, relative or configurable base dates and times. The historical data can be recalled at the granularity that it was stored or in a selected number of data points over a period of time. The user shall be able to retrieve raw historical data or summarized data such as the minimum, maximum or average over a predetermined time period. Updates to the values contained in the report shall be refreshed with a single click of the mouse. The user shall be able to select if poor quality data is to be displayed or replaced with an interpolated value. The user shall be able to specify relative or absolute value choices.

.11 View-only Graphics Display Workstation:

.1 The SCADA system software shall support view-only graphics workstations for managers or supervisory personnel who wish to have access to all displays and trends but do not have process control or alarm acknowledgement responsibilities.

No modifications to the SCADA HMI configuration shall be required for this functionality.

.8 HMI Development Software Requirements:

.1 This Section describes the engineering development requirements of all SCADA system software functions. This includes development of color graphic displays, configuration of the real-time and historical database, alarms, I/O communications to field devices and application setup of clients and servers on the SCADA network. All development and configuration shall be persisted in one or more common file or database repositories that provide single point of configuration. Furthermore, there shall be a common naming convention for objects and tagnames that is enforced by the development tools. The software shall be licensed to support Windows 2003 Server.

.2 Graphics Display Development:

.1 The SCADA system software shall include an object-oriented color graphics display generator with full animation capabilities to provide users with a realistic visualization of the SCADA system process. All graphical editing operations shall be point and click selecting icons from floating and docking tool bars, pull down menus or keyboard commands. It shall be possible to perform a functional test of any graphic display by switching to the runtime mode with a single mouse click. The display editor shall include the following tools for display drawing, linking and animation.

.2 Graphical Objects:

.1 The graphics editor shall include a set of basic drawing tools to create simple or complex objects. Selecting an icon on the drawing toolbar shall easily create simple objects, which include lines, rectangles, polygons, ellipses, circles, and filled shapes or text. Any of these objects can be assigned various attributes such as line color, fill color, size, and orientation and can be made static or dynamic. Text objects shall be scaleable and use true fonts in bold italic or underline. All objects shall be scaleable and moved in any direction one pixel at a time or dragged with a mouse.

.2 The graphics editor shall support standard object manipulation functions such as cut, copy, paste and delete. Alignment tools shall be included to simplify proper placement and arrangement of objects. Align commands shall be included to align objects based on justification to the left, right, center, top or bottom. Object commands shall also be included to space them vertically, horizontally, move to back, move to front, rotate or group and ungroup.

.3 The graphics editor shall include a broad library of complex objects and process symbols such as meters, pushbuttons, sliders, gauges, pumps, motors, tanks, valves, trends, alarms, controller faceplates and bitmaps. All complex objects shall be scaleable to any size and may include animation links to provide dynamic response based on real time data or user action

.4 Object Animation – Objects shall be animated based on the following attributes:

.1 Color change of the object. Up to 256 colors, 128 standard colors and up to 128 user-defined colors. A user defined color palette can be created, exported and imported. The system must also support the user choosing transparent colors for all graphical objects and backgrounds.

.2 Percentage of fill for objects up, down, left or right direction based on a tagname/hierarchical Name.

.3 An object may blink based upon any Boolean expression, alarm, event, or upon a designated group of alarms. The blink shall be adjustable to slow, medium or fast.

.4 Each object shall have a visibility attribute option allowing for visibility of the object based upon the status of a discrete point, alarm, or operator security level.

.5 The system shall support animation of objects via re-sizing, moving, and/or rotating based upon a change in a tagname/hierarchical name.

.6 Objects shall be animated based upon any user-defined criteria made up of tagnames in the system. This includes the use of expressions containing mathematical functions and the status of analog and discrete values in the system.

.5 Graphics Editor shall allow layering of objects to activate specific objects based upon conditions in the process.

.6 Graphics development tools shall allow object placement via a “snap-to-grid” feature with configurable grid spacing.

.7 Graphics development tools shall support an “undo/redo” feature with a configurable number of levels and command displays.

.8 Graphics editor shall also allow the user to import drawings and images in BMP, JPEG, PCX and TGA file format.

.9 The graphics development environment shall support the copy of single or multiple animated graphic objects and symbols with just two keystrokes, and immediate substitution of tagnames for the duplicated object shall be possible without leaving the graphics editor.

.10 The graphics development environment shall support the copy of single or multiple animated graphic objects and symbols from one window or display to another retaining all of the animation characteristics, links and attributes.

.11 User shall have the capability to add tagname/hierarchical name entries while building a display without exiting the graphics editor.

.12 On-line context sensitive help shall support display building. Users shall be able to obtain immediate help on all configuration subjects by pressing a single function key.

.13 The user shall be able to define graphic screens while the system is monitoring the process

.3 Compound Symbols:

.1 Using a Compound Symbol Manager, application developers shall be able to create groups of symbols that then comprise a single named Compound Symbol that may be expressed as a named Template. There shall be no practical limit to the number of graphic symbols that can comprise a single Compound Symbol. These templates shall connect either to Object Database objects or to HMI tags through remote references. Changes to the Compound Symbol Template shall propagate to all instances of the template. Libraries of re-usable Compound Symbols may be created and managed by the Symbol Manager.

.2 A Compound Symbol shall be instantiated in the HMI window by selecting the symbol in the Symbol Manager and selecting OK. The selected Compound Symbol shall invoke a dialog to allow for browsing and selecting new tags or attributes from the Object or Tag Database, and to allow for creating entire new named objects in the object database. The Symbol may then be resized by dragging the corner of the symbol to the desired size.

.3 The tags/objects attributes of a Compound Symbol may be changed or re-directed to an alternate set of tags/object attributes at runtime via a single script command.

.3 Alarm Summary/Alarm History Object:

.1 Alarms shall be displayed by configuring a user-defined alarm summary object, which may be placed by itself or along with other objects in a window. The object can be sized and then double-clicked to launch a configuration dialog. Default alarm object configurations shall be displayed with the option of changing any configuration parameter for runtime viewing. The alarm object configuration shall include parameters with check boxes to select and enable or disable how the alarms appear at runtime. Alarms shall be color coded according to the state and priority of the alarm including an acknowledged alarm, unacknowledged alarm, and an alarm that has returned to normal but is not yet acknowledged. The user shall be able to choose from 256 different colours for display of each of these alarm states. The alarm display object shall also support event display, with the color used for events also being one of the 256 different colours.

.4 ActiveX Support:

.1 The SCADA software shall provide extensibility by providing integrated support for OLE Controls (OCX's) technology. The SCADA software shall be an ActiveX container supporting methods, properties and events of ActiveX objects. Registering an OCX's for use within an application system shall be an automatic process. Registered OCX's shall be displayed in a dialog box for adding/removing OCX's to/from the application. OCX's added to the application shall be contained within a dialog box to be quickly added to new and/or existing applications. At design time, the user is focused on selecting an OCX for placement, mapping OCX properties, events and methods to tagnames and writing logic to control OCX behaviour via OCX properties and methods.

.5 HMI Application Manager:

.1 Each application shall include an application manager with a Windows Explorer-like browser to simplify management of windows (displays), scripts, tagnames, alarms and application documentation. A tagname cross-referencing index shall provide an efficient means of identifying where all tagnames, links and objects are used throughout all windows in the application. The application manager shall provide the capability to dynamically change the resolution of the application windows. This will allow graphic displays to be developed on workstations with different display resolutions and convert them to the desired resolution quickly so that they are all consistent in look and feel.

.2 Distributed Network Application Management:

.1 The SCADA software shall provide standard functionality that will simplify the configuration, operation, troubleshooting and maintenance of the application by providing means of distributing the application in network environments. The Distributed Network Application (DNA) management software shall adhere to client-server architecture while allowing a single master application to be developed and maintained on the network. The DNA manager shall automatically distribute the master application to all nodes on the SCADA control network.

.2 Application Locations:

.1 Master applications shall be maintained on a server that each client node can access, which provides ease of maintenance and unrestricted editing. The DNA manager will allow client nodes to access the application from the server and it will distribute the server application to a user-defined location that each client node may specify. This approach inherently provides the client-based advantage of redundancy.

.3 Notification of Application Changes to Client:

.1 When a client node loads an application from the network server, the client shall maintain a copy of the application on its local hard drive and become registered as a user of that application. When a change to the server application is detected, each registered user node shall be notified of the change. The DNA manager shall allow the user to define how the client node is notified of the change in the application. The client node shall either automatically load the new application, prompt the user to load changes or ignore, or automatically ignore such changes. If a network failure occurs between the server and client, then the client shall continue to run the last distributed application. When the network is restored and the server application has changed, the DNA manager will distribute the server application to the client.

.3 Application Log Files:

.1 Application log files shall reside on the local hard drive for a user-defined number of days. Each network node shall maintain an independent log file for the applications that are unique to each node. A new log file will be created and archived daily according to the user specified time and location. The viewer shall support color distinctions for different threads, processes or programs. The log file viewer shall support viewing remote node application log files.

.6 HMI Application Control Logic:

.1 The SCADA system software shall include a scripting language that allows execution of commands and mathematical and logical operations based on specified system conditions or user actions. The scripting shall be easy to program using English-like statements and shall not require any knowledge of any other programming logic. The user shall be able to edit or modify the logic scripts while the system is monitoring the process. Furthermore, it shall not be necessary to invoke any other application to compile the changes. The scripting language shall include selection boxes and pull-down menus to permit statements to be created without having to type tagnames or specific commands. Buttons shall be available for easy selection of basic commands and operations such as IF, THEN, ELSE, ELSE IF, AND, OR, NOT, ADD, SUBTRACT, MULTIPLY, DIVIDE, EQUAL TO, NOT EQUAL TO, GREATER THAN, and LESS THAN. Additionally there shall be a full library of more complex math and system script functions available. A validate button shall be included to ensure proper syntax and provide indication of errors to eliminate any problems at runtime. On-line help for each script function shall include actual working examples that can be copied and pasted into the script editor.

.2 HMI Application Logic Scripts:

.1 The system shall have the ability to execute user defined logic scripts. Logic scripts shall be created in a statement based programming environment. No compilers or linkers shall be required.

.2 The system logic shall be able to automatically perform functions such as increase setpoints, perform totalization, and check the status of process setpoints to take action.

.3 The system Logic shall be able to monitor the status of each tagname in the system and perform specific functions based on the type and status of an alarm condition. Alarm type may be lo, lo-lo, hi, hi-hi, deviation or rate of change. Alarm status may be acknowledged or unacknowledged.

.4 The system shall have the capability to perform application control to turn on/off discrete points, show windows, download recipes, etc. This application logic shall also start and stop other application programs such as Excel, Word, and other applications like Crystal Reports.

.5 The system shall have the ability to execute user definable logic on the parameters of On Application Startup, While Application Running and On Application Shutdown.

.3 HMI Conditional Control Logic:

.1 System shall have the capability to perform application control based upon a user definable state of a tagname or the result of an expression involving multiple tagnames; including discrete tagname on/off state, alarm states such as lo, lo-lo, hi, hi-hi, or equivalence to a specific value. It shall be possible to define Condition Logic scripts that execute once when the condition expression becomes true, once when the condition expression becomes false, while the condition is true, or while the condition is false at a user definable rate of 50 milliseconds minimum.

.4 HMI Keyboard Control Logic:

.1 System shall have the capability to perform application control whenever a user presses a key on the keyboard. This includes whenever the key is pressed, released, or while the key is held down at a definable interval. The system will support any of the keys on a standard PC-compatible keyboard.

.5 HMI Data Change and Window Logic:

.1 System shall have the ability to execute System Logic when the value of a tagname changes. System shall have the ability to execute a Window Logic script upon a user definable state of a tagname or the result of an expression.

.7 HMI Function Logic:

.1 The system shall support creating of logic blocks and saving the logic as a function. These function scripts shall be capable of running on a process thread independent of the HMI process. Function scripts shall run on a separate process thread and not impact the performance of the HMI operations. Function scripts

shall be able to be called from any of the logic types defined in earlier sections including a call from a function script to another function script.

.9 Data Historian:

.1 The SCADA system software shall provide a real-time relational database historian for long-term storage of process data. The Data Historian shall provide for the storage of real-time and historical data for each analog, discrete or string tagname. The data historian shall also store summary, event, alarm and configuration data. The database engine for the historian shall be based on a full licensed copy of Microsoft SQL Server and shall support client/server architecture. The user shall not be required to know Microsoft SQL Server to install and implement the historian. The data historian database shall acquire and store process data at full resolution. The data historian database shall include normalized extension tables for real time data and include a set of client tools for data analysis and reporting such as those described in earlier sections. The Data Historian shall be capable of running in a stand-alone mode without connection to, or configuration from, the SCADA system.

.2 While there are always physical limiting factors such as disk space, there shall be no programmatic limit to the amount of data that may be stored on-line. Additionally, there shall be no performance penalty for long-term data storage. There shall be no discernable difference in retrieval speed of data based on the age of the data. For example, the retrieval of two hours data stored two years prior shall be the same as for two hours of data stored one day ago.

.3 Data Compression:

.1 The database shall support high-speed data acquisition and efficient data compression. The data compression for the data historian shall not use any algorithms that do not allow for the storage of the tag data at their scanned rate. The stored data records shall be able to recreate the process data in a loss-less format. Below are the data storage techniques to be employed for the various types of data.

.4 Standardized Database Tables:

.1 The process of setting up the database tables shall be automatically configured and require no database engineering. Data definitions including the creation of database objects, such as tables, indexes, constraints, defaults, rules, stored procedures, triggers, and views shall follow a standard, published and readily available database schema. This standard database schema shall outline the relationship between tables, table columns, keys and indexes and shall allow for third party development of client applications. Database device sizes shall be dynamically allocated during database installation depending on the number of tagnames to be stored within the data historian.

.5 Single Configuration of Data Historization:

.1 The historization of data from SCADA objects shall be entered once at the time of configuration of those objects using the corresponding object editor in the SCADA System. The Data Historian shall automatically acquire those configuration historization parameters upon deployment of the configured Application Objects

.6 Historical Data Point Configuration:

.1 The data historian shall include a database editor to modify the parameters of any tagname without using the SCADA database editor as an option. It shall be possible to configure the data storage rate for each point based on a user-defined rate frequency (cyclic storage) or upon change (delta storage). Cyclic storage rates shall be configurable per point from 1 second up to hours. The historian database shall support a 5-millisecond resolution for tagnames configured with delta storage.

.7 Historian Data Acquisition and Retrieval:

.1 The data historian shall acquire data via automatic and manual methods. Automatic data acquisition shall be through industry-standard data transports. Data Acquisition via Dynamic Data Exchange (DDE) and OLE for Process Control (OPC), in addition to proprietary transports, shall be supported. The method for retrieving data shall be Structured Query Language (SQL). It shall be possible to store data at one resolution and query at another. Methods shall exist to query and retrieve data cyclically, with millisecond resolution, no matter the storage mode. It shall be possible to query and retrieve data in delta, with user selected dead-band criteria and millisecond resolution, no matter the storage mode. It shall be possible to query and retrieve evenly spaced data over long periods of time where the criteria are a row count, no matter the storage mode.

.2 Dynamic Configuration and Bump-less Data Initialization:

.1 The historian shall automatically begin to acquire tag data immediately after a tag configuration has been committed to the database. Adding a single or multiple tags to an existing historian database shall not affect the data acquisition of previously defined tagnames. Client connections will not be affected during reconfiguration due to dynamic configuration. Additionally, there will be no loss of data for tags where data acquisition configuration is not changed.

.3 Manual Data, Out-of-Sequence Data, and Superceded Data:

.1 The historian shall support Manual Data, Out-of-Sequence Data, and Superceded Data. Manually entered data such as Lab Data and Out-of-Sequence Data such as batched history data from a Remote Terminal Unit (RTU) shall be treated by the retrieval engine as if the data were stored automatically. Any historized data may be superceded by manually inserting the correct data value and a flag denoting that the previous data has been superceded. An SQL client tool may request original data, superceded data,

or both. Manual Data, Out-of-Sequence Data, and Superceded Data shall be inserted into the Historian via an SQL Insert statement, or in bulk via Comma Separated Variable (CSV) file. Only users with proper login credentials shall be allowed to manually insert or modify data.

.4 Data Quality:

.1 All stored data shall contain data quality attributes. The primary Data Quality attribute shall reflect Data Quality as defined in OPC. Additional quality attributes shall be used for initial data (startup flag) and superceded data.

.8 Event System Configuration:

.1 The data historian shall contain an event sub-system to monitor, record, and or respond to process or system events and to trigger some type of action when the event is detected. The event system shall detect an event occurrence using pre-defined and configurable criteria; historically log when an event occurs and trigger designated configurable event actions based on the event detection. Event attributes shall be logged to the database and will include the date, time that the event occurred, and the event criteria that were satisfied.

.2 Event Configuration:

.1 Using a point and click approach, the system shall allow users to create/define event tagnames and associate event tagnames to event detectors and the resulting actions. The user shall be able to insert a time delay in milliseconds before the event action is triggered and establish the priority of the event as normal or critical. It shall be possible to detect an event based on scheduled time interval, a specific analog value crossing a threshold or a discrete value going from 0 to 1 (leading edge), 1 to 0 (trailing edge), or both. An event editor shall be provided to support complex SQL event detectors and event actions.

.3 Event Action:

.1 The data historian event detectors shall determine that an event has occurred and trigger an associated action. Event detectors shall scan for events at the user-defined rate for each event. The user shall be able to select when an event is detected. Event actions shall include:

.1 Execution of an SQL statement to perform an SQL query on the database.

.2 Taking a snapshot and recording the time stamp and values of one or more selected analog or discrete tags.

.3 Change the cyclic time and/or value delta storage rate for one or more analog tagnames.

.9 Database Summary System:

.1 The data historian shall provide user configurable data summary tables for any analog tagname and to automate the collection of aggregate historical information based on a declared event. The summary system shall support minimum, maximum, average and summed calculation types for Minute, Hourly, Daily, Weekly and Monthly frequencies. The summary system shall store the tagname, value, type of calculation, and frequency as defined for each tagname.

.10 Historian Interface to Other Relational Databases:

.1 The data historian shall utilize Microsoft's Data Transformation Services to simplify the transfer of historical process data with other SQL Server databases like Microsoft SQL Server or Oracle. The historian database shall include an OLE DB Provider (Object Linking and Embedding for Databases) so that any other SQL client can access the real-time or historical process data from the data historian.

.11 Disk Storage Management:

.1 The data historian shall not require specialized tools for disk storage management. It shall be possible to archive and retrieve historical data files using standard Windows® copy techniques. It shall be possible to retrieve select portions of archived data without retrieving all archived data. Retrieval of the archive data shall automatically place this data on-line and available for retrieval by the data historian.

.2 The data historian shall provide for a mechanism whereby current files on a disk drive that is nearly full will automatically be moved to a secondary device. The files and available space on the secondary drive shall be monitored as well such that when a user-defined threshold is reached, the oldest files may be automatically deleted to preserve the integrity of the system. Historical files shall never be deleted from the primary storage device if an appropriate secondary device is configured.

.12 SCADA System Software Installation and Licenses:

.1 The SCADA software shall be easily installed from a single CD or a set of CD's using a standard install program. During the installation procedure, the user shall be able to select the features and functions required for each workstation or server in the SCADA system. While loading the selected software, it shall be possible to redirect the location of the software components. The SCADA software shall be licensed using software license files that can be easily restored to the system in case of hard drive failure. No hardware keys shall be required to run the software.

.13 Software Warranty, Maintenance and Support:

.1 The software Manufacturer shall provide software maintenance and support program to ensure that the user receives full benefit of the software for the duration of its life cycle. The program shall provide for basic warranty coverage and include an extended warranty for priority support and software upgrades as they are released. Telephone

support shall be available through a toll free number during normal business hours. Support shall also be available via fax, email or through a technical support website.

.2 Software Warranty Support:

.1 The software Manufacturer shall warrant the products as specified in D26.3.
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.3 Extended Warranty – Annual Software Maintenance and Support:

.1 Pursuant to D26.3.1 and to ensure that the user always has access to the latest software releases, long-term warranty and technical support, the Manufacturer shall offer an extended support program for a fixed annual fee that entitles the user to receive the following:

.2 Software Upgrades:

.1 The extended support program shall entitle the user to receive the latest SCADA system software releases and version upgrades, as they become available. In order to ensure quality support for all users, all software licenses at the site must be maintained at the same version level.

.3 Priority Telephone Support:

.1 The extended support program shall include telephone support during normal local business hours. A Manufacture Representive who has been certified by the software Manufacturer based on a certified support testing program shall provide telephone support. An actual live person when calling during normal business hours shall provide unlimited telephone support. A voice-mail tech support system shall not be acceptable.

.4 Electronic Support:

.1 The extended support program shall include e-mail support within one Business Day at a higher priority than non warranty support users, and will forward them to the nearest certified technical support center. Electronic support shall also include expanded access to advanced services on our technical services web page. The extended support program shall include real-time access to current and past issues in a call tracking database, as well as the ability to create new issues, which shall be immediately assigned to a technical support engineer for resolution.

.5 Electronic File Download:

.1 The extended support program shall include access to a secure web site for electronic file downloads. Service packs, patch fixes, updated I/O Servers

and other support files shall be available for support users from the secure web site.

.6 Newsletter and Tech Support CD:

.1 The software Manufacturer shall provide a newsletter and a technical support CD with tech notes to all users on the extended support program a minimum of three times per year. The technical support CD shall include a comprehensive summary of technical notes, technical alerts, applications, application utilities, diagnostic utilities, ActiveX controls, drivers, scripts, script functions, wizards and helpful hints that can streamline application development.

## 2.4 Operator and Management Interfaces

.1 The HMI/SCADA Operator workstations located in the control room and throughout the WTP Facility shall provide operator access to the HMI/SCADA system and full operational control, supervision and management of the WTP Facility and processes monitored and controlled by the distributed PLC system. This shall include the provision for monitoring each signal generated from the plant and input to a local process PLC and any signal derived within that PLC or in the main HMI/SCADA system nodes and the Operator Workstations.

## 2.5 Operator Access Security

.1 The HMI/SCADA system security features shall be fully implemented to provide a secured system of operator access. The configured security system shall prevent any unauthorised use of the HMI/SCADA system's functions or operations. The following levels of security shall be provided as a minimum:

| | |
|---|---|
| Systems Administrator Level | Full access to the whole system including database management; system hardware and software maintenance; system development functions; communications maintenance; graphics development; system expansion functions. |
| Site Manager Level | Access to all on line system monitoring and control functions; access to all historical data and archiving facilities for generating reports etc. |
| Duty Operations Supervisor | Access to all on line system monitoring and control functions; access to all historical data and archiving facilities for generating reports etc.; all WTP Facility operating and control functions. |
| Plant Operator Level 1 | Access to all on line WTP Facility monitoring and control functions. |
| Plant Operator Level 2 | Access to WTP Facility monitoring functions only. |

.2 Access to the system shall require a user password attached to a specific user named on the system. A Password User Table shall log all users registered to use the system. The Password User Table shall be accessible only to the System Administrator level of security.

.3 The system shall record in a user table all the actions attributed to a particular user when that user is logged onto the system. The activity log shall include the action taken, the plant item affected, the date and time (in Hour; Mins; Secs format) of the action. This user table shall be retrievable only by the systems engineer and plant manager levels.

## 2.6 Requirements for Graphical Displays

.1 Graphical displays shall provide the main facility for operator interface with the WTP Facility and processes. The graphical displays shall be representative of the plant concerned and shall be developed from P&IDs.

.2 All graphical displays shall be available for viewing on all HMI/SCADA Operator Workstations to provide the "same look and feel" for operators.

.3 Graphical displays shall generally be of the following type:

| | |
|---|---|
| Mimics | A mimic shall display a visual picture of the WTP Facility in a format, which represents the plant components and measurements. |
| Tables | Tables shall display lists of information for WTP Facility systems, displaying the current value of each monitored item. This shall include all status digital signals and all analogue signals associated with the system. |
| Trends | Trends shall provide analogue data against a selectable time base. Trends shall be of two types.<br>(a) On-line trend, building up current data on a cumulative real-time base.<br>(b) Historical trend, displaying analogue variables at defined intervals displayed over a selectable time base. |
| Schedules | Schedules shall be provided for the continuous logging and display of all alarms and events. As a minimum each schedule shall list the item tag number; item description; date and time of action. |
| Control windows | Control window displays shall be of a panel format with interactive switches and indicators providing display and control of all points associated with the device(s). The control windows shall be provided for each item of controllable plant or control loop. This display shall provide positive interaction between the operator and the WTP Facility for remote manual control of the plant item or changing set point parameters etc. It shall display all relevant measurable parameters associated with the control actions and shall provide control via a series of on screen buttons and acknowledge messages. For an Instrument the control window shall provide the |

| | |
|---|---|
| | facilities to display and enter calibration details and where applicable enter high and low alarm limits. For a P&ID loop the control window shall provide the facilities to display and enter all PID parameters. |
| Alarm Annunciator Mimic | Process Area alarm annunciator mimic display for each plant area. |

.4 General and process specific help pages shall be provided to assist the user in screen navigation, HMI/SCADA system operation, and to aid the operation and control of the WTP Facility. Help pages shall be configured in conjunction with the Contract Administrator. Help pages may be presented as individual pages accessed from a mimic, or as a window superimposed on a mimic.

.5 The graphic displays shall be uncluttered and clear and provide the operator with all information necessary to control the WTP Facility in an unambiguous way.

.6 The complete process shall be represented using a series of displays arranged in a hierarchical tree structure. At all times it shall be possible to move down to the next level, move up to the previous level or return to the highest level. Within each hierarchical level it shall be possible to step forward or step backward to a related process display without returning to a higher level.

.7 Navigation keys shall be provided in line with the hierarchical tree structure defined above. The same navigation keys shall be provided on every page even if the navigation key function is not required. Where a navigation key function is not required, i.e. the move up key on the WTP Facility overview screen, it shall be "greyed out".

.8 Levels of hierarchy shall be provided from the top as follows:

.1 Site overview as a site layout showing all relevant Process Areas.

.2 Process Areas layout overview.

.3 Process stream overview mimic showing all elements in the process stream.

.4 Process element mimics (maximum 20 interactive points).

.5 Control window.

.6 Alarm page annunciator (grouped by Process Areas).

.7 Electrical supply system diagram overview information.

.8 Electrical supply sub-system mimics showing interactive information.

.9 HMI/SCADA and PLC system overview.

.10 HMI/SCADA system communications/diagnostic sub-unit mimics including all Computers, PLC's, communications systems and peripherals etc.

.9 Visual display facilities shall be provided to enhance operator visual monitoring of the WTP Facility e.g.:

.1 Tank level displays or grouped area's with proportional fill graphics.

.2 Flow data screens.

.3 Analytical data screens.

.4 Pump and valve status/control loop boxes windows.

.10 Object functionality associated with plant items.

.1 As a minimum all the functionality for each type of object described in the document: Refer to Appendix for The City of Winnipeg WTP Standard Control and Functionality Specification. Any additional functionality required shall be described in the User Requirement Specification.

.2 The view object shall open a further table which shall provide further details relating to the selected object.

.3 The pop-up object shall be provided for all control actions so that the decision to carry out the action can be confirmed.

.11 Each mimic shall be provided with message banners and pull down menus at the top and bottom of the mimic providing operator information relating to:

.1 Operator logged into the particular terminal.

.2 Operator system functions/controls available from the display on the screen.

.3 Date and time.

.4 Node from which current data is from.

.12 The following colours shall be used for data, objects, and message displays to indicate the current state:

.1 For Mimic Displays (Object Colours):

.1 Red: Motor Running, active, valve open

.2 Green: Motor Stopped, inactive, valve closed

.3 Magenta: Not available/failed

.4 Yellow: Valve between open and closed position

.5 Purple: Illegal State Loss of Communications

.2 For Alarm Lists only:

.1 Red: Condition Not Accepted

.2 Green: Condition Reset to normal

.3 Brown (Steady): Condition Accepted, still active.

.3 Information Boxes:

.1 The outline of the information box and any partitioning lines within it shall be coloured black. The information text within it shall be coloured black.

.4 Process Lines:

.1 For detail mimics, process lines (including channels) shall be generated by using rectangles and not lines so that the pipework has a thin black outline, with the process fluid fill colour as described in the following list.

| Service Code | Description | Colour |
|---|---|---|
| AA | Aqua Ammonia | Deep Blue |
| AS | Air Scour | Black |
| BWS | Backwash Supply | Light Green |
| BWW | Backwash Wastewater | Mid Brown |
| CA | Compressed Air | Black |
| CCW | Circulating Cooling Water | Light Blue |
| CRW | Clarifier Discharge Water | Green |
| CS | Caustic (Sodium Hydroxide) | Oxide Red |
| CWR | Cooling Water Return | Grey |
| CWS | Cooling Water Supply | Grey |
| DD | Deacon Effluent (Post UV) | Dark Blue |
| DCW | Domestic Cold Water | Medium Blue |
| DF | DAF Float | Dark Brown |
| DHW | Domestic Hot Water | Orange |
| DS | Deacon Suction | Light Blue |
| DU | Deacon UV (Pre UV) | Light Blue |
| FC | Ferric Chloride | Tangerine |
| FIN | Filter Influent | Light Green |
| FIR | Firewater | Red |
| FTR | Filter to Recycle | Light Blue |
| FW | Filtered Water | Light Blue |
| GOX | Gaseous Oxygen | Pink |
| HP | Hydrogen Peroxide | Purple |
| HYP | Sodium Hypochlorite | White |

| | | |
|---|---|---|
| LOX | Liquid Oxygen | Pink |
| LPC | Low Pressure Condensate | Silver |
| LPS | Steam | Silver |
| OF | Overflow | Dark Green |
| OZG | Ozone Off Gas | Yellow |
| OZO | Ozonated Oxygen | Yellow |
| OZW | Ozonated Water | Light Blue |
| PLD | Dry Polymer | Lime |
| PLS | Polymer Solution | Lime |
| PSW | Plant Service Water | Dark Blue |
| PW | Potable Water | Dark Blue |
| RW | Raw Water | Dark Green |
| SAM | Sample | To match commodity |
| SAN | Sanitary Drainage | Black |
| SBS | Sodium Bisulphite | Tan |
| SCA | Sulphuric Acid | Orange |
| SDR | Saturated Recycle Water | Deep Green |
| SLU | Sludge | Dark Brown |
| SUP | Supernatent | Light Brown |

.5 Printing of Graphical displays shall be set for output to the colour report printer. The output shall be via a graphics file relating to the output and not via screen dump. The file parameters shall be set to default on a standard A4 sheet size.

.13 Alarms and Events Logging:

.1 Alarm and Event log listings shall include all:

.1 Process generated alarms and changes of WTP Facility state originating with the WTP Facility process.

.2 PLC derived alarms from measured analogue values.

.3 Process device fault condition/state changes originating within the process PLC.

.4 PLC system faults/state changes.

.5 Communications faults/state changes.

.6 Master Control Room equipment faults/state changes.

.2 Alarms and events shall be logged with all digital signal changes occurring in the system, tagged with the following details as a minimum:

.1 Site name

.2 Associated PLC Node/Process Area

.3 Time of occurrence

.4 Loop no. or equipment reference

.5 Description of condition

.6 Signal state

.7 Location of alarm accept and reset

.3 The acceptance of an alarm state shall also be logged in the alarms list as separate events.

.4 Unaccepted current active alarms; accepted current active alarms and cleared alarms shall appear in the alarms list as different colours.

.5 An alarm link shall be provided to automatically display the mimic relevant to the alarm on 'alarm accept' operation. This shall occur only on the operator file server terminals. This function shall be provided with an enable/disable key.

.6 A separate current alarms list shall log all active and accepted alarms separately from the historical alarms and events log. This list shall provide the same information as in the main log but filter out alarms, which are not current, i.e. those that have been cleared and reset.

.7 The HMI/SCADA system alarm annunciating system shall provide interaction with the PLC system alarms annunciating system by providing the following features:

.1 All alarms detected or generated by the PLC system shall be logged by the HMI/SCADA system.

.2 The HMI/SCADA system shall also log alarm accept and reset events, whether they take place on the HMI/SCADA system or at one of the process PLC system operator interface panels.

.3 If an alarm is accepted and reset from the control room operator terminals then the alarm shall clear throughout the HMI/SCADA and PLC systems.

.8 Alarm priority groupings shall be as follows:

.1 Priority 1 - Safety critical.

.2 Priority 2 - Plant/process critical.

.3 Priority 3 - General monitoring alarms.

.14 Reporting and Report Formats:

.1 The HMI/SCADA system shall provide the facility for generating reports on WTP Facility and system data. Two types of report shall be available.

.1 Regular reports - These reports shall be generated automatically by the system either by:

.1 Event

.2 A scheduled interval

.2 Individual reports - These reports shall be user definable, enabling the user to select information and boundaries in order to print a specific report.

.2 The Contractor shall develop a standard form layout for use as the basis for reports which shall be discussed and approved by the City and the Contract Administrator. Each type of report layout shall contain standard basic information as follows:

.1 Site name

.2 Date of report

.3 Date and time of information included in report

.4 Name of user generating the report

.5 Process Area/Process Unit to which the report refers

.6 Type of report

.3 Initially the Contractor shall allow for the setting up of the following output reports.

.1 Scheduled Reports:

.1 Daily average Raw Water flow to the Water Treatment Plant.

.2 Daily average Filtered Water flow to the Clearwell

.3 Daily average Supernatent flow to the Aqueduct.

.4 Daily average Thickened Sludge flow to the Dewatering Cells.

.5 Daily average Chlorine Residual at Clearwell.

.2 Chemical Usage:

.1 Hypochlorite usage

.2 Ferric Chloride usage

.3 Ozone usage

.4 Sodium Hydroxide usage

.5 Sulphuric Acid usage

.6 Hydrogen Peroxide usage

.7 Sodium Bisulphite usage

.8 Polymer Usage

.3 MCC Power Consumption:

.1 Power consumption for each incomer, HV & LV distribution

.2 Power Factor on each incomer, HV & LV distribution

.4 Quality:

.1 Chlorine Residual levels

.2 Treated Water Turbidity

.3 Treated Water pH

.4 No of category 1 and 2 alarms over a period of time

.5 Maintenance:

.1 Maintenance - Hours Run / Remaining Hours

.2 Maintenance calibration schedule request

.6 Event Driven Reports:

.1 Chemical reorder form on receiving reorder level alarm

.2 Out of calibration on specified instruments

.7 Individual Reports:

.1 Alarms and events log report at selected time intervals

.2 Alarms and events log report for Process Areas

.3 Analogue signals report for a selected tag number for selected time intervals

.4 The reports shall be printed on the report printer in a good quality presentable format, clearly labelled and laid out in a logical easy to read manner.

.15 Source Codes:

.1 The Contractor shall upon delivery of any part of the custom software provide for the retention on the Premises of a copy of the source code thereof both in written form and in a magnetic or optical digital form.

## 2.7 PLC Software Requirements

.1 The Contractor shall be responsible for providing fully operational PLC applications software to implement all the necessary control, monitoring and communication functions required to operate the WTP Facility provided. Any control function not detailed in the Standard Control and Functionality Specification and the User Requirement Specification shall not relieve the Contractor of their responsibility of providing the required fully operational software.

.2 The software shall incorporate password security features to prevent unauthorised interference. Different passwords shall be provided for different levels of security applicable to operators, maintainers and programmers.

.3 Basic layout, function and control strategy for the software shall be discussed and agreed with Contract Administrator before development of the software commences.

.4 Software design shall be laid out in a modular manner; i.e. it shall be structured in program files, so that similar tasks are of a similar structure and size to enable ease of maintenance of programmes.

.5 Software shall be fully documented with each line of application software fully annotated with mnemonics directly related to the items of WTP Facility. All data areas used shall be documented and a full memory map provided. Network and Interface documentation shall be provided. A description of all function blocks shall be provided i.e. analogue handling block, PID block, Motor Start block, etc.

.6 The PLC application software controlling the WTP Facility shall be structured so as to provide as a minimum requirement, the following key functional areas:

| **Functional Area** | **Software Routines** |
|---|---|
| Plant initiation | This area shall contain routines developed to control plant start-up and restart, plant reset, and phased plant starting, after a power supply re-energisation; including a return to the control mode selected prior to powering down. Plant trips, when reset by the operator, shall reinstate normal automatic operation without the need for further operator intervention. |
| Plant automatic control | This area shall contain all software necessary to provide automatic control of the plant process(es) and shall include alarm generation and exception handling, together with the starting-up and scheduling of any associated standby plant. |
| Plant shutdown | This area shall contain routines developed to control plant shutdown, including under operational, power failure, and unplanned/emergency conditions. |
| Operator interface(s) | This area shall contain all software necessary to provide interfaces, where required, to the Operator Workstations and HMI/SCADA system. All digital points to/from HMI/SCADA shall be held within separate integer files or memory areas, and analogue points to/from HMI/SCADA shall be held within separate floating point files or memory areas. |

.7 The City of Winnipeg has the right to view the software at any stage during its development. Regular testing shall be carried out and on successful completion of the tests; copies of the programs completed to date shall be handed to the City.

.8 The Contractor shall provide complete software programs with all the necessary up to date documentation prior to commissioning. The Contractor shall only be allowed to implement changes to the software with consent from the Contract Administrator during the Site Commissioning period. Any changes made during this period shall be formally recorded during testing and presented in a documented format before the end of the Commissioning period. The annotated software documentation shall be made available to the City before factory acceptance testing and before installation at site.

.9 Any major changes determined and agreed by the Contract Administrator and the Contractor shall require a complete re-test, in accordance with each step of the testing procedure.

.10 The PLC application software shall be backed up using the DVD writer. The disks shall be clearly marked and stored in a protective storage box and offsite.

.11 Source Codes:

.1 The Contractor shall upon delivery of any part of the custom software provide for the retention on the Premises of a copy of the source code thereof both in written form and in a magnetic or optical digital form.

**2.8 Documentation**

.1 The Contractor shall provide complete documentation pertaining to the design, installation, Performance Verification and operating and maintenance of the HMI/SCADA system provided.

.2 Documentation Requirements:

.1 In addition to the requirements for the provision of documentation specified in the General Specification, the Contractor shall provide the following documentation in triplicate for approval by the Contract Administrator.

.1 Document Submittal List:

.1 The Contractor shall provide a list of all documents that will be submitted indicating the submittal number, description of the submittal, the revision, the date of issue, etc.

.2 Software Design Specification (SDS):

.1 Provided by the Contractor, in its initial form describes in enough detail how the software will be coded in a structured and efficient manner.

.3 Detailed Equipment Specifications:

.1 The Contractor shall supply detailed equipment specifications for all equipment supplied under this Contract.

.4 Equipment Rack Layouts:

.1 For each equipment cabinet, the contractor shall prepare equipment cabinet layout drawings. These drawings will show front, rear, and side views including cabinet dimensions, equipment locations and cable routing within the cabinet/rack, etc. The equipment cabinet layouts shall include a bill of materials with equipment description, manufacturer and part number.

.5 Cable Connection Drawings and Cable Schedule:

.1 The Contractor shall prepare cabling connection drawings and a cable schedule that describes electrical and signal connections and shows all cabling and wiring connections between equipment within equipment racks and consoles and all respective cabling and wiring connections to external equipment. The drawings shall be provided complete with annotation describing the functional nature of each circuit and/or termination point. All terminal block numbers shall be identified. All pre-terminated cable connectors shall be identified with the corresponding wire, pin number and cable number. Location of all terminal blocks and connectors shall be shown on a layout drawing of the associated panel (equipment cabinet layout).

.6 Functional Design Specification (FDS):

.1 This specification provided by the Contractor shall detail the solution to be provided to meet the URS requirements. The FDS shall provide the basis of the design of the system and shall be used to verify and validate the system during the testing, ensuring all the required functions are present and that they operate correctly. The document shall be approved before configuration commences.

.7 Contract Work Schedule:

.1 Prepare a Contract Work Schedule outlining all major tasks and milestone dates upon award of contract. The schedule shall be issued to the Contract Administrator for review and approval and shall be updated and re-issued every time the schedule is modified and as part of the monthly progress report.

.8 Colour prints of all system mimic displays developed from the Purchasers outline designs.

.9 Database points schedule providing cross references including Plant Tag No PLC address and point reference; HMI/SCADA point reference; point description; digital state description or analogue range.

.10 Detailed operating manual describing all available operator functions.

.11 Detailed Technical and Maintenance Manuals providing details of all equipment and software provided, detailing how the equipment and software should be maintained. This shall also include detailed information relating to operating diagnostics facilities and software tools and providing additional engineering and system development.

.12 Detailed "as built" system drawings and design documentation including the Software Specification; schedules and mimic displays.

## 3. EXECUTION

### 3.1 References - General

.1 Refer to Section 17010 – Instrumentation and Control General Requirements.

### 3.2 Design and Operating Description

.1 The Contractor shall develop and populate the database with corresponding I/O points, and develop and configure the HMI/SCADA and the PLC Application Software based on the I/O List, the P&ID's and the Standard Control and Functionality Specification documents provided in this Contract document. The User Requirement Specification shall be provided to the Contractor at the Award stage of the Contract.

### 3.3 Performance Verification and Startup

.1 Verify to the Contract Administrator that all HMI/SCADA I/O are wired to the proper inputs and outputs. Update the HMI/SCADA I/O list and verify that each I/O address is documented.

.2 Assist Contract Administrator with loading and checkout of the control programs. Ensure that all field devices operate properly.

.3 Perform FAT and SAT as specified in other Sections.

**END OF SECTION**

# PLC I/O INDEX

## 1. GENERAL

### 1.1 References - General

.1 Refer to Section 17010 – Instrumentation and Control General Requirements.

### 1.2 Programmable Logic Controller Input/Output Index

.1 The following spreadsheet gives an itemized list of the I/O between the PLC and the field devices. It is intended to serve as an aid for determining the cabling requirements for the Work specified in this Division.

## 2. PRODUCTS (NOT USED)

## 3. EXECUTION (NOT USED)

**END OF SECTION**

# PLC I/O INDEX

| | | | | DESCRIPTION | | | I/O SPECIFICATION | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| RECORD NO. | PLC Programming reqd | REV. N0. | TAG NAME | FUNCTION | SERVICE | P&ID DRAWING | ENG. UNITS | SCALE LOW | SCALE HIGH | ALARMS LOW | ALARMS HIGH | PLC CABINET | I/O TYPE |
| 0001 | N | 0 | LA-C020A | Level Alarm | Filter Polymer Bulk Powder Unloading Hopper Low | WC-P0005 | | | | | | CP-C11 | DI |
| 0002 | N | 0 | LA-C020B | Level Alarm | Filter Polymer Bulk Powder Screw Feeder Blocked | WC-P0005 | | | | | | CP-C11 | DI |
| 0003 | N | 0 | LA-C030A | Level Alarm | Sludge Polymer Bulk Powder Unloading Hopper Low | WC-P0005 | | | | | | CP-C11 | DI |
| 0004 | N | 0 | LA-C030B | Level Alarm | Sludge Polymer Bulk Powder Screw Feeder Blocked | WC-P0005 | | | | | | CP-C11 | DI |
| 0005 | N | 0 | MM-C020A | Running Status | Filter Polymer Bulk Powder Unloading Blower Running | WC-P0005 | | | | | | CP-C11 | DI |
| 0006 | N | 0 | MM-C020B | Running Status | Filter Polymer Bulk Powder Unloading Screw Feeder Running | WC-P0005 | | | | | | CP-C11 | DI |
| 0007 | N | 0 | MM-C030A | Running Status | Sludge Polymer Bulk Powder Unloading Blower Running | WC-P0005 | | | | | | CP-C11 | DI |
| 0008 | N | 0 | MM-C030B | Running Status | Sludge Polymer Bulk Powder Unloading Screw Feeder Running | WC-P0005 | | | | | | CP-C11 | DI |
| 0009 | N | 0 | MN-C020A | Start Command | Filter Polymer Bulk Powder Unloading Blower Start | WC-P0005 | | | | | | CP-C11 | DO |
| 0010 | N | 0 | MN-C020B | Start Command | Filter Polymer Bulk Powder Unloading Screw Feeder Start | WC-P0005 | | | | | | CP-C11 | DO |
| 0011 | N | 0 | MN-C030A | Start Command | Sludge Polymer Bulk Powder Unloading Blower Start | WC-P0005 | | | | | | CP-C11 | DO |
| 0012 | N | 0 | MN-C030B | Start Command | Sludge Polymer Bulk Powder Unloading Screw Feeder Start | WC-P0005 | | | | | | CP-C11 | DO |
| 0013 | N | 0 | UF-C020A | No Fault | Filter Polymer Bulk Powder Unloading Blower Fault | WC-P0005 | | | | | | CP-C11 | DI |
| 0014 | N | 0 | UF-C020B | No Fault | Filter Polymer Bulk Powder Unloading Screw Feeder Fault | WC-P0005 | | | | | | CP-C11 | DI |
| 0015 | N | 0 | UF-C030A | No Fault | Sludge Polymer Bulk Powder Unloading Blower Fault | WC-P0005 | | | | | | CP-C11 | DI |
| 0016 | N | 0 | UF-C030B | No Fault | Sludge Polymer Bulk Powder Unloading Screw Feeder Fault | WC-P0005 | | | | | | CP-C11 | DI |
| 0017 | N | 0 | WI-C020A | Weight Indication | Filter Polymer Bulk Powder Weight | WC-P0005 | | | | | | CP-C11 | AI |
| 0018 | N | 0 | WI-C030A | Weight Indication | Sludge Polymer Bulk Powder Weight | WC-P0005 | | | | | | CP-C11 | AI |
| 0019 | N | 0 | WF-C020A | Weight Fault | Filter Polymer Bulk Powder Weight Fault | WC-P0005 | | | | | | CP-C11 | DI |
| 0020 | N | 0 | WF-C030A | Weight Fault | Sludge Polymer Bulk Powder Weight Fault | WC-P0005 | | | | | | CP-C11 | DI |
| 0021 | N | 0 | YS-C020A | C/O/H Switch in Computer Position | Filter Polymer Bulk Powder Unloading Blower in Computer Mode | WC-P0005 | | | | | | CP-C11 | DI |
| 0022 | N | 0 | YS-C020B | C/O/H Switch in Computer Position | Filter Polymer Bulk Powder Unloading Screw Feeder in Computer Mode | WC-P0005 | | | | | | CP-C11 | DI |
| 0023 | N | 0 | YS-C030A | C/O/H Switch in Computer Position | Sludge Polymer Bulk Powder Unloading Blower in Computer Mode | WC-P0005 | | | | | | CP-C11 | DI |
| 0024 | N | 0 | YS-C030B | C/O/H Switch in Computer Position | Sludge Polymer Bulk Powder Unloading Screw Feeder in Computer Mode | WC-P0005 | | | | | | CP-C11 | DI |
| 0025 | N | 0 | LA-C021A | Level Alarm | Filter Polymer Preparation Tank High | WC-P0006 | | | | | | CP-C11 | DI |
| 0026 | N | 0 | LA-C021B | Level Alarm | Filter Polymer Preparation Tank Low | WC-P0006 | | | | | | CP-C11 | DI |
| 0027 | N | 0 | MM-C021A | Running Status | Filter Polymer Preparation Tank Mixer Running | WC-P0006 | | | | | | CP-C11 | DI |
| 0028 | N | 0 | MN-C021A | Start Command | Filter Polymer Preparation Tank Mixer Start | WC-P0006 | | | | | | CP-C11 | DO |
| 0029 | N | 0 | UF-C021A | No Fault | Filter Polymer Preparation Tank Mixer Fault | WC-P0006 | | | | | | CP-C11 | DI |
| 0030 | N | 0 | YS-C021A | C/O/H Switch in Computer Position | Filter Polymer Preparation Tank Mixer in Computer Mode | WC-P0006 | | | | | | CP-C11 | DI |
| 0031 | N | 0 | YS-C021A | C/O/H Switch in Computer Position | Filter Polymer Preparation Tank Outlet Valve in Computer Mode | WC-P0006 | | | | | | CP-C11 | DI |
| 0032 | N | 0 | YB-C021A | Close Command | Filter Polymer Preparation Tank Outlet Valve Close | WC-P0006 | | | | | | CP-C11 | DO |
| 0033 | N | 0 | YD-C021A | Open Command | Filter Polymer Preparation Tank Outlet Valve Open | WC-P0006 | | | | | | CP-C11 | DO |
| 0034 | N | 0 | YD-C021B | Solenoid Actuator | Filter Polymer Preparation Tank Service Water Inlet Valve Open | WC-P0006 | | | | | | CP-C11 | DO |
| 0035 | N | 0 | ZB-C021A | Closed Status | Filter Polymer Preparation Tank Outlet Valve Closed | WC-P0006 | | | | | | CP-C11 | DI |
| 0036 | N | 0 | ZD-C021A | Open Status | Filter Polymer Preparation Tank Outlet Valve Open | WC-P0006 | | | | | | CP-C11 | DI |
| 0037 | N | 0 | FI-C001B | Flow Indication | Standby Emulsion Polymer Flow to Storage Tanks Flow Rate | WC-P0007 | | | | | | CP-C11 | AI |
| 0038 | N | 0 | FQ-C001B | Flow Pulse | Standby Emulsion Polymer Flow to Storage Tanks Flow Total | WC-P0007 | | | | | | CP-C11 | DI |
| 0039 | N | 0 | LA-C005A | Level Alarm | Sludge Polymer Containment Area Level High | WC-P0007 | | | | | | CP-C11 | DI |
| 0040 | N | 0 | LA-C031A | Level Alarm | Sludge Polymer Preparation Tank High | WC-P0007 | | | | | | CP-C11 | DI |
| 0041 | N | 0 | LA-C031B | Level Alarm | Sludge Polymer Preparation Tank Low | WC-P0007 | | | | | | CP-C11 | DI |
| 0042 | N | 0 | MM-C001A | Running Status | Standby Emulsion Polymer Pump Running | WC-P0007 | | | | | | CP-C11 | DI |
| 0043 | N | 0 | MM-C031A | Running Status | Sludge Polymer Preparation Tank Mixer Running | WC-P0007 | | | | | | CP-C11 | DI |
| 0044 | N | 0 | MN-C001A | Start Command | Standby Emulsion Polymer Pump Start | WC-P0007 | | | | | | CP-C11 | DO |
| 0045 | N | 0 | MN-C031A | Start Command | Sludge Polymer Preparation Tank Mixer Start | WC-P0007 | | | | | | CP-C11 | DO |
| 0046 | N | 0 | UF-C001A | No Fault | Standby Emulsion Polymer Pump Fault | WC-P0007 | | | | | | CP-C11 | DI |
| 0047 | N | 0 | UF-C031A | No Fault | Sludge Polymer Preparation Tank Mixer Fault | WC-P0007 | | | | | | CP-C11 | DI |
| 0048 | N | 0 | WI-C001B | Weight Indication | Standby Emulsion Polymer Weight | WC-P0007 | | | | | | CP-C11 | AI |
| 0049 | N | 0 | WF-C001B | Weight Fault | Standby Emulsion Polymer Weight Fault | WC-P0007 | | | | | | CP-C11 | DI |
| 0050 | N | 0 | YS-C001A | C/O/H Switch in Computer Position | Standby Emulsion Polymer Pump in Computer Mode | WC-P0007 | | | | | | CP-C11 | DI |
| 0051 | N | 0 | YS-C031A | C/O/H Switch in Computer Position | Sludge Polymer Preparation Tank Mixer in Computer Mode | WC-P0007 | | | | | | CP-C11 | DI |
| 0052 | N | 0 | YS-C031A | C/O/H Switch in Computer Position | Sludge Polymer Preparation Tank Outlet Valve in Computer Mode | WC-P0007 | | | | | | CP-C11 | DI |

I/O POINT TYPES: TCP = Modbus/TCP Ethernet, AI = Analog Input, AO = Analog Output, DI = Discrete Input, DO = Discrete Output

## PLC I/O INDEX

| | | | | DESCRIPTION | | | I/O SPECIFICATION | | | | | | | |
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| RECORD NO. | PLC Programming reqd | REV. N0. | TAG NAME | FUNCTION | SERVICE | P&ID DRAWING | ENG. UNITS | SCALE LOW | SCALE HIGH | ALARMS LOW | ALARMS HIGH | PLC CABINET | I/O TYPE |
| 0053 | N | 0 | YB-C031A | Close Command | Sludge Polymer Preparation Tank Outlet Valve Close | WC-P0007 | | | | | | CP-C11 | DO |
| 0054 | N | 0 | YD-C031A | Open Command | Sludge Polymer Preparation Tank Outlet Valve Open | WC-P0007 | | | | | | CP-C11 | DO |
| 0055 | N | 0 | YD-C031B | Solenoid Actuator | Sludge Polymer Preparation Tank Service Water Inlet Valve Open | WC-P0007 | | | | | | CP-C11 | DO |
| 0056 | N | 0 | ZB-C031A | Closed Status | Sludge Polymer Preparation Tank Outlet Valve Closed | WC-P0007 | | | | | | CP-C11 | DI |
| 0057 | N | 0 | ZD-C031A | Open Status | Sludge Polymer Preparation Tank Outlet Valve Open | WC-P0007 | | | | | | CP-C11 | DI |
| 0058 | N | 0 | LI-C022A | Level Indication | Filter Polymer Feed Tank Level | WC-P0008 | | | | | | CP-C11 | AI |
| 0059 | N | 0 | LF-C022A | Level Fault | Filter Polymer Feed Tank Level Fault | WC-P0008 | | | | | | CP-C11 | DI |
| 0060 | N | 0 | LI-C032A | Level Indication | Sludge Polymer Feed Tank Level | WC-P0009 | | | | | | CP-C11 | AI |
| 0061 | N | 0 | LF-C032A | Level Fault | Sludge Polymer Feed Tank Level Fault | WC-P0009 | | | | | | CP-C11 | DI |
| 0062 | N | 0 | FI-C061A | Flow Indication | Filter Polymer Feed Pump P-C061A Discharge Flow Rate | WC-P0014 | | | | | | CP-C11 | AI |
| 0063 | N | 0 | FI-C062A | Flow Indication | Filter Polymer Feed Pump P-C062A Discharge Flow Rate | WC-P0014 | | | | | | CP-C11 | AI |
| 0064 | N | 0 | FI-C063A | Flow Indication | Filter Polymer Feed Pump P-C063A Discharge Flow Rate | WC-P0014 | | | | | | CP-C11 | AI |
| 0065 | N | 0 | FA-C061A | Flow Alarm | Service Water to P-C061A Low Flow | WC-P0014 | | | | | | CP-C11 | DI |
| 0066 | N | 0 | FQ-C061A | Flow Pulse | Filter Polymer Feed Pump P-C061A Discharge Flow Total | WC-P0014 | | | | | | CP-C11 | DI |
| 0067 | N | 0 | FA-C062A | Flow Alarm | Service Water to P-C062A Low Flow | WC-P0014 | | | | | | CP-C11 | DI |
| 0068 | N | 0 | FQ-C062A | Flow Pulse | Filter Polymer Feed Pump P-C062A Discharge Flow Total | WC-P0014 | | | | | | CP-C11 | DI |
| 0069 | N | 0 | FA-C063A | Flow Alarm | Service Water to P-C063A Low Flow | WC-P0014 | | | | | | CP-C11 | DI |
| 0070 | N | 0 | FQ-C063A | Flow Pulse | Filter Polymer Feed Pump P-C063A Discharge Flow Total | WC-P0014 | | | | | | CP-C11 | DI |
| 0071 | N | 0 | MM-C061A | Running Status | Filter Polymer Feed Pump P-C061A Running | WC-P0014 | | | | | | CP-C11 | DI |
| 0072 | N | 0 | MM-C062A | Running Status | Filter Polymer Feed Pump P-C062A Running | WC-P0014 | | | | | | CP-C11 | DI |
| 0073 | N | 0 | MM-C063A | Running Status | Filter Polymer Common Standby Feed Pump Running | WC-P0014 | | | | | | CP-C11 | DI |
| 0074 | N | 0 | MN-C061A | Start Command | Filter Polymer Feed Pump P-C061A Start | WC-P0014 | | | | | | CP-C11 | DO |
| 0075 | N | 0 | MN-C062A | Start Command | Filter Polymer Feed Pump P-C062A Start | WC-P0014 | | | | | | CP-C11 | DO |
| 0076 | N | 0 | MN-C063A | Start Command | Filter Polymer Common Standby Feed Pump Start | WC-P0014 | | | | | | CP-C11 | DO |
| 0077 | N | 0 | SI-C061A | Speed Indication | Filter Polymer Feed Pump P-C061A Speed | WC-P0014 | | | | | | CP-C11 | AI |
| 0078 | N | 0 | SI-C062A | Speed Indication | Filter Polymer Feed Pump P-C062A Speed | WC-P0014 | | | | | | CP-C11 | AI |
| 0079 | N | 0 | SI-C063A | Speed Indication | Filter Polymer Common Standby Feed Pump Speed | WC-P0014 | | | | | | CP-C11 | AI |
| 0080 | N | 0 | SC-C061A | Speed Control Output | Filter Polymer Feed Pump P-C061A Required Speed | WC-P0014 | | | | | | CP-C11 | AO |
| 0081 | N | 0 | SC-C062A | Speed Control Output | Filter Polymer Feed Pump P-C062A Required Speed | WC-P0014 | | | | | | CP-C11 | AO |
| 0082 | N | 0 | SC-C063A | Speed Control Output | Filter Polymer Common Standby Feed Pump Required Speed | WC-P0014 | | | | | | CP-C11 | AO |
| 0083 | N | 0 | UF-C061A | No Fault | Filter Polymer Feed Pump P-C061A Fault | WC-P0014 | | | | | | CP-C11 | DI |
| 0084 | N | 0 | UF-C062A | No Fault | Filter Polymer Feed Pump P-C062A Fault | WC-P0014 | | | | | | CP-C11 | DI |
| 0085 | N | 0 | UF-C063A | No Fault | Filter Polymer Common Standby Feed Pump Fault | WC-P0014 | | | | | | CP-C11 | DI |
| 0086 | N | 0 | YS-C061A | C/O/H Switch in Computer Position | Filter Polymer Feed Pump P-C061A in Computer Mode | WC-P0014 | | | | | | CP-C11 | DI |
| 0087 | N | 0 | YS-C062A | C/O/H Switch in Computer Position | Filter Polymer Feed Pump P-C062A in Computer Mode | WC-P0014 | | | | | | CP-C11 | DI |
| 0088 | N | 0 | YS-C063A | C/O/H Switch in Computer Position | Filter Polymer Common Standby Feed Pump in Computer Mode | WC-P0014 | | | | | | CP-C11 | DI |
| 0089 | N | 0 | YS-C064B | C/O/H Switch in Computer Position | Common Standby Pump P-C063A to Filter Aid Mixing Chamber Control Valve in Computer Mode | WC-P0014 | | | | | | CP-C11 | DI |
| 0090 | N | 0 | YS-C065B | C/O/H Switch in Computer Position | Common Standby Pump P-C063A to Filter Aid Mixing Chamber Control Valve in Computer Mode | WC-P0014 | | | | | | CP-C11 | DI |
| 0091 | N | 0 | YD-C061A | Open Command | Service Water to P-C061A Discharge Flow Control Valve Open | WC-P0014 | | | | | | CP-C11 | DO |
| 0092 | N | 0 | YD-C062A | Open Command | Service Water to P-C062A Discharge Flow Control Valve Open | WC-P0014 | | | | | | CP-C11 | DO |
| 0093 | N | 0 | YD-C063A | Open Command | Service Water to P-C063A Discharge Flow Control Valve Open | WC-P0014 | | | | | | CP-C11 | DO |
| 0094 | N | 0 | YB-C064B | Close Command | Common Standby Pump P-C063A to Filter Aid Mixing Chamber Control Valve Close | WC-P0014 | | | | | | CP-C11 | DO |
| 0095 | N | 0 | YD-C064B | Open Command | Common Standby Pump P-C063A to Filter Aid Mixing Chamber Control Valve Open | WC-P0014 | | | | | | CP-C11 | DO |
| 0096 | N | 0 | YB-C065B | Close Command | Common Standby Pump P-C063A to Filter Aid Mixing Chamber Control Valve Close | WC-P0014 | | | | | | CP-C11 | DO |
| 0097 | N | 0 | YD-C065B | Open Command | Common Standby Pump P-C063A to Filter Aid Mixing Chamber Control Valve Open | WC-P0014 | | | | | | CP-C11 | DO |
| 0098 | N | 0 | ZB-C064B | Closed Status | Common Standby Pump P-C063A to Filter Aid Mixing Chamber Control Valve Closed | WC-P0014 | | | | | | CP-C11 | DI |
| 0099 | N | 0 | ZD-C064B | Open Status | Common Standby Pump P-C063A to Filter Aid Mixing Chamber Control Valve Open | WC-P0014 | | | | | | CP-C11 | DI |

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| RECORD NO. | PLC Programming reqd | REV. N0. | TAG NAME | FUNCTION | SERVICE | P&ID DRAWING | ENG. UNITS | SCALE LOW | SCALE HIGH | ALARMS LOW | ALARMS HIGH | PLC CABINET | I/O TYPE |
| 0100 | N | 0 | ZB-C065B | Closed Status | Common Standby Pump P-C063A to Filter Aid Mixing Chamber Control Valve Closed | WC-P0014 | | | | | | CP-C11 | DI |
| 0101 | N | 0 | ZD-C065B | Open Status | Common Standby Pump P-C063A to Filter Aid Mixing Chamber Control Valve Open | WC-P0014 | | | | | | CP-C11 | DI |
| 0102 | N | 0 | FI-C071A | Flow Indication | Sludge Polymer Feed Pump P-C071A Discharge Flow Rate | WC-P0015 | | | | | | CP-C11 | AI |
| 0103 | N | 0 | FI-C072A | Flow Indication | Sludge Polymer Feed Pump P-C072A Discharge Flow Rate | WC-P0015 | | | | | | CP-C11 | AI |
| 0104 | N | 0 | FA-C071A | Flow Alarm | Service Water to P-C071A Low Flow | WC-P0015 | | | | | | CP-C11 | DI |
| 0105 | N | 0 | FQ-C071A | Flow Pulse | Sludge Polymer Feed Pump P-C071A Discharge Flow Total | WC-P0015 | | | | | | CP-C11 | DI |
| 0106 | N | 0 | FA-C072A | Flow Alarm | Service Water to P-C072A Low Flow | WC-P0015 | | | | | | CP-C11 | DI |
| 0107 | N | 0 | FT-C072A | Flow Pulse | Sludge Polymer Feed Pump P-C072A Discharge Flow Total | WC-P0015 | | | | | | CP-C11 | DI |
| 0108 | N | 0 | MM-C071A | Running Status | Sludge Polymer Feed Pump P-C071A Running | WC-P0015 | | | | | | CP-C11 | DI |
| 0109 | N | 0 | MM-C072A | Running Status | Sludge Polymer Feed Pump P-C072A Running | WC-P0015 | | | | | | CP-C11 | DI |
| 0110 | N | 0 | MN-C071A | Start Command | Sludge Polymer Feed Pump P-C071A Start | WC-P0015 | | | | | | CP-C11 | DO |
| 0111 | N | 0 | MN-C072A | Start Command | Sludge Polymer Feed Pump P-C072A Start | WC-P0015 | | | | | | CP-C11 | DO |
| 0112 | N | 0 | SI-C071A | Speed Indication | Sludge Polymer Feed Pump P-C071A Speed | WC-P0015 | | | | | | CP-C11 | AI |
| 0113 | N | 0 | SI-C072A | Speed Indication | Sludge Polymer Feed Pump P-C072A Speed | WC-P0015 | | | | | | CP-C11 | AI |
| 0114 | N | 0 | SC-C071A | Speed Control Output | Sludge Polymer Feed Pump P-C071A Speed Indication | WC-P0015 | | | | | | CP-C11 | AO |
| 0115 | N | 0 | SC-C072A | Speed Control Output | Sludge Polymer Feed Pump P-C072A Speed Indication | WC-P0015 | | | | | | CP-C11 | AO |
| 0116 | N | 0 | UF-C071A | No Fault | Sludge Polymer Feed Pump P-C071A Fault | WC-P0015 | | | | | | CP-C11 | DI |
| 0117 | N | 0 | UF-C072A | No Fault | Sludge Polymer Feed Pump P-C072A Fault | WC-P0015 | | | | | | CP-C11 | DI |
| 0118 | N | 0 | YS-C071A | C/O/H Switch in Computer Position | Sludge Polymer Feed Pump P-C071A in Computer Mode | WC-P0015 | | | | | | CP-C11 | DI |
| 0119 | N | 0 | YS-C071A | C/O/H Switch in Computer Position | Sludge Polymer Feed Pump P-C071A Discharge Flow Control Valve in Computer Mode | WC-P0015 | | | | | | CP-C11 | DI |
| 0120 | N | 0 | YS-C072A | C/O/H Switch in Computer Position | Sludge Polymer Feed Pump P-C072A in Computer Mode | WC-P0015 | | | | | | CP-C11 | DI |
| 0121 | N | 0 | YD-C071A | Open Command | Service Water to P-C071 Discharge Flow Control Valve Open | WC-P0015 | | | | | | CP-C11 | DO |
| 0122 | N | 0 | YB-C071A | Close Command | Sludge Polymer Feed Pump P-C071A Discharge Flow Control Valve Closed | WC-P0015 | | | | | | CP-C11 | DO |
| 0123 | N | 0 | YD-C071B | Open Command | Sludge Polymer Feed Pump P-C071A Discharge Flow Control Valve Open | WC-P0015 | | | | | | CP-C11 | DO |
| 0124 | N | 0 | YD-C072A | Open Command | Service Water to P-C072A Discharge Flow Control Valve Open | WC-P0015 | | | | | | CP-C11 | DO |
| 0125 | N | 0 | ZB-C071A | Closed Status | Sludge Polymer Feed Pump P-C071A Discharge Flow Control Valve Closed | WC-P0015 | | | | | | CP-C11 | DI |
| 0126 | N | 0 | ZD-C071A | Open Status | Sludge Polymer Feed Pump P-C071A Discharge Flow Control Valve Open | WC-P0015 | | | | | | CP-C11 | DI |
| 0127 | Y | 0 | YS-T301A | C/O/H Switch in Computer Position | Clearwell Outlet Valve FV-T301A in Computer Mode | WD-P0002 | | | | | | CP-D21 | DI |
| 0128 | Y | 0 | YS-T302A | C/O/H Switch in Computer Position | Clearwell Outlet Valve FV-T302A in Computer Mode | WD-P0002 | | | | | | CP-D21 | DI |
| 0129 | Y | 0 | YB-T301A | Close Command | Clearwell Outlet Valve FV-T301A Close | WD-P0002 | | | | | | CP-D21 | DO |
| 0130 | Y | 0 | YD-T301A | Open Command | Clearwell Outlet Valve FV-T301A Open | WD-P0002 | | | | | | CP-D21 | DO |
| 0131 | Y | 0 | YB-T302A | Close Command | Clearwell Outlet Valve FV-T302A Close | WD-P0002 | | | | | | CP-D21 | DO |
| 0132 | Y | 0 | YD-T302A | Open Command | Clearwell Outlet Valve FV-T302A Open | WD-P0002 | | | | | | CP-D21 | DO |
| 0133 | Y | 0 | ZB-T301A | Closed Status | Clearwell Outlet Valve FV-T301A Closed | WD-P0002 | | | | | | CP-D21 | DI |
| 0134 | Y | 0 | ZD-T301A | Open Status | Clearwell Outlet Valve FV-T301A Open | WD-P0002 | | | | | | CP-D21 | DI |
| 0135 | Y | 0 | ZB-T302A | Closed Status | Clearwell Outlet Valve FV-T302A Closed | WD-P0002 | | | | | | CP-D21 | DI |
| 0136 | Y | 0 | ZD-T302A | Open Status | Clearwell Outlet Valve FV-T302A Open | WD-P0002 | | | | | | CP-D21 | DI |
| 0137 | Y | 0 | MM-D920A | Running Status | Cooling Water Pump P-D920A Running | WD-P0003 | | | | | | CP-D21 | DI |
| 0138 | Y | 0 | MM-D921A | Running Status | Cooling Water Pump P-D921A Running | WD-P0003 | | | | | | CP-D21 | DI |
| 0139 | Y | 0 | MN-D920A | Stop/Start | Cooling Water Pump P-D920A Start | WD-P0003 | | | | | | CP-D21 | DO |
| 0140 | Y | 0 | MN-D921A | Stop/Start | Cooling Water Pump P-D921A Start | WD-P0003 | | | | | | CP-D21 | DO |
| 0141 | Y | 0 | PI-DU060B | Pressure Indication | Pump Discharge Header Pressure, Branch I End | WD-P0003 | | | | | | CP-D21 | AI |
| 0142 | Y | 0 | UF-D920A | Fault Status | Cooling Water Pump P-D920A Fault | WD-P0003 | | | | | | CP-D21 | DI |
| 0143 | Y | 0 | UF-D921A | Fault Status | Cooling Water Pump P-D921A Fault | WD-P0003 | | | | | | CP-D21 | DI |
| 0144 | Y | 0 | YS-D920A | C/O/H Switch in Computer Position | Cooling Water Pump P-D920A in Computer Mode | WD-P0003 | | | | | | CP-D21 | DI |
| 0145 | Y | 0 | YS-D921A | C/O/H Switch in Computer Position | Cooling Water Pump P-D921A in Computer Mode | WD-P0003 | | | | | | CP-D21 | DI |
| 0146 | Y | 0 | LA-T301A | Level Alarm | Clearwell Outlet Valve Chamber FV-T301A Flooded | WD-P0003 | | | | | | CP-D21 | DI |
| 0147 | Y | 0 | YS-T301A | C/O/H Switch in Computer Position | Clearwell Outlet Valve in Computer Mode | WD-P0003 | | | | | | CP-D21 | DI |

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| RECORD NO. | PLC Programming reqd | REV. N0. | TAG NAME | FUNCTION | SERVICE | P&ID DRAWING | ENG. UNITS | SCALE LOW | SCALE HIGH | ALARMS LOW | ALARMS HIGH | PLC CABINET | I/O TYPE |
| 0148 | Y | 0 | YB-T301A | Close Command | Clearwell Outlet Valve Open | WD-P0003 | | | | | | CP-D21 | DO |
| 0149 | Y | 0 | YD-T301A | Open Command | Clearwell Outlet Valve Close | WD-P0003 | | | | | | CP-D21 | DO |
| 0150 | Y | 0 | ZB-T301A | Closed Status | Clearwell Outlet Valve Closed | WD-P0003 | | | | | | CP-D21 | DI |
| 0151 | Y | 0 | ZD-T301A | Open Status | Clearwell Outlet Valve Open | WD-P0003 | | | | | | CP-D21 | DI |
| 0152 | Y | 0 | PI-DU060A | Pressure Indication | Pump Discharge Header Pressure, Branch II End | WD-P0005 | | | | | | CP-D21 | AI |
| 0153 | Y | 0 | LA-T302A | Level Alarm | Clearwell Outlet Valve Chamber FV-T302A Flooded | WD-P0005 | | | | | | CP-D21 | DI |
| 0154 | Y | 0 | YS-T302A | C/O/H Switch in Computer Position | Clearwell Outlet Valve in Computer Mode | WD-P0005 | | | | | | CP-D21 | DI |
| 0155 | Y | 0 | YB-T302A | Close Command | Clearwell Outlet Valve Open | WD-P0005 | | | | | | CP-D21 | DO |
| 0156 | Y | 0 | YD-T302A | Open Command | Clearwell Outlet Valve Close | WD-P0005 | | | | | | CP-D21 | DO |
| 0157 | Y | 0 | ZB-T302A | Closed Status | Clearwell Outlet Valve Closed | WD-P0005 | | | | | | CP-D21 | DI |
| 0158 | Y | 0 | ZD-T302A | Open Status | Clearwell Outlet Valve Open | WD-P0005 | | | | | | CP-D21 | DI |
| 0159 | Y | 0 | AI-D911A | Total Chlorine Indication | Branch 2 Total Chlorine | WD-P0006 | | | | | | CP-D21 | AI |
| 0160 | Y | 0 | AI-D911B | Total Ammonia Indication | Branch 2 Total Ammonia | WD-P0006 | | | | | | CP-D21 | AI |
| 0161 | Y | 0 | AI-D911C | Free Ammonia Indication | Branch 2 Free Ammonia | WD-P0006 | | | | | | CP-D21 | AI |
| 0162 | Y | 0 | AI-D911D | Monochloramine Indication | Branch 2 Monochloramine | WD-P0006 | | | | | | CP-D21 | AI |
| 0163 | Y | 0 | AF-D911A | Analyzer Fault Indication | Branch 2 Chloramination Analyzer Fault | WD-P0006 | | | | | | CP-D21 | DI |
| 0164 | Y | 0 | AF-D912A | Analyzer Fault Indication | Branch 2 Free Chlorine Analyzer Fault | WD-P0006 | | | | | | CP-D21 | DI |
| 0165 | Y | 0 | FA-D912A | Free Chlorine Indication | Branch 2 Free Chlorine Analyzer | WD-P0006 | | | | | | CP-D21 | AI |
| 0166 | Y | 0 | FA-D911A | Flow Alarm | Branch 2 Low Monochloramine Analyser Sample Flow | WD-P0006 | | | | | | CP-D21 | DI |
| 0167 | Y | 0 | FA-D912A | Flow Alarm | Branch 2 Low Fee Chlorine Analyser Sample Flow | WD-P0006 | | | | | | CP-D21 | DI |
| 0168 | Y | 0 | ZB-D00507A | Closed Status | Branch 2 Potable Water Supply Valve Closed | WD-P0006 | | | | | | CP-D21 | DI |
| 0169 | Y | 0 | ZD-D00507A | Open Status | Branch 2 Potable Water Supply Valve Open | WD-P0006 | | | | | | CP-D21 | DI |
| 0170 | Y | 0 | AI-D901A | Total Chlorine Indication | Branch 1 Total Chlorine | WD-P0007 | | | | | | CP-D21 | AI |
| 0171 | Y | 0 | AI-D901B | Total Ammonia Indication | Branch 1 Total Ammonia | WD-P0007 | | | | | | CP-D21 | AI |
| 0172 | Y | 0 | AI-D901C | Free Ammonia Indication | Branch 1 Free Ammonia | WD-P0007 | | | | | | CP-D21 | AI |
| 0173 | Y | 0 | AI-D901D | Monochloramine Indication | Branch 1 Monochloramine | WD-P0007 | | | | | | CP-D21 | AI |
| 0174 | Y | 0 | AF-D901A | Analyzer Fault Indication | Branch 1 Chloramination Analyzer Fault | WD-P0007 | | | | | | CP-D21 | DI |
| 0175 | Y | 0 | AF-D902A | Analyzer Fault Indication | Branch 1 Free Chlorine Analyzer Fault | WD-P0007 | | | | | | CP-D21 | DI |
| 0176 | Y | 0 | FA-D902A | Flow Alarm | Branch 1 Low Fee Chlorine Analyser Sample Flow | WD-P0007 | | | | | | CP-D21 | AI |
| 0177 | Y | 0 | FI-D061A | Flow Indication | Branch 1 Flow | WD-P0007 | | | | | | CP-D21 | AI |
| 0178 | Y | 0 | FA-D902A | Free Chlorine Indication | Branch 1 Free Chlorine Analyzer | WD-P0007 | | | | | | CP-D21 | AI |
| 0179 | Y | 0 | FQ-D061A | Flow Pulse | Branch 1 Flow Rate | WD-P0007 | | | | | | CP-D21 | DI |
| 0180 | Y | 0 | FA-D901A | Flow Alarm | Branch 1 Low Monochloramine Analyser Sample Flow | WD-P0007 | | | | | | CP-D21 | DI |
| 0181 | Y | 0 | ZB-D00508A | Closed Status | Branch 1 Potable Water Supply Valve Closed | WD-P0013 | | | | | | CP-D21 | DI |
| 0182 | Y | 0 | ZD-D00508A | Open Status | Branch 1 Potable Water Supply Valve Open | WD-P0013 | | | | | | CP-D21 | DI |
| 0183 | Y | 0 | LA-****A | Level Alarm | Cell 1 Raw Water Valve Chamber Air Gap Flooded | WG-P0003 | | | | | | CP-D21 | DI |
| 0184 | Y | 0 | LA-****A | Level Alarm | Cell 3 Raw Water Valve Chamber Air Gap Flooded | WG-P0003 | | | | | | CP-D21 | DI |
| 0185 | Y | 0 | JA-xxxx | Power Fail Alarm | Main Power Supply A Failure | WG-P0003 | | | | | | CP-D21 | DI |
| 0186 | Y | 0 | JA-xxxx | Power Fail Alarm | Main Power Supply B Failure | WG-P0003 | | | | | | CP-D21 | DI |
| 0187 | Y | 0 | LA-XXXX | Level Alarm | Cell 1 Raw Water Valve Air Gap Flooded | WG-P0003 | | | | | | CP-D21 | DI |
| 0188 | Y | 0 | YS-xxxx | Switch Position | Tie Switch Open | WG-P0003 | | | | | | CP-D21 | DI |
| 0189 | Y | 0 | LI-Y010A | Level Indication | Branch 1 Surge Tower Level | WY-P0010 | | | | | | CP-D21 | AI |
| 0190 | Y | 0 | LI-Y010B | Level Indication | Branch 1 Surge Tower Level | WY-P0010 | | | | | | CP-D21 | AI |
| 0191 | Y | 0 | LA-Y011A | Level Alarm | Branch 1 Surge Tower Outlet Outlet Valve Chamber Flooded | WY-P0010 | | | | | | CP-D21 | DI |
| 0192 | Y | 0 | LA-Y021A | Level Alarm | Branch 2 Surge Tower Outlet Outlet Valve Chamber Flooded | WY-P0010 | | | | | | CP-D21 | DI |
| 0193 | Y | 0 | LA-Y010A | Level Alarm | Branch 1 Surge Tower High High Level | WY-P0010 | | | | | | CP-D21 | DI |
| 0194 | Y | 0 | LA-Y020A | Level Alarm | Branch 2 Surge Tower High High Level | WY-P0010 | | | | | | CP-D21 | DI |
| 0195 | Y | 0 | YS-Y011A | C/O/H Switch in Computer Position | Branch 1 Surge Tower Outlet Outlet Valve in Computer Mode | WY-P0010 | | | | | | CP-D21 | DI |
| 0196 | Y | 0 | YS-Y021A | C/O/H Switch in Computer Position | Branch 2 Surge Tower Outlet Outlet Valve in Computer Mode | WY-P0010 | | | | | | CP-D21 | DI |
| 0197 | Y | 0 | YB-Y011A | Close Command | Branch 1 Surge Tower Outlet Outlet Valve Open | WY-P0010 | | | | | | CP-D21 | DO |
| 0198 | Y | 0 | YD-Y011A | Open Command | Branch 1 Surge Tower Outlet Outlet Valve Close | WY-P0010 | | | | | | CP-D21 | DO |
| 0199 | Y | 0 | YB-Y021A | Close Command | Branch 2 Surge Tower Outlet Outlet Valve Open | WY-P0010 | | | | | | CP-D21 | DO |
| 0200 | Y | 0 | YD-Y021A | Open Command | Branch 2 Surge Tower Outlet Outlet Valve Close | WY-P0010 | | | | | | CP-D21 | DO |
| 0201 | Y | 0 | ZB-Y011A | Closed Status | Branch 1 Surge Tower Outlet Outlet Valve Closed | WY-P0010 | | | | | | CP-D21 | DI |
| 0202 | Y | 0 | ZD-Y011A | Open Status | Branch 1 Surge Tower Outlet Outlet Valve Open | WY-P0010 | | | | | | CP-D21 | DI |

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| | | | | DESCRIPTION | | | I/O SPECIFICATION | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| RECORD NO. | PLC Programming reqd | REV. N0. | TAG NAME | FUNCTION | SERVICE | P&ID DRAWING | ENG. UNITS | SCALE LOW | SCALE HIGH | ALARMS LOW | ALARMS HIGH | PLC CABINET | I/O TYPE |
| 0203 | Y | 0 | ZB-Y021A | Closed Status | Branch 2 Surge Tower Outlet Outlet Valve Closed | WY-P0010 | | | | | | CP-D21 | DI |
| 0204 | Y | 0 | ZD-Y021A | Open Status | Branch 2 Surge Tower Outlet Outlet Valve Open | WY-P0010 | | | | | | CP-D21 | DI |
| 0205 | N | 0 | MM-E901A | Running Status | Generator GN-E901A HVAC Generator Running | WG-H0502 | | | | | | CP-H11 | DO |
| 0206 | N | 0 | ZD-H203A | Open Status | Generator GN-E901A Exhaust Damper Open | WG-H0502 | | | | | | CP-H11 | DI |
| 0207 | N | 0 | MM-E902A | Running Status | Generator GN-E902A HVAC Generator Running | WG-H0503 | | | | | | CP-H11 | DO |
| 0208 | N | 0 | ZD-H208A | Open Status | Generator GN-E902A Exhaust Damper Open | WG-H0503 | | | | | | CP-H11 | DI |
| 0209 | N | 0 | MM-E903A | Running Status | Generator GN-E903A HVAC Generator Running | WG-H0504 | | | | | | CP-H11 | DO |
| 0210 | N | 0 | ZD-H213A | Open Status | Generator GN-E903A Exhaust Damper Open | WG-H0504 | | | | | | CP-H11 | DI |
| 0211 | Y | 0 | XA-E100AA | Ground Fault Alarm | Transformer XFMR-E100A Ground Fault | WG-P0001 | | | | | | CP-H11A | DI TCP |
| 0212 | Y | 0 | XA-E100BA | Ground Fault Alarm | Transformer XFMR-E100B Ground Fault | WG-P0001 | | | | | | CP-H11A | DI TCP |
| 0213 | Y | 0 | EI-E901A | Voltage Indication | Generator GN-E901A Output Voltage | WG-P0001 | | | | | | CP-H11A | AI TCP |
| 0214 | Y | 0 | EI-E902A | Voltage Indication | Generator GN-E902A Output Voltage | WG-P0001 | | | | | | CP-H11A | AI TCP |
| 0215 | Y | 0 | EI-E903A | Voltage Indication | Generator GN-E903A Output Voltage | WG-P0001 | | | | | | CP-H11A | AI TCP |
| 0216 | Y | 0 | II-E901A | Current Indication | Generator GN-E901A Load Current | WG-P0001 | | | | | | CP-H11A | AI TCP |
| 0217 | Y | 0 | II-E902A | Current Indication | Generator GN-E902A Load Current | WG-P0001 | | | | | | CP-H11A | AI TCP |
| 0218 | Y | 0 | II-E903A | Current Indication | Generator GN-E903A Load Current | WG-P0001 | | | | | | CP-H11A | AI TCP |
| 0219 | Y | 0 | JI-E901A | Kilowatts Indication | Generator GN-E901A Output Kilowatts | WG-P0001 | | | | | | CP-H11A | AI TCP |
| 0220 | Y | 0 | JI-E902A | Kilowatts Indication | Generator GN-E902A Output Kilowatts | WG-P0001 | | | | | | CP-H11A | AI TCP |
| 0221 | Y | 0 | JI-E903A | Kilowatts Indication | Generator GN-E903A Output Kilowatts | WG-P0001 | | | | | | CP-H11A | AI TCP |
| 0222 | Y | 0 | MM-E901A | Running Status | Generator GN-E901A Running | WG-P0001 | | | | | | CP-H11A | DI TCP |
| 0223 | Y | 0 | MM-E902A | Running Status | Generator GN-E902A Running | WG-P0001 | | | | | | CP-H11A | DI TCP |
| 0224 | Y | 0 | MM-E903A | Running Status | Generator GN-E903A Running | WG-P0001 | | | | | | CP-H11A | DI TCP |
| 0225 | Y | 0 | MN-E901A | Start Command | Generator GN-E901A Start | WG-P0001 | | | | | | CP-H11A | DO TCP |
| 0226 | Y | 0 | MN-E902A | Start Command | Generator GN-E902A Start | WG-P0001 | | | | | | CP-H11A | DO TCP |
| 0227 | Y | 0 | MN-E903A | Start Command | Generator GN-E903A Start | WG-P0001 | | | | | | CP-H11A | DO TCP |
| 0228 | Y | 0 | UF-E901A | General Fault | Generator GN-E901A General Fault | WG-P0001 | | | | | | CP-H11A | DI TCP |
| 0229 | Y | 0 | UF-E902A | General Fault | Generator GN-E902A General Fault | WG-P0001 | | | | | | CP-H11A | DI TCP |
| 0230 | Y | 0 | UF-E903A | General Fault | Generator GN-E903A General Fault | WG-P0001 | | | | | | CP-H11A | DI TCP |
| 0231 | Y | 0 | YS-E901A | C/O/H Switch in Computer Position | Generator GN-E901A in Computer Mode | WG-P0001 | | | | | | CP-H11A | DI TCP |
| 0232 | Y | 0 | YS-E902A | C/O/H Switch in Computer Position | Generator GN-E902A in Computer Mode | WG-P0001 | | | | | | CP-H11A | DI TCP |
| 0233 | Y | 0 | YS-E903A | C/O/H Switch in Computer Position | Generator GN-E903A in Computer Mode | WG-P0001 | | | | | | CP-H11A | DI TCP |
| 0234 | Y | 0 | LA-E901C | Level Alarm | GN-E901A Day Tank Low Low | WG-P0002 | | | | | | CP-H11A | DI TCP |
| 0235 | Y | 0 | LA-E901D | Level Alarm | GN-E901A Day Tank High High | WG-P0002 | | | | | | CP-H11A | DI TCP |
| 0236 | Y | 0 | LA-E902C | Level Alarm | GN-E902A Day Tank Low Low | WG-P0002 | | | | | | CP-H11A | DI TCP |
| 0237 | Y | 0 | LA-E902D | Level Alarm | GN-E902A Day Tank High High | WG-P0002 | | | | | | CP-H11A | DI TCP |
| 0238 | Y | 0 | LA-E903C | Level Alarm | GN-E903A Day Tank Low Low | WG-P0002 | | | | | | CP-H11A | DI TCP |
| 0239 | Y | 0 | LA-E903D | Level Alarm | GN-E903A Day Tank High High | WG-P0002 | | | | | | CP-H11A | DI TCP |
| 0240 | Y | 0 | LI-H901A | Level Indication | Bulk Fuel Storage Tank TNK-H901A Level | WG-P0002 | | | | | | CP-H11A | AI TCP |
| 0241 | Y | 0 | LI-H902A | Level Indication | Bulk Fuel Storage Tank TNK-H901A Level | WG-P0002 | | | | | | CP-H11A | AI TCP |
| 0242 | Y | 0 | LA-H908A | Level Alarm | Fuel Leak Detection Alarm | WG-P0002 | | | | | | CP-H11A | DI TCP |
| 0243 | Y | 0 | MM-H222C | Running Status | Supply Fan SF-H222C Running | WG-H0501 | | | | | | CP-H12 | DI |
| 0244 | Y | 0 | MM-H222D | Running Status | Supply Fan SF-H222D Running | WG-H0501 | | | | | | CP-H12 | DI |
| 0245 | Y | 0 | MM-H226B | Running Status | Exhaust Fan EF-H222D Running | WG-H0501 | | | | | | CP-H12 | DI |
| 0246 | Y | 0 | TI-H222A | Temperature Indication | Generator Building Electrical Room Ambient Temperature | WG-H0501 | | | | | | CP-H12 | AI |
| 0247 | Y | 0 | UF-H222A | No Fault | Generator Building Electrical Room HVAC General Fault | WG-H0501 | | | | | | CP-H12 | DI |
| 0248 | Y | 0 | XA-H222A | Load Shed Alarm | AHU-H222A Load Shed Interlock | WG-H0501 | | | | | | CP-H12 | DO |
| 0249 | Y | 0 | UF-E901A | No Fault | Generator GN-E901A HVAC General Fault | WG-H0502 | | | | | | CP-H12 | DI |
| 0250 | Y | 0 | MM-H229A | Running Status | Exhaust Fan EF-H229A Running | WG-H0502 | | | | | | CP-H12 | DI |
| 0251 | Y | 0 | TI-H204A | Temperature Indication | Generator GN-E901A Area Ambient Temperature | WG-H0502 | | | | | | CP-H12 | AI |
| 0252 | Y | 0 | UF-E902A | No Fault | Generator GN-E902A HVAC General Fault | WG-H0503 | | | | | | CP-H12 | DI |
| 0253 | Y | 0 | MM-H230A | Running Status | Exhaust Fan EF-H230A Running | WG-H0503 | | | | | | CP-H12 | DI |
| 0254 | Y | 0 | TI-H209A | Temperature Indication | Generator GN-E902A Area Ambient Temperature | WG-H0503 | | | | | | CP-H12 | AI |

I/O POINT TYPES: TCP = Modbus/TCP Ethernet, AI = Analog Input, AO = Analog Output, DI = Discrete Input, DO = Discrete Output

## PLC I/O INDEX

| | | | | DESCRIPTION | | | I/O SPECIFICATION | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| RECORD NO. | PLC Programming reqd | REV. N0. | TAG NAME | FUNCTION | SERVICE | P&ID DRAWING | ENG. UNITS | SCALE LOW | SCALE HIGH | ALARMS LOW | ALARMS HIGH | PLC CABINET | I/O TYPE |
| 0255 | Y | 0 | UF-E903A | No Fault | Generator GN-E903A HVAC General Fault | WG-H0504 | | | | | | CP-H12 | DI |
| 0256 | Y | 0 | MM-H231A | Running Status | Exhaust Fan EF-H231A Running | WG-H0504 | | | | | | CP-H12 | DI |
| 0257 | Y | 0 | TI-H214A | Temperature Indication | Generator GN-E903A Area Ambient Temperature | WG-H0504 | | | | | | CP-H12 | AI |
| 0258 | Y | 0 | LA-E100AA | Level Alarm | Transformer XFMR-E100A Oil Level Low | WG-P0001 | | | | | | CP-H11A | DI TCP |
| 0259 | Y | 0 | LA-E100AB | Level Alarm | Transformer XFMR-E100A Oil Level Low Low | WG-P0001 | | | | | | CP-H11A | DI TCP |
| 0260 | Y | 0 | LA-E100BA | Level Alarm | Transformer XFMR-E100B Oil Level Low | WG-P0001 | | | | | | CP-H11A | DI TCP |
| 0261 | Y | 0 | LA-E100BB | Level Alarm | Transformer XFMR-E100B Oil Level Low Low | WG-P0001 | | | | | | CP-H11A | DI TCP |
| 0262 | Y | 0 | PA-E100AA | Pressure Alarm | Transformer XFMR-E100A Oil Pressure High | WG-P0001 | | | | | | CP-H11A | DI TCP |
| 0263 | Y | 0 | PA-E100BA | Pressure Alarm | Transformer XFMR-E100B Oil Pressure High | WG-P0001 | | | | | | CP-H11A | DI TCP |
| 0264 | Y | 0 | TA-E100AA | Temperature Alarm | Transformer XFMR-E100A Winding Temperature High | WG-P0001 | | | | | | CP-H11A | DI TCP |
| 0265 | Y | 0 | TA-E100AB | Temperature Alarm | Transformer XFMR-E100A Winding Temperature High High | WG-P0001 | | | | | | CP-H11A | DI TCP |
| 0266 | Y | 0 | TA-E100AC | Temperature Alarm | Transformer XFMR-E100A Top Oil Temperature High | WG-P0001 | | | | | | CP-H11A | DI TCP |
| 0267 | Y | 0 | TA-E100BA | Temperature Alarm | Transformer XFMR-E100B Winding Temperature High | WG-P0001 | | | | | | CP-H11A | DI TCP |
| 0268 | Y | 0 | TA-E100BB | Temperature Alarm | Transformer XFMR-E100B Winding Temperature High High | WG-P0001 | | | | | | CP-H11A | DI TCP |
| 0269 | Y | 0 | TA-E100BC | Temperature Alarm | Transformer XFMR-E100B Top Oil Temperature High | WG-P0001 | | | | | | CP-H11A | DI TCP |
| 0270 | Y | 0 | XA-E100AB | Neutral Resistor Fault Alarm | Transformer XFMR-E100A Neutral Resistor Fault | WG-P0001 | | | | | | CP-H11A | DI TCP |
| 0271 | Y | 0 | XA-E100BB | Neutral Resistor Fault Alarm | Transformer XFMR-E100B Neutral Resistor Fault | WG-P0001 | | | | | | CP-H11A | DI TCP |
| 0272 | Y | 0 | LA-E901A | Level Alarm | GN-E901A Day Tank Low | WG-P0002 | | | | | | CP-H11A | TCP DI |
| 0273 | Y | 0 | LA-E901B | Level Alarm | GN-E901A Day Tank High | WG-P0002 | | | | | | CP-H11A | TCP DI |
| 0274 | Y | 0 | LA-E902A | Level Alarm | GN-E902A Day Tank Low | WG-P0002 | | | | | | CP-H11A | TCP DI |
| 0275 | Y | 0 | LA-E902B | Level Alarm | GN-E902A Day Tank High | WG-P0002 | | | | | | CP-H11A | TCP DI |
| 0276 | Y | 0 | LA-E903A | Level Alarm | GN-E903A Day Tank Low | WG-P0002 | | | | | | CP-H11A | TCP DI |
| 0277 | Y | 0 | LA-E903B | Level Alarm | GN-E903A Day Tank High | WG-P0002 | | | | | | CP-H11A | TCP DI |
| 0278 | Y | 0 | YD-E901A | Solenoid Valve Output | GN-E901A Day Tank Inlet Solenoid Valve Open | WG-P0002 | | | | | | CP-H12 | DO |
| 0279 | Y | 0 | YD-E902A | Solenoid Valve Output | GN-E902A Day Tank Inlet Solenoid Valve Open | WG-P0002 | | | | | | CP-H12 | DO |
| 0280 | Y | 0 | YD-E903A | Solenoid Valve Output | GN-E903A Day Tank Inlet Solenoid Valve Open | WG-P0002 | | | | | | CP-H12 | DO |
| 0281 | Y | 0 | LA-H901/2 | Leak Alarm | Standby Generator Bulk Fuel Storage Tank Leak | WG-P0002 | | | | | | CP-H11A | TCP DI |
| 0282 | Y | 0 | LA-H904/5 | Leak Alarm | Standby Generator Pipe Transition Sump Leak | WG-P0002 | | | | | | CP-H11A | TCP DI |
| 0283 | Y | 0 | LA-H904/5 | Leak Alarm | Standby Generator Pipe Transition Sump Leak | WG-P0002 | | | | | | CP-H11A | TCP DI |
| 0284 | Y | 0 | LA-H906/7 | Leak Alarm | Standby Generator Day Tank Pipe Trench Leak | WG-P0002 | | | | | | CP-H11A | TCP DI |
| 0285 | Y | 0 | MM-H907A | Running Status | Fuel Transfer Pump P-H907A Running | WG-P0002 | | | | | | CP-H11A | TCP DI |
| 0286 | Y | 0 | MM-H906A | Running Status | Fuel Transfer Pump P-H906A Running | WG-P0002 | | | | | | CP-H11A | TCP DI |
| 0287 | Y | 0 | MN-H906A | Start Command | Fuel Transfer Pump P-H906A Start | WG-P0002 | | | | | | CP-H11A | TCP DO |
| 0288 | Y | 0 | MN-H907A | Start Command | Fuel Transfer Pump P-H907A Start | WG-P0002 | | | | | | CP-H11A | TCP DO |
| 0289 | Y | 0 | UF-H906A | No Fault | Fuel Transfer Pump P-H906A Fault | WG-P0002 | | | | | | CP-H11A | TCP DI |
| 0290 | Y | 0 | UF-H907A | No Fault | Fuel Transfer Pump P-H907A Fault | WG-P0002 | | | | | | CP-H11A | TCP DI |
| 0291 | Y | 0 | YS-H906A | C/O/H Switch in Computer Position | Fuel Transfer Pump P-H906A in Computer Mode | WG-P0002 | | | | | | CP-H11A | TCP DI |
| 0292 | Y | 0 | YS-H907A | C/O/H Switch in Computer Position | Fuel Transfer Pump P-H907A in Computer Mode | WG-P0002 | | | | | | CP-H11A | TCP DI |
| 0293 | Y | 0 | YS-H909A | Emergency Stop P/B Operated | Generator Building Emergency Shutdown Activated | WG-P0002 | | | | | | CP-H12 | DI |
| 0294 | Y | 0 | YS-H909B | Emergency Stop P/B Operated | Generator Building Emergency Shutdown Activated | WG-P0002 | | | | | | CP-H12 | DI |
| 0295 | Y | 0 | QA- | General Alarm | Filter Gallery System General Alarm | WB-H0501 | | | | | | CP-H30 | DI |
| 0296 | Y | 0 | QA- | General Alarm | Chemical Injection area System General Alarm | WB-H0501 | | | | | | CP-H30 | DI |
| 0297 | Y | 0 | QA- | General Alarm | Blower Room System General Alarm | WB-H0501 | | | | | | CP-H30 | DI |
| 0298 | Y | 0 | QA- | General Alarm | Pilot Plant Room System General Alarm | WB-H0501 | | | | | | CP-H30 | DI |
| 0299 | Y | 0 | QA- | General Alarm | Wash Water Recovery Gallery System General Alarm | WB-H0501 | | | | | | CP-H30 | DI |
| 0300 | Y | 0 | QA- | General Alarm | Mechanical Room No.2 System General Alarm | WB-H0501 | | | | | | CP-H30 | DI |
| 0301 | Y | 0 | MM-H001 | Running Status | Supply fan MUA-H001 status | WB-H0501 | | | | | | CP-H30 | DI |
| 0302 | Y | 0 | MM-H002 | Running Status | Exhaust fan EF-H002 status | WB-H0501 | | | | | | CP-H30 | DI |
| 0303 | Y | 0 | MM-H003 | Running Status | Exhaust fan EF-H003 status | WB-H0501 | | | | | | CP-H30 | DI |
| 0304 | Y | 0 | MM-H004 | Running Status | Exhaust fan EF-H004 status | WB-H0501 | | | | | | CP-H30 | DI |
| 0305 | Y | 0 | MM-H005 | Running Status | Exhaust fan EF-H005 status | WB-H0501 | | | | | | CP-H30 | DI |
| 0306 | Y | 0 | MM-H011 | Running Status | Supply fan MUA-H011 status | WB-H0501 | | | | | | CP-H30 | DI |
| 0307 | Y | 0 | MM-H012 | Running Status | Supply fan MUA-H012 status | WB-H0501 | | | | | | CP-H30 | DI |

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## PLC I/O INDEX

| | | | | DESCRIPTION | | | I/O SPECIFICATION | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| RECORD NO. | PLC Programming reqd | REV. N0. | TAG NAME | FUNCTION | SERVICE | P&ID DRAWING | ENG. UNITS | SCALE LOW | SCALE HIGH | ALARMS LOW | ALARMS HIGH | PLC CABINET | I/O TYPE |
| 0308 | Y | 0 | MM-H013 | Running Status | Exhaust fan EF-H013 status | WB-H0501 | | | | | | CP-H30 | DI |
| 0309 | Y | 0 | MM-H014 | Running Status | Exhaust fan EF-H014 status | WB-H0501 | | | | | | CP-H30 | DI |
| 0310 | Y | 0 | MM-H015 | Running Status | Exhaust fan EF-H015 status | WB-H0501 | | | | | | CP-H30 | DI |
| 0311 | Y | 0 | MM-H040 | Running Status | Exhaust fan EF-H040 status | WB-H0501 | | | | | | CP-H30 | DI |
| 0312 | Y | 0 | TA-H001A | Temperature Alarm | Filter Gallery Temperature T-H001A | WB-H0501 | | | | | | CP-H30 | AI |
| 0313 | Y | 0 | TA-H001B | Temperature Alarm | Filter Pipe Gallery Temperature T-H001B | WB-H0501 | | | | | | CP-H30 | AI |
| 0314 | Y | 0 | TA-H001C | Temperature Alarm | Effluent Gate Room Temperature T-H001C | WB-H0501 | | | | | | CP-H30 | AI |
| 0315 | Y | 0 | TA-H011A | Temperature Alarm | Pilot Plant Room Temperature T-H011A | WB-H0501 | | | | | | CP-H30 | AI |
| 0316 | Y | 0 | TA-H012A | Temperature Alarm | Wash Water Recovery Gallery Temperature T-H012A | WB-H0501 | | | | | | CP-H30 | AI |
| 0317 | Y | 0 | TA-H015D | Temperature Alarm | Mechanical Room No.2 Temperature T-H015D | WB-H0501 | | | | | | CP-H30 | AI |
| 0318 | Y | 0 | TA-H040A | Temperature Alarm | Blower Room Temperature T-H040A | WB-H0501 | | | | | | CP-H30 | AI |
| 0319 | Y | 0 | QA- | General Alarm | Ozone Emergency System General Alarm | WB-H0502 | | | | | | CP-H30 | DI |
| 0320 | Y | 0 | QA- | General Alarm | Ozone Room System General Alarm | WB-H0502 | | | | | | CP-H30 | DI |
| 0321 | Y | 0 | QA- | General Alarm | Polymer Facility System General Alarm | WB-H0502 | | | | | | CP-H30 | DI |
| 0322 | Y | 0 | QA- | General Alarm | Peroxide Room System General Alarm | WB-H0502 | | | | | | CP-H30 | DI |
| 0323 | Y | 0 | QA- | General Alarm | SBS Room System General Alarm | WB-H0502 | | | | | | CP-H30 | DI |
| 0324 | Y | 0 | QA- | General Alarm | Electrical Room No.2 System General Alarm | WB-H0502 | | | | | | CP-H30 | DI |
| 0325 | Y | 0 | AIT- | Level Fault | High Ozone Concentration Detected | WB-H0502 | | | | | | CP-H30 | DO |
| 0326 | Y | 0 | MM-H021 | Running Status | Supply fan MUA-H021 status | WB-H0502 | | | | | | CP-H30 | DI |
| 0327 | Y | 0 | MM-H022 | Running Status | Supply fan HRU-H022 status | WB-H0502 | | | | | | CP-H30 | DI |
| 0328 | Y | 0 | MM-H022 | Running Status | Exhaust fan HRU-H022 status | WB-H0502 | | | | | | CP-H30 | DI |
| 0329 | Y | 0 | MM-H023 | Running Status | Exhaust fan EF-H023 status | WB-H0502 | | | | | | CP-H30 | DI |
| 0330 | Y | 0 | MM-H023 | Running Status | Exhaust fan EF-H023 status | WB-H0502 | | | | | | CP-H30 | DI |
| 0331 | Y | 0 | MM-H031 | Running Status | Supply fan MAU-H031 status | WB-H0502 | | | | | | CP-H30 | DI |
| 0332 | Y | 0 | MM-H032 | Running Status | Supply fan MAU-H032 status | WB-H0502 | | | | | | CP-H30 | DI |
| 0333 | Y | 0 | MM-H033 | Running Status | Supply fan MAU-H033 status | WB-H0502 | | | | | | CP-H30 | DI |
| 0334 | Y | 0 | MM-H035 | Running Status | Supply fan AHU-H035 status | WB-H0502 | | | | | | CP-H30 | DI |
| 0335 | Y | 0 | MM-H037 | Running Status | Exhaust fan EF-H037 status | WB-H0502 | | | | | | CP-H30 | DI |
| 0336 | Y | 0 | MM-H038 | Running Status | Exhaust fan EF-H038 status | WB-H0502 | | | | | | CP-H30 | DI |
| 0337 | Y | 0 | MM-H039 | Running Status | Exhaust fan EF-H039 status | WB-H0502 | | | | | | CP-H30 | DI |
| 0338 | Y | 0 | TA-H022 | Temperature Alarm | HRU-H022 Supply air Temperature | WB-H0502 | | | | | | CP-H30 | AI |
| 0339 | Y | 0 | TA-H022A | Temperature Alarm | Ozone Room Temperature T-H022A | WB-H0502 | | | | | | CP-H30 | AI |
| 0340 | Y | 0 | TA-H022B | Temperature Alarm | Access Corridor No.2 Temperature T-H022B | WB-H0502 | | | | | | CP-H30 | AI |
| 0341 | Y | 0 | TA-H022C | Temperature Alarm | Access Corridor No.3 Temperature T-H022C | WB-H0502 | | | | | | CP-H30 | AI |
| 0342 | Y | 0 | TA-H022D | Temperature Alarm | Access Corridor No.5 Temperature T-H022C | WB-H0502 | | | | | | CP-H30 | AI |
| 0343 | Y | 0 | TA-H022E | Temperature Alarm | Access Corridor No.6 Temperature T-H022C | WB-H0502 | | | | | | CP-H30 | AI |
| 0344 | Y | 0 | TA-H031A | Temperature Alarm | Polymer Feed and Preparation Room Temperature T-H031A | WB-H0502 | | | | | | CP-H30 | AI |
| 0345 | Y | 0 | TA-H031B | Temperature Alarm | Receiving Bay Temperature T-H031B | WB-H0502 | | | | | | CP-H30 | AI |
| 0346 | Y | 0 | TA-H031C | Temperature Alarm | Polymer Storage Room Temperature T-H031C | WB-H0502 | | | | | | CP-H30 | AI |
| 0347 | Y | 0 | TA-H032A | Temperature Alarm | Peroxide Room Temperature T-H032A | WB-H0502 | | | | | | CP-H30 | AI |
| 0348 | Y | 0 | TA-H032A | Temperature Alarm | Electrical Room No.2 Temperature T-H035A | WB-H0502 | | | | | | CP-H30 | AI |
| 0349 | Y | 0 | TA-H033A | Temperature Alarm | SBS Storage & Feed Room Temperature T-H033A | WB-H0502 | | | | | | CP-H30 | AI |
| 0350 | Y | 0 | QA- | General Alarm | Maintenance Workshop System General Alarm | WB-H0503 | | | | | | CP-H30 | DI |
| 0351 | Y | 0 | QA- | General Alarm | Maintenance Workshop WR Exhaust System General Alarm | WB-H0503 | | | | | | CP-H30 | DI |
| 0352 | Y | 0 | QA- | General Alarm | Mechanical Room No.3 System General Alarm | WB-H0503 | | | | | | CP-H30 | DI |
| 0353 | Y | 0 | QA- | General Alarm | DAF Process System General Alarm | WB-H0503 | | | | | | CP-H30 | DI |
| 0354 | Y | 0 | QA- | General Alarm | Electrical Room No.1 System General Alarm | WB-H0503 | | | | | | CP-H30 | DI |
| 0355 | Y | 0 | MM-H034E | Running Status | Exhaust fan HRU-H034E status | WB-H0503 | | | | | | CP-H30 | DI |
| 0356 | Y | 0 | MM-H034S | Running Status | Supply fan HRU-H034S status | WB-H0503 | | | | | | CP-H30 | DI |
| 0357 | Y | 0 | MM-H041 | Running Status | Exhaust fan EF-H041 status | WB-H0503 | | | | | | CP-H30 | DI |
| 0358 | Y | 0 | MM-H043 | Running Status | Exhaust fan EF-H043 status | WB-H0503 | | | | | | CP-H30 | DI |
| 0359 | Y | 0 | MM-H044 | Running Status | Exhaust fan EF-H044 status | WB-H0503 | | | | | | CP-H30 | DI |
| 0360 | Y | 0 | MM-H051 | Running Status | Supply fan MAU-H051 status | WB-H0503 | | | | | | CP-H30 | DI |
| 0361 | Y | 0 | MM-H052 | Running Status | Exhaust fan EF-H052 status | WB-H0503 | | | | | | CP-H30 | DI |
| 0362 | Y | 0 | MM-H053 | Running Status | Transfer fan EF-H053 status | WB-H0503 | | | | | | CP-H30 | DI |

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| RECORD NO. | PLC Programming reqd | REV. N0. | TAG NAME | FUNCTION | SERVICE | P&ID DRAWING | ENG. UNITS | SCALE LOW | SCALE HIGH | ALARMS LOW | ALARMS HIGH | PLC CABINET | I/O TYPE |
| 0363 | Y | 0 | MM-H062 | Running Status | Supply fan AHU-H062 status | WB-H0503 | | | | | | CP-H30 | DI |
| 0364 | Y | 0 | TA-H034A | Temperature Alarm | Maintenance Workshop Room Temperature T-H034A | WB-H0503 | | | | | | CP-H30 | AI |
| 0365 | Y | 0 | TA-H041A | Temperature Alarm | Mechanical Room No.3 Room Temperature T-H041A | WB-H0503 | | | | | | CP-H30 | AI |
| 0366 | Y | 0 | TA-H051A | Temperature Alarm | DAF Process Gallery Temperature T-H051A | WB-H0503 | | | | | | CP-H30 | AI |
| 0367 | Y | 0 | TA-H051B | Temperature Alarm | DAF Pump Gallery Temperature T-H051B | WB-H0503 | | | | | | CP-H30 | AI |
| 0368 | Y | 0 | TA-H051C | Temperature Alarm | DAF Influent Gallery Temperature T-H051C | WB-H0503 | | | | | | CP-H30 | AI |
| 0369 | Y | 0 | TA-H062A | Temperature Alarm | Electrical Room No.1 Temperature T-H062A | WB-H0503 | | | | | | CP-H30 | AI |
| 0370 | Y | 0 | QA- | General Alarm | Raw Water Pump Room System General Alarm | WB-H0504 | | | | | | CP-H30 | DI |
| 0371 | Y | 0 | QA- | General Alarm | Fire Pump Room System General Alarm | WB-H0504 | | | | | | CP-H30 | DI |
| 0372 | Y | 0 | QA- | General Alarm | Admin Area Ventilation System General Alarm | WB-H0504 | | | | | | CP-H30 | DI |
| 0373 | Y | 0 | QA- | General Alarm | Sanitary Exhaust System General Alarm | WB-H0504 | | | | | | CP-H30 | DI |
| 0374 | Y | 0 | QA- | General Alarm | Heat Pump HP-H0XX System General Alarm | WB-H0504 | | | | | | CP-H30 | DI |
| 0375 | Y | 0 | QA- | General Alarm | Electrical Closet Exhaust System General Alarm | WB-H0504 | | | | | | CP-H30 | DI |
| 0376 | Y | 0 | QA- | General Alarm | Mechanical Room No.1 System General Alarm | WB-H0504 | | | | | | CP-H30 | DI |
| 0377 | Y | 0 | QA- | General Alarm | Mechanical Room No.1 System General Alarm | WB-H0504 | | | | | | CP-H30 | DI |
| 0378 | Y | 0 | MM-H061 | Running Status | Supply fan AHU-H061 status | WB-H0504 | | | | | | CP-H30 | DI |
| 0379 | Y | 0 | MM-H063 | Running Status | Exhaust fan EF-H063 status | WB-H0504 | | | | | | CP-H30 | DI |
| 0380 | Y | 0 | MM-H064 | Running Status | Exhaust fan EF-H064 status | WB-H0504 | | | | | | CP-H30 | DI |
| 0381 | Y | 0 | MM-H071 | Running Status | Supply fan AHU-H071 status | WB-H0504 | | | | | | CP-H30 | DI |
| 0382 | Y | 0 | MM-H073 | Running Status | Exhaust fan EF-H073 status | WB-H0504 | | | | | | CP-H30 | DI |
| 0383 | Y | 0 | MM-H074 | Running Status | Exhaust fan EF-H074 status | WB-H0504 | | | | | | CP-H30 | DI |
| 0384 | Y | 0 | MM-H075 | Running Status | Exhaust fan EF-H075 status | WB-H0504 | | | | | | CP-H30 | DI |
| 0385 | Y | 0 | MM-H076 | Running Status | Exhaust fan EF-H076 status | WB-H0504 | | | | | | CP-H30 | DI |
| 0386 | Y | 0 | MM-H079 | Running Status | Exhaust fan EF-H079 status | WB-H0504 | | | | | | CP-H30 | DI |
| 0387 | Y | 0 | MM-H0XX | Running Status | Heat Pump HP-H0XX status | WB-H0504 | | | | | | CP-H30 | DI |
| 0388 | Y | 0 | TA-H061A | Temperature Alarm | Raw Water Pump Room Temperature T-H061A | WB-H0504 | | | | | | CP-H30 | AI |
| 0389 | Y | 0 | TA-H061B | Temperature Alarm | Raw Water Pump Room Temperature T-H061B | WB-H0504 | | | | | | CP-H30 | AI |
| 0390 | Y | 0 | TA-H063A | Temperature Alarm | Fire Pump Room Temperature T-H063A | WB-H0504 | | | | | | CP-H30 | AI |
| 0391 | Y | 0 | TA-H064A | Temperature Alarm | Mechanical Room No.1 Temperature T-H064A | WB-H0504 | | | | | | CP-H30 | AI |
| 0392 | Y | 0 | TA-H074A | Temperature Alarm | Mechanical Room No.1 Temperature T-H074A | WB-H0504 | | | | | | CP-H30 | AI |
| 0393 | Y | 0 | TA-H097A | Temperature Alarm | Electrical Closet Temperature T-H097A | WB-H0504 | | | | | | CP-H30 | AI |
| 0394 | Y | 0 | TA-H0XX | Temperature Alarm | Zone Temperature T-H0XXA | WB-H0504 | | | | | | CP-H30 | AI |
| 0395 | Y | 0 | MM-H007 | Running Status | Cooling Water Pump P-H007 status | WB-H0506 | | | | | | CP-H30 | DI |
| 0396 | Y | 0 | MM-H008 | Running Status | Cooling Water Pump P-H008 status | WB-H0506 | | | | | | CP-H30 | DI |
| 0397 | Y | 0 | MM-H016 | Running Status | Condenser Water Pump P-H016 status | WB-H0506 | | | | | | CP-H30 | DI |
| 0398 | Y | 0 | MM-H017 | Running Status | Condenser Water Pump P-H017 status | WB-H0506 | | | | | | CP-H30 | DI |
| 0399 | Y | 0 | FI-H153A | Flow Indication | Fire Pump Test Line Flow Rate | WB-H0561 | | | | | | CP-H30 | AI |
| 0400 | Y | 0 | LI-C810A | Level Indication | Hydrogen Peroxide Feed Tank TKC810A Level | WC-P0001 | | | | | | CP-H30 | AI |
| 0401 | Y | 0 | LI-C820A | Level Indication | Hydrogen Peroxide Feed Tank TKC820A Level | WC-P0001 | | | | | | CP-H30 | AI |
| 0402 | Y | 0 | LF-C810A | Level Fault | Hydrogen Peroxide Feed Tank TKC810A Level Fault | WC-P0001 | | | | | | CP-H30 | DI |
| 0403 | Y | 0 | LF-C820A | Level Indicator Transmitter | Hydrogen Peroxide Feed Tank TKC820A Level Fault | WC-P0001 | | | | | | CP-H30 | DI |
| 0404 | Y | 0 | LS-C800A | Level Alarm | Hydrogen Peroxide Spill Containment High Level | WC-P0001 | | | | | | CP-H30 | DO |
| 0405 | Y | 0 | YS-C810B | C/O/H Switch in Computer Position | Hydrogen Peroxide Feed Tank TKC810A Inlet Control Valve in Computer Mode | WC-P0001 | | | | | | CP-H30 | DI |
| 0406 | Y | 0 | YS-C820B | C/O/H Switch in Computer Position | Hydrogen Peroxide Feed Tank TKC820A Inlet Control Valve in Computer Mode | WC-P0001 | | | | | | CP-H30 | DI |
| 0407 | Y | 0 | YB-C810B | Close Command | Hydrogen Peroxide Feed Tank TKC810A Inlet Control Valve Close | WC-P0001 | | | | | | CP-H30 | DO |
| 0408 | Y | 0 | YD-C810B | Open Command | Hydrogen Peroxide Feed Tank TKC810A Inlet Control Valve Open | WC-P0001 | | | | | | CP-H30 | DO |
| 0409 | Y | 0 | YB-C820B | Close Command | Hydrogen Peroxide Feed Tank TKC820A Inlet Control Valve Close | WC-P0001 | | | | | | CP-H30 | DO |
| 0410 | Y | 0 | YD-C820B | Open Command | Hydrogen Peroxide Feed Tank TKC820A Inlet Control Valve Open | WC-P0001 | | | | | | CP-H30 | DO |
| 0411 | Y | 0 | ZB-C810B | Closed Status | Hydrogen Peroxide Feed Tank TKC810A Inlet Control Valve Closed | WC-P0001 | | | | | | CP-H30 | DI |
| 0412 | Y | 0 | ZD-C810B | Open Status | Hydrogen Peroxide Feed Tank TKC810A Inlet Control Valve Open | WC-P0001 | | | | | | CP-H30 | DI |

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| 0413 | Y | 0 | ZB-C820B | Closed Status | Hydrogen Peroxide Feed Tank TKC820A Inlet Control Valve Closed | WC-P0001 | | | | | | CP-H30 | DI |
| 0414 | Y | 0 | ZD-C820B | Open Status | Hydrogen Peroxide Feed Tank TKC820A Inlet Control Valve Open | WC-P0001 | | | | | | CP-H30 | DI |
| 0415 | Y | 0 | FA-C840A | Flow Alarm | Service Water to P-C840A Low Flow | WC-P0002 | | | | | | CP-H30 | DI |
| 0416 | Y | 0 | FA-C850A | Flow Alarm | Service Water to P-C850A Low Flow | WC-P0002 | | | | | | CP-H30 | DI |
| 0417 | Y | 0 | FA-C860A | Flow Alarm | Service Water to P-C860A Low Flow | WC-P0002 | | | | | | CP-H30 | DO |
| 0418 | Y | 0 | MM-C840A | Running Status | Hydrogen Peroxide Dosing to Ozone Contactor #1 Pump Running | WC-P0002 | | | | | | CP-H30 | DI |
| 0419 | Y | 0 | MM-C850A | Running Status | Hydrogen Peroxide Dosing to Ozone Contactor #2 Pump Running | WC-P0002 | | | | | | CP-H30 | DI |
| 0420 | Y | 0 | MM-C860A | Running Status | Common Standby Hydrogen Peroxide Dosing Pump Running | WC-P0002 | | | | | | CP-H30 | DI |
| 0421 | Y | 0 | MN-C840A | Start Command | Hydrogen Peroxide Dosing to Ozone Contactor #1 Pump Start | WC-P0002 | | | | | | CP-H30 | DO |
| 0422 | Y | 0 | MN-C850A | Start Command | Hydrogen Peroxide Dosing to Ozone Contactor #2 Pump Start | WC-P0002 | | | | | | CP-H30 | DO |
| 0423 | Y | 0 | MN-C860A | Start Command | Common Standby Hydrogen Peroxide Dosing Pump Start | WC-P0002 | | | | | | CP-H30 | DO |
| 0424 | Y | 0 | SI-C840A | Speed Indication | Hydrogen Peroxide Dosing to Ozone Contactor #1 Pump Speed | WC-P0002 | | | | | | CP-H30 | AI |
| 0425 | Y | 0 | SI-C850A | Speed Indication | Hydrogen Peroxide Dosing to Ozone Contactor #2 Pump Speed | WC-P0002 | | | | | | CP-H30 | AI |
| 0426 | Y | 0 | SI-C860A | Speed Indication | Common Standby Hydrogen Peroxide Dosing Pump Speed | WC-P0002 | | | | | | CP-H30 | AI |
| 0427 | Y | 0 | SC-C840A | Speed Control Output | Hydrogen Peroxide Dosing to Ozone Contactor #1 Pump Required Speed | WC-P0002 | | | | | | CP-H30 | AO |
| 0428 | Y | 0 | SC-C850A | Speed Control Output | Hydrogen Peroxide Dosing to Ozone Contactor #2 Pump Required Speed | WC-P0002 | | | | | | CP-H30 | AO |
| 0429 | Y | 0 | SC-C860A | Speed Control Output | Common Standby Hydrogen Peroxide Dosing Pump Required Speed | WC-P0002 | | | | | | CP-H30 | AO |
| 0430 | Y | 0 | UF-C840A | No Fault | Hydrogen Peroxide Dosing to Ozone Contactor #1 Pump Fault | WC-P0002 | | | | | | CP-H30 | DI |
| 0431 | Y | 0 | UF-C850A | No Fault | Hydrogen Peroxide Dosing to Ozone Contactor #2 Pump Fault | WC-P0002 | | | | | | CP-H30 | DI |
| 0432 | Y | 0 | UF-C860A | No Fault | Common Standby Hydrogen Peroxide Dosing Pump Fault | WC-P0002 | | | | | | CP-H30 | DI |
| 0433 | Y | 0 | YS-C840A | C/O/H Switch in Computer Position | Hydrogen Peroxide Dosing to Ozone Contactor #1 Pump in Computer Mode | WC-P0002 | | | | | | CP-H30 | DI |
| 0434 | Y | 0 | YS-C850A | C/O/H Switch in Computer Position | Hydrogen Peroxide Dosing to Ozone Contactor #2 Pump in Computer Mode | WC-P0002 | | | | | | CP-H30 | DI |
| 0435 | Y | 0 | YS-C860A | C/O/H Switch in Computer Position | Common Standby Hydrogen Peroxide Dosing Pump in Computer Mode | WC-P0002 | | | | | | CP-H30 | DI |
| 0436 | Y | 0 | YD-C860A | Open Command | Service Water to P-C860A Discharge Flow Control Valve Open | WC-P0002 | | | | | | CP-H30 | DI |
| 0437 | Y | 0 | YS-C860C | C/O/H Switch in Computer Position | Hydrogen Peroxide Dosing Pump P-C860A to Ozone Contactor #1 Valve in Computer Mode | WC-P0002 | | | | | | CP-H30 | DI |
| 0438 | Y | 0 | YS-C860D | C/O/H Switch in Computer Position | Hydrogen Peroxide Dosing Pump P-C860A to Ozone Contactor #2 Valve in Computer Mode | WC-P0002 | | | | | | CP-H30 | DI |
| 0439 | Y | 0 | YD-C840A | Open Command | Service Water to P-C840A Discharge Flow Control Valve Open | WC-P0002 | | | | | | CP-H30 | DO |
| 0440 | Y | 0 | YD-C850A | Open Command | Service Water to P-C850A Discharge Flow Control Valve Open | WC-P0002 | | | | | | CP-H30 | DO |
| 0441 | Y | 0 | YB-C860C | Close Command | Hydrogen Peroxide Dosing Pump P-C860A to Ozone Contactor #1 Valve Close | WC-P0002 | | | | | | CP-H30 | DO |
| 0442 | Y | 0 | YD-C860C | Open Command | Hydrogen Peroxide Dosing Pump P-C860A to Ozone Contactor #1 Valve Open | WC-P0002 | | | | | | CP-H30 | DO |
| 0443 | Y | 0 | YB-C860D | Close Command | Hydrogen Peroxide Dosing Pump P-C860A to Ozone Contactor #2 Valve Close | WC-P0002 | | | | | | CP-H30 | DO |
| 0444 | Y | 0 | YD-C860D | Open Command | Hydrogen Peroxide Dosing Pump P-C860A to Ozone Contactor #2 Valve Open | WC-P0002 | | | | | | CP-H30 | DO |
| 0445 | Y | 0 | ZB-C860C | Closed Status | Hydrogen Peroxide Dosing Pump P-C860A to Ozone Contactor #1 Valve Closed | WC-P0002 | | | | | | CP-H30 | DI |
| 0446 | Y | 0 | ZD-C860C | Open Status | Hydrogen Peroxide Dosing Pump P-C860A to Ozone Contactor #1 Valve Open | WC-P0002 | | | | | | CP-H30 | DI |
| 0447 | Y | 0 | ZB-C860D | Closed Status | Hydrogen Peroxide Dosing Pump P-C860A to Ozone Contactor #2 Valve Closed | WC-P0002 | | | | | | CP-H30 | DI |
| 0448 | Y | 0 | ZD-C860D | Open Status | Hydrogen Peroxide Dosing Pump P-C860A to Ozone Contactor #2 Valve Open | WC-P0002 | | | | | | CP-H30 | DI |
| 0449 | Y | 0 | LI-C940B | Level Indication | Sodium Bisulphite Feed Tank Level | WC-P0003 | | | | | | CP-H30 | AI |
| 0450 | Y | 0 | LF-C940B | Level Fault | Sodium Bisulphite Feed Tank Level Fault | WC-P0003 | | | | | | CP-H30 | DI |

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| RECORD NO. | PLC Programming reqd | REV. N0. | TAG NAME | FUNCTION | SERVICE | P&ID DRAWING | ENG. UNITS | SCALE LOW | SCALE HIGH | ALARMS LOW | ALARMS HIGH | PLC CABINET | I/O TYPE |
| 0451 | Y | 0 | LA-C980A | Level Alarm | Sodium Bisulphite Spill Containment High Level | WC-P0003 | | | | | | CP-H30 | DI |
| 0452 | Y | 0 | MM-C950A | Running Status | Sodium Bisulphite Pump to Ozone Contactor #1 Running | WC-P0004 | | | | | | CP-H30 | DI |
| 0453 | Y | 0 | MM-C960A | Running Status | Sodium Bisulphite Pump P-C960A to Ozone Contactor #2 Running | WC-P0004 | | | | | | CP-H30 | DI |
| 0454 | Y | 0 | MM-C970A | Running Status | Common Standby Sodium Bisulphite Pump Running | WC-P0004 | | | | | | CP-H30 | DI |
| 0455 | Y | 0 | MN-C950A | Start Command | Sodium Bisulphite Pump to Ozone Contactor #1 Start | WC-P0004 | | | | | | CP-H30 | DO |
| 0456 | Y | 0 | MN-C960A | Start Command | Sodium Bisulphite Pump P-C960A to Ozone Contactor #2 Start | WC-P0004 | | | | | | CP-H30 | DO |
| 0457 | Y | 0 | MN-C970A | Start Command | Common Standby Sodium Bisulphite Pump Start | WC-P0004 | | | | | | CP-H30 | DO |
| 0458 | Y | 0 | SI-C950A | Speed Indication | Sodium Bisulphite Pump to Ozone Contactor #1 Speed | WC-P0004 | | | | | | CP-H30 | AI |
| 0459 | Y | 0 | SI-C960A | Speed Indication | Sodium Bisulphite Pump P-C960A to Ozone Contactor #2 Speed | WC-P0004 | | | | | | CP-H30 | AI |
| 0460 | Y | 0 | SI-C970A | Speed Indication | Common Standby Sodium Bisulphite Pump Speed | WC-P0004 | | | | | | CP-H30 | AI |
| 0461 | Y | 0 | SC-C950A | Speed Control Output | Sodium Bisulphite Pump to Ozone Contactor #1 Required Speed | WC-P0004 | | | | | | CP-H30 | AO |
| 0462 | Y | 0 | SC-C960A | Speed Control Output | Sodium Bisulphite Pump P-C960A to Ozone Contactor #2 Required Speed | WC-P0004 | | | | | | CP-H30 | AO |
| 0463 | Y | 0 | SC-C970A | Speed Control Output | Common Standby Sodium Bisulphite Pump Required Speed | WC-P0004 | | | | | | CP-H30 | AO |
| 0464 | Y | 0 | UF-C950A | No Fault | Sodium Bisulphite Pump to Ozone Contactor #1 Fault | WC-P0004 | | | | | | CP-H30 | DI |
| 0465 | Y | 0 | UF-C960A | No Fault | Sodium Bisulphite Pump P-C960A to Ozone Contactor #2 Fault | WC-P0004 | | | | | | CP-H30 | DI |
| 0466 | Y | 0 | UF-C970A | No Fault | Common Standby Sodium Bisulphite Pump Fault | WC-P0004 | | | | | | CP-H30 | DI |
| 0467 | Y | 0 | YS-C950A | C/O/H Switch in Computer Position | Sodium Bisulphite Pump to Ozone Contactor #1 in Computer Mode | WC-P0004 | | | | | | CP-H30 | DI |
| 0468 | Y | 0 | YS-C960A | C/O/H Switch in Computer Position | Sodium Bisulphite Pump P-C960A to Ozone Contactor #2 in Computer Mode | WC-P0004 | | | | | | CP-H30 | DI |
| 0469 | Y | 0 | YS-C970A | C/O/H Switch in Computer Position | Common Standby Sodium Bisulphite Pump in Computer Mode | WC-P0004 | | | | | | CP-H30 | DI |
| 0470 | Y | 0 | YS-C970C | C/O/H Switch in Computer Position | Sodium Bisulphite Dosing Pump P-C970A to Ozone Contactor #2 Valve in Computer Mode | WC-P0004 | | | | | | CP-H30 | DI |
| 0471 | Y | 0 | YS-C970D | C/O/H Switch in Computer Position | Sodium Bisulphite Dosing Pump P-C970A to Ozone Contactor #2 Valve in Computer Mode | WC-P0004 | | | | | | CP-H30 | DI |
| 0472 | Y | 0 | YB-C970C | Close Command | Sodium Bisulphite Dosing Pump P-C970A to Ozone Contactor #2 Valve Close | WC-P0004 | | | | | | CP-H30 | DO |
| 0473 | Y | 0 | YD-C970C | Open Command | Sodium Bisulphite Dosing Pump P-C970A to Ozone Contactor #2 Valve Open | WC-P0004 | | | | | | CP-H30 | DO |
| 0474 | Y | 0 | YB-C970D | Close Command | Sodium Bisulphite Dosing Pump P-C970A to Ozone Contactor #2 Valve Close | WC-P0004 | | | | | | CP-H30 | DO |
| 0475 | Y | 0 | YD-C970D | Open Command | Sodium Bisulphite Dosing Pump P-C970A to Ozone Contactor #2 Valve Open | WC-P0004 | | | | | | CP-H30 | DO |
| 0476 | Y | 0 | ZB-C970C | Closed Status | Sodium Bisulphite Dosing Pump P-C970A to Ozone Contactor #2 Valve Closed | WC-P0004 | | | | | | CP-H30 | DI |
| 0477 | Y | 0 | ZD-C970C | Open Status | Sodium Bisulphite Dosing Pump P-C970A to Ozone Contactor #2 Valve Open | WC-P0004 | | | | | | CP-H30 | DI |
| 0478 | Y | 0 | ZB-C970D | Closed Status | Sodium Bisulphite Dosing Pump P-C970A to Ozone Contactor #2 Valve Closed | WC-P0004 | | | | | | CP-H30 | DI |
| 0479 | Y | 0 | ZD-C970D | Open Status | Sodium Bisulphite Dosing Pump P-C970A to Ozone Contactor #2 Valve Open | WC-P0004 | | | | | | CP-H30 | DI |
| 0480 | Y | 0 | LI-F100A | Level Indication | Filter No. 1 Level | WF-P0001 | | | | | | LCP-F01 | AI |
| 0481 | Y | 0 | LF-F100A | Level Fault | Filter No. 1 Level Fault | WF-P0001 | | | | | | LCP-F01 | DI |
| 0482 | Y | 0 | YS-F101A | C/O/H Switch in Computer Position | Filter TKF100A Inlet Valve in Computer Mode | WF-P0001 | | | | | | LCP-F01 | DI |
| 0483 | Y | 0 | YS-F102A | C/O/H Switch in Computer Position | Filter TKF100A Backwash Water Outlet Valve in Computer Mode | WF-P0001 | | | | | | LCP-F01 | DI |
| 0484 | Y | 0 | YB-F101A | Close Command | Filter TKF100A Inlet Valve Close | WF-P0001 | | | | | | LCP-F01 | DO |
| 0485 | Y | 0 | YD-F101A | Open Command | Filter TKF100A Inlet Valve Open | WF-P0001 | | | | | | LCP-F01 | DO |
| 0486 | Y | 0 | YB-F102A | Close Command | Filter TKF100A Backwash Water Outlet Valve Close | WF-P0001 | | | | | | LCP-F01 | DO |
| 0487 | Y | 0 | YD-F102A | Open Command | Filter TKF100A Backwash Water Outlet Valve Open | WF-P0001 | | | | | | LCP-F01 | DO |
| 0488 | Y | 0 | ZB-F101A | Closed Status | Filter TKF100A Inlet Valve Closed | WF-P0001 | | | | | | LCP-F01 | DI |
| 0489 | Y | 0 | ZD-F101A | Open Status | Filter TKF100A Inlet Valve Open | WF-P0001 | | | | | | LCP-F01 | DI |
| 0490 | Y | 0 | ZB-F102A | Closed Status | Filter TKF100A Backwash Water Outlet Valve Closed | WF-P0001 | | | | | | LCP-F01 | DI |
| 0491 | Y | 0 | ZD-F102A | Open Status | Filter TKF100A Backwash Water Outlet Valve Open | WF-P0001 | | | | | | LCP-F01 | DI |
| 0492 | Y | 0 | LI-F200A | Level Indication | Filter No. 2 Level | WF-P0002 | | | | | | LCP-F01 | AI |
| 0493 | Y | 0 | LF-F200A | Level Fault | Filter No. 2 Level Fault | WF-P0002 | | | | | | LCP-F01 | DI |

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| 0494 | Y | 0 | YS-F201A | C/O/H Switch in Computer Position | Filter TKF200A Inlet Valve in Computer Mode | WF-P0002 | | | | | | LCP-F01 | DI |
| 0495 | Y | 0 | YS-F202A | C/O/H Switch in Computer Position | Filter TKF200A Backwash Water Outlet Valve in Computer Mode | WF-P0002 | | | | | | LCP-F01 | DI |
| 0496 | Y | 0 | YB-F201A | Close Command | Filter TKF200A Inlet Valve Close | WF-P0002 | | | | | | LCP-F01 | DO |
| 0497 | Y | 0 | YD-F201A | Open Command | Filter TKF200A Inlet Valve Open | WF-P0002 | | | | | | LCP-F01 | DO |
| 0498 | Y | 0 | YB-F202A | Close Command | Filter TKF200A Backwash Water Outlet Valve Close | WF-P0002 | | | | | | LCP-F01 | DO |
| 0499 | Y | 0 | YD-F202A | Open Command | Filter TKF200A Backwash Water Outlet Valve Open | WF-P0002 | | | | | | LCP-F01 | DO |
| 0500 | Y | 0 | ZB-F201A | Closed Status | Filter TKF200A Inlet Valve Closed | WF-P0002 | | | | | | LCP-F01 | DI |
| 0501 | Y | 0 | ZD-F201A | Open Status | Filter TKF200A Inlet Valve Open | WF-P0002 | | | | | | LCP-F01 | DI |
| 0502 | Y | 0 | ZB-F202A | Closed Status | Filter TKF200A Backwash Water Outlet Valve Closed | WF-P0002 | | | | | | LCP-F01 | DI |
| 0503 | Y | 0 | ZD-F202A | Open Status | Filter TKF200A Backwash Water Outlet Valve Open | WF-P0002 | | | | | | LCP-F01 | DI |
| 0504 | Y | 0 | LI-F300A | Level Indication | Filter No. 3 Level | WF-P0003 | | | | | | LCP-F01 | AI |
| 0505 | Y | 0 | LF-F300A | Level Fault | Filter No. 3 Level Fault | WF-P0003 | | | | | | LCP-F01 | DI |
| 0506 | Y | 0 | YS-F301A | C/O/H Switch in Computer Position | Filter TKF300A Inlet Valve in Computer Mode | WF-P0003 | | | | | | LCP-F01 | DI |
| 0507 | Y | 0 | YS-F302A | C/O/H Switch in Computer Position | Filter TKF300A Backwash Water Outlet Valve in Computer Mode | WF-P0003 | | | | | | LCP-F01 | DI |
| 0508 | Y | 0 | YB-F301A | Close Command | Filter TKF300A Inlet Valve Close | WF-P0003 | | | | | | LCP-F01 | DO |
| 0509 | Y | 0 | YD-F301A | Open Command | Filter TKF300A Inlet Valve Open | WF-P0003 | | | | | | LCP-F01 | DO |
| 0510 | Y | 0 | YB-F302A | Close Command | Filter TKF300A Backwash Water Outlet Valve Close | WF-P0003 | | | | | | LCP-F01 | DO |
| 0511 | Y | 0 | YD-F302A | Open Command | Filter TKF300A Backwash Water Outlet Valve Open | WF-P0003 | | | | | | LCP-F01 | DO |
| 0512 | Y | 0 | ZB-F301A | Closed Status | Filter TKF300A Inlet Valve Closed | WF-P0003 | | | | | | LCP-F01 | DI |
| 0513 | Y | 0 | ZD-F301A | Open Status | Filter TKF300A Inlet Valve Open | WF-P0003 | | | | | | LCP-F01 | DI |
| 0514 | Y | 0 | ZB-F302A | Closed Status | Filter TKF300A Backwash Water Outlet Valve Closed | WF-P0003 | | | | | | LCP-F01 | DI |
| 0515 | Y | 0 | ZD-F302A | Open Status | Filter TKF300A Backwash Water Outlet Valve Open | WF-P0003 | | | | | | LCP-F01 | DI |
| 0516 | Y | 0 | LI-F400A | Level Indication | Filter No. 4 Level | WF-P0004 | | | | | | LCP-F01 | AI |
| 0517 | Y | 0 | LF-F400A | Level Fault | Filter No. 4 Level Fault | WF-P0004 | | | | | | LCP-F01 | DI |
| 0518 | Y | 0 | YS-F401A | C/O/H Switch in Computer Position | Filter TKF400A Inlet Valve in Computer Mode | WF-P0004 | | | | | | LCP-F01 | DI |
| 0519 | Y | 0 | YS-F402A | C/O/H Switch in Computer Position | Filter TKF400A Backwash Water Outlet Valve in Computer Mode | WF-P0004 | | | | | | LCP-F01 | DI |
| 0520 | Y | 0 | YB-F401A | Close Command | Filter TKF400A Inlet Valve Close | WF-P0004 | | | | | | LCP-F01 | DO |
| 0521 | Y | 0 | YD-F401A | Open Command | Filter TKF400A Inlet Valve Open | WF-P0004 | | | | | | LCP-F01 | DO |
| 0522 | Y | 0 | YB-F402A | Close Command | Filter TKF400A Backwash Water Outlet Valve Close | WF-P0004 | | | | | | LCP-F01 | DO |
| 0523 | Y | 0 | YD-F402A | Open Command | Filter TKF400A Backwash Water Outlet Valve Open | WF-P0004 | | | | | | LCP-F01 | DO |
| 0524 | Y | 0 | ZB-F401A | Closed Status | Filter TKF400A Inlet Valve Closed | WF-P0004 | | | | | | LCP-F01 | DI |
| 0525 | Y | 0 | ZD-F401A | Open Status | Filter TKF400A Inlet Valve Open | WF-P0004 | | | | | | LCP-F01 | DI |
| 0526 | Y | 0 | ZB-F402A | Closed Status | Filter TKF400A Backwash Water Outlet Valve Closed | WF-P0004 | | | | | | LCP-F01 | DI |
| 0527 | Y | 0 | ZD-F402A | Open Status | Filter TKF400A Backwash Water Outlet Valve Open | WF-P0004 | | | | | | LCP-F01 | DI |
| 0528 | Y | 0 | LI-F500A | Level Indication | Filter No. 5 Level | WF-P0005 | | | | | | LCP-F02 | AI |
| 0529 | Y | 0 | LF-F500A | Level Fault | Filter No. 5 Level Fault | WF-P0005 | | | | | | LCP-F02 | DI |
| 0530 | Y | 0 | YS-F501A | C/O/H Switch in Computer Position | Filter TKF500A Inlet Valve in Computer Mode | WF-P0005 | | | | | | LCP-F02 | DI |
| 0531 | Y | 0 | YS-F502A | C/O/H Switch in Computer Position | Filter TKF500A Backwash Water Outlet Valve in Computer Mode | WF-P0005 | | | | | | LCP-F02 | DI |
| 0532 | Y | 0 | YB-F501A | Close Command | Filter TKF500A Inlet Valve Close | WF-P0005 | | | | | | LCP-F02 | DO |
| 0533 | Y | 0 | YD-F501A | Open Command | Filter TKF500A Inlet Valve Open | WF-P0005 | | | | | | LCP-F02 | DO |
| 0534 | Y | 0 | YB-F502A | Close Command | Filter TKF500A Backwash Water Outlet Valve Close | WF-P0005 | | | | | | LCP-F02 | DO |
| 0535 | Y | 0 | YD-F502A | Open Command | Filter TKF500A Backwash Water Outlet Valve Open | WF-P0005 | | | | | | LCP-F02 | DO |
| 0536 | Y | 0 | ZB-F501A | Closed Status | Filter TKF500A Inlet Valve Closed | WF-P0005 | | | | | | LCP-F02 | DI |
| 0537 | Y | 0 | ZD-F501A | Open Status | Filter TKF500A Inlet Valve Open | WF-P0005 | | | | | | LCP-F02 | DI |
| 0538 | Y | 0 | ZB-F502A | Closed Status | Filter TKF500A Backwash Water Outlet Valve Closed | WF-P0005 | | | | | | LCP-F02 | DI |
| 0539 | Y | 0 | ZD-F502A | Open Status | Filter TKF500A Backwash Water Outlet Valve Open | WF-P0005 | | | | | | LCP-F02 | DI |
| 0540 | Y | 0 | LI-F600A | Level Indication | Filter No. 6 Level | WF-P0006 | | | | | | LCP-F02 | AI |
| 0541 | Y | 0 | LF-F600A | Level Fault | Filter No. 6 Level Fault | WF-P0006 | | | | | | LCP-F02 | DI |
| 0542 | Y | 0 | YS-F601A | C/O/H Switch in Computer Position | Filter TKF600A Inlet Valve in Computer Mode | WF-P0006 | | | | | | LCP-F02 | DI |
| 0543 | Y | 0 | YS-F602A | C/O/H Switch in Computer Position | Filter TKF600A Backwash Water Outlet Valve in Computer Mode | WF-P0006 | | | | | | LCP-F02 | DI |
| 0544 | Y | 0 | YB-F601A | Close Command | Filter TKF600A Inlet Valve Close | WF-P0006 | | | | | | LCP-F02 | DO |
| 0545 | Y | 0 | YD-F601A | Open Command | Filter TKF600A Inlet Valve Open | WF-P0006 | | | | | | LCP-F02 | DO |
| 0546 | Y | 0 | YB-F602A | Close Command | Filter TKF600A Backwash Water Outlet Valve Close | WF-P0006 | | | | | | LCP-F02 | DO |
| 0547 | Y | 0 | YD-F602A | Open Command | Filter TKF600A Backwash Water Outlet Valve Open | WF-P0006 | | | | | | LCP-F02 | DO |
| 0548 | Y | 0 | ZB-F601A | Closed Status | Filter TKF600A Inlet Valve Closed | WF-P0006 | | | | | | LCP-F02 | DI |

I/O POINT TYPES: TCP = Modbus/TCP Ethernet, AI = Analog Input, AO = Analog Output, DI = Discrete Input, DO = Discrete Output

## PLC I/O INDEX

| | | | | DESCRIPTION | | | I/O SPECIFICATION | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| RECORD NO. | PLC Programming reqd | REV. N0. | TAG NAME | FUNCTION | SERVICE | P&ID DRAWING | ENG. UNITS | SCALE LOW | SCALE HIGH | ALARMS LOW | ALARMS HIGH | PLC CABINET | I/O TYPE |
| 0549 | Y | 0 | ZD-F601A | Open Status | Filter TKF600A Inlet Valve Open | WF-P0006 | | | | | | LCP-F02 | DI |
| 0550 | Y | 0 | ZB-F602A | Closed Status | Filter TKF600A Backwash Water Outlet Valve Closed | WF-P0006 | | | | | | LCP-F02 | DI |
| 0551 | Y | 0 | ZD-F602A | Open Status | Filter TKF600A Backwash Water Outlet Valve Open | WF-P0006 | | | | | | LCP-F02 | DI |
| 0552 | Y | 0 | LI-F700A | Level Indication | Filter No. 7 Level | WF-P0007 | | | | | | LCP-F02 | AI |
| 0553 | Y | 0 | LF-F700A | Level Fault | Filter No. 7 Level Fault | WF-P0007 | | | | | | LCP-F02 | DI |
| 0554 | Y | 0 | YS-F701A | C/O/H Switch in Computer Position | Filter TKF700A Inlet Valve in Computer Mode | WF-P0007 | | | | | | LCP-F02 | DI |
| 0555 | Y | 0 | YS-F702A | C/O/H Switch in Computer Position | Filter TKF700A Backwash Water Outlet Valve in Computer Mode | WF-P0007 | | | | | | LCP-F02 | DI |
| 0556 | Y | 0 | YB-F701A | Close Command | Filter TKF700A Inlet Valve Close | WF-P0007 | | | | | | LCP-F02 | DO |
| 0557 | Y | 0 | YD-F701A | Open Command | Filter TKF700A Inlet Valve Open | WF-P0007 | | | | | | LCP-F02 | DO |
| 0558 | Y | 0 | YB-F702A | Close Command | Filter TKF700A Backwash Water Outlet Valve Close | WF-P0007 | | | | | | LCP-F02 | DO |
| 0559 | Y | 0 | YD-F702A | Open Command | Filter TKF700A Backwash Water Outlet Valve Open | WF-P0007 | | | | | | LCP-F02 | DO |
| 0560 | Y | 0 | ZB-F701A | Closed Status | Filter TKF700A Inlet Valve Closed | WF-P0007 | | | | | | LCP-F02 | DI |
| 0561 | Y | 0 | ZD-F701A | Open Status | Filter TKF700A Inlet Valve Open | WF-P0007 | | | | | | LCP-F02 | DI |
| 0562 | Y | 0 | ZB-F702A | Closed Status | Filter TKF700A Backwash Water Outlet Valve Closed | WF-P0007 | | | | | | LCP-F02 | DI |
| 0563 | Y | 0 | ZD-F702A | Open Status | Filter TKF700A Backwash Water Outlet Valve Open | WF-P0007 | | | | | | LCP-F02 | DI |
| 0564 | Y | 0 | LI-F800A | Level Indication | Filter No. 8 Level | WF-P0008 | | | | | | LCP-F02 | AI |
| 0565 | Y | 0 | LF-F800A | Level Fault | Filter No. 8 Level Fault | WF-P0008 | | | | | | LCP-F02 | DI |
| 0566 | Y | 0 | YS-F801A | C/O/H Switch in Computer Position | Filter TKF800A Inlet Valve in Computer Mode | WF-P0008 | | | | | | LCP-F02 | DI |
| 0567 | Y | 0 | YS-F802A | C/O/H Switch in Computer Position | Filter TKF800A Backwash Water Outlet Valve in Computer Mode | WF-P0008 | | | | | | LCP-F02 | DI |
| 0568 | Y | 0 | YB-F801A | Close Command | Filter TKF800A Inlet Valve Close | WF-P0008 | | | | | | LCP-F02 | DO |
| 0569 | Y | 0 | YD-F801A | Open Command | Filter TKF800A Inlet Valve Open | WF-P0008 | | | | | | LCP-F02 | DO |
| 0570 | Y | 0 | YB-F802A | Close Command | Filter TKF800A Backwash Water Outlet Valve Close | WF-P0008 | | | | | | LCP-F02 | DO |
| 0571 | Y | 0 | YD-F802A | Open Command | Filter TKF800A Backwash Water Outlet Valve Open | WF-P0008 | | | | | | LCP-F02 | DO |
| 0572 | Y | 0 | ZB-F801A | Closed Status | Filter TKF800A Inlet Valve Closed | WF-P0008 | | | | | | LCP-F02 | DI |
| 0573 | Y | 0 | ZD-F801A | Open Status | Filter TKF800A Inlet Valve Open | WF-P0008 | | | | | | LCP-F02 | DI |
| 0574 | Y | 0 | ZB-F802A | Closed Status | Filter TKF800A Backwash Water Outlet Valve Closed | WF-P0008 | | | | | | LCP-F02 | DI |
| 0575 | Y | 0 | ZD-F802A | Open Status | Filter TKF800A Backwash Water Outlet Valve Open | WF-P0008 | | | | | | LCP-F02 | DI |
| 0576 | Y | 0 | FI-F030A | Flow Indication | Filter Air Scour Blower Outlet Flow Rate | WF-P0010 | | | | | | CP-H30 | AI |
| 0577 | Y | 0 | MM-F010A | Running Status | Filter Air Scour Blower BLW-F010A Running | WF-P0010 | | | | | | CP-H30 | DI |
| 0578 | Y | 0 | MM-F020A | Running Status | Filter Air Scour Blower BLW-F020A Running | WF-P0010 | | | | | | CP-H30 | DI |
| 0579 | Y | 0 | MN-F010A | Start Command | Filter Air Scour Blower BLW-F010A Start | WF-P0010 | | | | | | CP-H30 | DO |
| 0580 | Y | 0 | MN-F020A | Start Command | Filter Air Scour Blower BLW-F020A Start | WF-P0010 | | | | | | CP-H30 | DO |
| 0581 | Y | 0 | PI-F010A | Pressure Indication | Filter Air Scour Blower BLW-F010A Inlet Air Filter Differential Pressure | WF-P0010 | | | | | | CP-H30 | AI |
| 0582 | Y | 0 | PI-F010B | Pressure Indication | Filter Air Scour Blower BLW-F010A Outlet Air Pressure | WF-P0010 | | | | | | CP-H30 | AI |
| 0583 | Y | 0 | PI-F020A | Pressure Indication | Filter Air Scour Blower BLW-F020A Inlet Air Filter Differential Pressure | WF-P0010 | | | | | | CP-H30 | AI |
| 0584 | Y | 0 | PT-F020B | Pressure Indication | Filter Air Scour Blower BLW-F020A Outlet Air Pressure | WF-P0010 | | | | | | CP-H30 | AI |
| 0585 | Y | 0 | TI-F030A | Temperature Indication | Filter Air Scour Blower Outlet Temperature | WF-P0010 | | | | | | CP-H30 | AI |
| 0586 | | 0 | TI-F010A | Temperature Indication | Filter Air Scour Blower BLW-F010A Winding Temperature | WF-P0010 | | | | | | CP-H30A | AI TCP |
| 0587 | | 0 | TI-F010B | Temperature Indication | Filter Air Scour Blower BLW-F010A Front Bearing Temperature | WF-P0010 | | | | | | CP-H30A | AI TCP |
| 0588 | | 0 | TI-F010C | Temperature Indication | Filter Air Scour Blower BLW-F010A Back Bearing Temperature | WF-P0010 | | | | | | CP-H30A | AI TCP |
| 0589 | | 0 | TI-F020A | Temperature Indication | Filter Air Scour Blower BLW-F020A Winding Temperature | WF-P0010 | | | | | | CP-H30A | AI TCP |
| 0590 | | 0 | TI-F020B | Temperature Indication | Filter Air Scour Blower BLW-F020A Front Bearing Temperature | WF-P0010 | | | | | | CP-H30A | AI TCP |
| 0591 | | 0 | TI-F020C | Temperature Indication | Filter Air Scour Blower BLW-F020A Back Bearing Temperature | WF-P0010 | | | | | | CP-H30A | AI TCP |
| 0592 | Y | 0 | UF-F010A | No Fault | Filter Air Scour Blower BLW-F010A Fault | WF-P0010 | | | | | | CP-H30 | DI |
| 0593 | Y | 0 | UF-F020A | No Fault | Filter Air Scour Blower BLW-F020A Fault | WF-P0010 | | | | | | CP-H30 | DI |
| 0594 | Y | 0 | VT-F010A | Vibration Indication | Filter Air Scour Blower BLW-F010A Vibration | WF-P0010 | | | | | | CP-H30 | AI |
| 0595 | Y | 0 | VI-F020A | Vibration Indication | Filter Air Scour Blower BLW-F020A High Vibration | WF-P0010 | | | | | | CP-H30 | AI |
| 0596 | Y | 0 | YS-F010A | C/O/H Switch in Computer Position | Filter Air Scour Blower BLW-F010A in Computer Mode | WF-P0010 | | | | | | CP-H30 | DI |
| 0597 | Y | 0 | YS-F010A | C/O/H Switch in Computer Position | Filter Air Scour Blower BLW-F010A Outlet Control Valve in Computer Mode | WF-P0010 | | | | | | CP-H30 | DI |
| 0598 | Y | 0 | YS-F020A | C/O/H Switch in Computer Position | Filter Air Scour Blower BLW-F020A in Computer Mode | WF-P0010 | | | | | | CP-H30 | DI |
| 0599 | Y | 0 | YS-F020A | C/O/H Switch in Computer Position | Filter Air Scour Blower BLW-F020A Outlet Control Valve in Computer Mode | WF-P0010 | | | | | | CP-H30 | DI |

I/O POINT TYPES: TCP = Modbus/TCP Ethernet, AI = Analog Input, AO = Analog Output, DI = Discrete Input, DO = Discrete Output

## PLC I/O INDEX

| | | | | DESCRIPTION | | | I/O SPECIFICATION | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| RECORD NO. | PLC Programming reqd | REV. N0. | TAG NAME | FUNCTION | SERVICE | P&ID DRAWING | ENG. UNITS | SCALE LOW | SCALE HIGH | ALARMS LOW | ALARMS HIGH | PLC CABINET | I/O TYPE |
| 0600 | Y | 0 | YB-F010A | Close Command | Filter Air Scour Blower BLW-F010A Outlet Control Valve Close | WF-P0010 | | | | | | CP-H30 | DO |
| 0601 | Y | 0 | YD-F010A | Open Command | Filter Air Scour Blower BLW-F010A Outlet Control Valve Open | WF-P0010 | | | | | | CP-H30 | DO |
| 0602 | Y | 0 | YB-F020A | Close Command | Filter Air Scour Blower BLW-F020A Outlet Control Valve Close | WF-P0010 | | | | | | CP-H30 | DO |
| 0603 | Y | 0 | YD-F020A | Open Command | Filter Air Scour Blower BLW-F020A Outlet Control Valve Open | WF-P0010 | | | | | | CP-H30 | DO |
| 0604 | Y | 0 | ZB-F010A | Closed Status | Filter Air Scour Blower BLW-F010A Outlet Control Valve Closed | WF-P0010 | | | | | | CP-H30 | DI |
| 0605 | Y | 0 | ZD-F010A | Open Status | Filter Air Scour Blower BLW-F010A Outlet Control Valve Open | WF-P0010 | | | | | | CP-H30 | DI |
| 0606 | Y | 0 | ZB-F020A | Closed Status | Filter Air Scour Blower BLW-F020A Outlet Control Valve Closed | WF-P0010 | | | | | | CP-H30 | DI |
| 0607 | Y | 0 | ZD-F020A | Open Status | Filter Air Scour Blower BLW-F020A Outlet Control Valve Open | WF-P0010 | | | | | | CP-H30 | DI |
| 0608 | Y | 0 | LA-H500C | Level Alarm | Backwash Pump Gallery Sanitary Sump High High Level Alarm | WH-P0001 | | | | | | CP-H30 | DI |
| 0609 | Y | 0 | MN-H500A | Start Command | Backwash Pump Gallery Sanitary Sump Pump Start | WH-P0001 | | | | | | CP-H30 | DO |
| 0610 | Y | 0 | UF-H501A | No Fault | Backwash Pump Gallery Sanitary Sump Pump P-H501AFault | WH-P0001 | | | | | | CP-H30 | DI |
| 0611 | Y | 0 | UF-H502A | No Fault | Backwash Pump Gallery Sanitary Sump Pump P-H501A Fault | WH-P0001 | | | | | | CP-H30 | DI |
| 0612 | Y | 0 | LA-H510C | Level Alarm | Fire Pump Room Sanitary Sump High High Level Alarm | WH-P0002 | | | | | | CP-H30 | DI |
| 0613 | Y | 0 | MN-H510A | Start Command | Fire Pump Room Sanitary Sump Pump Start | WH-P0002 | | | | | | CP-H30 | DO |
| 0614 | Y | 0 | UF-H511A | No Fault | Fire Pump Room Sanitary Sump Pump P-H511A Fault | WH-P0002 | | | | | | CP-H30 | DI |
| 0615 | Y | 0 | UF-H512A | No Fault | Fire Pump Room Sanitary Sump Pump P-H511A Fault | WH-P0002 | | | | | | CP-H30 | DI |
| 0616 | Y | 0 | MN-H521A | Start Command | Elevator Pit Sanitary Pump Start | WH-P0003 | | | | | | CP-H30 | DO |
| 0617 | Y | 0 | UF-H21A | No Fault | Elevator Pit Sanitary Pump Fault | WH-P0003 | | | | | | CP-H30 | DI |
| 0618 | Y | 0 | LA-H530D | Level Alarm | Admin Area Sanitary Sump High High Level Alarm | WH-P0004 | | | | | | CP-H30 | DI |
| 0619 | Y | 0 | MN-H530A | Start Command | Admin Area Sanitary Sump Pump Start | WH-P0004 | | | | | | CP-H30 | DO |
| 0620 | Y | 0 | UF-H531A | No Fault | Admin Area Sanitary Sump Pump P-H531A Fault | WH-P0004 | | | | | | CP-H30 | DI |
| 0621 | Y | 0 | UF-H532A | No Fault | Admin Area Sanitary Sump Pump P-H531A Fault | WH-P0004 | | | | | | CP-H30 | DI |
| 0622 | Y | 0 | MM-H701A | Running Status | Potable Water to Clearwell Area Booster Pump Running | WH-P0005 | | | | | | CP-H30 | DI |
| 0623 | Y | 0 | MN-H701A | Start Command | Potable Water to Clearwell Area Booster Pump Start | WH-P0005 | | | | | | CP-H30 | DO |
| 0624 | Y | 0 | MM-H702A | Running Status | Potable Water to Water Treatment Booster Pump Running | WH-P0005 | | | | | | CP-H30 | DI |
| 0625 | Y | 0 | MN-H702A | Start Command | Potable Water to Water Treatment Booster Pump Start | WH-P0005 | | | | | | CP-H30 | DO |
| 0626 | Y | 0 | MM-H703A | Running Status | Potable Water to Water Treatment Booster Pump Running | WH-P0005 | | | | | | CP-H30 | DI |
| 0627 | Y | 0 | MN-H703A | Start Command | Potable Water to Water Treatment Booster Pump Start | WH-P0005 | | | | | | CP-H30 | DO |
| 0628 | Y | 0 | PI-H701A | Pressure Indication | Potable Water to Clearwell Area Pressure | WH-P0005 | | | | | | CP-H30 | AI |
| 0629 | Y | 0 | PI-H704A | Pressure Indication | Potable Water to Water Treatment Plant Pressure | WH-P0005 | | | | | | CP-H30 | AI |
| 0630 | Y | 0 | SC-H702A | Speed Control | Potable Water to Clearwell Area Booster Pump Speed Control | WH-P0005 | | | | | | CP-H30 | AI |
| 0631 | Y | 0 | SI-H702A | Speed Indication | Potable Water to Clearwell Area Booster Pump Speed Indication | WH-P0005 | | | | | | CP-H30 | AI |
| 0632 | Y | 0 | SC-H703A | Speed Control | Potable Water to Clearwell Area Booster Pump Speed Control | WH-P0005 | | | | | | CP-H30 | AI |
| 0633 | Y | 0 | SI-H703A | Speed Indication | Potable Water to Clearwell Area Booster Pump Speed Indication | WH-P0005 | | | | | | CP-H30 | AI |
| 0634 | Y | 0 | UF-H701A | No Fault | Potable Water to Clearwell Area Booster Pump Fault | WH-P0005 | | | | | | CP-H30 | DI |
| 0635 | Y | 0 | UF-H702A | No Fault | Potable Water to Water Treatment Booster Pump Fault | WH-P0005 | | | | | | CP-H30 | DI |
| 0636 | Y | 0 | UF-H703A | No Fault | Potable Water to Water Treatment Booster Pump Fault | WH-P0005 | | | | | | CP-H30 | DI |
| 0637 | Y | 0 | US-H703A | C/O/H Switch in Computer Position | Potable Water to Water Treatment Booster Pump in Computer Mode | WH-P0005 | | | | | | CP-H30 | DI |
| 0638 | Y | 0 | YS-H701A | C/O/H Switch in Computer Position | Potable Water to Clearwell Area Booster Pump in Computer Mode | WH-P0005 | | | | | | CP-H30 | DI |
| 0639 | Y | 0 | YS-H702A | C/O/H Switch in Computer Position | Potable Water to Water Treatment Booster Pump in Computer Mode | WH-P0005 | | | | | | CP-H30 | DI |
| 0640 | Y | 0 | MM-H110A | Running Status | Sprinkler and Standpipes Fire Pump Running | WH-P0006 | | | | | | CP-H30 | DI |
| 0641 | Y | 0 | MM-H120A | Running Status | Sprinkler and Standpipes Jockey Pump Running | WH-P0006 | | | | | | CP-H30 | DI |
| 0642 | Y | 0 | MM-H130A | Running Status | Outdoor Hydrant Emergency Pump Running | WH-P0006 | | | | | | CP-H30 | DI |
| 0643 | Y | 0 | MM-H140A | Running Status | Outdoor Hydrant Jockey Pump Running | WH-P0006 | | | | | | CP-H30 | DI |
| 0644 | Y | 0 | QA-H101A | General Alarm | Fire Alarm | WH-P0006 | | | | | | CP-H30 | DI |
| 0645 | Y | 0 | UF-H101A | No Fault | Fire Alarm Fault | WH-P0006 | | | | | | CP-H30 | DI |
| 0646 | Y | 0 | UF-H110A | No Fault | Sprinkler and Standpipes Fire Pump Fault | WH-P0006 | | | | | | CP-H30 | DI |
| 0647 | Y | 0 | UF-H120A | No Fault | Sprinkler and Standpipes Jockey Pump Fault | WH-P0006 | | | | | | CP-H30 | DI |
| 0648 | Y | 0 | UF-H130A | No Fault | Outdoor Hydrant Emergency Pump Fault | WH-P0006 | | | | | | CP-H30 | DI |
| 0649 | Y | 0 | UF-H140A | No Fault | Outdoor Hydrant Jockey Pump Fault | WH-P0006 | | | | | | CP-H30 | DI |
| 0650 | Y | 0 | LF-H400A | Level Fault | Fire Pump Room Process Sump Pumps Level | WH-P0007 | | | | | | CP-H30 | DI |
| 0651 | Y | 0 | LI-H400A | Level Indication | Fire Pump Room Process Sump Pumps Fault | WH-P0007 | | | | | | CP-H30 | AI |
| 0652 | Y | 0 | LF-H400B | Level Fault | Fire Pump Room Process Sump Pumps Level | WH-P0007 | | | | | | CP-H30 | DI |

I/O POINT TYPES: TCP = Modbus/TCP Ethernet, AI = Analog Input, AO = Analog Output, DI = Discrete Input, DO = Discrete Output

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| RECORD NO. | PLC Programming reqd | REV. N0. | TAG NAME | FUNCTION | SERVICE | P&ID DRAWING | ENG. UNITS | SCALE LOW | SCALE HIGH | ALARMS LOW | ALARMS HIGH | PLC CABINET | I/O TYPE |
| 0653 | Y | 0 | LI-H400B | Level Indication | Fire Pump Room Process Sump Pumps Fault | WH-P0007 | | | | | | CP-H30 | AI |
| 0654 | Y | 0 | MN-H410A | Start Command | Fire Pump Room Process Sump Pump P-H410A Start | WH-P0007 | | | | | | CP-H30 | DO |
| 0655 | Y | 0 | MM-H410A | Running Status | Fire Pump Room Process Sump Pump P-H410A Running | WH-P0007 | | | | | | CP-H30 | DI |
| 0656 | Y | 0 | MN-H420A | Start Command | Fire Pump Room Process Sump Pump P-H420A Start | WH-P0007 | | | | | | CP-H30 | DO |
| 0657 | Y | 0 | MM-H420A | Running Status | Fire Pump Room Process Sump Pump P-H420A Running | WH-P0007 | | | | | | CP-H30 | DI |
| 0658 | Y | 0 | UF-H410A | No Fault | Fire Pump Room Process Sump Pump P-H410A Fault | WH-P0007 | | | | | | CP-H30 | DI |
| 0659 | Y | 0 | UF-H420A | No Fault | Fire Pump Room Process Sump Pump P-H420A Fault | WH-P0007 | | | | | | CP-H30 | DI |
| 0660 | Y | 0 | YS-H410A | C/O/H Switch in Computer Position | Fire Pump Room Process Sump Pump P-H410A in Computer Mode | WH-P0007 | | | | | | CP-H30 | DI |
| 0661 | Y | 0 | YS-H420A | C/O/H Switch in Computer Position | Fire Pump Room Process Sump Pump P-H420A in Computer Mode | WH-P0007 | | | | | | CP-H30 | DI |
| 0662 | Y | 0 | MN-H602A | Start Command | Air Compressor CMP-H602A Start | WH-P0008 | | | | | | CP-H30 | DO |
| 0663 | Y | 0 | MM-H602A | Running Status | Air Compressor CMP-H602A Running | WH-P0008 | | | | | | CP-H30 | DI |
| 0664 | Y | 0 | YS-H602A | C/O/H Switch in Computer Position | Air Compressor CMP-H602A in Computer Mode | WH-P0008 | | | | | | CP-H30 | DI |
| 0665 | Y | 0 | UF-H602A | No Fault | Air Compressor CMP-H602A Fault | WH-P0008 | | | | | | CP-H30 | DI |
| 0666 | Y | 0 | MN-H601A | Start Command | Air Compressor CMP-H601A Start | WH-P0008 | | | | | | CP-H30 | DO |
| 0667 | Y | 0 | MM-H601A | Running Status | Air Compressor CMP-H601A Running | WH-P0008 | | | | | | CP-H30 | DI |
| 0668 | Y | 0 | YS-H601A | C/O/H Switch in Computer Position | Air Compressor CMP-H601A in Computer Mode | WH-P0008 | | | | | | CP-H30 | DI |
| 0669 | Y | 0 | UF-H601A | No Fault | Air Compressor CMP-H601A Fault | WH-P0008 | | | | | | CP-H30 | DI |
| 0670 | Y | 0 | PA-H605A | Pressure Alarm | Dry Air Receiver PV-H605A Pressure High | WH-P0008 | | | | | | CP-H30 | DI |
| 0671 | Y | 0 | PA-H605B | Pressure Alarm | Dry Air Receiver PV-H605A Pressure Low | WH-P0008 | | | | | | CP-H30 | DI |
| 0672 | N | 0 | AI-J001B | Water Hardness Indication | Softened Water Hardness Monitor | CPG0465-I-01 Sheet 4 | | | | | | CP-J11 | AI |
| 0673 | N | 0 | FI-J001A | Flow Indication | Softened Water Flow to Salt Saturators and Electrolysers Flow Rate | CPG0465-I-01 Sheet 4 | | | | | | CP-J11 | AI |
| 0674 | N | 0 | FQ-J001A | Flow Pulse | Softened Water Flow to Salt Saturators and Electrolysers Flow Total | CPG0465-I-01 Sheet 4 | | | | | | CP-J11 | DI |
| 0675 | N | 0 | LI-J100A | Level Indication | Salt Saturator SS-J100A Brine Level | CPG0465-I-01 Sheet 4 | | | | | | CP-J11 | AI |
| 0676 | N | 0 | LI-J100B | Level Indication | Salt Saturator SS-J100A Salt Level | CPG0465-I-01 Sheet 4 | | | | | | CP-J11 | AI |
| 0677 | N | 0 | LI-J200A | Level Indication | Salt Saturator SS-J200A Brine Level | CPG0465-I-01 Sheet 4 | | | | | | CP-J11 | AI |
| 0678 | N | 0 | LI-J200B | Level Indication | Salt Saturator SS-J200A Salt Level | CPG0465-I-01 Sheet 4 | | | | | | CP-J11 | AI |
| 0679 | N | 0 | LA-J100A | Level Switch | Salt Saturator SS-J100A Brine High Level | CPG0465-I-01 Sheet 4 | | | | | | CP-J11 | DI |
| 0680 | N | 0 | LF-J100A | Level Fault | Salt Saturator SS-J100A Brine Level Fault | CPG0465-I-01 Sheet 4 | | | | | | CP-J11 | DI |
| 0681 | N | 0 | LF-J100B | Level Fault | Salt Saturator SS-J100A Salt Level Fault | CPG0465-I-01 Sheet 4 | | | | | | CP-J11 | DI |
| 0682 | N | 0 | LA-J200A | Level Alarm | Salt Saturator SS-J200A Brine High Level | CPG0465-I-01 Sheet 4 | | | | | | CP-J11 | DI |
| 0683 | N | 0 | LF-J200A | Level Fault | Salt Saturator SS-J200A Brine Level Fault | CPG0465-I-01 Sheet 4 | | | | | | CP-J11 | DI |
| 0684 | N | 0 | LF-J200B | Level Fault | Salt Saturator SS-J200A Salt Level Fault | CPG0465-I-01 Sheet 4 | | | | | | CP-J11 | DI |
| 0685 | N | 0 | TI-J003A | Temperature Indication | Softened Water to Electrolysers Temperature | CPG0465-I-01 Sheet 4 | | | | | | CP-J11 | AI |
| 0686 | N | 0 | TI-J100A | Temperature Indication | Salt Saturator SS-J100A Temperature | CPG0465-I-01 Sheet 4 | | | | | | CP-J11 | AI |
| 0687 | N | 0 | TI-J200A | Temperature Indication | Salt Saturator SS-J200A Temperature | CPG0465-I-01 Sheet 4 | | | | | | CP-J11 | AI |
| 0688 | N | 0 | UF-J001B | Water Hardness Fault | Softened Water Hardness Monitor | CPG0465-I-01 Sheet 4 | | | | | | CP-J11 | DI |

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| 0689 | N | 0 | YD-J100A | Open Command | Softened Water Flow Control Valve to Salt Saturator SS-J100A Valve Open | CPG0465-I-01 Sheet 4 | | | | | | CP-J11 | DI |
| 0690 | N | 0 | YD-J200A | Open Command | Softened Water Flow Control Valve to Salt Saturator SS-J200A Valve Open | CPG0465-I-01 Sheet 4 | | | | | | CP-J11 | DI |
| 0691 | N | 0 | AI-J450A | Hydrogen Gas Indication | Electrolyser Room Hydrogen Gas Level | CPG0465-I-01 Sheet 5 | | | | | | CP-J11 | AI |
| 0692 | N | 0 | EI-J400A | Voltage Indication | Electrolyser Rectifier Voltage | CPG0465-I-01 Sheet 5 | | | | | | CP-J11 | AI |
| 0693 | N | 0 | EI-J420A | Voltage Indication | Electrolyser Rectifier Voltage | CPG0465-I-01 Sheet 5 | | | | | | CP-J11 | AI |
| 0694 | N | 0 | EI-J440A | Voltage Indication | Electrolyser Rectifier Voltage | CPG0465-I-01 Sheet 5 | | | | | | CP-J11 | AI |
| 0695 | N | 0 | FA-J400A | Flow Alarm | Softened Water Low Flow to Electrolyser EL-J400A | CPG0465-I-01 Sheet 5 | | | | | | CP-J11 | DI |
| 0696 | N | 0 | FA-J400B | Flow Switch | Softened Water Low Flow to Electrolyser EL-J400A | CPG0465-I-01 Sheet 5 | | | | | | CP-J11 | DI |
| 0697 | N | 0 | FA-J400C | Flow Switch | Low Brine Flow to Electrolyser EL-J400A | CPG0465-I-01 Sheet 5 | | | | | | CP-J11 | DI |
| 0698 | N | 0 | FA-J400D | Flow Switch | Low Brine/ Softened Water Flow to Electrolyser EL-J400A | CPG0465-I-01 Sheet 5 | | | | | | CP-J11 | DI |
| 0699 | N | 0 | FA-J400E | Flow Alarm | Electrolyser EL-J400A Ventilation Low Flow | CPG0465-I-01 Sheet 5 | | | | | | CP-J11 | DI |
| 0700 | N | 0 | FA-J420A | Flow Alarm | Softened Water Low Flow to Electrolyser EL-J420A | CPG0465-I-01 Sheet 5 | | | | | | CP-J11 | DI |
| 0701 | N | 0 | FA-J420B | Flow Alarm | Softened Water Low Flow to Electrolyser EL-J420A | CPG0465-I-01 Sheet 5 | | | | | | CP-J11 | DI |
| 0702 | N | 0 | FA-J420C | Flow Alarm | Low Brine Flow to Electrolyser EL-J420A | CPG0465-I-01 Sheet 5 | | | | | | CP-J11 | DI |
| 0703 | N | 0 | FA-J420D | Flow Alarm | Low Brine/ Softened Water Flow to Electrolyser EL-J420A | CPG0465-I-01 Sheet 5 | | | | | | CP-J11 | DI |
| 0704 | N | 0 | FA-J440A | Flow Alarm | Softened Water Low Flow to Electrolyser EL-J440A | CPG0465-I-01 Sheet 5 | | | | | | CP-J11 | DI |
| 0705 | N | 0 | FA-J440B | Flow Alarm | Softened Water Low Flow to Electrolyser EL-J440A | CPG0465-I-01 Sheet 5 | | | | | | CP-J11 | DI |
| 0706 | N | 0 | FA-J440C | Flow Alarm | Low Brine Flow to Electrolyser EL-J440A | CPG0465-I-01 Sheet 5 | | | | | | CP-J11 | DI |
| 0707 | N | 0 | FA-J440D | Flow Alarm | Low Brine/ Softened Water Flow to Electrolyser EL-J440A | CPG0465-I-01 Sheet 5 | | | | | | CP-J11 | DI |
| 0708 | N | 0 | II-J400A | Current Indication | Electrolyser Rectifier Current | CPG0465-I-01 Sheet 5 | | | | | | CP-J11 | AI |
| 0709 | N | 0 | II-J420A | Current Indication | Electrolyser Rectifier Current | CPG0465-I-01 Sheet 5 | | | | | | CP-J11 | AI |
| 0710 | N | 0 | II-J440A | Current Indication | Electrolyser Rectifier Current | CPG0465-I-01 Sheet 5 | | | | | | CP-J11 | AI |
| 0711 | N | 0 | IC-J400A | Current Control | Electrolyser Rectifier Current Control | CPG0465-I-01 Sheet 5 | | | | | | CP-J11 | AO |
| 0712 | N | 0 | IC-J420A | Current Control | Electrolyser Rectifier Current Control | CPG0465-I-01 Sheet 5 | | | | | | CP-J11 | AO |
| 0713 | N | 0 | IC-J440A | Current Control | Electrolyser Rectifier Current Control | CPG0465-I-01 Sheet 5 | | | | | | CP-J11 | AO |
| 0714 | N | 0 | LA-J400A | Level Switch | Electrolyser EL-J400A High Cell Level | CPG0465-I-01 Sheet 5 | | | | | | CP-J11 | DI |
| 0715 | N | 0 | LA-J400B | Level Switch | Electrolyser EL-J400A Low Cell Level | CPG0465-I-01 Sheet 5 | | | | | | CP-J11 | DI |

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| 0716 | N | 0 | LA-J420A | Level Alarm | Electrolyser EL-J420A High Cell Level | CPG0465-I-01 Sheet 5 | | | | | | CP-J11 | DI |
| 0717 | N | 0 | LA-J420B | Level Alarm | Electrolyser EL-J420A Low Cell Level | CPG0465-I-01 Sheet 5 | | | | | | CP-J11 | DI |
| 0718 | N | 0 | LA-J440A | Level Alarm | Electrolyser EL-J440A High Cell Level | CPG0465-I-01 Sheet 5 | | | | | | CP-J11 | DI |
| 0719 | N | 0 | LA-J440B | Level Alarm | Electrolyser EL-J440A Low Cell Level | CPG0465-I-01 Sheet 5 | | | | | | CP-J11 | DI |
| 0720 | N | 0 | MM-J400A | Running Status | Electrolyser Rectifier RT-J400 Running | CPG0465-I-01 Sheet 5 | | | | | | CP-J11 | DI |
| 0721 | N | 0 | MM-J420A | Running Status | Electrolyser Rectifier RT-J400 Running | CPG0465-I-01 Sheet 5 | | | | | | CP-J11 | DI |
| 0722 | N | 0 | MM-J440A | Running Status | Electrolyser Rectifier RT-J400 Running | CPG0465-I-01 Sheet 5 | | | | | | CP-J11 | DI |
| 0723 | N | 0 | PA-J400A | Pressure Switch | Electrolyser EL-J400A Cell Pressure High | CPG0465-I-01 Sheet 5 | | | | | | CP-J11 | DI |
| 0724 | N | 0 | PA-J400B | Pressure Switch | Electrolyser EL-J400A Cell Pressure High | CPG0465-I-01 Sheet 5 | | | | | | CP-J11 | DI |
| 0725 | N | 0 | PA-J400C | Pressure Switch | Electrolyser EL-J400A Cell Pressure High | CPG0465-I-01 Sheet 5 | | | | | | CP-J11 | DI |
| 0726 | N | 0 | PA-J420A | Pressure Alarm | Electrolyser EL-J420A Cell Pressure High | CPG0465-I-01 Sheet 5 | | | | | | CP-J11 | DI |
| 0727 | N | 0 | PA-J420B | Pressure Alarm | Electrolyser EL-J420A Cell Pressure High | CPG0465-I-01 Sheet 5 | | | | | | CP-J11 | DI |
| 0728 | N | 0 | PA-J420C | Pressure Alarm | Electrolyser EL-J420A Cell Pressure High | CPG0465-I-01 Sheet 5 | | | | | | CP-J11 | DI |
| 0729 | N | 0 | PA-J440A | Pressure Alarm | Electrolyser EL-J440A Cell Pressure High | CPG0465-I-01 Sheet 5 | | | | | | CP-J11 | DI |
| 0730 | N | 0 | PA-J440B | Pressure Alarm | Electrolyser EL-J440A Cell Pressure High | CPG0465-I-01 Sheet 5 | | | | | | CP-J11 | DI |
| 0731 | N | 0 | PA-J440C | Pressure Alarm | Electrolyser EL-J440A Cell Pressure High | CPG0465-I-01 Sheet 5 | | | | | | CP-J11 | DI |
| 0732 | N | 0 | TA-J400A | Temperature Alarm | Electrolyser Rectifier RT-J400 High Temperature | CPG0465-I-01 Sheet 5 | | | | | | CP-J11 | DI |
| 0733 | N | 0 | TA-J420A | Temperature Alarm | Electrolyser Rectifier RT-J420A High Temperature | CPG0465-I-01 Sheet 5 | | | | | | CP-J11 | DI |
| 0734 | N | 0 | TA-J440A | Temperature Alarm | Electrolyser Rectifier RT-J440A High Temperature | CPG0465-I-01 Sheet 5 | | | | | | CP-J11 | DI |
| 0735 | N | 0 | UF-J440B | No Fault | Electrolyser Rectifier Fan Fault | CPG0465-I-01 Sheet 5 | | | | | | CP-J11 | AI |
| 0736 | N | 0 | UF-J400A | No Fault | Electrolyser Rectifier Fault | CPG0465-I-01 Sheet 5 | | | | | | CP-J11 | DI |
| 0737 | N | 0 | UF-J400B | No Fault | Electrolyser Rectifier Fan Fault | CPG0465-I-01 Sheet 5 | | | | | | CP-J11 | DI |
| 0738 | N | 0 | UF-J420A | No Fault | Electrolyser Rectifier Fault | CPG0465-I-01 Sheet 5 | | | | | | CP-J11 | DI |
| 0739 | N | 0 | UF-J420B | No Fault | Electrolyser Rectifier Fan Fault | CPG0465-I-01 Sheet 5 | | | | | | CP-J11 | DI |
| 0740 | N | 0 | UF-J440A | No Fault | Electrolyser Rectifier Fault | CPG0465-I-01 Sheet 5 | | | | | | CP-J11 | DI |
| 0741 | N | 0 | YD-J400A | Open Command | Electrolyser EL-J400A Ventilation Blower BLR-J400A in Open Mode | CPG0465-I-01 Sheet 5 | | | | | | CP-J11 | DI |
| 0742 | N | 0 | YD-J420A | Open Command | Electrolyser EL-J420A Ventilation Blower BLR-J420A in Open Mode | CPG0465-I-01 Sheet 5 | | | | | | CP-J11 | DI |

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| 0743 | N | 0 | YD-J440A | Open Command | Electrolyser EL-J440A Ventilation Blower BLR-J440A in Open Mode | CPG0465-I-01 Sheet 5 | | | | | | CP-J11 | DI |
| 0744 | N | 0 | AI-J450A | Gas Indicator | Sodium Hypochlorite Storage Room Hydrogen Gas Level | CPG0465-I-01 Sheet 5 | | | | | | CP-J11 | AI |
| 0745 | N | 0 | AI-J450B | Gas Indicator | Sodium Hypochlorite Storage Room Hydrogen Gas Level | CPG0465-I-01 Sheet 5 | | | | | | CP-J11 | AI |
| 0746 | N | 0 | AI-J550A | Gas Indicator | Sodium Hypochlorite Storage Room Hydrogen Gas Level | CPG0465-I-01 Sheet 6 | | | | | | CP-J11 | AI |
| 0747 | N | 0 | FA-J500A | Flow Alarm | Sodium Hypochlorite Storage Tank TK-J500A Ventilation Flow Low | CPG0465-I-01 Sheet 6 | | | | | | CP-J11 | DI |
| 0748 | N | 0 | LI-J500A | Level Indication | Sodium Hypochlorite Storage Tank TK-J500A Level | CPG0465-I-01 Sheet 6 | | | | | | CP-J11 | AI |
| 0749 | N | 0 | LF-J500A | Level Fault | Sodium Hypochlorite Storage Tank TK-J500A Level Fault | CPG0465-I-01 Sheet 6 | | | | | | CP-J11 | DI |
| 0750 | N | 0 | MM-J500A | Running Status | Sodium Hypochlorite Storage Tank TK-J500A Ventilation Blower Running | CPG0465-I-01 Sheet 6 | | | | | | CP-J11 | DI |
| 0751 | N | 0 | MM-J500B | Running Status | Sodium Hypochlorite Storage Tank TK-J500A Ventilation Blower Running | CPG0465-I-01 Sheet 6 | | | | | | CP-J11 | DI |
| 0752 | N | 0 | MN-J500A | Start Command | Sodium Hypochlorite Storage Tank TK-J500A Ventilation Blower Start | CPG0465-I-01 Sheet 6 | | | | | | CP-J11 | DO |
| 0753 | N | 0 | MN-J500B | Start Command | Sodium Hypochlorite Storage Tank TK-J500A Ventilation Blower Start | CPG0465-I-01 Sheet 6 | | | | | | CP-J11 | DO |
| 0754 | N | 0 | PA-J500A | Pressure Alarm | Sodium Hypochlorite Storage Tank TK-J500A Ventilation Pressure High | CPG0465-I-01 Sheet 6 | | | | | | CP-J11 | DI |
| 0755 | N | 0 | YS-J500A | C/O/H Alarm in Computer Position | Sodium Hypochlorite Storage Tank TK-J500A Ventilation Blower in Computer Mode | CPG0465-I-01 Sheet 6 | | | | | | CP-J11 | DI |
| 0756 | N | 0 | YS-J500B | C/O/H Alarm in Computer Position | Sodium Hypochlorite Storage Tank TK-J500A Ventilation Blower in Computer Mode | CPG0465-I-01 Sheet 6 | | | | | | CP-J11 | DI |
| 0757 | N | 0 | AI-J550B | Gas Indication | Sodium Hypochlorite Storage Room Hydrogen Gas Level | CPG0465-I-01 Sheet 7 | | | | | | CP-J11 | AI |
| 0758 | N | 0 | FA-J520A | Flow Alarm | Sodium Hypochlorite Storage Tank TK-J520A Ventilation Flow Low | CPG0465-I-01 Sheet 7 | | | | | | CP-J11 | DI |
| 0759 | N | 0 | FA-J540A | Flow Alarm | Sodium Hypochlorite Storage Tank TK-J540A Ventilation Flow Low | CPG0465-I-01 Sheet 7 | | | | | | CP-J11 | DI |
| 0760 | N | 0 | FA-J560A | Flow Alarm | Sodium Hypochlorite Storage Tank TK-J560A Ventilation Flow Low | CPG0465-I-01 Sheet 7 | | | | | | CP-J11 | DI |
| 0761 | N | 0 | LI-J520A | Level Indication | Sodium Hypochlorite Storage Tank TK-J520A Level | CPG0465-I-01 Sheet 7 | | | | | | CP-J11 | AI |
| 0762 | N | 0 | LI-J540A | Level Indication | Sodium Hypochlorite Storage Tank TK-J540A Level | CPG0465-I-01 Sheet 7 | | | | | | CP-J11 | AI |
| 0763 | N | 0 | LI-J560A | Level Indication | Sodium Hypochlorite Storage Tank TK-J560A Level | CPG0465-I-01 Sheet 7 | | | | | | CP-J11 | AI |
| 0764 | N | 0 | LF-J520A | Level Fault | Sodium Hypochlorite Storage Tank TK-J520A Level Fault | CPG0465-I-01 Sheet 7 | | | | | | CP-J11 | DI |
| 0765 | N | 0 | LF-J540A | Level Fault | Sodium Hypochlorite Storage Tank TK-J540A Level Fault | CPG0465-I-01 Sheet 7 | | | | | | CP-J11 | DI |
| 0766 | N | 0 | LA-J550A | Level Alarm | Sodium Hypochlorite Containment Sump High | CPG0465-I-01 Sheet 7 | | | | | | CP-J11 | DI |
| 0767 | N | 0 | LF-J560A | Level Fault | Sodium Hypochlorite Storage Tank TK-J560A Level Fault | CPG0465-I-01 Sheet 7 | | | | | | CP-J11 | DI |
| 0768 | N | 0 | MM-J520A | Running Status | Sodium Hypochlorite Storage Tank TK-J520A Ventilation Blower Running | CPG0465-I-01 Sheet 7 | | | | | | CP-J11 | DI |
| 0769 | N | 0 | MM-J520B | Running Status | Sodium Hypochlorite Storage Tank TK-J520A Ventilation Blower Running | CPG0465-I-01 Sheet 7 | | | | | | CP-J11 | DI |

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| 0770 | N | 0 | MM-J540A | Running Status | Sodium Hypochlorite Storage Tank TK-J540A Ventilation Blower Running | CPG0465-I-01 Sheet 7 | | | | | | CP-J11 | DI |
| 0771 | N | 0 | MM-J540B | Running Status | Sodium Hypochlorite Storage Tank TK-J540A Ventilation Blower Running | CPG0465-I-01 Sheet 7 | | | | | | CP-J11 | DI |
| 0772 | N | 0 | MM-J560A | Running Status | Sodium Hypochlorite Storage Tank TK-J560A Ventilation Blower Running | CPG0465-I-01 Sheet 7 | | | | | | CP-J11 | DI |
| 0773 | N | 0 | MM-J560B | Running Status | Sodium Hypochlorite Storage Tank TK-J560A Ventilation Blower Running | CPG0465-I-01 Sheet 7 | | | | | | CP-J11 | DI |
| 0774 | N | 0 | MN-J520A | Start Command | Sodium Hypochlorite Storage Tank TK-J520A Ventilation Blower Start | CPG0465-I-01 Sheet 7 | | | | | | CP-J11 | DO |
| 0775 | N | 0 | MN-J520B | Start Command | Sodium Hypochlorite Storage Tank TK-J520A Ventilation Blower Start | CPG0465-I-01 Sheet 7 | | | | | | CP-J11 | DO |
| 0776 | N | 0 | MN-J540A | Start Command | Sodium Hypochlorite Storage Tank TK-J540A Ventilation Blower Start | CPG0465-I-01 Sheet 7 | | | | | | CP-J11 | DO |
| 0777 | N | 0 | MN-J540B | Start Command | Sodium Hypochlorite Storage Tank TK-J540A Ventilation Blower Start | CPG0465-I-01 Sheet 7 | | | | | | CP-J11 | DO |
| 0778 | N | 0 | MN-J560A | Start Command | Sodium Hypochlorite Storage Tank TK-J560A Ventilation Blower Start | CPG0465-I-01 Sheet 7 | | | | | | CP-J11 | DO |
| 0779 | N | 0 | MN-J560B | Start Command | Sodium Hypochlorite Storage Tank TK-J560A Ventilation Blower Start | CPG0465-I-01 Sheet 7 | | | | | | CP-J11 | DO |
| 0780 | N | 0 | PA-J520A | Pressure Alarm | Sodium Hypochlorite Storage Tank TK-J520A Ventilation Pressure High | CPG0465-I-01 Sheet 7 | | | | | | CP-J11 | DI |
| 0781 | N | 0 | PA-J540A | Pressure Alarm | Sodium Hypochlorite Storage Tank TK-J540A Ventilation Pressure High | CPG0465-I-01 Sheet 7 | | | | | | CP-J11 | DI |
| 0782 | N | 0 | PA-J560A | Pressure Alarm | Sodium Hypochlorite Storage Tank TK-J560A Ventilation Pressure High | CPG0465-I-01 Sheet 7 | | | | | | CP-J11 | DI |
| 0783 | N | 0 | YS-J520A | C/O/H Alarm in Computer Position | Sodium Hypochlorite Storage Tank TK-J520A Ventilation Blower in Computer Mode | CPG0465-I-01 Sheet 7 | | | | | | CP-J11 | DI |
| 0784 | N | 0 | YS-J520B | C/O/H Alarm in Computer Position | Sodium Hypochlorite Storage Tank TK-J520A Ventilation Blower in Computer Mode | CPG0465-I-01 Sheet 7 | | | | | | CP-J11 | DI |
| 0785 | N | 0 | YS-J540A | C/O/H Alarm in Computer Position | Sodium Hypochlorite Storage Tank TK-J540A Ventilation Blower in Computer Mode | CPG0465-I-01 Sheet 7 | | | | | | CP-J11 | DI |
| 0786 | N | 0 | YS-J540B | C/O/H Alarm in Computer Position | Sodium Hypochlorite Storage Tank TK-J540A Ventilation Blower in Computer Mode | CPG0465-I-01 Sheet 7 | | | | | | CP-J11 | DI |
| 0787 | N | 0 | YS-J560A | C/O/H Alarm in Computer Position | Sodium Hypochlorite Storage Tank TK-J560A Ventilation Blower in Computer Mode | CPG0465-I-01 Sheet 7 | | | | | | CP-J11 | DI |
| 0788 | N | 0 | YS-J560B | C/O/H Alarm in Computer Position | Sodium Hypochlorite Storage Tank TK-J560A Ventilation Blower in Computer Mode | CPG0465-I-01 Sheet 7 | | | | | | CP-J11 | DI |
| 0789 | N | 0 | FI-J610A | Flow Indication | Sodium Hypochlorite to Chlorine Contact Tank Influent Flow Rate | P-01 | | | | | | CP-J11 | AI |
| 0790 | N | 0 | FI-J640A | Flow Indication | Sodium Hypochlorite to Filtered Water Channel Flow Rate | P-01 | | | | | | CP-J11 | AI |
| 0791 | N | 0 | FQ-J610A | Flow Pulse | Sodium Hypochlorite to Chlorine Contact Tank Influent Flow Total | P-01 | | | | | | CP-J11 | DI |
| 0792 | N | 0 | FQ-J640A | Flow Pulse | Sodium Hypochlorite to Filtered Water Channel Flow Total | P-01 | | | | | | CP-J11 | DI |
| 0793 | N | 0 | MM-J610A | Running Status | Sodium Hypochlorite to Chlorine Contact Tank Pump Running | P-01 | | | | | | CP-J11 | DI |
| 0794 | N | 0 | MM-J620A | Running Status | Sodium Hypochlorite to Chlorine Contact Tank Pump Running | P-01 | | | | | | CP-J11 | DI |
| 0795 | N | 0 | MM-J640A | Running Status | Sodium Hypochlorite to Filtered Water Channel Pump Running | P-01 | | | | | | CP-J11 | DI |
| 0796 | N | 0 | MM-J660A | Running Status | Sodium Hypochlorite to Filtered Water Channel Pump Running | P-01 | | | | | | CP-J11 | DI |
| 0797 | N | 0 | MN-J610A | Start Command | Sodium Hypochlorite to Chlorine Contact Tank Pump Start | P-01 | | | | | | CP-J11 | DO |
| 0798 | N | 0 | MN-J620A | Start Command | Sodium Hypochlorite to Chlorine Contact Tank Pump Start | P-01 | | | | | | CP-J11 | DO |
| 0799 | N | 0 | MN-J640A | Start Command | Sodium Hypochlorite to Filtered Water Channel Pump Start | P-01 | | | | | | CP-J11 | DO |
| 0800 | N | 0 | MN-J660A | Start Command | Sodium Hypochlorite to Filtered Water Channel Pump Start | P-01 | | | | | | CP-J11 | DO |
| 0801 | N | 0 | SI-J610A | Speed Indication | Sodium Hypochlorite to Chlorine Contact Tank Pump Speed | P-01 | | | | | | CP-J11 | AI |
| 0802 | N | 0 | SI-J620A | Speed Indication | Sodium Hypochlorite to Chlorine Contact Tank Pump Speed | P-01 | | | | | | CP-J11 | AI |
| 0803 | N | 0 | SI-J640A | Speed Indication | Sodium Hypochlorite to Filtered Water Channel Pump Speed | P-01 | | | | | | CP-J11 | AI |
| 0804 | N | 0 | SI-J660A | Speed Indication | Sodium Hypochlorite to Filtered Water Channel Pump Speed | P-01 | | | | | | CP-J11 | AI |

I/O POINT TYPES: TCP = Modbus/TCP Ethernet, AI = Analog Input, AO = Analog Output, DI = Discrete Input, DO = Discrete Output

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| RECORD NO. | PLC Programming reqd | REV. NO. | TAG NAME | FUNCTION | SERVICE | P&ID DRAWING | ENG. UNITS | SCALE LOW | SCALE HIGH | ALARMS LOW | ALARMS HIGH | PLC CABINET | I/O TYPE |
| 0805 | N | 0 | SC-J610A | Speed Control Output | Sodium Hypochlorite to Chlorine Contact Tank Pump Required Speed | P-01 | | | | | | CP-J11 | AO |
| 0806 | N | 0 | SC-J620A | Speed Control Output | Sodium Hypochlorite to Chlorine Contact Tank Pump Required Speed | P-01 | | | | | | CP-J11 | AO |
| 0807 | N | 0 | SC-J640A | Speed Control Output | Sodium Hypochlorite to Filtered Water Channel Pump Required Speed | P-01 | | | | | | CP-J11 | AO |
| 0808 | N | 0 | SC-J660A | Speed Control Output | Sodium Hypochlorite to Filtered Water Channel Pump Required Speed | P-01 | | | | | | CP-J11 | AO |
| 0809 | N | 0 | UF-J610A | No Fault | Sodium Hypochlorite to Chlorine Contact Tank Pump Fault | P-01 | | | | | | CP-J11 | DI |
| 0810 | N | 0 | UF-J620A | No Fault | Sodium Hypochlorite to Chlorine Contact Tank Pump Fault | P-01 | | | | | | CP-J11 | DI |
| 0811 | N | 0 | UF-J640A | No Fault | Sodium Hypochlorite to Filtered Water Channel Pump Fault | P-01 | | | | | | CP-J11 | DI |
| 0812 | N | 0 | UF-J660A | No Fault | Sodium Hypochlorite to Filtered Water Channel Pump Fault | P-01 | | | | | | CP-J11 | DI |
| 0813 | N | 0 | YS-J610A | C/O/H Switch in Computer Position | Sodium Hypochlorite to Chlorine Contact Tank Pump in Computer Mode | P-01 | | | | | | CP-J11 | DI |
| 0814 | N | 0 | YS-J610B | C/O/H Switch in Computer Position | Sodium Hypochlorite Pump P-J610A Outlet Control Valve in Computer Mode | P-01 | | | | | | CP-J11 | DI |
| 0815 | N | 0 | YS-J620A | C/O/H Switch in Computer Position | Sodium Hypochlorite to Chlorine Contact Tank Pump in Computer Mode | P-01 | | | | | | CP-J11 | DI |
| 0816 | N | 0 | YS-J620B | C/O/H Switch in Computer Position | Sodium Hypochlorite Pump P-J620A Outlet Control Valve in Computer Mode | P-01 | | | | | | CP-J11 | DI |
| 0817 | N | 0 | YS-J640A | C/O/H Switch in Computer Position | Sodium Hypochlorite to Filtered Water Channel Pump in Computer Mode | P-01 | | | | | | CP-J11 | DI |
| 0818 | N | 0 | YS-J640B | C/O/H Switch in Computer Position | Sodium Hypochlorite Pump P-J640A Outlet Control Valve in Computer Mode | P-01 | | | | | | CP-J11 | DI |
| 0819 | N | 0 | YS-J660A | C/O/H Switch in Computer Position | Sodium Hypochlorite to Filtered Water Channel Pump in Computer Mode | P-01 | | | | | | CP-J11 | DI |
| 0820 | N | 0 | YS-J660B | C/O/H Switch in Computer Position | Sodium Hypochlorite Pump P-J660A Outlet Control Valve in Computer Mode | P-01 | | | | | | CP-J11 | DI |
| 0821 | N | 0 | YB-J610A | Close Command | Sodium Hypochlorite Pump P-J610A Outlet Control Valve Close | P-01 | | | | | | CP-J11 | DO |
| 0822 | N | 0 | YD-J610A | Open Command | Sodium Hypochlorite Pump P-J610A Outlet Control Valve Open | P-01 | | | | | | CP-J11 | DO |
| 0823 | N | 0 | YB-J620A | Close Command | Sodium Hypochlorite Pump P-J620A Outlet Control Valve Close | P-01 | | | | | | CP-J11 | DO |
| 0824 | N | 0 | YD-J620A | Open Command | Sodium Hypochlorite Pump P-J620A Outlet Control Valve Open | P-01 | | | | | | CP-J11 | DO |
| 0825 | N | 0 | YB-J640A | Close Command | Sodium Hypochlorite Pump P-J640A Outlet Control Valve Close | P-01 | | | | | | CP-J11 | DO |
| 0826 | N | 0 | YD-J640A | Open Command | Sodium Hypochlorite Pump P-J640A Outlet Control Valve Open | P-01 | | | | | | CP-J11 | DO |
| 0827 | N | 0 | YB-J660A | Close Command | Sodium Hypochlorite Pump P-J660A Outlet Control Valve Closed | P-01 | | | | | | CP-J11 | DO |
| 0828 | N | 0 | YD-J660A | Open Command | Sodium Hypochlorite Pump P-J660A Outlet Control Valve Open | P-01 | | | | | | CP-J11 | DO |
| 0829 | N | 0 | ZA-J610A | Closed Status | Sodium Hypochlorite Pump P-J610A Outlet Control Valve Closed | P-01 | | | | | | CP-J11 | DI |
| 0830 | N | 0 | ZD-J610A | Open Status | Sodium Hypochlorite Pump P-J610A Outlet Control Valve Open | P-01 | | | | | | CP-J11 | DI |
| 0831 | N | 0 | ZS-J610A | Revolution Sensor | Sodium Hypochlorite to Chlorine Contact Tank Pump Revolution | P-01 | | | | | | CP-J11 | DI |
| 0832 | N | 0 | ZA-J620A | Closed Status | Sodium Hypochlorite Pump P-J620A Outlet Control Valve Closed | P-01 | | | | | | CP-J11 | DI |
| 0833 | N | 0 | ZD-J620A | Open Status | Sodium Hypochlorite Pump P-J620A Outlet Control Valve Open | P-01 | | | | | | CP-J11 | DI |
| 0834 | N | 0 | ZS-J620A | Revolution Sensor | Sodium Hypochlorite to Chlorine Contact Tank Pump Revolution Sensor | P-01 | | | | | | CP-J11 | DI |
| 0835 | N | 0 | ZA-J640A | Closed Status | Sodium Hypochlorite Pump P-J640A Outlet Control Valve Closed | P-01 | | | | | | CP-J11 | DI |
| 0836 | N | 0 | ZD-J640A | Open Status | Sodium Hypochlorite Pump P-J640A Outlet Control Valve Open | P-01 | | | | | | CP-J11 | DI |
| 0837 | N | 0 | ZS-J640A | Revolution Sensor | Sodium Hypochlorite to Filtered Water Channel Pump Pump Revolution | P-01 | | | | | | CP-J11 | DI |
| 0838 | N | 0 | ZA-J660A | Closed Status | Sodium Hypochlorite Pump P-J660A Outlet Control Valve Closed | P-01 | | | | | | CP-J11 | DI |
| 0839 | N | 0 | ZD-J660A | Open Status | Sodium Hypochlorite Pump P-J660A Outlet Control Valve Open | P-01 | | | | | | CP-J11 | DI |
| 0840 | N | 0 | ZS-J660A | Revolution Sensor | Sodium Hypochlorite to Filtered Water Channel Pump Pump Revolution | P-01 | | | | | | CP-J11 | DI |
| 0841 | Y | | | | HVAC Alarms | | | | | | | CP-J12 | DI |
| 0842 | Y | | | | HVAC Alarms | | | | | | | CP-J12 | DI |
| 0843 | Y | | | | HVAC Alarms | | | | | | | CP-J12 | DI |
| 0844 | Y | | | | HVAC Alarms | | | | | | | CP-J12 | DI |

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| RECORD NO. | PLC Programming reqd | REV. N0. | TAG NAME | FUNCTION | SERVICE | P&ID DRAWING | ENG. UNITS | SCALE LOW | SCALE HIGH | ALARMS LOW | ALARMS HIGH | PLC CABINET | I/O TYPE |
| 0845 | Y | | | | HVAC Alarms | | | | | | | CP-J12 | DI |
| 0846 | Y | | | | HVAC Alarms | | | | | | | CP-J12 | DI |
| 0847 | Y | | | | HVAC Alarms | | | | | | | CP-J12 | DI |
| 0848 | Y | | | | HVAC Alarms | | | | | | | CP-J12 | DI |
| 0849 | Y | | | | HVAC Alarms | | | | | | | CP-J12 | DI |
| 0850 | Y | | | | HVAC Alarms | | | | | | | CP-J12 | DI |
| 0851 | Y | | | | HVAC Alarms | | | | | | | CP-J12 | DI |
| 0852 | Y | | | | HVAC Alarms | | | | | | | CP-J12 | DI |
| 0853 | Y | | | | HVAC Alarms | | | | | | | CP-J12 | DI |
| 0854 | N | 0 | LT-O010A | Level Indication | Liquid Oxygen Storage Tank #1 Level | WO-P0001 | | | | | | CP-O11 | AI |
| 0855 | N | 0 | LT-O010A | Level Indication | Liquid Oxygen Storage Tank #1 Level | WO-P0001 | | | | | | CP-O11 | AI |
| 0856 | N | 0 | LS-O010A | Level Alarm | Liquid Oxygen Storage Tank #1 Level High | WO-P0001 | | | | | | CP-O11 | DI |
| 0857 | N | 0 | LF-O010A | Level Fault | Liquid Oxygen Storage Tank #1 Level Fault | WO-P0001 | | | | | | CP-O11 | DI |
| 0858 | N | 0 | LS-O010A | Level Alarm | Liquid Oxygen Storage Tank #1 Level High | WO-P0001 | | | | | | CP-O11 | DI |
| 0859 | N | 0 | LF-O010A | Level Fault | Liquid Oxygen Storage Tank #1 Level Fault | WO-P0001 | | | | | | CP-O11 | DI |
| 0860 | N | 0 | PT-O010A | Pressure Indicator Transmitter | Liquid Oxygen Storage Tank #1 Pressure | WO-P0001 | | | | | | CP-O11 | AI |
| 0861 | N | 0 | PT-O015A | Pressure Indication | Liquid Oxygen Storage Tank Outlet Pressure | WO-P0001 | | | | | | CP-O11 | AI |
| 0862 | N | 0 | PT-O010A | Pressure Indicator Transmitter | Liquid Oxygen Storage Tank #1 Pressure | WO-P0001 | | | | | | CP-O11 | AI |
| 0863 | N | 0 | PT-O015A | Pressure Indication | Liquid Oxygen Storage Tank Outlet Pressure | WO-P0001 | | | | | | CP-O11 | AI |
| 0864 | N | 0 | PS-O010A | Pressure Alarm | Liquid Oxygen Storage Tank #1 Pressure High | WO-P0001 | | | | | | CP-O11 | DI |
| 0865 | N | 0 | PS-O010A | Pressure Alarm | Liquid Oxygen Storage Tank #1 Pressure High | WO-P0001 | | | | | | CP-O11 | DI |
| 0866 | N | 0 | TT-O012A | Temperature Indication | Liquid Oxygen Temperature | WO-P0001 | | | | | | CP-O11 | AI |
| 0867 | N | 0 | TT-O012A | Temperature Indication | Liquid Oxygen Temperature | WO-P0001 | | | | | | CP-O11 | AI |
| 0868 | N | 0 | YS-O010A | C/O/H Switch in Computer Position | Liquid Oxygen Storage Tank #1 Outlet Valve in Computer Mode | WO-P0001 | | | | | | CP-O11 | DI |
| 0869 | N | 0 | YS-O011A | C/O/H Switch in Computer Position | Liquid Storage Tank #1 Automatic Switchover Valve in Computer Mode | WO-P0001 | | | | | | CP-O11 | DI |
| 0870 | N | 0 | YS-O015A | C/O/H Switch in Computer Position | Liquid Oxygen Master Oxygen Shutoff Valve in Computer Mode | WO-P0001 | | | | | | CP-O11 | DI |
| 0871 | N | 0 | YS-O021A | C/O/H Switch in Computer Position | Liquid Storage Tank #2 Automatic Switchover Valve in Computer Mode | WO-P0001 | | | | | | CP-O11 | DI |
| 0872 | N | 0 | YS-O010A | C/O/H Switch in Computer Position | Liquid Oxygen Storage Tank #1 Outlet Valve in Computer Mode | WO-P0001 | | | | | | CP-O11 | DI |
| 0873 | N | 0 | YS-O011A | C/O/H Switch in Computer Position | Liquid Storage Tank #1 Automatic Switchover Valve in Computer Mode | WO-P0001 | | | | | | CP-O11 | DI |
| 0874 | N | 0 | YS-O015A | C/O/H Switch in Computer Position | Liquid Oxygen Master Oxygen Shutoff Valve in Computer Mode | WO-P0001 | | | | | | CP-O11 | DI |
| 0875 | N | 0 | YS-O021A | C/O/H Switch in Computer Position | Liquid Storage Tank #2 Automatic Switchover Valve in Computer Mode | WO-P0001 | | | | | | CP-O11 | DI |
| 0876 | N | 0 | YB-O010A | Close Command | Liquid Oxygen Storage Tank #1 Outlet Valve Close | WO-P0001 | | | | | | CP-O11 | DO |
| 0877 | N | 0 | YD-O010A | Open Command | Liquid Oxygen Storage Tank #1 Outlet Valve Open | WO-P0001 | | | | | | CP-O11 | DO |
| 0878 | N | 0 | YB-O011A | Close Command | Liquid Storage Tank #1 Automatic Switchover Valve Close | WO-P0001 | | | | | | CP-O11 | DO |
| 0879 | N | 0 | YD-O011A | Open Command | Liquid Storage Tank #1 Automatic Switchover Valve Open | WO-P0001 | | | | | | CP-O11 | DO |
| 0880 | N | 0 | YB-O015A | Close Command | Liquid Oxygen Master Oxygen Shutoff Valve Close | WO-P0001 | | | | | | CP-O11 | DO |
| 0881 | N | 0 | YD-O015A | Open Command | Liquid Oxygen Master Oxygen Shutoff Valve Open | WO-P0001 | | | | | | CP-O11 | DO |
| 0882 | N | 0 | YB-O021A | Close Command | Liquid Storage Tank #2 Automatic Switchover Valve Close | WO-P0001 | | | | | | CP-O11 | DO |
| 0883 | N | 0 | YD-O021A | Open Command | Liquid Storage Tank #2 Automatic Switchover Valve Open | WO-P0001 | | | | | | CP-O11 | DO |
| 0884 | N | 0 | YB-O010A | Close Command | Liquid Oxygen Storage Tank #1 Outlet Valve Close | WO-P0001 | | | | | | CP-O11 | DO |
| 0885 | N | 0 | YD-O010A | Open Command | Liquid Oxygen Storage Tank #1 Outlet Valve Open | WO-P0001 | | | | | | CP-O11 | DO |
| 0886 | N | 0 | YB-O011A | Close Command | Liquid Storage Tank #1 Automatic Switchover Valve Close | WO-P0001 | | | | | | CP-O11 | DO |
| 0887 | N | 0 | YD-O011A | Open Command | Liquid Storage Tank #1 Automatic Switchover Valve Open | WO-P0001 | | | | | | CP-O11 | DO |
| 0888 | N | 0 | YB-O015A | Close Command | Liquid Oxygen Master Oxygen Shutoff Valve Close | WO-P0001 | | | | | | CP-O11 | DO |
| 0889 | N | 0 | YD-O015A | Open Command | Liquid Oxygen Master Oxygen Shutoff Valve Open | WO-P0001 | | | | | | CP-O11 | DO |
| 0890 | N | 0 | YB-O021A | Close Command | Liquid Storage Tank #2 Automatic Switchover Valve Close | WO-P0001 | | | | | | CP-O11 | DO |
| 0891 | N | 0 | YD-O021A | Open Command | Liquid Storage Tank #2 Automatic Switchover Valve Open | WO-P0001 | | | | | | CP-O11 | DO |
| 0892 | N | 0 | ZB-O010A | Closed Status | Liquid Oxygen Storage Tank #1 Outlet Valve Closed | WO-P0001 | | | | | | CP-O11 | DI |
| 0893 | N | 0 | ZD-O010A | Open Status | Liquid Oxygen Storage Tank #1 Outlet Valve Open | WO-P0001 | | | | | | CP-O11 | DI |
| 0894 | N | 0 | ZB-O011A | Closed Status | Liquid Storage Tank #1 Automatic Switchover Valve Closed | WO-P0001 | | | | | | CP-O11 | DI |
| 0895 | N | 0 | ZD-O011A | Open Status | Liquid Storage Tank #1 Automatic Switchover Valve Open | WO-P0001 | | | | | | CP-O11 | DI |

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| RECORD NO. | PLC Programming reqd | REV. N0. | TAG NAME | FUNCTION | SERVICE | P&ID DRAWING | ENG. UNITS | SCALE LOW | SCALE HIGH | ALARMS LOW | ALARMS HIGH | PLC CABINET | I/O TYPE |
| 0896 | N | 0 | ZB-O015A | Closed Status | Liquid Oxygen Master Oxygen Shutoff Valve Closed | WO-P0001 | | | | | | CP-O11 | DI |
| 0897 | N | 0 | ZD-O015A | Open Status | Liquid Oxygen Master Oxygen Shutoff Valve Open | WO-P0001 | | | | | | CP-O11 | DI |
| 0898 | N | 0 | ZB-O021A | Closed Status | Liquid Storage Tank #2 Automatic Switchover Valve Closed | WO-P0001 | | | | | | CP-O11 | DI |
| 0899 | N | 0 | ZD-O021A | Open Status | Liquid Storage Tank #2 Automatic Switchover Valve Open | WO-P0001 | | | | | | CP-O11 | DI |
| 0900 | N | 0 | ZB-O010A | Closed Status | Liquid Oxygen Storage Tank #1 Outlet Valve Closed | WO-P0001 | | | | | | CP-O11 | DI |
| 0901 | N | 0 | ZD-O010A | Open Status | Liquid Oxygen Storage Tank #1 Outlet Valve Open | WO-P0001 | | | | | | CP-O11 | DI |
| 0902 | N | 0 | ZB-O011A | Closed Status | Liquid Storage Tank #1 Automatic Switchover Valve Closed | WO-P0001 | | | | | | CP-O11 | DI |
| 0903 | N | 0 | ZD-O011A | Open Status | Liquid Storage Tank #1 Automatic Switchover Valve Open | WO-P0001 | | | | | | CP-O11 | DI |
| 0904 | N | 0 | ZB-O015A | Closed Status | Liquid Oxygen Master Oxygen Shutoff Valve Closed | WO-P0001 | | | | | | CP-O11 | DI |
| 0905 | N | 0 | ZD-O015A | Open Status | Liquid Oxygen Master Oxygen Shutoff Valve Open | WO-P0001 | | | | | | CP-O11 | DI |
| 0906 | N | 0 | ZB-O021A | Closed Status | Liquid Storage Tank #2 Automatic Switchover Valve Closed | WO-P0001 | | | | | | CP-O11 | DI |
| 0907 | N | 0 | ZD-O021A | Open Status | Liquid Storage Tank #2 Automatic Switchover Valve Open | WO-P0001 | | | | | | CP-O11 | DI |
| 0908 | N | 0 | LI-O020A | Level Indication | Liquid Oxygen Storage Tank #2 Level | WO-P0002 | | | | | | CP-O11 | AI |
| 0909 | N | 0 | LI-O020A | Level Indication | Liquid Oxygen Storage Tank #2 Level | WO-P0002 | | | | | | CP-O11 | AI |
| 0910 | N | 0 | LS-O020A | Level Switch | Liquid Oxygen Storage Tank #2 Level High | WO-P0002 | | | | | | CP-O11 | DI |
| 0911 | N | 0 | LF-O020A | Level Fault | Liquid Oxygen Storage Tank #2 Level | WO-P0002 | | | | | | CP-O11 | DI |
| 0912 | N | 0 | LS-O020A | Level Switch | Liquid Oxygen Storage Tank #2 Level High | WO-P0002 | | | | | | CP-O11 | DI |
| 0913 | N | 0 | LF-O020A | Level Fault | Liquid Oxygen Storage Tank #2 Level | WO-P0002 | | | | | | CP-O11 | DI |
| 0914 | N | 0 | PI-O020A | Pressure Indication | Liquid Oxygen Storage Tank #2 Pressure | WO-P0002 | | | | | | CP-O11 | AI |
| 0915 | N | 0 | PI-O020A | Pressure Indication | Liquid Oxygen Storage Tank #2 Pressure | WO-P0002 | | | | | | CP-O11 | AI |
| 0916 | N | 0 | PS-O020A | Pressure Switch | Liquid Oxygen Storage Tank #2 Pressure High | WO-P0002 | | | | | | CP-O11 | DI |
| 0917 | N | 0 | PS-O020A | Pressure Switch | Liquid Oxygen Storage Tank #2 Pressure High | WO-P0002 | | | | | | CP-O11 | DI |
| 0918 | N | 0 | YS-O020A | C/O/H Switch in Computer Position | Liquid Oxygen Storage Tank #2 Outlet Valve in Computer Mode | WO-P0002 | | | | | | CP-O11 | DI |
| 0919 | N | 0 | YS-O020A | C/O/H Switch in Computer Position | Liquid Oxygen Storage Tank #2 Outlet Valve in Computer Mode | WO-P0002 | | | | | | CP-O11 | DI |
| 0920 | N | 0 | YB-O020A | Close Command | Liquid Oxygen Storage Tank #2 Outlet Valve Close | WO-P0002 | | | | | | CP-O11 | DO |
| 0921 | N | 0 | YD-O020A | Open Command | Liquid Oxygen Storage Tank #2 Outlet Valve Open | WO-P0002 | | | | | | CP-O11 | DO |
| 0922 | N | 0 | YB-O020A | Close Command | Liquid Oxygen Storage Tank #2 Outlet Valve Close | WO-P0002 | | | | | | CP-O11 | DO |
| 0923 | N | 0 | YD-O020A | Open Command | Liquid Oxygen Storage Tank #2 Outlet Valve Open | WO-P0002 | | | | | | CP-O11 | DO |
| 0924 | N | 0 | ZB-O020A | Closed Status | Liquid Oxygen Storage Tank #2 Outlet Valve Closed | WO-P0002 | | | | | | CP-O11 | DI |
| 0925 | N | 0 | ZD-O020A | Open Status | Liquid Oxygen Storage Tank #2 Outlet Valve Open | WO-P0002 | | | | | | CP-O11 | DI |
| 0926 | N | 0 | ZB-O020A | Closed Status | Liquid Oxygen Storage Tank #2 Outlet Valve Closed | WO-P0002 | | | | | | CP-O11 | DI |
| 0927 | N | 0 | ZD-O020A | Open Status | Liquid Oxygen Storage Tank #2 Outlet Valve Open | WO-P0002 | | | | | | CP-O11 | DI |
| 0928 | N | 0 | AI-O032A | Dewpoint Indication | Liquid Oxygen to Ozone Generators Dewpoint Analyzer | WO-P0003 | | | | | | CP-O30 | AI |
| 0929 | N | 0 | AI-O032A | Dewpoint Indication | Liquid Oxygen to Ozone Generators Dewpoint Analyzer | WO-P0003 | | | | | | CP-O30 | AI |
| 0930 | N | 0 | PI-O030A | Pressure Indication | Liquid Oxygen Particle Filter GFO030 Differential Pressure | WO-P0003 | | | | | | CP-O30 | AI |
| 0931 | N | 0 | PI-OO31A | Pressure Indication | Liquid Oxygen Particle Filter GFO031 Differential Pressure | WO-P0003 | | | | | | CP-O30 | AI |
| 0932 | N | 0 | PI-O030A | Pressure Indication | Liquid Oxygen Particle Filter GFO030 Differential Pressure | WO-P0003 | | | | | | CP-O30 | AI |
| 0933 | N | 0 | PI-OO31A | Pressure Indication | Liquid Oxygen Particle Filter GFO031 Differential Pressure | WO-P0003 | | | | | | CP-O30 | AI |
| 0934 | N | 0 | AI-O051A | Dew Point Indication | Nitrogen Boost Unit to Ozone Generator Dewpoint | WO-P0004 | | | | | | CP-O30 | AI |
| 0935 | N | 0 | AI-O051A | Dew Point Indication | Nitrogen Boost Unit to Ozone Generator Dewpoint | WO-P0004 | | | | | | CP-O30 | AI |
| 0936 | N | 0 | FA-O051A | Flow Alarm | Nitrogen Boost Unit to Ozone Generators Low Flow | WO-P0004 | | | | | | CP-O30 | DI |
| 0937 | N | 0 | FS-O051A | Flow Switch | Nitrogen Boost Unit to Ozone Generators Low Flow | WO-P0004 | | | | | | CP-O30 | DI |
| 0938 | N | 0 | MM-O052A | Running Status | Nitrogen Boost Unit Compressor CMP-O052A Running | WO-P0004 | | | | | | CP-O30 | DI |
| 0939 | N | 0 | MM-O053A | Running Status | Nitrogen Boost Unit Compressor CMP-O053A Running | WO-P0004 | | | | | | CP-O30 | DI |
| 0940 | N | 0 | MM-O052A | Running Status | Nitrogen Boost Unit Compressor CMP-O052A Running | WO-P0004 | | | | | | CP-O30 | DI |
| 0941 | N | 0 | MM-O053A | Running Status | Nitrogen Boost Unit Compressor CMP-O053A Running | WO-P0004 | | | | | | CP-O30 | DI |
| 0942 | N | 0 | MN-O052A | Start Command | Nitrogen Boost Unit Compressor CMP-O052A Start | WO-P0004 | | | | | | CP-O30 | DO |
| 0943 | N | 0 | MN-O053A | Start Command | Nitrogen Boost Unit Compressor CMP-O053A Start | WO-P0004 | | | | | | CP-O30 | DO |
| 0944 | N | 0 | MN-O052A | Start Command | Nitrogen Boost Unit Compressor CMP-O052A Start | WO-P0004 | | | | | | CP-O30 | DO |
| 0945 | N | 0 | MN-O053A | Start Command | Nitrogen Boost Unit Compressor CMP-O053A Start | WO-P0004 | | | | | | CP-O30 | DO |
| 0946 | N | 0 | PA-O050A | Pressure Switch | Nitrogen Boost Air Receiver Pressure Switch High | WO-P0004 | | | | | | CP-O30 | DI |
| 0947 | N | 0 | PA-O050A | Pressure Switch | Nitrogen Boost Air Receiver Pressure Switch High | WO-P0004 | | | | | | CP-O30 | DI |
| 0948 | N | 0 | UF-O052A | No Fault | Nitrogen Boost Unit Compressor CMP-O052A Fault | WO-P0004 | | | | | | CP-O30 | DI |
| 0949 | N | 0 | UF-O053A | No Fault | Nitrogen Boost Unit Compressor CMP-O053A Fault | WO-P0004 | | | | | | CP-O30 | DI |
| 0950 | N | 0 | UF-O052A | No Fault | Nitrogen Boost Unit Compressor CMP-O052A Fault | WO-P0004 | | | | | | CP-O30 | DI |

I/O POINT TYPES: TCP = Modbus/TCP Ethernet, AI = Analog Input, AO = Analog Output, DI = Discrete Input, DO = Discrete Output

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| 0951 | N | 0 | UF-O053A | No Fault | Nitrogen Boost Unit Compressor CMP-O053A Fault | WO-P0004 | | | | | | CP-O30 | DI |
| 0952 | N | 0 | YS-O052A | C/O/H Switch in Computer Position | Nitrogen Boost Unit Compressor CMP-O052A in Computer Mode | WO-P0004 | | | | | | CP-O30 | DI |
| 0953 | N | 0 | YS-O053A | C/O/H Switch in Computer Position | Nitrogen Boost Unit Compressor CMP-O053A in Computer Mode | WO-P0004 | | | | | | CP-O30 | DI |
| 0954 | N | 0 | YS-O052A | C/O/H Switch in Computer Position | Nitrogen Boost Unit Compressor CMP-O052A in Computer Mode | WO-P0004 | | | | | | CP-O30 | DI |
| 0955 | N | 0 | YS-O053A | C/O/H Switch in Computer Position | Nitrogen Boost Unit Compressor CMP-O053A in Computer Mode | WO-P0004 | | | | | | CP-O30 | DI |
| 0956 | N | 0 | YD-O051A | Open Command | Nitrogen Boost Unit to Ozone Generators Flow Control Valve Open | WO-P0004 | | | | | | CP-O30 | DO |
| 0957 | N | 0 | YD-O051A | Open Command | Nitrogen Boost Unit to Ozone Generators Flow Control Valve Open | WO-P0004 | | | | | | CP-O30 | DO |
| 0958 | N | 0 | AI-O110A | Gas Level Indication | Ambient Ozone Gas Level | WO-P0005 | | | | | | CP-O30 | AI |
| 0959 | N | 0 | AI-O110B | Gas Level Indication | Ambient Oxygen Gas Level | WO-P0005 | | | | | | CP-O30 | AI |
| 0960 | N | 0 | AI-O110A | Gas Level Indication | Ambient Ozone Gas Level | WO-P0005 | | | | | | CP-O30 | AI |
| 0961 | N | 0 | AI-O110B | Gas Level Indication | Ambient Oxygen Gas Level | WO-P0005 | | | | | | CP-O30 | AI |
| 0962 | N | 0 | AA-O110A | Ambient Alarm | Ambient Ozone Analyzer High High | WO-P0005 | | | | | | CP-O30 | DI |
| 0963 | N | 0 | AA-O110B | Ambient Alarm | Ambient Ozone Analyzer High High | WO-P0005 | | | | | | CP-O30 | DI |
| 0964 | N | 0 | AI-O130A | Gas Level Indication | Ambient Ozone Gas Level | WO-P0006 | | | | | | CP-O30 | AI |
| 0965 | N | 0 | AI-O130B | Gas Level Indication | Ambient Oxygen Gas Level | WO-P0006 | | | | | | CP-O30 | AI |
| 0966 | N | 0 | AI-O130A | Gas Level Indication | Ambient Ozone Gas Level | WO-P0006 | | | | | | CP-O30 | AI |
| 0967 | N | 0 | AI-O130B | Gas Level Indication | Ambient Oxygen Gas Level | WO-P0006 | | | | | | CP-O30 | AI |
| 0968 | N | 0 | AA-O130A | Ambient Alarm | Ambient Ozone Analyzer High High | WO-P0006 | | | | | | CP-O30 | DI |
| 0969 | N | 0 | AA-O130B | Ambient Alarm | Ambient Ozone Analyzer High High | WO-P0006 | | | | | | CP-O30 | DI |
| 0970 | N | 0 | PI-O130A | Pressure Indication | Liquid Oxygen to Ozone Generator GEN-O130A Pressure | WO-P0006 | | | | | | CP-O30 | AI |
| 0971 | N | 0 | TI-O130A | Temperature Indication | Liquid Oxygen to Ozone Generator GEN-O130A Temperature | WO-P0006 | | | | | | CP-O30 | AI |
| 0972 | N | 0 | YS-O139A | C/O/H Switch in Computer Position | Liquid Oxygen to Ozone Generator GEN-O130A Flow Control Valve in Computer Mode | WO-P0006 | | | | | | CP-O30 | DI |
| 0973 | N | 0 | YB-O139A | Close Command | Liquid Oxygen to Ozone Generator GEN-O130A Flow Control Valve Close | WO-P0006 | | | | | | CP-O30 | DO |
| 0974 | N | 0 | YD-O139A | Open Command | Liquid Oxygen to Ozone Generator GEN-O130A Flow Control Valve Open | WO-P0006 | | | | | | CP-O30 | DO |
| 0975 | N | 0 | ZB-O139A | Closed Status | Liquid Oxygen to Ozone Generator GEN-O130A Flow Control Valve Closed | WO-P0006 | | | | | | CP-O30 | DI |
| 0976 | N | 0 | ZD-O139A | Open Status | Liquid Oxygen to Ozone Generator GEN-O130A Flow Control Valve Open | WO-P0006 | | | | | | CP-O30 | DI |
| 0977 | N | 0 | AI-O150A | Gas Level Indication | Ambient Ozone Gas Level | WO-P0007 | | | | | | CP-O30 | AI |
| 0978 | N | 0 | FI-O216A | Flow Indication | Ozone Injection Line to Ozone Contactor #1 Flow Rate | WO-P0008 | | | | | | CP-O30 | AI |
| 0979 | N | 0 | FI-O217A | Flow Indication | Ozone Injection Line to Ozone Contactor #1 Flow Rate | WO-P0008 | | | | | | CP-O30 | AI |
| 0980 | N | 0 | FI-O218A | Flow Indication | Ozone Injection Line to Ozone Contactor #1 Flow Rate | WO-P0008 | | | | | | CP-O30 | AI |
| 0981 | N | 0 | FI-O216A | Flow Indication | Ozone Injection Line to Ozone Contactor #1 Flow Rate | WO-P0008 | | | | | | CP-O30 | AI |
| 0982 | N | 0 | FI-O217A | Flow Indication | Ozone Injection Line to Ozone Contactor #1 Flow Rate | WO-P0008 | | | | | | CP-O30 | AI |
| 0983 | N | 0 | FI-O218A | Flow Indication | Ozone Injection Line to Ozone Contactor #1 Flow Rate | WO-P0008 | | | | | | CP-O30 | AI |
| 0984 | N | 0 | FQ-O216A | Flow Pulse | Ozone Injection Line to Ozone Contactor #1 Flow Total | WO-P0008 | | | | | | CP-O30 | DI |
| 0985 | N | 0 | FQ-O217A | Flow Pulse | Ozone Injection Line to Ozone Contactor #1 Flow Total | WO-P0008 | | | | | | CP-O30 | DI |
| 0986 | N | 0 | FQ-O218A | Flow Pulse | Ozone Injection Line to Ozone Contactor #1 Flow Total | WO-P0008 | | | | | | CP-O30 | DI |
| 0987 | N | 0 | FQ-O216A | Flow Pulse | Ozone Injection Line to Ozone Contactor #1 Flow Total | WO-P0008 | | | | | | CP-O30 | DI |
| 0988 | N | 0 | FQ-O217A | Flow Pulse | Ozone Injection Line to Ozone Contactor #1 Flow Total | WO-P0008 | | | | | | CP-O30 | DI |
| 0989 | N | 0 | FQ-O218A | Flow Pulse | Ozone Injection Line to Ozone Contactor #1 Flow Total | WO-P0008 | | | | | | CP-O30 | DI |
| 0990 | N | 0 | YS-O201A | C/O/H Switch in Computer Position | Ozone Generator GEN-O110A to Ozone Contactor #2 Control Valve in Computer Mode | WO-P0008 | | | | | | CP-O30 | DI |
| 0991 | N | 0 | YS-O202A | C/O/H Switch in Computer Position | Ozone Generator GEN-O110A to Ozone Contactor #1 Control Valve in Computer Mode | WO-P0008 | | | | | | CP-O30 | DI |
| 0992 | N | 0 | YS-O216A | C/O/H Switch in Computer Position | Ozone Injection Line to Ozone Contactor #1 Flow Control Valve in Computer Mode | WO-P0008 | | | | | | CP-O30 | DI |
| 0993 | N | 0 | YS-O217A | C/O/H Switch in Computer Position | Ozone Injection Line to Ozone Contactor #1 Flow Control Valve in Computer Mode | WO-P0008 | | | | | | CP-O30 | DI |

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| RECORD NO. | PLC Programming reqd | REV. N0. | TAG NAME | FUNCTION | SERVICE | P&ID DRAWING | ENG. UNITS | SCALE LOW | SCALE HIGH | ALARMS LOW | ALARMS HIGH | PLC CABINET | I/O TYPE |
| 0994 | N | 0 | YS-O218A | C/O/H Switch in Computer Position | Ozone Injection Line to Ozone Contactor #1 Flow Control Valve in Computer Mode | WO-P0008 | | | | | | CP-O30 | DI |
| 0995 | N | 0 | YD-O201A | Open Command | Ozone Generator GEN-O110A to Ozone Contactor #2 Control Valve Open | WO-P0008 | | | | | | CP-O30 | DI |
| 0996 | N | 0 | YS-O201A | C/O/H Switch in Computer Position | Ozone Generator GEN-O110A to Ozone Contactor #2 Control Valve in Computer Mode | WO-P0008 | | | | | | CP-O30 | DI |
| 0997 | N | 0 | YD-O202A | Open Command | Ozone Generator GEN-O110A to Ozone Contactor #1 Control Valve Open | WO-P0008 | | | | | | CP-O30 | DI |
| 0998 | N | 0 | YS-O202A | C/O/H Switch in Computer Position | Ozone Generator GEN-O110A to Ozone Contactor #1 Control Valve in Computer Mode | WO-P0008 | | | | | | CP-O30 | DI |
| 0999 | N | 0 | YS-O216A | C/O/H Switch in Computer Position | Ozone Injection Line to Ozone Contactor #1 Flow Control Valve in Computer Mode | WO-P0008 | | | | | | CP-O30 | DI |
| 1000 | N | 0 | YS-O217A | C/O/H Switch in Computer Position | Ozone Injection Line to Ozone Contactor #1 Flow Control Valve in Computer Mode | WO-P0008 | | | | | | CP-O30 | DI |
| 1001 | N | 0 | YS-O218A | C/O/H Switch in Computer Position | Ozone Injection Line to Ozone Contactor #1 Flow Control Valve in Computer Mode | WO-P0008 | | | | | | CP-O30 | DI |
| 1002 | N | 0 | YB-O201A | Close Command | Ozone Generator GEN-O110A to Ozone Contactor #2 Control Valve Close | WO-P0008 | | | | | | CP-O30 | DO |
| 1003 | N | 0 | YD-O201A | Open Command | Ozone Generator GEN-O110A to Ozone Contactor #2 Control Valve Open | WO-P0008 | | | | | | CP-O30 | DO |
| 1004 | N | 0 | YB-O202A | Close Command | Ozone Generator GEN-O110A to Ozone Contactor #1 Control Valve Close | WO-P0008 | | | | | | CP-O30 | DO |
| 1005 | N | 0 | YD-O202A | Open Command | Ozone Generator GEN-O110A to Ozone Contactor #1 Control Valve Open | WO-P0008 | | | | | | CP-O30 | DO |
| 1006 | N | 0 | YB-O201A | Close Command | Ozone Generator GEN-O110A to Ozone Contactor #2 Control Valve Close | WO-P0008 | | | | | | CP-O30 | DO |
| 1007 | N | 0 | YB-O202A | Close Command | Ozone Generator GEN-O110A to Ozone Contactor #1 Control Valve Close | WO-P0008 | | | | | | CP-O30 | DO |
| 1008 | N | 0 | ZI-O216A | Position Feedback | Ozone Injection Line to Ozone Contactor #1 Flow Control Valve Position | WO-P0008 | | | | | | CP-O30 | AI |
| 1009 | N | 0 | ZI-O217A | Position Feedback | Ozone Injection Line to Ozone Contactor #1 Flow Control Valve Position | WO-P0008 | | | | | | CP-O30 | AI |
| 1010 | N | 0 | ZI-O218A | Position Feedback | Ozone Injection Line to Ozone Contactor #1 Flow Control Valve Position | WO-P0008 | | | | | | CP-O30 | AI |
| 1011 | N | 0 | ZT-O216A | Position Feedback | Ozone Injection Line to Ozone Contactor #1 Flow Control Valve Position | WO-P0008 | | | | | | CP-O30 | AI |
| 1012 | N | 0 | ZT-O217A | Position Feedback | Ozone Injection Line to Ozone Contactor #1 Flow Control Valve Position | WO-P0008 | | | | | | CP-O30 | AI |
| 1013 | N | 0 | ZT-O218A | Position Feedback | Ozone Injection Line to Ozone Contactor #1 Flow Control Valve Position | WO-P0008 | | | | | | CP-O30 | AI |
| 1014 | N | 0 | ZC-O216A | Position Control Output | Ozone Injection Line to Ozone Contactor #1 Flow Control Valve Required Position | WO-P0008 | | | | | | CP-O30 | AO |
| 1015 | N | 0 | ZC-O217A | Position Control Output | Ozone Injection Line to Ozone Contactor #1 Flow Control Valve Required Position | WO-P0008 | | | | | | CP-O30 | AO |
| 1016 | N | 0 | ZC-O218A | Position Control Output | Ozone Injection Line to Ozone Contactor #1 Flow Control Valve Required Position | WO-P0008 | | | | | | CP-O30 | AO |
| 1017 | N | 0 | ZC-O216A | Position Control Output | Ozone Injection Line to Ozone Contactor #1 Flow Control Valve Required Position | WO-P0008 | | | | | | CP-O30 | AO |
| 1018 | N | 0 | ZC-O217A | Position Control Output | Ozone Injection Line to Ozone Contactor #1 Flow Control Valve Required Position | WO-P0008 | | | | | | CP-O30 | AO |
| 1019 | N | 0 | ZC-O218A | Position Control Output | Ozone Injection Line to Ozone Contactor #1 Flow Control Valve Required Position | WO-P0008 | | | | | | CP-O30 | AO |
| 1020 | N | 0 | ZB-O201A | Closed Status | Ozone Generator GEN-O110A to Ozone Contactor #2 Control Valve Closed | WO-P0008 | | | | | | CP-O30 | DI |

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| 1021 | N | 0 | ZD-O201A | Open Status | Ozone Generator GEN-O110A to Ozone Contactor #2 Control Valve Open | WO-P0008 | | | | | | CP-O30 | DI |
| 1022 | N | 0 | ZB-O202A | Closed Status | Ozone Generator GEN-O110A to Ozone Contactor #1 Control Valve Closed | WO-P0008 | | | | | | CP-O30 | DI |
| 1023 | N | 0 | ZD-O202A | Open Status | Ozone Generator GEN-O110A to Ozone Contactor #1 Control Valve Open | WO-P0008 | | | | | | CP-O30 | DI |
| 1024 | N | 0 | ZB-O216A | Closed Status | Ozone Injection Line to Ozone Contactor #1 Flow Control Valve Closed | WO-P0008 | | | | | | CP-O30 | DI |
| 1025 | N | 0 | ZD-O216A | Open Status | Ozone Injection Line to Ozone Contactor #1 Flow Control Valve Open | WO-P0008 | | | | | | CP-O30 | DI |
| 1026 | N | 0 | ZB-O217A | Closed Status | Ozone Injection Line to Ozone Contactor #1 Flow Control Valve Closed | WO-P0008 | | | | | | CP-O30 | DI |
| 1027 | N | 0 | ZD-O217A | Open Status | Ozone Injection Line to Ozone Contactor #1 Flow Control Valve Open | WO-P0008 | | | | | | CP-O30 | DI |
| 1028 | N | 0 | ZB-O218A | Closed Status | Ozone Injection Line to Ozone Contactor #1 Flow Control Valve Closed | WO-P0008 | | | | | | CP-O30 | DI |
| 1029 | N | 0 | ZD-O218A | Open Status | Ozone Injection Line to Ozone Contactor #1 Flow Control Valve Open | WO-P0008 | | | | | | CP-O30 | DI |
| 1030 | N | 0 | ZB-O201A | Closed Status | Ozone Generator GEN-O110A to Ozone Contactor #2 Control Valve Closed | WO-P0008 | | | | | | CP-O30 | DI |
| 1031 | N | 0 | ZD-O201A | Open Status | Ozone Generator GEN-O110A to Ozone Contactor #2 Control Valve Open | WO-P0008 | | | | | | CP-O30 | DI |
| 1032 | N | 0 | ZB-O202A | Closed Status | Ozone Generator GEN-O110A to Ozone Contactor #1 Control Valve Closed | WO-P0008 | | | | | | CP-O30 | DI |
| 1033 | N | 0 | ZD-O202A | Open Status | Ozone Generator GEN-O110A to Ozone Contactor #1 Control Valve Open | WO-P0008 | | | | | | CP-O30 | DI |
| 1034 | N | 0 | ZB-O216A | Closed Status | Ozone Injection Line to Ozone Contactor #1 Flow Control Valve Closed | WO-P0008 | | | | | | CP-O30 | DI |
| 1035 | N | 0 | ZD-O216A | Open Status | Ozone Injection Line to Ozone Contactor #1 Flow Control Valve Open | WO-P0008 | | | | | | CP-O30 | DI |
| 1036 | N | 0 | ZB-O217A | Closed Status | Ozone Injection Line to Ozone Contactor #1 Flow Control Valve Closed | WO-P0008 | | | | | | CP-O30 | DI |
| 1037 | N | 0 | ZD-O217A | Open Status | Ozone Injection Line to Ozone Contactor #1 Flow Control Valve Open | WO-P0008 | | | | | | CP-O30 | DI |
| 1038 | N | 0 | ZB-O218A | Closed Status | Ozone Injection Line to Ozone Contactor #1 Flow Control Valve Closed | WO-P0008 | | | | | | CP-O30 | DI |
| 1039 | N | 0 | ZD-O218A | Open Status | Ozone Injection Line to Ozone Contactor #1 Flow Control Valve Open | WO-P0008 | | | | | | CP-O30 | DI |
| 1040 | N | 0 | FI-O236A | Flow Indication | Ozone Injection Line to Ozone Contactor #2 Flow | WO-P0009 | | | | | | CP-O30 | AI |
| 1041 | N | 0 | FI-O237A | Flow Indication | Ozone Injection Line to Ozone Contactor #2 Flow Rate | WO-P0009 | | | | | | CP-O30 | AI |
| 1042 | N | 0 | FI-O238A | Flow Indication | Ozone Injection Line to Ozone Contactor #2 Flow Rate | WO-P0009 | | | | | | CP-O30 | AI |
| 1043 | N | 0 | FI-O236A | Flow Indication | Ozone Injection Line to Ozone Contactor #2 Flow | WO-P0009 | | | | | | CP-O30 | AI |
| 1044 | N | 0 | FI-O237A | Flow Indication | Ozone Injection Line to Ozone Contactor #2 Flow Rate | WO-P0009 | | | | | | CP-O30 | AI |
| 1045 | N | 0 | FI-O238A | Flow Indication | Ozone Injection Line to Ozone Contactor #2 Flow Rate | WO-P0009 | | | | | | CP-O30 | AI |
| 1046 | N | 0 | FQ-O236A | Flow Indicator Transmitter | Ozone Injection Line to Ozone Contactor #2 Flow | WO-P0009 | | | | | | CP-O30 | DI |
| 1047 | N | 0 | FQ-O237A | Flow Pulse | Ozone Injection Line to Ozone Contactor #2 Flow | WO-P0009 | | | | | | CP-O30 | DI |
| 1048 | N | 0 | FQ-O238A | Flow Pulse | Ozone Injection Line to Ozone Contactor #2 Flow Total | WO-P0009 | | | | | | CP-O30 | DI |
| 1049 | N | 0 | FQ-O236A | Flow Indicator Transmitter | Ozone Injection Line to Ozone Contactor #2 Flow | WO-P0009 | | | | | | CP-O30 | DI |
| 1050 | N | 0 | FQ-O237A | Flow Pulse | Ozone Injection Line to Ozone Contactor #2 Flow | WO-P0009 | | | | | | CP-O30 | DI |
| 1051 | N | 0 | FQ-O238A | Flow Pulse | Ozone Injection Line to Ozone Contactor #2 Flow Total | WO-P0009 | | | | | | CP-O30 | DI |
| 1052 | N | 0 | YS-O236A | C/O/H Switch in Computer Position | Ozone Injection Line to Ozone Contactor #2 Flow Control Valve in Computer Mode | WO-P0009 | | | | | | CP-O30 | DI |
| 1053 | N | 0 | YS-O237A | C/O/H Switch in Computer Position | Ozone Injection Line to Ozone Contactor #2 Flow Control Valve in Computer Mode | WO-P0009 | | | | | | CP-O30 | DI |

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| 1054 | N | 0 | YS-O238A | C/O/H Switch in Computer Position | Ozone Injection Line to Ozone Contactor #2 Flow Control Valve in Computer Mode | WO-P0009 | | | | | | CP-O30 | DI |
| 1055 | N | 0 | YS-O236A | C/O/H Switch in Computer Position | Ozone Injection Line to Ozone Contactor #2 Flow Control Valve in Computer Mode | WO-P0009 | | | | | | CP-O30 | DI |
| 1056 | N | 0 | YS-O237A | C/O/H Switch in Computer Position | Ozone Injection Line to Ozone Contactor #2 Flow Control Valve in Computer Mode | WO-P0009 | | | | | | CP-O30 | DI |
| 1057 | N | 0 | YS-O238A | C/O/H Switch in Computer Position | Ozone Injection Line to Ozone Contactor #2 Flow Control Valve in Computer Mode | WO-P0009 | | | | | | CP-O30 | DI |
| 1058 | N | 0 | ZI-O236A | Position Feedback | Ozone Injection Line to Ozone Contactor #2 Flow Control Valve Position | WO-P0009 | | | | | | CP-O30 | AI |
| 1059 | N | 0 | ZI-O237A | Position Feedback | Ozone Injection Line to Ozone Contactor #2 Flow Control Valve Position | WO-P0009 | | | | | | CP-O30 | AI |
| 1060 | N | 0 | ZI-O238A | Position Feedback | Ozone Injection Line to Ozone Contactor #2 Flow Control Valve Position | WO-P0009 | | | | | | CP-O30 | AI |
| 1061 | N | 0 | ZT-O236A | Position Feedback | Ozone Injection Line to Ozone Contactor #2 Flow Control Valve Position | WO-P0009 | | | | | | CP-O30 | AI |
| 1062 | N | 0 | ZT-O237A | Position Feedback | Ozone Injection Line to Ozone Contactor #2 Flow Control Valve Position | WO-P0009 | | | | | | CP-O30 | AI |
| 1063 | N | 0 | ZT-O238A | Position Feedback | Ozone Injection Line to Ozone Contactor #2 Flow Control Valve Position | WO-P0009 | | | | | | CP-O30 | AI |
| 1064 | N | 0 | ZC-O236A | Position Control Output | Ozone Injection Line to Ozone Contactor #2 Flow Control Valve Required Position | WO-P0009 | | | | | | CP-O30 | AO |
| 1065 | N | 0 | ZC-O237A | Position Control Output | Ozone Injection Line to Ozone Contactor #2 Flow Control Valve Required Position | WO-P0009 | | | | | | CP-O30 | AO |
| 1066 | N | 0 | ZC-O238A | Position Control Output | Ozone Injection Line to Ozone Contactor #2 Flow Control Valve Required Position | WO-P0009 | | | | | | CP-O30 | AO |
| 1067 | N | 0 | ZC-O236A | Position Control Output | Ozone Injection Line to Ozone Contactor #2 Flow Control Valve Required Position | WO-P0009 | | | | | | CP-O30 | AO |
| 1068 | N | 0 | ZC-O237A | Position Control Output | Ozone Injection Line to Ozone Contactor #2 Flow Control Valve Required Position | WO-P0009 | | | | | | CP-O30 | AO |
| 1069 | N | 0 | ZC-O238A | Position Control Output | Ozone Injection Line to Ozone Contactor #2 Flow Control Valve Required Position | WO-P0009 | | | | | | CP-O30 | AO |
| 1070 | N | 0 | ZB-O236A | Closed Status | Ozone Injection Line to Ozone Contactor #2 Flow Control Valve Closed | WO-P0009 | | | | | | CP-O30 | DI |
| 1071 | N | 0 | ZD-O236A | Open Status | Ozone Injection Line to Ozone Contactor #2 Flow Control Valve Open | WO-P0009 | | | | | | CP-O30 | DI |
| 1072 | N | 0 | ZB-O237A | Closed Status | Ozone Injection Line to Ozone Contactor #2 Flow Control Valve Closed | WO-P0009 | | | | | | CP-O30 | DI |
| 1073 | N | 0 | ZD-O237A | Open Status | Ozone Injection Line to Ozone Contactor #2 Flow Control Valve Open | WO-P0009 | | | | | | CP-O30 | DI |
| 1074 | N | 0 | ZB-O238A | Closed Status | Ozone Injection Line to Ozone Contactor #2 Flow Control Valve Closed | WO-P0009 | | | | | | CP-O30 | DI |
| 1075 | N | 0 | ZD-O238A | Open Status | Ozone Injection Line to Ozone Contactor #2 Flow Control Valve Open | WO-P0009 | | | | | | CP-O30 | DI |
| 1076 | N | 0 | ZB-O236A | Closed Status | Ozone Injection Line to Ozone Contactor #2 Flow Control Valve Closed | WO-P0009 | | | | | | CP-O30 | DI |
| 1077 | N | 0 | ZD-O236A | Open Status | Ozone Injection Line to Ozone Contactor #2 Flow Control Valve Open | WO-P0009 | | | | | | CP-O30 | DI |
| 1078 | N | 0 | ZB-O237A | Closed Status | Ozone Injection Line to Ozone Contactor #2 Flow Control Valve Closed | WO-P0009 | | | | | | CP-O30 | DI |
| 1079 | N | 0 | ZD-O237A | Open Status | Ozone Injection Line to Ozone Contactor #2 Flow Control Valve Open | WO-P0009 | | | | | | CP-O30 | DI |
| 1080 | N | 0 | ZB-O238A | Closed Status | Ozone Injection Line to Ozone Contactor #2 Flow Control Valve Closed | WO-P0009 | | | | | | CP-O30 | DI |

I/O POINT TYPES: TCP = Modbus/TCP Ethernet, AI = Analog Input, AO = Analog Output, DI = Discrete Input, DO = Discrete Output

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| RECORD NO. | PLC Programming reqd | REV. N0. | TAG NAME | FUNCTION | SERVICE | P&ID DRAWING | ENG. UNITS | SCALE LOW | SCALE HIGH | ALARMS LOW | ALARMS HIGH | PLC CABINET | I/O TYPE |
| 1081 | N | 0 | ZD-O238A | Open Status | Ozone Injection Line to Ozone Contactor #2 Flow Control Valve Open | WO-P0009 | | | | | | CP-O30 | DI |
| 1082 | N | 0 | SSP-O510A | Position Control Output | Ozone Destruct Unit #1 Inlet Valve Required Position | WO-P0012 | | | | | | CP-O30 | DO |
| 1083 | N | 0 | SFB-O510A | Position Feedback | Ozone Destruct Unit #1 Inlet Valve Position | WO-P0012 | | | | | | CP-O30 | DO |
| 1084 | N | 0 | AI-O501A | Ozone Gas Indication | Ozone Contactor #1 to Ozone Destruct Gas Level | WO-P0012 | | | | | | CP-O30 | AI |
| 1085 | N | 0 | MM-O510A | Running Status | Ozone Destruct Unit #1 Blower Running | WO-P0012 | | | | | | CP-O30 | DI |
| 1086 | N | 0 | MN-O510A | Start Command | Ozone Destruct Unit #1 Blower Start | WO-P0012 | | | | | | CP-O30 | DO |
| 1087 | N | 0 | PI-O501A | Pressure Indication | Ozone Contactor #1 to Ozone Destruct Units Pressure | WO-P0012 | | | | | | CP-O30 | AI |
| 1088 | N | 0 | PI-O501B | Pressure Indication | Ozone Contactor #1 to Ozone Destruct Units Demister Differential Pressure | WO-P0012 | | | | | | CP-O30 | AI |
| 1089 | N | 0 | PI-O510A | Pressure Indication | Catalytic Destruct Unit CDU-O510 Differential Pressure | WO-P0012 | | | | | | CP-O30 | AI |
| 1090 | N | 0 | PI-O510B | Pressure Indication | Ozone Destruct Unit #1 Blower Differential Pressure | WO-P0012 | | | | | | CP-O30 | AI |
| 1091 | N | 0 | TI-O510A | Temperature Indication | Ozone Destruct Unit #1 Heater Inlet Temperature | WO-P0012 | | | | | | CP-O30 | AI |
| 1092 | N | 0 | TI-O510B | Temperature Indication | Ozone Destruct Unit #1 Heater Outlet Temperature | WO-P0012 | | | | | | CP-O30 | AI |
| 1093 | N | 0 | TI-O510C | Temperature Indication | Catalytic Destruct Unit CDU-O510A Outlet Temperature | WO-P0012 | | | | | | CP-O30 | AI |
| 1094 | N | 0 | UF-O510A | No Fault | Ozone Destruct Unit #1 Blower Fault | WO-P0012 | | | | | | CP-O30 | DI |
| 1095 | N | 0 | YB-O510A | Close Command | Ozone Destruct Unit #1 Inlet Valve Close | WO-P0012 | | | | | | CP-O30 | DO |
| 1096 | N | 0 | YS-O521A | C/O/H Switch in Computer Position | Ozone Destruct Unit #1 Bypass in Computer Mode | WO-P0012 | | | | | | CP-O30 | DI |
| 1097 | N | 0 | YS-O510A | C/O/H Switch in Computer Position | Ozone Destruct Unit #1 Inlet Valve in Computer Mode | WO-P0012 | | | | | | CP-O30 | DI |
| 1098 | N | 0 | YD-O510A | Open Command | Ozone Destruct Unit #1 Inlet Valve Open | WO-P0012 | | | | | | CP-O30 | DI |
| 1099 | N | 0 | YS-O521A | C/O/H Switch in Computer Position | Ozone Destruct Unit #1 Bypass in Computer Mode | WO-P0012 | | | | | | CP-O30 | DI |
| 1100 | N | 0 | YB-O521A | Close Command | Ozone Destruct Unit #1 Bypass Close | WO-P0012 | | | | | | CP-O30 | DO |
| 1101 | N | 0 | YD-O521A | Open Command | Ozone Destruct Unit #1 Bypass Open | WO-P0012 | | | | | | CP-O30 | DO |
| 1102 | N | 0 | YB-O521A | Close Command | Ozone Destruct Unit #1 Bypass Close | WO-P0012 | | | | | | CP-O30 | DO |
| 1103 | N | 0 | YD-O521A | Open Command | Ozone Destruct Unit #1 Bypass Open | WO-P0012 | | | | | | CP-O30 | DO |
| 1104 | N | 0 | ZB-O521A | Closed Status | Ozone Destruct Unit #1 Bypass Closed | WO-P0012 | | | | | | CP-O30 | DI |
| 1105 | N | 0 | ZD-O521A | Open Status | Ozone Destruct Unit #1 Bypass Open | WO-P0012 | | | | | | CP-O30 | DI |
| 1106 | N | 0 | ZB-O510A | Closed Status | Ozone Destruct Unit #1 Inlet Valve Closed | WO-P0012 | | | | | | CP-O30 | DI |
| 1107 | N | 0 | ZD-O510A | Open Status | Ozone Destruct Unit #1 Inlet Valve Open | WO-P0012 | | | | | | CP-O30 | DI |
| 1108 | N | 0 | ZB-O521A | Closed Status | Ozone Destruct Unit #1 Bypass Closed | WO-P0012 | | | | | | CP-O30 | DI |
| 1109 | N | 0 | ZD-O521A | Open Status | Ozone Destruct Unit #1 Bypass Open | WO-P0012 | | | | | | CP-O30 | DI |
| 1110 | N | 0 | SSP-O520A | Position Control Output | Ozone Destruct Unit #2 Inlet Valve Required Position | WO-P0013 | | | | | | CP-O30 | DO |
| 1111 | N | 0 | SFB-O520A | Position Feedback | Ozone Destruct Unit #2 Inlet Valve Position | WO-P0013 | | | | | | CP-O30 | DO |
| 1112 | N | 0 | AI-O520B | Ozone Gas Indication | Ambient Ozone Gas Level | WO-P0013 | | | | | | CP-O30 | AI |
| 1113 | N | 0 | AI-O520A | Ozone Gas Indication | Ozone Destruct Unit #2 Vent Ozone Gas Level | WO-P0013 | | | | | | CP-O30 | AI |
| 1114 | N | 0 | AI-O520B | Ozone Gas Indication | Ambient Ozone Gas Level | WO-P0013 | | | | | | CP-O30 | AI |
| 1115 | N | 0 | MM-O520A | Running Status | Ozone Destruct Unit #2 Blower Running | WO-P0013 | | | | | | CP-O30 | DI |
| 1116 | N | 0 | MN-O520A | Start Command | Ozone Destruct Unit #2 Blower Start | WO-P0013 | | | | | | CP-O30 | DO |
| 1117 | N | 0 | PI-O520A | Pressure Indication | Catalytic Destruct Unit CDU-O520A Differential Pressure | WO-P0013 | | | | | | CP-O30 | AI |
| 1118 | N | 0 | PI-O520B | Pressure Indication | Ozone Destruct Unit #2 Blower Differential Pressure | WO-P0013 | | | | | | CP-O30 | AI |
| 1119 | N | 0 | TI-O520A | Temperature Indication | Ozone Destruct Unit #2 Heater Inlet Temperature | WO-P0013 | | | | | | CP-O30 | AI |
| 1120 | N | 0 | TI-O520B | Temperature Indication | Ozone Destruct Unit #2 Heater Outlet Temperature | WO-P0013 | | | | | | CP-O30 | AI |
| 1121 | N | 0 | TI-O520C | Temperature Indication | Catalytic Destruct Unit CDU-O520A Outlet Temperature | WO-P0013 | | | | | | CP-O30 | AI |
| 1122 | N | 0 | UF-O520A | No Fault | Ozone Destruct Unit #2 Blower Fault | WO-P0013 | | | | | | CP-O30 | DI |
| 1123 | N | 0 | YB-O520A | Close Command | Ozone Destruct Unit #2 Inlet Valve Close | WO-P0013 | | | | | | CP-O30 | DO |
| 1124 | N | 0 | YS-O520A | C/O/H Switch in Computer Position | Ozone Destruct Unit #2 Inlet Valve in Computer Mode | WO-P0013 | | | | | | CP-O30 | DI |
| 1125 | N | 0 | YD-O520A | Open Command | Ozone Destruct Unit #2 Inlet Valve Open | WO-P0013 | | | | | | CP-O30 | DO |
| 1126 | N | 0 | ZB-O520A | Closed Status | Ozone Destruct Unit #2 Inlet Valve Closed | WO-P0013 | | | | | | CP-O30 | DI |
| 1127 | N | 0 | ZD-O520A | Open Status | Ozone Destruct Unit #2 Inlet Valve Open | WO-P0013 | | | | | | CP-O30 | DI |
| 1128 | N | 0 | SSP-O530A | Position Feedback | Ozone Destruct Unit #3 Inlet Valve Position | WO-P0014 | | | | | | CP-O30 | AI |
| 1129 | N | 0 | SFB-O530A | Position Control Output | Ozone Destruct Unit #3 Inlet Valve Required Position | WO-P0014 | | | | | | CP-O30 | AO |
| 1130 | N | 0 | AI-O505A | Ozone Gas Indication | Ozone Contactor #2 to Ozone Destruct Analyzer | WO-P0014 | | | | | | CP-O30 | AI |
| 1131 | N | 0 | AI-O505A | Ozone Gas Indication | Ozone Contactor #2 to Ozone Destruct Analyzer | WO-P0014 | | | | | | CP-O30 | AI |
| 1132 | N | 0 | AI-O530A | Ozone Gas Indication | Ozone Destruct Unit #3 Vent Ozone Analyzer Gas Level | WO-P0014 | | | | | | CP-O30 | AI |
| 1133 | N | 0 | MM-O530A | Running Status | Ozone Destruct Unit #3 Blower Running | WO-P0014 | | | | | | CP-O30 | DI |

I/O POINT TYPES: TCP = Modbus/TCP Ethernet, AI = Analog Input, AO = Analog Output, DI = Discrete Input, DO = Discrete Output

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| RECORD NO. | PLC Programming reqd | REV. N0. | TAG NAME | FUNCTION | SERVICE | P&ID DRAWING | ENG. UNITS | SCALE LOW | SCALE HIGH | ALARMS LOW | ALARMS HIGH | PLC CABINET | I/O TYPE |
| 1134 | N | 0 | MN-O530A | Start Command | Ozone Destruct Unit #3 Blower Start | WO-P0014 | | | | | | CP-O30 | DO |
| 1135 | N | 0 | PI-O505A | Pressure Indication | Ozone Contactor #2 to Ozone Destruct Units Pressure | WO-P0014 | | | | | | CP-O30 | AI |
| 1136 | N | 0 | PI-O505B | Pressure Indication | Ozone Contactor #2 to Ozone Destruct Units Demister Differential Pressure | WO-P0014 | | | | | | CP-O30 | AI |
| 1137 | N | 0 | PI-O505A | Pressure Indication | Ozone Contactor #2 to Ozone Destruct Units Pressure | WO-P0014 | | | | | | CP-O30 | AI |
| 1138 | N | 0 | PI-O505B | Pressure Indication | Ozone Contactor #2 to Ozone Destruct Units Demister Differential Pressure | WO-P0014 | | | | | | CP-O30 | AI |
| 1139 | N | 0 | PI-O530A | Pressure Indication | Catalytic Destruct Unit CDU-O530 Differential Pressure | WO-P0014 | | | | | | CP-O30 | AI |
| 1140 | N | 0 | PI-O530B | Pressure Indication | Ozone Destruct Unit #3 Blower Differential Pressure | WO-P0014 | | | | | | CP-O30 | AI |
| 1141 | N | 0 | TI-O530A | Temperature Indication | Ozone Destruct Unit #3 Heater Inlet Temperature | WO-P0014 | | | | | | CP-O30 | AI |
| 1142 | N | 0 | TI-O530B | Temperature Indication | Ozone Destruct Unit #3 Heater Outlet Temperature | WO-P0014 | | | | | | CP-O30 | AI |
| 1143 | N | 0 | TI-O530C | Temperature Indication | Catalytic Destruct Unit CDU-O530A Outlet Temperature | WO-P0014 | | | | | | CP-O30 | AI |
| 1144 | N | 0 | UF-O530A | No Fault | Ozone Destruct Unit #3 Blower Fault | WO-P0014 | | | | | | CP-O30 | DI |
| 1145 | N | 0 | YS-O523A | C/O/H Switch in Computer Position | Ozone Destruct Unit #3 Bypass Valve in Computer Mode | WO-P0014 | | | | | | CP-O30 | DI |
| 1146 | N | 0 | YS-O530A | C/O/H Switch in Computer Position | Ozone Destruct Unit #3 Inlet Valve in Computer Mode | WO-P0014 | | | | | | CP-O30 | DI |
| 1147 | N | 0 | YB-O523A | Close Command | Ozone Destruct Unit #3 Bypass Valve Close | WO-P0014 | | | | | | CP-O30 | DO |
| 1148 | N | 0 | YD-O523A | Open Command | Ozone Destruct Unit #3 Bypass Valve Open | WO-P0014 | | | | | | CP-O30 | DO |
| 1149 | N | 0 | YB-O523A | Close Command | Ozone Destruct Unit #3 Bypass Valve Close | WO-P0014 | | | | | | CP-O30 | DO |
| 1150 | N | 0 | YD-O523A | Open Command | Ozone Destruct Unit #3 Bypass Valve Open | WO-P0014 | | | | | | CP-O30 | DO |
| 1151 | N | 0 | ZB-O523A | Closed Status | Ozone Destruct Unit #3 Bypass Valve Closed | WO-P0014 | | | | | | CP-O30 | DI |
| 1152 | N | 0 | ZD-O523A | Open Status | Ozone Destruct Unit #3 Bypass Valve Open | WO-P0014 | | | | | | CP-O30 | DI |
| 1153 | N | 0 | ZB-O523A | Closed Status | Ozone Destruct Unit #3 Bypass Valve Closed | WO-P0014 | | | | | | CP-O30 | DI |
| 1154 | N | 0 | ZD-O523A | Open Status | Ozone Destruct Unit #3 Bypass Valve Open | WO-P0014 | | | | | | CP-O30 | DI |
| 1155 | N | 0 | ZB-O530A | Closed Status | Ozone Destruct Unit #3 Inlet Valve Closed | WO-P0014 | | | | | | CP-O30 | DI |
| 1156 | N | 0 | ZD-O530A | Open Status | Ozone Destruct Unit #3 Inlet Valve Open | WO-P0014 | | | | | | CP-O30 | DI |
| 1157 | N | 0 | AI-O404A | Turbidity Indication | Open Loop Cooling Water Turbidity | WO-P0015 | | | | | | CP-O30 | AI |
| 1158 | N | 0 | FA-O404A | Flow Switch | Open Loop Cooling Water to Turbidity Analyzer Low Flow | WO-P0015 | | | | | | CP-O30 | DI |
| 1159 | N | 0 | MM-O401A | Running Status | Ozonation Open Loop Cooling Water Pump P-PO401A Running | WO-P0015 | | | | | | CP-O30 | DI |
| 1160 | N | 0 | MM-O402A | Running Status | Ozonation Open Loop Cooling Water Pump P-PO402A Running | WO-P0015 | | | | | | CP-O30 | DI |
| 1161 | N | 0 | MM-O403A | Running Status | Ozonation Open Loop Cooling Water Pump P-PO403A Running | WO-P0015 | | | | | | CP-O30 | DI |
| 1162 | N | 0 | MN-O401A | Start Command | Ozonation Open Loop Cooling Water Pump P-PO401A Start | WO-P0015 | | | | | | CP-O30 | DO |
| 1163 | N | 0 | MN-O402A | Start Command | Ozonation Open Loop Cooling Water Pump P-PO402A Start | WO-P0015 | | | | | | CP-O30 | DO |
| 1164 | N | 0 | MN-O403A | Start Command | Ozonation Open Loop Cooling Water Pump P-PO403A Start | WO-P0015 | | | | | | CP-O30 | DO |
| 1165 | N | 0 | UF-O401A | No Fault | Ozonation Open Loop Cooling Water Pump P-PO401A Fault | WO-P0015 | | | | | | CP-O30 | DI |
| 1166 | N | 0 | UF-O402A | No Fault | Ozonation Open Loop Cooling Water Pump P-PO402A Fault | WO-P0015 | | | | | | CP-O30 | DI |
| 1167 | N | 0 | UF-O403A | No Fault | Ozonation Open Loop Cooling Water Pump P-PO403A Fault | WO-P0015 | | | | | | CP-O30 | DI |
| 1168 | N | 0 | YS-O401A | C/O/H Switch in Computer Position | Ozonation Open Loop Cooling Water Pump P-PO401A in Computer Mode | WO-P0015 | | | | | | CP-O30 | DI |
| 1169 | N | 0 | YS-O402A | C/O/H Switch in Computer Position | Ozonation Open Loop Cooling Water Pump P-PO402A in Computer Mode | WO-P0015 | | | | | | CP-O30 | DI |
| 1170 | N | 0 | YS-O403A | C/O/H Switch in Computer Position | Ozonation Open Loop Cooling Water Pump P-PO403A in Computer Mode | WO-P0015 | | | | | | CP-O30 | DI |
| 1171 | N | 0 | CI-O411A | Conductivity Indication | Ozone Generator Closed Loop Cooling Water to Heat Exchanger HEX-0410A Pump Outlet Conductivity | WO-P0016 | | | | | | CP-O30 | AI |
| 1172 | N | 0 | FI-O111A | Flow Indication | Ozone Generator Closed Loop Cooling Water to Heat Exchanger HEX-0410 Inlet Flow Rate | WO-P0016 | | | | | | CP-O30 | AI |
| 1173 | N | 0 | FQ-O111A | Flow Pulse | Ozone Generator Closed Loop Cooling Water to Heat Exchanger HEX-0410 Inlet Flow Total | WO-P0016 | | | | | | CP-O30 | AI |
| 1174 | N | 0 | FI-O410A | Flow Indication | Open Loop Cooling Water to Heat Exchanger HEX-O410A Inlet Flow Rate | WO-P0016 | | | | | | CP-O30 | AI |
| 1175 | N | 0 | FQ-O410A | Flow Pulse | Open Loop Cooling Water to Heat Exchanger HEX-O410A Inlet Flow Total | WO-P0016 | | | | | | CP-O30 | DI |
| 1176 | N | 0 | MM-O411A | Running Status | Ozone Generator Closed Loop Cooling Water to Heat Exchanger HEX-0410A Pump Running | WO-P0016 | | | | | | CP-O30 | DI |

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| RECORD NO. | PLC Programming reqd | REV. N0. | TAG NAME | FUNCTION | SERVICE | P&ID DRAWING | ENG. UNITS | SCALE LOW | SCALE HIGH | ALARMS LOW | ALARMS HIGH | PLC CABINET | I/O TYPE |
| 1177 | N | 0 | MN-O411A | Start Command | Ozone Generator Closed Loop Cooling Water to Heat Exchanger HEX-0410A Pump Start | WO-P0016 | | | | | | CP-O30 | DO |
| 1178 | N | 0 | PI-O111A | Pressure Indication | Ozone Generator Closed Loop Cooling Water to Heat Exchanger HEX-0410 Inlet Pressure | WO-P0016 | | | | | | CP-O30 | AI |
| 1179 | N | 0 | TI-O410A | Temperature Indication | Open Loop Cooling Water to Heat Exchanger HEX-O410A Inlet Temperature | WO-P0016 | | | | | | CP-O30 | AI |
| 1180 | N | 0 | TI-O410B | Temperature Indication | Open Loop Cooling Water to Heat Exchanger HEX-O410A Outlet Temperature | WO-P0016 | | | | | | CP-O30 | AI |
| 1181 | N | 0 | TI-O411A | Temperature Indication | Ozone Generator Closed Loop Cooling Water to Heat Exchanger HEX-0410 Inlet Temperature | WO-P0016 | | | | | | CP-O30 | AI |
| 1182 | N | 0 | TI-O411B | Temperature Indication | Ozone Generator Closed Loop Cooling Water to Heat Exchanger HEX-0410 Outlet Temperature | WO-P0016 | | | | | | CP-O30 | AI |
| 1183 | N | 0 | UF-O411A | No Fault | Ozone Generator Closed Loop Cooling Water to Heat Exchanger HEX-0410A Pump Fault | WO-P0016 | | | | | | CP-O30 | DI |
| 1184 | N | 0 | YS-O111A | C/O/H Switch in Computer Position | Ozone Generator Closed Loop Cooling Water to Heat Exchanger HEX-0410 Inlet Valve in Computer Mode | WO-P0016 | | | | | | CP-O30 | DI |
| 1185 | N | 0 | YS-O410A | C/O/H Switch in Computer Position | Open Loop Cooling Water to Heat Exchanger HEX-O410A Valve in Computer Mode | WO-P0016 | | | | | | CP-O30 | DI |
| 1186 | N | 0 | YS-O411A | C/O/H Switch in Computer Position | Ozone Generator Closed Loop Cooling Water to Heat Exchanger HEX-0410A Pump in Computer Mode | WO-P0016 | | | | | | CP-O30 | DI |
| 1187 | N | 0 | YB-O111A | Close Command | Ozone Generator Closed Loop Cooling Water to Heat Exchanger HEX-0410 Inlet Valve Close | WO-P0016 | | | | | | CP-O30 | DO |
| 1188 | N | 0 | YD-O111A | Open Command | Ozone Generator Closed Loop Cooling Water to Heat Exchanger HEX-0410 Inlet Valve Open | WO-P0016 | | | | | | CP-O30 | DO |
| 1189 | N | 0 | YB-O410A | Close Command | Open Loop Cooling Water to Heat Exchanger HEX-O410A Valve Close | WO-P0016 | | | | | | CP-O30 | DO |
| 1190 | N | 0 | YD-O410A | Open Command | Open Loop Cooling Water to Heat Exchanger HEX-O410A Valve Open | WO-P0016 | | | | | | CP-O30 | DO |
| 1191 | N | 0 | YD-O411A | Open Command | Ozone Generator Closed Loop Cooling Water De-Ionized Water to Heat Exchanger HEX-0410A Valve Open | WO-P0016 | | | | | | CP-O30 | DO |
| 1192 | N | 0 | ZB-O111A | Closed Status | Ozone Generator Closed Loop Cooling Water to Heat Exchanger HEX-0410 Inlet Valve Closed | WO-P0016 | | | | | | CP-O30 | DI |
| 1193 | N | 0 | ZD-O111A | Open Status | Ozone Generator Closed Loop Cooling Water to Heat Exchanger HEX-0410 Inlet Valve Open | WO-P0016 | | | | | | CP-O30 | DI |
| 1194 | N | 0 | ZB-O410A | Closed Status | Open Loop Cooling Water to Heat Exchanger HEX-O410A Valve Closed | WO-P0016 | | | | | | CP-O30 | DI |
| 1195 | N | 0 | ZD-O410A | Open Status | Open Loop Cooling Water to Heat Exchanger HEX-O410A Valve Open | WO-P0016 | | | | | | CP-O30 | DI |
| 1196 | N | 0 | CI-O421A | Conductivity Indication | Ozone Generator Closed Loop Cooling Water to Heat Exchanger HEX-0420A Pump Outlet Conductivity | WO-P0017 | | | | | | CP-O30 | AI |
| 1197 | N | 0 | FI-O131A | Flow Indication | Ozone Generator Closed Loop Cooling Water to Heat Exchanger HEX-0420 Inlet Flow Rate | WO-P0017 | | | | | | CP-O30 | AI |
| 1198 | N | 0 | FQ-O131A | Flow Pulse | Ozone Generator Closed Loop Cooling Water to Heat Exchanger HEX-0420 Inlet Flow Total | WO-P0017 | | | | | | CP-O30 | AI |
| 1199 | N | 0 | FI-O420A | Flow Indication | Open Loop Cooling Water to Heat Exchanger HEX-O420A Inlet Flow Rate | WO-P0017 | | | | | | CP-O30 | AI |
| 1200 | N | 0 | FQ-O420A | Flow Pulse | Open Loop Cooling Water to Heat Exchanger HEX-O420A Inlet Flow Total | WO-P0017 | | | | | | CP-O30 | DI |
| 1201 | N | 0 | MM-O421A | Running Status | Ozone Generator Closed Loop Cooling Water to Heat Exchanger HEX-0420A Pump Running | WO-P0017 | | | | | | CP-O30 | DI |
| 1202 | N | 0 | MN-O421A | Start Command | Ozone Generator Closed Loop Cooling Water to Heat Exchanger HEX-0420A Pump Start | WO-P0017 | | | | | | CP-O30 | DO |
| 1203 | N | 0 | PI-O131A | Pressure Indication | Ozone Generator Closed Loop Cooling Water to Heat Exchanger HEX-0420 Inlet Pressure | WO-P0017 | | | | | | CP-O30 | AI |

I/O POINT TYPES: TCP = Modbus/TCP Ethernet, AI = Analog Input, AO = Analog Output, DI = Discrete Input, DO = Discrete Output

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| RECORD NO. | PLC Programming reqd | REV. N0. | TAG NAME | FUNCTION | SERVICE | P&ID DRAWING | ENG. UNITS | SCALE LOW | SCALE HIGH | ALARMS LOW | ALARMS HIGH | PLC CABINET | I/O TYPE |
| 1204 | N | 0 | TI-O420A | Temperature Indication | Open Loop Cooling Water to Heat Exchanger HEX-O420A Inlet Temperature | WO-P0017 | | | | | | CP-O30 | AI |
| 1205 | N | 0 | TI-O420B | Temperature Indication | Open Loop Cooling Water to Heat Exchanger HEX-O420A Outlet Temperature | WO-P0017 | | | | | | CP-O30 | AI |
| 1206 | N | 0 | TI-O421A | Temperature Indication | Ozone Generator Closed Loop Cooling Water to Heat Exchanger HEX-0420 Inlet Temperature | WO-P0017 | | | | | | CP-O30 | AI |
| 1207 | N | 0 | TI-O421B | Temperature Indication | Ozone Generator Closed Loop Cooling Water to Heat Exchanger HEX-0420 Outlet Temperature | WO-P0017 | | | | | | CP-O30 | AI |
| 1208 | N | 0 | UF-O421A | No Fault | Ozone Generator Closed Loop Cooling Water to Heat Exchanger HEX-0420A Pump Fault | WO-P0017 | | | | | | CP-O30 | DI |
| 1209 | N | 0 | YS-O131A | C/O/H Switch in Computer Position | Ozone Generator Closed Loop Cooling Water to Heat Exchanger HEX-0420 Inlet Valve in Computer Mode | WO-P0017 | | | | | | CP-O30 | DI |
| 1210 | N | 0 | YS-O420A | C/O/H Switch in Computer Position | Open Loop Cooling Water to Heat Exchanger HEX-O420A Valve in Computer Mode | WO-P0017 | | | | | | CP-O30 | DI |
| 1211 | N | 0 | YS-O421A | C/O/H Switch in Computer Position | Ozone Generator Closed Loop Cooling Water to Heat Exchanger HEX-0420A Pump in Computer Mode | WO-P0017 | | | | | | CP-O30 | DI |
| 1212 | N | 0 | YB-O131A | Close Command | Ozone Generator Closed Loop Cooling Water to Heat Exchanger HEX-0420 Inlet Valve Close | WO-P0017 | | | | | | CP-O30 | DO |
| 1213 | N | 0 | YD-O131A | Open Command | Ozone Generator Closed Loop Cooling Water to Heat Exchanger HEX-0420 Inlet Valve Open | WO-P0017 | | | | | | CP-O30 | DO |
| 1214 | N | 0 | YB-O420A | Close Command | Open Loop Cooling Water to Heat Exchanger HEX-O420A Valve Close | WO-P0017 | | | | | | CP-O30 | DO |
| 1215 | N | 0 | YD-O420A | Open Command | Open Loop Cooling Water to Heat Exchanger HEX-O420A Valve Open | WO-P0017 | | | | | | CP-O30 | DO |
| 1216 | N | 0 | YD-O421A | Open Command | Ozone Generator Closed Loop Cooling Water De-Ionized Water to Heat Exchanger HEX-0420A Valve Open | WO-P0017 | | | | | | CP-O30 | DO |
| 1217 | N | 0 | ZB-O131A | Closed Status | Ozone Generator Closed Loop Cooling Water to Heat Exchanger HEX-0420 Inlet Valve Closed | WO-P0017 | | | | | | CP-O30 | DI |
| 1218 | N | 0 | ZD-O131A | Open Status | Ozone Generator Closed Loop Cooling Water to Heat Exchanger HEX-0420 Inlet Valve Open | WO-P0017 | | | | | | CP-O30 | DI |
| 1219 | N | 0 | ZB-O420A | Closed Status | Open Loop Cooling Water to Heat Exchanger HEX-O420A Valve Closed | WO-P0017 | | | | | | CP-O30 | DI |
| 1220 | N | 0 | ZD-O420A | Open Status | Open Loop Cooling Water to Heat Exchanger HEX-O420A Valve Open | WO-P0017 | | | | | | CP-O30 | DI |
| 1221 | N | 0 | CI-O431A | Conductivity Indication | Ozone Generator Closed Loop Cooling Water to Heat Exchanger HEX-0430A Pump Outlet Conductivity | WO-P0018 | | | | | | CP-O30 | AI |
| 1222 | N | 0 | FI-O151A | Flow Indication | Ozone Generator Closed Loop Cooling Water to Heat Exchanger HEX-0430 Inlet Flow Rate | WO-P0018 | | | | | | CP-O30 | AI |
| 1223 | N | 0 | FQ-O151A | Flow Pulse | Ozone Generator Closed Loop Cooling Water to Heat Exchanger HEX-0430 Inlet Flow Total | WO-P0018 | | | | | | CP-O30 | AI |
| 1224 | N | 0 | FI-O430A | Flow Indication | Open Loop Cooling Water to Heat Exchanger HEX-O430A Inlet Flow Rate | WO-P0018 | | | | | | CP-O30 | AI |
| 1225 | N | 0 | FQ-O430A | Flow Pulse | Open Loop Cooling Water to Heat Exchanger HEX-O430A Inlet Flow Total | WO-P0018 | | | | | | CP-O30 | DI |
| 1226 | N | 0 | MM-O431A | Running Status | Ozone Generator Closed Loop Cooling Water to Heat Exchanger HEX-0430A Pump Running | WO-P0018 | | | | | | CP-O30 | DI |
| 1227 | N | 0 | MN-O431A | Start Command | Ozone Generator Closed Loop Cooling Water to Heat Exchanger HEX-0430A Pump Start | WO-P0018 | | | | | | CP-O30 | DO |
| 1228 | N | 0 | PI-O151A | Pressure Indication | Ozone Generator Closed Loop Cooling Water to Heat Exchanger HEX-0430 Inlet Pressure | WO-P0018 | | | | | | CP-O30 | AI |
| 1229 | N | 0 | TI-O430A | Temperature Indication | Open Loop Cooling Water to Heat Exchanger HEX-O430A Inlet Temperature | WO-P0018 | | | | | | CP-O30 | AI |
| 1230 | N | 0 | TI-O430B | Temperature Indication | Open Loop Cooling Water to Heat Exchanger HEX-O430A Outlet Temperature | WO-P0018 | | | | | | CP-O30 | AI |

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| RECORD NO. | PLC Programming reqd | REV. N0. | TAG NAME | FUNCTION | SERVICE | P&ID DRAWING | ENG. UNITS | SCALE LOW | SCALE HIGH | ALARMS LOW | ALARMS HIGH | PLC CABINET | I/O TYPE |
| 1231 | N | 0 | TI-O431A | Temperature Indication | Ozone Generator Closed Loop Cooling Water to Heat Exchanger HEX-0430 Inlet Temperature | WO-P0018 | | | | | | CP-O30 | AI |
| 1232 | N | 0 | TI-O431B | Temperature Indication | Ozone Generator Closed Loop Cooling Water to Heat Exchanger HEX-0430 Outlet Temperature | WO-P0018 | | | | | | CP-O30 | AI |
| 1233 | N | 0 | UF-O431A | No Fault | Ozone Generator Closed Loop Cooling Water to Heat Exchanger HEX-0430A Pump Fault | WO-P0018 | | | | | | CP-O30 | DI |
| 1234 | N | 0 | YS-O151A | C/O/H Switch in Computer Position | Ozone Generator Closed Loop Cooling Water to Heat Exchanger HEX-0430 Inlet Valve in Computer Mode | WO-P0018 | | | | | | CP-O30 | DI |
| 1235 | N | 0 | YS-O430A | C/O/H Switch in Computer Position | Open Loop Cooling Water to Heat Exchanger HEX-O430A Valve in Computer Mode | WO-P0018 | | | | | | CP-O30 | DI |
| 1236 | N | 0 | YS-O431A | C/O/H Switch in Computer Position | Ozone Generator Closed Loop Cooling Water to Heat Exchanger HEX-0430A Pump in Computer Mode | WO-P0018 | | | | | | CP-O30 | DI |
| 1237 | N | 0 | YB-O151A | Close Command | Ozone Generator Closed Loop Cooling Water to Heat Exchanger HEX-0430 Inlet Valve Close | WO-P0018 | | | | | | CP-O30 | DO |
| 1238 | N | 0 | YD-O151A | Open Command | Ozone Generator Closed Loop Cooling Water to Heat Exchanger HEX-0430 Inlet Valve Open | WO-P0018 | | | | | | CP-O30 | DO |
| 1239 | N | 0 | YB-O430A | Close Command | Open Loop Cooling Water to Heat Exchanger HEX-O430A Valve Close | WO-P0018 | | | | | | CP-O30 | DO |
| 1240 | N | 0 | YD-O430A | Open Command | Open Loop Cooling Water to Heat Exchanger HEX-O430A Valve Open | WO-P0018 | | | | | | CP-O30 | DO |
| 1241 | N | 0 | YD-O431A | Open Command | Ozone Generator Closed Loop Cooling Water De-Ionized Water to Heat Exchanger HEX-0430A Valve Open | WO-P0018 | | | | | | CP-O30 | DO |
| 1242 | N | 0 | ZB-O151A | Closed Status | Ozone Generator Closed Loop Cooling Water to Heat Exchanger HEX-0430 Inlet Valve Closed | WO-P0018 | | | | | | CP-O30 | DI |
| 1243 | N | 0 | ZD-O151A | Open Status | Ozone Generator Closed Loop Cooling Water to Heat Exchanger HEX-0430 Inlet Valve Open | WO-P0018 | | | | | | CP-O30 | DI |
| 1244 | N | 0 | ZB-O430A | Closed Status | Open Loop Cooling Water to Heat Exchanger HEX-O430A Valve Closed | WO-P0018 | | | | | | CP-O30 | DI |
| 1245 | N | 0 | ZD-O430A | Open Status | Open Loop Cooling Water to Heat Exchanger HEX-O430A Valve Open | WO-P0018 | | | | | | CP-O30 | DI |
| 1246 | N | 0 | TA-O310A | Temperature Switch | Electrolyser Power Supply Unit PSU-O310A High Temperature | WO-P0019 | | | | | | CP-O30 | DI |
| 1247 | N | 0 | YD-O310A | Open Command | Open Loop Cooling Water to Power Supply Unit PSU-O310A Flow Control | WO-P0019 | | | | | | CP-O30 | DO |
| 1248 | N | 0 | TA-O320A | Temperature Switch | Electrolyser Power Supply Unit PSU-O320A High Temperature | WO-P0020 | | | | | | CP-O30 | DI |
| 1249 | N | 0 | YD-O320A | Open Command | Open Loop Cooling Water to Power Supply Unit PSU-O320A Flow Control | WO-P0020 | | | | | | CP-O30 | DO |
| 1250 | N | 0 | TA-O330A | Temperature Switch | Electrolyser Power Supply Unit PSU-O330A High Temperature | WO-P0021 | | | | | | CP-O30 | DI |
| 1251 | N | 0 | YD-O330A | Open Command | Open Loop Cooling Water to Power Supply Unit PSU-O330A Flow Control | WO-P0021 | | | | | | CP-O30 | DO |
| 1252 | N | 0 | AI-O221A | Ozone Indication | Sample Element SE-0210A Dissolved Ozone | WO-P0022 | | | | | | CP-O30 | AI |
| 1253 | N | 0 | AI-O226A | Ozone Indication | Sample Element SE-0210B Dissolved Ozone | WO-P0022 | | | | | | CP-O30 | AI |
| 1254 | N | 0 | AI-O221A | Ozone Indication | Sample Element SE-0210A Dissolved Ozone | WO-P0022 | | | | | | CP-O30 | AI |
| 1255 | N | 0 | AI-O226A | Ozone Indication | Sample Element SE-0210B Dissolved Ozone | WO-P0022 | | | | | | CP-O30 | AI |
| 1256 | N | 0 | FI-O220A | Flow Indication | Sample Element SE-0210A Dissolved Ozone Sample Flow Rate | WO-P0022 | | | | | | CP-O30 | AI |
| 1257 | N | 0 | FI-O225A | Flow Indication | Sample Element SE-0210B Dissolved Ozone Sample Flow Rate | WO-P0022 | | | | | | CP-O30 | AI |
| 1258 | N | 0 | FA-O221A | Flow Alarm | Sample Element SE-0210A Dissolved Ozone Sample Low Flow | WO-P0022 | | | | | | CP-O30 | DI |
| 1259 | N | 0 | FA-O226A | Flow Alarm | Sample Element SE-0210B Dissolved Ozone Sample Low Flow | WO-P0022 | | | | | | CP-O30 | DI |
| 1260 | N | 0 | FQ-O220A | Flow Pulse | Sample Element SE-0210A Dissolved Ozone Sample Total | WO-P0022 | | | | | | CP-O30 | DI |
| 1261 | N | 0 | FA-O222A | Flow Alarm | Sample Element SE-0210A Dissolved Ozone Sample Low Flow | WO-P0022 | | | | | | CP-O30 | DI |
| 1262 | N | 0 | FQ-O225A | Flow Pulse | Sample Element SE-0210B Dissolved Ozone Sample Flow Total | WO-P0022 | | | | | | CP-O30 | DI |
| 1263 | N | 0 | FA-O227A | Flow Alarm | Sample Element SE-0210B Dissolved Ozone Sample Low Flow | WO-P0022 | | | | | | CP-O30 | DI |
| 1264 | N | 0 | MM-O220A | Running Status | Sample Element SE-0210A Dissolved Ozone Sample Pump Running | WO-P0022 | | | | | | CP-O30 | DI |
| 1265 | N | 0 | MM-O225A | Running Status | Sample Element SE-0210B Dissolved Ozone Sample Pump Running | WO-P0022 | | | | | | CP-O30 | DI |

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| RECORD NO. | PLC Programming reqd | REV. N0. | TAG NAME | FUNCTION | SERVICE | P&ID DRAWING | ENG. UNITS | SCALE LOW | SCALE HIGH | ALARMS LOW | ALARMS HIGH | PLC CABINET | I/O TYPE |
| 1266 | N | 0 | MM-O220A | Running Status | Sample Element SE-0210A Dissolved Ozone Sample Pump Running | WO-P0022 | | | | | | CP-O30 | DI |
| 1267 | N | 0 | MM-O225A | Running Status | Sample Element SE-0210B Dissolved Ozone Sample Pump Running | WO-P0022 | | | | | | CP-O30 | DI |
| 1268 | N | 0 | MN-O220A | Start Command | Sample Element SE-0210A Dissolved Ozone Sample Pump Start | WO-P0022 | | | | | | CP-O30 | DO |
| 1269 | N | 0 | MN-O225A | Start Command | Sample Element SE-0210B Dissolved Ozone Sample Pump Start | WO-P0022 | | | | | | CP-O30 | DO |
| 1270 | N | 0 | MN-O220A | Start Command | Sample Element SE-0210A Dissolved Ozone Sample Pump Start | WO-P0022 | | | | | | CP-O30 | DO |
| 1271 | N | 0 | MN-O225A | Start Command | Sample Element SE-0210B Dissolved Ozone Sample Pump Start | WO-P0022 | | | | | | CP-O30 | DO |
| 1272 | N | 0 | UF-O220A | No Fault | Sample Element SE-0210A Dissolved Ozone Sample Pump Fault | WO-P0022 | | | | | | CP-O30 | DI |
| 1273 | N | 0 | UF-O225A | No Fault | Sample Element SE-0210B Dissolved Ozone Sample Pump Fault | WO-P0022 | | | | | | CP-O30 | DI |
| 1274 | N | 0 | YS-O220A | C/O/H Switch in Computer Position | Sample Element SE-0210A Dissolved Ozone Sample Pump in Computer Mode | WO-P0022 | | | | | | CP-O30 | DI |
| 1275 | N | 0 | YS-O225A | C/O/H Switch in Computer Position | Sample Element SE-0210B Dissolved Ozone Sample Pump in Computer Mode | WO-P0022 | | | | | | CP-O30 | DI |
| 1276 | N | 0 | YS-O220A | C/O/H Switch in Computer Position | Sample Element SE-0210A Dissolved Ozone Sample Pump in Computer Mode | WO-P0022 | | | | | | CP-O30 | DI |
| 1277 | N | 0 | YS-O225A | C/O/H Switch in Computer Position | Sample Element SE-0210B Dissolved Ozone Sample Pump in Computer Mode | WO-P0022 | | | | | | CP-O30 | DI |
| 1278 | N | 0 | AI-O241A | Ozone Indication | Sample Element SE-0230A Dissolved Ozone | WO-P0023 | | | | | | CP-O30 | AI |
| 1279 | N | 0 | AI-O246A | Ozone Indication | Sample Element SE-0230B Dissolved Ozone | WO-P0023 | | | | | | CP-O30 | AI |
| 1280 | N | 0 | AI-O241A | Ozone Indication | Sample Element SE-0230A Dissolved Ozone | WO-P0023 | | | | | | CP-O30 | AI |
| 1281 | N | 0 | AI-O246A | Ozone Indication | Sample Element SE-0230B Dissolved Ozone | WO-P0023 | | | | | | CP-O30 | AI |
| 1282 | N | 0 | FI-O240A | Flow Indication | Sample Element SE-0230A Dissolved Ozone Sample Flow Rate | WO-P0023 | | | | | | CP-O30 | AI |
| 1283 | N | 0 | FI-O245A | Flow Indication | Sample Element SE-0230B Dissolved Ozone Sample Flow Rate | WO-P0023 | | | | | | CP-O30 | AI |
| 1284 | N | 0 | FA-O241A | Flow Alarm | Sample Element SE-0230A Dissolved Ozone Sample Low Flow | WO-P0023 | | | | | | CP-O30 | DI |
| 1285 | N | 0 | FA-O246A | Flow Alarm | Sample Element SE-0230B Dissolved Ozone Sample Low Flow | WO-P0023 | | | | | | CP-O30 | DI |
| 1286 | N | 0 | FQ-O240A | Flow Pulse | Sample Element SE-0230A Dissolved Ozone Sample Total | WO-P0023 | | | | | | CP-O30 | DI |
| 1287 | N | 0 | FA-O242A | Flow Alarm | Sample Element SE-0230A Dissolved Ozone Sample Low Flow | WO-P0023 | | | | | | CP-O30 | DI |
| 1288 | N | 0 | FQ-O245A | Flow Pulse | Sample Element SE-0230B Dissolved Ozone Sample Flow Total | WO-P0023 | | | | | | CP-O30 | DI |
| 1289 | N | 0 | FA-O247A | Flow Alarm | Sample Element SE-0230B Dissolved Ozone Sample Low Flow | WO-P0023 | | | | | | CP-O30 | DI |
| 1290 | N | 0 | MM-O240A | Running Status | Sample Element SE-0230A Dissolved Ozone Sample Pump Running | WO-P0023 | | | | | | CP-O30 | DI |
| 1291 | N | 0 | MM-O245A | Running Status | Sample Element SE-0230B Dissolved Ozone Sample Pump Running | WO-P0023 | | | | | | CP-O30 | DI |
| 1292 | N | 0 | MM-O240A | Running Status | Sample Element SE-0230A Dissolved Ozone Sample Pump Running | WO-P0023 | | | | | | CP-O30 | DI |
| 1293 | N | 0 | MM-O245A | Running Status | Sample Element SE-0230B Dissolved Ozone Sample Pump Running | WO-P0023 | | | | | | CP-O30 | DI |
| 1294 | N | 0 | MN-O240A | Start Command | Sample Element SE-0230A Dissolved Ozone Sample Pump Start | WO-P0023 | | | | | | CP-O30 | DO |
| 1295 | N | 0 | MN-O245A | Start Command | Sample Element SE-0230B Dissolved Ozone Sample Pump Start | WO-P0023 | | | | | | CP-O30 | DO |
| 1296 | N | 0 | MN-O240A | Start Command | Sample Element SE-0230A Dissolved Ozone Sample Pump Start | WO-P0023 | | | | | | CP-O30 | DO |
| 1297 | N | 0 | MN-O245A | Start Command | Sample Element SE-0230B Dissolved Ozone Sample Pump Start | WO-P0023 | | | | | | CP-O30 | DO |
| 1298 | N | 0 | UF-O240A | No Fault | Sample Element SE-0230A Dissolved Ozone Sample Pump Fault | WO-P0023 | | | | | | CP-O30 | DI |
| 1299 | N | 0 | UF-O245A | No Fault | Sample Element SE-0230B Dissolved Ozone Sample Pump Fault | WO-P0023 | | | | | | CP-O30 | DI |
| 1300 | N | 0 | YS-O240A | C/O/H Switch in Computer Position | Sample Element SE-0230A Dissolved Ozone Sample Pump in Computer Mode | WO-P0023 | | | | | | CP-O30 | DI |
| 1301 | N | 0 | YS-O245A | C/O/H Switch in Computer Position | Sample Element SE-0230B Dissolved Ozone Sample Pump in Computer Mode | WO-P0023 | | | | | | CP-O30 | DI |
| 1302 | N | 0 | YS-O240A | C/O/H Switch in Computer Position | Sample Element SE-0230A Dissolved Ozone Sample Pump in Computer Mode | WO-P0023 | | | | | | CP-O30 | DI |
| 1303 | N | 0 | YS-O245A | C/O/H Switch in Computer Position | Sample Element SE-0230B Dissolved Ozone Sample Pump in Computer Mode | WO-P0023 | | | | | | CP-O30 | DI |
| 1304 | N | 0 | PI-O110A | Pressure Indication | Liquid Oxygen to Ozone Generator GEN-O110A Pressure | WO-P0005 | | | | | | CP-O31 | AI |
| 1305 | N | 0 | TI-O110A | Temperature Indication | Liquid Oxygen to Ozone Generator GEN-O110A Temperature | WO-P0005 | | | | | | CP-O31 | AI |
| 1306 | N | 0 | FI-P100A | Flow Indication | Raw Water Flow Rate to DAF TNKP100A | WP-P0002 | | | | | | CP-P31 | AI |

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| RECORD NO. | PLC Programming reqd | REV. N0. | TAG NAME | FUNCTION | SERVICE | P&ID DRAWING | ENG. UNITS | SCALE LOW | SCALE HIGH | ALARMS LOW | ALARMS HIGH | PLC CABINET | I/O TYPE |
| 1307 | N | 0 | FQ-P100A | Flow Pulse | Raw Water Total Flow Rate to DAF TNKP100A | WP-P0002 | | | | | | CP-P31 | DI |
| 1308 | N | 0 | LI-P100A | Level Indication | DAF TNKP100A Level | WP-P0004 | | | | | | CP-P31 | AI |
| 1309 | N | 0 | LF-P100A | No Fault | DAF TNKP100A Level Fault | WP-P0004 | | | | | | CP-P31 | DI |
| 1310 | N | 0 | MF-P100A | Reverse Limit | DAF Float Reciprocating Scraper FLC-P100A Traveled Reverse | WP-P0004 | | | | | | CP-P31 | DI TCP |
| 1311 | N | 0 | MM-P100A | Running Status | DAF Float Reciprocating Scraper FLC-P100A Running | WP-P0004 | | | | | | CP-P31 | DI TCP |
| 1312 | N | 0 | MR-P100A | Forward Limit | DAF Float Reciprocating Scraper FLC-P100A Traveled Forward | WP-P0004 | | | | | | CP-P31 | DI TCP |
| 1313 | N | 0 | MM-P101A | Running Status | DAF Flocculator FLC-P101A Running | WP-P0004 | | | | | | CP-P31 | DI TCP |
| 1314 | N | 0 | MM-P102A | Running Status | DAF Flocculator FLC-P102A Running | WP-P0004 | | | | | | CP-P31 | DI TCP |
| 1315 | N | 0 | MM-P103A | Running Status | DAF Flocculator FLC-P103A Running | WP-P0004 | | | | | | CP-P31 | DI TCP |
| 1316 | N | 0 | MM-P104A | Running Status | DAF Flocculator FLC-P104A Running | WP-P0004 | | | | | | CP-P31 | DI TCP |
| 1317 | N | 0 | MM-P105A | Running Status | DAF Flocculator FLC-P105A Running | WP-P0004 | | | | | | CP-P31 | DI TCP |
| 1318 | N | 0 | MM-P106A | Running Status | DAF Flocculator FLC-P106A Running | WP-P0004 | | | | | | CP-P31 | DI TCP |
| 1319 | N | 0 | MN-P100A | Start Command | DAF Float Reciprocating Scraper FLC-P100A Start | WP-P0004 | | | | | | CP-P31 | DO TCP |
| 1320 | N | 0 | MN-P101A | Start Command | DAF Flocculator FLC-P101A Start | WP-P0004 | | | | | | CP-P31 | DO TCP |
| 1321 | N | 0 | MN-P102A | Start Command | DAF Flocculator FLC-P102A Start | WP-P0004 | | | | | | CP-P31 | DO TCP |
| 1322 | N | 0 | MN-P103A | Start Command | DAF Flocculator FLC-P103A Start | WP-P0004 | | | | | | CP-P31 | DO TCP |
| 1323 | N | 0 | MN-P104A | Start Command | DAF Flocculator FLC-P104A Start | WP-P0004 | | | | | | CP-P31 | DO TCP |
| 1324 | N | 0 | MN-P105A | Start Command | DAF Flocculator FLC-P105A Start | WP-P0004 | | | | | | CP-P31 | DO TCP |
| 1325 | N | 0 | MN-P106A | Start Command | DAF Flocculator FLC-P106A Start | WP-P0004 | | | | | | CP-P31 | DO TCP |
| 1326 | N | 0 | SI-P100A | Speed Indication | DAF Float Reciprocating Scraper FLC-P100A Speed | WP-P0004 | | | | | | CP-P31 | AI TCP |
| 1327 | N | 0 | SI-P101A | Speed Indication | DAF Flocculator FLC-P101A Speed | WP-P0004 | | | | | | CP-P31 | AI TCP |
| 1328 | N | 0 | SI-P102A | Speed Indication | DAF Flocculator FLC-P102A Speed | WP-P0004 | | | | | | CP-P31 | AI TCP |
| 1329 | N | 0 | SI-P103A | Speed Indication | DAF Flocculator FLC-P103A Speed | WP-P0004 | | | | | | CP-P31 | AI TCP |
| 1330 | N | 0 | SI-P104A | Speed Indication | DAF Flocculator FLC-P104A Speed | WP-P0004 | | | | | | CP-P31 | AI TCP |
| 1331 | N | 0 | SI-P105A | Speed Indication | DAF Flocculator FLC-P105A Speed | WP-P0004 | | | | | | CP-P31 | AI TCP |
| 1332 | N | 0 | SI-P106A | Speed Indication | DAF Flocculator FLC-P106A Speed | WP-P0004 | | | | | | CP-P31 | AI TCP |
| 1333 | N | 0 | SC-P100A | Speed Control Output | DAF Float Reciprocating Scraper FLC-P100A Required Speed | WP-P0004 | | | | | | CP-P31 | AO TCP |
| 1334 | N | 0 | SC-P101A | Speed Control Output | DAF Flocculator FLC-P101A Required Speed | WP-P0004 | | | | | | CP-P31 | AO TCP |
| 1335 | N | 0 | SC-P102A | Speed Control Output | DAF Flocculator FLC-P102A Required Speed | WP-P0004 | | | | | | CP-P31 | AO TCP |
| 1336 | N | 0 | SC-P103A | Speed Control Output | DAF Flocculator FLC-P103A Required Speed | WP-P0004 | | | | | | CP-P31 | AO TCP |
| 1337 | N | 0 | SC-P104A | Speed Control Output | DAF Flocculator FLC-P104A Required Speed | WP-P0004 | | | | | | CP-P31 | AO TCP |
| 1338 | N | 0 | SC-P105A | Speed Control Output | DAF Flocculator FLC-P105A Required Speed | WP-P0004 | | | | | | CP-P31 | AO TCP |
| 1339 | N | 0 | SC-P106A | Speed Control Output | DAF Flocculator FLC-P106A Required Speed | WP-P0004 | | | | | | CP-P31 | AO TCP |
| 1340 | N | 0 | UF-P100A | No Fault | DAF Float Reciprocating Scraper FLC-P100A Fault | WP-P0004 | | | | | | CP-P31 | DI TCP |
| 1341 | N | 0 | UF-P101A | No Fault | DAF Flocculator FLC-P101A Fault | WP-P0004 | | | | | | CP-P31 | DI TCP |
| 1342 | N | 0 | UF-P102A | No Fault | DAF Flocculator FLC-P102A Fault | WP-P0004 | | | | | | CP-P31 | DI TCP |
| 1343 | N | 0 | UF-P103A | No Fault | DAF Flocculator FLC-P103A Fault | WP-P0004 | | | | | | CP-P31 | DI TCP |
| 1344 | N | 0 | UF-P104A | No Fault | DAF Flocculator FLC-P104A Fault | WP-P0004 | | | | | | CP-P31 | DI TCP |
| 1345 | N | 0 | UF-P105A | No Fault | DAF Flocculator FLC-P105A Fault | WP-P0004 | | | | | | CP-P31 | DI TCP |
| 1346 | N | 0 | UF-P106A | No Fault | DAF Flocculator FLC-P106A Fault | WP-P0004 | | | | | | CP-P31 | DI TCP |
| 1347 | N | 0 | YS-P110A | C/O/H Switch in Computer Position | Air Saturated Water to DAF TNK-P100A Valve in Computer Mode | WP-P0004 | | | | | | CP-P31 | DI |
| 1348 | N | 0 | YS-P110B | C/O/H Switch in Computer Position | Air Saturated Water to DAF TNK-P100A Valve in Computer Mode | WP-P0004 | | | | | | CP-P31 | DI |
| 1349 | N | 0 | YS-P140A | C/O/H Switch in Computer Position | DAF Basin Effluent Weir Bypass Gate (TNKP100A) in Computer Mode | WP-P0004 | | | | | | CP-P31 | DI |
| 1350 | N | 0 | YS-P100A | C/O/H Switch in Computer Position | DAF Float Reciprocating Scraper FLC-P100A in Computer Mode | WP-P0004 | | | | | | CP-P31 | DI TCP |
| 1351 | N | 0 | YS-P101A | C/O/H Switch in Computer Position | DAF Flocculator FLC-P101A in Computer Mode | WP-P0004 | | | | | | CP-P31 | DI TCP |
| 1352 | N | 0 | YS-P102A | C/O/H Switch in Computer Position | DAF Flocculator FLC-P102A in Computer Mode | WP-P0004 | | | | | | CP-P31 | DI TCP |
| 1353 | N | 0 | YS-P103A | C/O/H Switch in Computer Position | DAF Flocculator FLC-P103A in Computer Mode | WP-P0004 | | | | | | CP-P31 | DI TCP |
| 1354 | N | 0 | YS-P104A | C/O/H Switch in Computer Position | DAF Flocculator FLC-P104A in Computer Mode | WP-P0004 | | | | | | CP-P31 | DI TCP |
| 1355 | N | 0 | YS-P105A | C/O/H Switch in Computer Position | DAF Flocculator FLC-P105A in Computer Mode | WP-P0004 | | | | | | CP-P31 | DI TCP |
| 1356 | N | 0 | YS-P106A | C/O/H Switch in Computer Position | DAF Flocculator FLC-P106A in Computer Mode | WP-P0004 | | | | | | CP-P31 | DI TCP |
| 1357 | N | 0 | YD-P120A | Solenoid Actuator Output | DAF Basin Headwall Spray Wash Header Valve (TNKP100A) Open | WP-P0004 | | | | | | CP-P31 | DO |
| 1358 | N | 0 | YD-P120B | Solenoid Actuator Output | DAF Basin Float Trough Spray Wash Valve (TNKP100A) Open | WP-P0004 | | | | | | CP-P31 | DO |
| 1359 | N | 0 | ZT-P110A | Position Feedback | Air Saturated Water to DAF TNK-P100A Valve Position | WP-P0004 | | | | | | CP-P31 | AI |

I/O POINT TYPES: TCP = Modbus/TCP Ethernet, AI = Analog Input, AO = Analog Output, DI = Discrete Input, DO = Discrete Output

## PLC I/O INDEX

| | | | | DESCRIPTION | | | I/O SPECIFICATION | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| RECORD NO. | PLC Programming reqd | REV. N0. | TAG NAME | FUNCTION | SERVICE | P&ID DRAWING | ENG. UNITS | SCALE LOW | SCALE HIGH | ALARMS LOW | ALARMS HIGH | PLC CABINET | I/O TYPE |
| 1360 | N | 0 | ZT-P110B | Position Feedback | Air Saturated Water to DAF TNK-P100A Valve Position | WP-P0004 | | | | | | CP-P31 | AI |
| 1361 | N | 0 | ZT-P140A | Position Feedback | DAF Basin Effluent Weir Bypass Gate (TNKP100A) Position | WP-P0004 | | | | | | CP-P31 | AI |
| 1362 | N | 0 | ZC-P110A | Position Control Output | Air Saturated Water to DAF TNK-P100A Valve Required Position | WP-P0004 | | | | | | CP-P31 | AO |
| 1363 | N | 0 | ZC-P110B | Position Control Output | Air Saturated Water to DAF TNK-P100A Valve Required Position | WP-P0004 | | | | | | CP-P31 | AO |
| 1364 | N | 0 | ZC-P140A | Position Control Output | DAF Basin Effluent Weir Bypass Gate (TNKP100A) Required Position | WP-P0004 | | | | | | CP-P31 | AO |
| 1365 | N | 0 | ZB-P110A | Closed Status | Air Saturated Water to DAF TNK-P100A Valve Closed | WP-P0004 | | | | | | CP-P31 | DI |
| 1366 | N | 0 | ZD-P110A | Open Status | Air Saturated Water to DAF TNK-P100A Valve Open | WP-P0004 | | | | | | CP-P31 | DI |
| 1367 | N | 0 | ZB-P110B | Closed Status | Air Saturated Water to DAF TNK-P100A Valve Closed | WP-P0004 | | | | | | CP-P31 | DI |
| 1368 | N | 0 | ZD-P110B | Open Status | Air Saturated Water to DAF TNK-P100A Valve Open | WP-P0004 | | | | | | CP-P31 | DI |
| 1369 | N | 0 | ZB-P140A | Closed Status | DAF Basin Effluent Weir Bypass Gate (TNKP100A) Closed | WP-P0004 | | | | | | CP-P31 | DI |
| 1370 | N | 0 | ZD-P140A | Open Status | DAF Basin Effluent Weir Bypass Gate (TNKP100A) Open | WP-P0004 | | | | | | CP-P31 | DI |
| 1371 | N | 0 | LI-P200A | Level Indication | DAF TNKP200A Level | WP-P0005 | | | | | | CP-P31 | AI |
| 1372 | N | 0 | LF-P200A | No Fault | DAF TNKP200A Level Fault | WP-P0005 | | | | | | CP-P31 | DI |
| 1373 | N | 0 | MF-P200A | Reverse Limit | DAF Float Reciprocating Scraper FLC-P200A Traveled Reverse | WP-P0005 | | | | | | CP-P31 | DI TCP |
| 1374 | N | 0 | MM-P200A | Running Status | DAF Float Reciprocating Scraper FLC-P200A Running | WP-P0005 | | | | | | CP-P31 | DI TCP |
| 1375 | N | 0 | MR-P200A | Forward Limit | DAF Float Reciprocating Scraper FLC-P200A Traveled Forward | WP-P0005 | | | | | | CP-P31 | DI TCP |
| 1376 | N | 0 | MM-P201A | Running Status | DAF Flocculator FLC-P201A Running | WP-P0005 | | | | | | CP-P31 | DI TCP |
| 1377 | N | 0 | MM-P202A | Running Status | DAF Flocculator FLC-P202A Running | WP-P0005 | | | | | | CP-P31 | DI TCP |
| 1378 | N | 0 | MM-P203A | Running Status | DAF Flocculator FLC-P203A Running | WP-P0005 | | | | | | CP-P31 | DI TCP |
| 1379 | N | 0 | MM-P204A | Running Status | DAF Flocculator FLC-P204A Running | WP-P0005 | | | | | | CP-P31 | DI TCP |
| 1380 | N | 0 | MM-P205A | Running Status | DAF Flocculator FLC-P205A Running | WP-P0005 | | | | | | CP-P31 | DI TCP |
| 1381 | N | 0 | MM-P206A | Running Status | DAF Flocculator FLC-P206A Running | WP-P0005 | | | | | | CP-P31 | DI TCP |
| 1382 | N | 0 | MN-P200A | Start Command | DAF Float Reciprocating Scraper FLC-P200A Start | WP-P0005 | | | | | | CP-P31 | DO TCP |
| 1383 | N | 0 | MN-P201A | Start Command | DAF Flocculator FLC-P201A Start | WP-P0005 | | | | | | CP-P31 | DO TCP |
| 1384 | N | 0 | MN-P202A | Start Command | DAF Flocculator FLC-P202A Start | WP-P0005 | | | | | | CP-P31 | DO TCP |
| 1385 | N | 0 | MN-P203A | Start Command | DAF Flocculator FLC-P203A Start | WP-P0005 | | | | | | CP-P31 | DO TCP |
| 1386 | N | 0 | MN-P204A | Start Command | DAF Flocculator FLC-P204A Start | WP-P0005 | | | | | | CP-P31 | DO TCP |
| 1387 | N | 0 | MN-P205A | Start Command | DAF Flocculator FLC-P205A Start | WP-P0005 | | | | | | CP-P31 | DO TCP |
| 1388 | N | 0 | MN-P206A | Start Command | DAF Flocculator FLC-P206A Start | WP-P0005 | | | | | | CP-P31 | DO TCP |
| 1389 | N | 0 | SI-P200A | Speed Indication | DAF Float Reciprocating Scraper FLC-P200A Speed | WP-P0005 | | | | | | CP-P31 | AI TCP |
| 1390 | N | 0 | SI-P201A | Speed Indication | DAF Flocculator FLC-P201A Speed | WP-P0005 | | | | | | CP-P31 | AI TCP |
| 1391 | N | 0 | SI-P202A | Speed Indication | DAF Flocculator FLC-P202A Speed | WP-P0005 | | | | | | CP-P31 | AI TCP |
| 1392 | N | 0 | SI-P203A | Speed Indication | DAF Flocculator FLC-P203A Speed | WP-P0005 | | | | | | CP-P31 | AI TCP |
| 1393 | N | 0 | SI-P204A | Speed Indication | DAF Flocculator FLC-P204A Speed | WP-P0005 | | | | | | CP-P31 | AI TCP |
| 1394 | N | 0 | SI-P205A | Speed Indication | DAF Flocculator FLC-P205A Speed | WP-P0005 | | | | | | CP-P31 | AI TCP |
| 1395 | N | 0 | SI-P206A | Speed Indication | DAF Flocculator FLC-P206A Speed | WP-P0005 | | | | | | CP-P31 | AI TCP |
| 1396 | N | 0 | SC-P200A | Speed Control Output | DAF Float Reciprocating Scraper FLC-P200A Required Speed | WP-P0005 | | | | | | CP-P31 | AO TCP |
| 1397 | N | 0 | SC-P201A | Speed Control Output | DAF Flocculator FLC-P201A Required Speed | WP-P0005 | | | | | | CP-P31 | AO TCP |
| 1398 | N | 0 | SC-P202A | Speed Control Output | DAF Flocculator FLC-P202A Required Speed | WP-P0005 | | | | | | CP-P31 | AO TCP |
| 1399 | N | 0 | SC-P203A | Speed Control Output | DAF Flocculator FLC-P203A Required Speed | WP-P0005 | | | | | | CP-P31 | AO TCP |
| 1400 | N | 0 | SC-P204A | Speed Control Output | DAF Flocculator FLC-P204A Required Speed | WP-P0005 | | | | | | CP-P31 | AO TCP |
| 1401 | N | 0 | SC-P205A | Speed Control Output | DAF Flocculator FLC-P205A Required Speed | WP-P0005 | | | | | | CP-P31 | AO TCP |
| 1402 | N | 0 | SC-P206A | Speed Control Output | DAF Flocculator FLC-P206A Required Speed | WP-P0005 | | | | | | CP-P31 | AO TCP |
| 1403 | N | 0 | UF-P200A | No Fault | DAF Float Reciprocating Scraper FLC-P200A Fault | WP-P0005 | | | | | | CP-P31 | DI TCP |
| 1404 | N | 0 | UF-P201A | No Fault | DAF Flocculator FLC-P201A Fault | WP-P0005 | | | | | | CP-P31 | DI TCP |
| 1405 | N | 0 | UF-P202A | No Fault | DAF Flocculator FLC-P202A Fault | WP-P0005 | | | | | | CP-P31 | DI TCP |
| 1406 | N | 0 | UF-P203A | No Fault | DAF Flocculator FLC-P203A Fault | WP-P0005 | | | | | | CP-P31 | DI TCP |
| 1407 | N | 0 | UF-P204A | No Fault | DAF Flocculator FLC-P204A Fault | WP-P0005 | | | | | | CP-P31 | DI TCP |
| 1408 | N | 0 | UF-P205A | No Fault | DAF Flocculator FLC-P205A Fault | WP-P0005 | | | | | | CP-P31 | DI TCP |
| 1409 | N | 0 | UF-P206A | No Fault | DAF Flocculator FLC-P206A Fault | WP-P0005 | | | | | | CP-P31 | DI TCP |
| 1410 | N | 0 | YS-P210A | C/O/H Switch in Computer Position | Air Saturated Water to DAF TNK-P200A Valve in Computer Mode | WP-P0005 | | | | | | CP-P31 | DI |
| 1411 | N | 0 | YS-P210B | C/O/H Switch in Computer Position | Air Saturated Water to DAF TNK-P200A Valve in Computer Mode | WP-P0005 | | | | | | CP-P31 | DI |
| 1412 | N | 0 | YS-P240A | C/O/H Switch in Computer Position | DAF Basin Effluent Weir Bypass Gate (TNKP200A) in Computer Mode | WP-P0005 | | | | | | CP-P31 | DI |

I/O POINT TYPES: TCP = Modbus/TCP Ethernet, AI = Analog Input, AO = Analog Output, DI = Discrete Input, DO = Discrete Output

## PLC I/O INDEX

| | | | | DESCRIPTION | | | I/O SPECIFICATION | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| RECORD NO. | PLC Programming reqd | REV. N0. | TAG NAME | FUNCTION | SERVICE | P&ID DRAWING | ENG. UNITS | SCALE LOW | SCALE HIGH | ALARMS LOW | ALARMS HIGH | PLC CABINET | I/O TYPE |
| 1413 | N | 0 | YS-P200A | C/O/H Switch in Computer Position | DAF Float Reciprocating Scraper FLC-P200A in Computer Mode | WP-P0005 | | | | | | CP-P31 | DI TCP |
| 1414 | N | 0 | YS-P201A | C/O/H Switch in Computer Position | DAF Flocculator FLC-P201A in Computer Mode | WP-P0005 | | | | | | CP-P31 | DI TCP |
| 1415 | N | 0 | YS-P202A | C/O/H Switch in Computer Position | DAF Flocculator FLC-P202A in Computer Mode | WP-P0005 | | | | | | CP-P31 | DI TCP |
| 1416 | N | 0 | YS-P203A | C/O/H Switch in Computer Position | DAF Flocculator FLC-P203A in Computer Mode | WP-P0005 | | | | | | CP-P31 | DI TCP |
| 1417 | N | 0 | YS-P204A | C/O/H Switch in Computer Position | DAF Flocculator FLC-P204A in Computer Mode | WP-P0005 | | | | | | CP-P31 | DI TCP |
| 1418 | N | 0 | YS-P205A | C/O/H Switch in Computer Position | DAF Flocculator FLC-P205A in Computer Mode | WP-P0005 | | | | | | CP-P31 | DI TCP |
| 1419 | N | 0 | YS-P206A | C/O/H Switch in Computer Position | DAF Flocculator FLC-P206A in Computer Mode | WP-P0005 | | | | | | CP-P31 | DI TCP |
| 1420 | N | 0 | YD-P220A | Solenoid Actuator Output | DAF Basin Headwall Spray Wash Header Valve (TNKP200A) Open | WP-P0005 | | | | | | CP-P31 | DO |
| 1421 | N | 0 | YD-P220B | Solenoid Actuator Output | DAF Basin Float Trough Spray Wash Valve (TNKP200A) Open | WP-P0005 | | | | | | CP-P31 | DO |
| 1422 | N | 0 | ZT-P210A | Position Feedback | Air Saturated Water to DAF TNK-P200A Valve Position | WP-P0005 | | | | | | CP-P31 | AI |
| 1423 | N | 0 | ZT-P210B | Position Feedback | Air Saturated Water to DAF TNK-P200A Valve Position | WP-P0005 | | | | | | CP-P31 | AI |
| 1424 | N | 0 | ZT-P240A | Position Feedback | DAF Basin Effluent Weir Bypass Gate (TNKP200A) Position | WP-P0005 | | | | | | CP-P31 | AI |
| 1425 | N | 0 | ZC-P210A | Position Control Output | Air Saturated Water to DAF TNK-P200A Valve Required Position | WP-P0005 | | | | | | CP-P31 | AO |
| 1426 | N | 0 | ZC-P210B | Position Control Output | Air Saturated Water to DAF TNK-P200A Valve Required Position | WP-P0005 | | | | | | CP-P31 | AO |
| 1427 | N | 0 | ZC-P240A | Position Control Output | DAF Basin Effluent Weir Bypass Gate (TNKP200A) Required Position | WP-P0005 | | | | | | CP-P31 | AO |
| 1428 | N | 0 | ZB-P210A | Closed Status | Air Saturated Water to DAF TNK-P200A Valve Closed | WP-P0005 | | | | | | CP-P31 | DI |
| 1429 | N | 0 | ZD-P210A | Open Status | Air Saturated Water to DAF TNK-P200A Valve Open | WP-P0005 | | | | | | CP-P31 | DI |
| 1430 | N | 0 | ZB-P210B | Closed Status | Air Saturated Water to DAF TNK-P200A Valve Closed | WP-P0005 | | | | | | CP-P31 | DI |
| 1431 | N | 0 | ZD-P210B | Open Status | Air Saturated Water to DAF TNK-P200A Valve Open | WP-P0005 | | | | | | CP-P31 | DI |
| 1432 | N | 0 | ZB-P240A | Closed Status | DAF Basin Effluent Weir Bypass Gate (TNKP200A) Closed | WP-P0005 | | | | | | CP-P31 | DI |
| 1433 | N | 0 | ZD-P240A | Open Status | DAF Basin Effluent Weir Bypass Gate (TNKP200A) Open | WP-P0005 | | | | | | CP-P31 | DI |
| 1434 | N | 0 | LI-P300A | Level Indication | DAF TNKP300A Level | WP-P0006 | | | | | | CP-P31 | AI |
| 1435 | N | 0 | LF-P300A | No Fault | DAF TNKP300A Level Fault | WP-P0006 | | | | | | CP-P31 | DI |
| 1436 | N | 0 | MF-P300A | Reverse Limit | DAF Float Reciprocating Scraper FLC-P300A Traveled Reverse | WP-P0006 | | | | | | CP-P31 | DI TCP |
| 1437 | N | 0 | MM-P300A | Running Status | DAF Float Reciprocating Scraper FLC-P300A Running | WP-P0006 | | | | | | CP-P31 | DI TCP |
| 1438 | N | 0 | MR-P300A | Forward Limit | DAF Float Reciprocating Scraper FLC-P300A Traveled Forward | WP-P0006 | | | | | | CP-P31 | DI TCP |
| 1439 | N | 0 | MM-P301A | Running Status | DAF Flocculator FLC-P301A Running | WP-P0006 | | | | | | CP-P31 | DI TCP |
| 1440 | N | 0 | MM-P302A | Running Status | DAF Flocculator FLC-P302A Running | WP-P0006 | | | | | | CP-P31 | DI TCP |
| 1441 | N | 0 | MM-P303A | Running Status | DAF Flocculator FLC-P303A Running | WP-P0006 | | | | | | CP-P31 | DI TCP |
| 1442 | N | 0 | MM-P304A | Running Status | DAF Flocculator FLC-P304A Running | WP-P0006 | | | | | | CP-P31 | DI TCP |
| 1443 | N | 0 | MM-P305A | Running Status | DAF Flocculator FLC-P305A Running | WP-P0006 | | | | | | CP-P31 | DI TCP |
| 1444 | N | 0 | MM-P306A | Running Status | DAF Flocculator FLC-P306A Running | WP-P0006 | | | | | | CP-P31 | DI TCP |
| 1445 | N | 0 | MN-P300A | Start Command | DAF Float Reciprocating Scraper FLC-P300A Start | WP-P0006 | | | | | | CP-P31 | DO TCP |
| 1446 | N | 0 | MN-P301A | Start Command | DAF Flocculator FLC-P301A Start | WP-P0006 | | | | | | CP-P31 | DO TCP |
| 1447 | N | 0 | MN-P302A | Start Command | DAF Flocculator FLC-P302A Start | WP-P0006 | | | | | | CP-P31 | DO TCP |
| 1448 | N | 0 | MN-P303A | Start Command | DAF Flocculator FLC-P303A Start | WP-P0006 | | | | | | CP-P31 | DO TCP |
| 1449 | N | 0 | MN-P304A | Start Command | DAF Flocculator FLC-P304A Start | WP-P0006 | | | | | | CP-P31 | DO TCP |
| 1450 | N | 0 | MN-P305A | Start Command | DAF Flocculator FLC-P305A Start | WP-P0006 | | | | | | CP-P31 | DO TCP |
| 1451 | N | 0 | MN-P306A | Start Command | DAF Flocculator FLC-P306A Start | WP-P0006 | | | | | | CP-P31 | DO TCP |
| 1452 | N | 0 | SI-P300A | Speed Indication | DAF Float Reciprocating Scraper FLC-P300A Speed | WP-P0006 | | | | | | CP-P31 | AI TCP |
| 1453 | N | 0 | SI-P301A | Speed Indication | DAF Flocculator FLC-P301A Speed | WP-P0006 | | | | | | CP-P31 | AI TCP |
| 1454 | N | 0 | SI-P302A | Speed Indication | DAF Flocculator FLC-P302A Speed | WP-P0006 | | | | | | CP-P31 | AI TCP |
| 1455 | N | 0 | SI-P303A | Speed Indication | DAF Flocculator FLC-P303A Speed | WP-P0006 | | | | | | CP-P31 | AI TCP |
| 1456 | N | 0 | SI-P304A | Speed Indication | DAF Flocculator FLC-P304A Speed | WP-P0006 | | | | | | CP-P31 | AI TCP |
| 1457 | N | 0 | SI-P305A | Speed Indication | DAF Flocculator FLC-P305A Speed | WP-P0006 | | | | | | CP-P31 | AI TCP |
| 1458 | N | 0 | SI-P306A | Speed Indication | DAF Flocculator FLC-P306A Speed | WP-P0006 | | | | | | CP-P31 | AI TCP |
| 1459 | N | 0 | SC-P300A | Speed Control Output | DAF Float Reciprocating Scraper FLC-P300A Required Speed | WP-P0006 | | | | | | CP-P31 | AO TCP |
| 1460 | N | 0 | SC-P301A | Speed Control Output | DAF Flocculator FLC-P301A Required Speed | WP-P0006 | | | | | | CP-P31 | AO TCP |
| 1461 | N | 0 | SC-P302A | Speed Control Output | DAF Flocculator FLC-P302A Required Speed | WP-P0006 | | | | | | CP-P31 | AO TCP |
| 1462 | N | 0 | SC-P303A | Speed Control Output | DAF Flocculator FLC-P303A Required Speed | WP-P0006 | | | | | | CP-P31 | AO TCP |
| 1463 | N | 0 | SC-P304A | Speed Control Output | DAF Flocculator FLC-P304A Required Speed | WP-P0006 | | | | | | CP-P31 | AO TCP |
| 1464 | N | 0 | SC-P305A | Speed Control Output | DAF Flocculator FLC-P305A Required Speed | WP-P0006 | | | | | | CP-P31 | AO TCP |
| 1465 | N | 0 | SC-P306A | Speed Control Output | DAF Flocculator FLC-P306A Required Speed | WP-P0006 | | | | | | CP-P31 | AO TCP |

I/O POINT TYPES: TCP = Modbus/TCP Ethernet, AI = Analog Input, AO = Analog Output, DI = Discrete Input, DO = Discrete Output

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| | | | | DESCRIPTION | | | I/O SPECIFICATION | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| RECORD NO. | PLC Programming reqd | REV. N0. | TAG NAME | FUNCTION | SERVICE | P&ID DRAWING | ENG. UNITS | SCALE LOW | SCALE HIGH | ALARMS LOW | ALARMS HIGH | PLC CABINET | I/O TYPE |
| 1466 | N | 0 | UF-P300A | No Fault | DAF Float Reciprocating Scraper FLC-P300A Fault | WP-P0006 | | | | | | CP-P31 | DI TCP |
| 1467 | N | 0 | UF-P301A | No Fault | DAF Flocculator FLC-P301A Fault | WP-P0006 | | | | | | CP-P31 | DI TCP |
| 1468 | N | 0 | UF-P302A | No Fault | DAF Flocculator FLC-P302A Fault | WP-P0006 | | | | | | CP-P31 | DI TCP |
| 1469 | N | 0 | UF-P303A | No Fault | DAF Flocculator FLC-P303A Fault | WP-P0006 | | | | | | CP-P31 | DI TCP |
| 1470 | N | 0 | UF-P304A | No Fault | DAF Flocculator FLC-P304A Fault | WP-P0006 | | | | | | CP-P31 | DI TCP |
| 1471 | N | 0 | UF-P305A | No Fault | DAF Flocculator FLC-P305A Fault | WP-P0006 | | | | | | CP-P31 | DI TCP |
| 1472 | N | 0 | UF-P306A | No Fault | DAF Flocculator FLC-P306A Fault | WP-P0006 | | | | | | CP-P31 | DI TCP |
| 1473 | N | 0 | YS-P310A | C/O/H Switch in Computer Position | Air Saturated Water to DAF TNK-P300A Valve in Computer Mode | WP-P0006 | | | | | | CP-P31 | DI |
| 1474 | N | 0 | YS-P310B | C/O/H Switch in Computer Position | Air Saturated Water to DAF TNK-P300A Valve in Computer Mode | WP-P0006 | | | | | | CP-P31 | DI |
| 1475 | N | 0 | YS-P340A | C/O/H Switch in Computer Position | DAF Basin Effluent Weir Bypass Gate (TNKP300A) in Computer Mode | WP-P0006 | | | | | | CP-P31 | DI |
| 1476 | N | 0 | YS-P300A | C/O/H Switch in Computer Position | DAF Float Reciprocating Scraper FLC-P300A in Computer Mode | WP-P0006 | | | | | | CP-P31 | DI TCP |
| 1477 | N | 0 | YS-P301A | C/O/H Switch in Computer Position | DAF Flocculator FLC-P301A in Computer Mode | WP-P0006 | | | | | | CP-P31 | DI TCP |
| 1478 | N | 0 | YS-P302A | C/O/H Switch in Computer Position | DAF Flocculator FLC-P302A in Computer Mode | WP-P0006 | | | | | | CP-P31 | DI TCP |
| 1479 | N | 0 | YS-P303A | C/O/H Switch in Computer Position | DAF Flocculator FLC-P303A in Computer Mode | WP-P0006 | | | | | | CP-P31 | DI TCP |
| 1480 | N | 0 | YS-P304A | C/O/H Switch in Computer Position | DAF Flocculator FLC-P304A in Computer Mode | WP-P0006 | | | | | | CP-P31 | DI TCP |
| 1481 | N | 0 | YS-P305A | C/O/H Switch in Computer Position | DAF Flocculator FLC-P305A in Computer Mode | WP-P0006 | | | | | | CP-P31 | DI TCP |
| 1482 | N | 0 | YS-P306A | C/O/H Switch in Computer Position | DAF Flocculator FLC-P306A in Computer Mode | WP-P0006 | | | | | | CP-P31 | DI TCP |
| 1483 | N | 0 | YD-P320A | Solenoid Actuator Output | DAF Basin Headwall Spray Wash Header Valve (TNKP300A) Open | WP-P0006 | | | | | | CP-P31 | DO |
| 1484 | N | 0 | YD-P320B | Solenoid Actuator Output | DAF Basin Float Trough Spray Wash Valve (TNKP300A) Open | WP-P0006 | | | | | | CP-P31 | DO |
| 1485 | N | 0 | ZT-P310A | Position Feedback | Air Saturated Water to DAF TNK-P300A Valve Position | WP-P0006 | | | | | | CP-P31 | AI |
| 1486 | N | 0 | ZT-P310B | Position Feedback | Air Saturated Water to DAF TNK-P300A Valve Position | WP-P0006 | | | | | | CP-P31 | AI |
| 1487 | N | 0 | ZT-P340A | Position Feedback | DAF Basin Effluent Weir Bypass Gate (TNKP300A) Position | WP-P0006 | | | | | | CP-P31 | AI |
| 1488 | N | 0 | ZC-P310A | Position Control Output | Air Saturated Water to DAF TNK-P300A Valve Required Position | WP-P0006 | | | | | | CP-P31 | AO |
| 1489 | N | 0 | ZC-P310B | Position Control Output | Air Saturated Water to DAF TNK-P300A Valve Required Position | WP-P0006 | | | | | | CP-P31 | AO |
| 1490 | N | 0 | ZC-P340A | Position Control Output | DAF Basin Effluent Weir Bypass Gate (TNKP300A) Required Position | WP-P0006 | | | | | | CP-P31 | AO |
| 1491 | N | 0 | ZB-P310A | Closed Status | Air Saturated Water to DAF TNK-P300A Valve Closed | WP-P0006 | | | | | | CP-P31 | DI |
| 1492 | N | 0 | ZD-P310A | Open Status | Air Saturated Water to DAF TNK-P300A Valve Open | WP-P0006 | | | | | | CP-P31 | DI |
| 1493 | N | 0 | ZB-P310B | Closed Status | Air Saturated Water to DAF TNK-P300A Valve Closed | WP-P0006 | | | | | | CP-P31 | DI |
| 1494 | N | 0 | ZD-P310B | Open Status | Air Saturated Water to DAF TNK-P300A Valve Open | WP-P0006 | | | | | | CP-P31 | DI |
| 1495 | N | 0 | ZB-P340A | Closed Status | DAF Basin Effluent Weir Bypass Gate (TNKP300A) Closed | WP-P0006 | | | | | | CP-P31 | DI |
| 1496 | N | 0 | ZD-P340A | Open Status | DAF Basin Effluent Weir Bypass Gate (TNKP300A) Open | WP-P0006 | | | | | | CP-P31 | DI |
| 1497 | N | 0 | LI-P400A | Level Indication | DAF TNKP400A Level | WP-P0007 | | | | | | CP-P31 | AI |
| 1498 | N | 0 | LF-P400A | No Fault | DAF TNKP400A Level Fault | WP-P0007 | | | | | | CP-P31 | DI |
| 1499 | N | 0 | MF-P400A | Reverse Limit | DAF Float Reciprocating Scraper FLC-P400A Traveled Reverse | WP-P0007 | | | | | | CP-P31 | DI TCP |
| 1500 | N | 0 | MM-P400A | Running Status | DAF Float Reciprocating Scraper FLC-P400A Running | WP-P0007 | | | | | | CP-P31 | DI TCP |
| 1501 | N | 0 | MR-P400A | Forward Limit | DAF Float Reciprocating Scraper FLC-P400A Traveled Forward | WP-P0007 | | | | | | CP-P31 | DI TCP |
| 1502 | N | 0 | MM-P401A | Running Status | DAF Flocculator FLC-P401A Running | WP-P0007 | | | | | | CP-P31 | DI TCP |
| 1503 | N | 0 | MM-P402A | Running Status | DAF Flocculator FLC-P402A Running | WP-P0007 | | | | | | CP-P31 | DI TCP |
| 1504 | N | 0 | MM-P403A | Running Status | DAF Flocculator FLC-P403A Running | WP-P0007 | | | | | | CP-P31 | DI TCP |
| 1505 | N | 0 | MM-P404A | Running Status | DAF Flocculator FLC-P404A Running | WP-P0007 | | | | | | CP-P31 | DI TCP |
| 1506 | N | 0 | MM-P405A | Running Status | DAF Flocculator FLC-P405A Running | WP-P0007 | | | | | | CP-P31 | DI TCP |
| 1507 | N | 0 | MM-P406A | Running Status | DAF Flocculator FLC-P406A Running | WP-P0007 | | | | | | CP-P31 | DI TCP |
| 1508 | N | 0 | MN-P400A | Start Command | DAF Float Reciprocating Scraper FLC-P400A Start | WP-P0007 | | | | | | CP-P31 | DO TCP |
| 1509 | N | 0 | MN-P401A | Start Command | DAF Flocculator FLC-P401A Start | WP-P0007 | | | | | | CP-P31 | DO TCP |
| 1510 | N | 0 | MN-P402A | Start Command | DAF Flocculator FLC-P402A Start | WP-P0007 | | | | | | CP-P31 | DO TCP |
| 1511 | N | 0 | MN-P403A | Start Command | DAF Flocculator FLC-P403A Start | WP-P0007 | | | | | | CP-P31 | DO TCP |
| 1512 | N | 0 | MN-P404A | Start Command | DAF Flocculator FLC-P404A Start | WP-P0007 | | | | | | CP-P31 | DO TCP |
| 1513 | N | 0 | MN-P405A | Start Command | DAF Flocculator FLC-P405A Start | WP-P0007 | | | | | | CP-P31 | DO TCP |
| 1514 | N | 0 | MN-P406A | Start Command | DAF Flocculator FLC-P406A Start | WP-P0007 | | | | | | CP-P31 | DO TCP |
| 1515 | N | 0 | SI-P400A | Speed Indication | DAF Float Reciprocating Scraper FLC-P400A Speed | WP-P0007 | | | | | | CP-P31 | AI TCP |
| 1516 | N | 0 | SI-P401A | Speed Indication | DAF Flocculator FLC-P401A Speed | WP-P0007 | | | | | | CP-P31 | AI TCP |
| 1517 | N | 0 | SI-P402A | Speed Indication | DAF Flocculator FLC-P402A Speed | WP-P0007 | | | | | | CP-P31 | AI TCP |

I/O POINT TYPES: TCP = Modbus/TCP Ethernet, AI = Analog Input, AO = Analog Output, DI = Discrete Input, DO = Discrete Output

## PLC I/O INDEX

| | | | | DESCRIPTION | | | I/O SPECIFICATION | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| RECORD NO. | PLC Programming reqd | REV. N0. | TAG NAME | FUNCTION | SERVICE | P&ID DRAWING | ENG. UNITS | SCALE LOW | SCALE HIGH | ALARMS LOW | ALARMS HIGH | PLC CABINET | I/O TYPE |
| 1518 | N | 0 | SI-P403A | Speed Indication | DAF Flocculator FLC-P403A Speed | WP-P0007 | | | | | | CP-P31 | AI TCP |
| 1519 | N | 0 | SI-P404A | Speed Indication | DAF Flocculator FLC-P404A Speed | WP-P0007 | | | | | | CP-P31 | AI TCP |
| 1520 | N | 0 | SI-P405A | Speed Indication | DAF Flocculator FLC-P405A Speed | WP-P0007 | | | | | | CP-P31 | AI TCP |
| 1521 | N | 0 | SI-P406A | Speed Indication | DAF Flocculator FLC-P406A Speed | WP-P0007 | | | | | | CP-P31 | AI TCP |
| 1522 | N | 0 | SC-P400A | Speed Control Output | DAF Float Reciprocating Scraper FLC-P400A Required Speed | WP-P0007 | | | | | | CP-P31 | AO TCP |
| 1523 | N | 0 | SC-P401A | Speed Control Output | DAF Flocculator FLC-P401A Required Speed | WP-P0007 | | | | | | CP-P31 | AO TCP |
| 1524 | N | 0 | SC-P402A | Speed Control Output | DAF Flocculator FLC-P402A Required Speed | WP-P0007 | | | | | | CP-P31 | AO TCP |
| 1525 | N | 0 | SC-P403A | Speed Control Output | DAF Flocculator FLC-P403A Required Speed | WP-P0007 | | | | | | CP-P31 | AO TCP |
| 1526 | N | 0 | SC-P404A | Speed Control Output | DAF Flocculator FLC-P404A Required Speed | WP-P0007 | | | | | | CP-P31 | AO TCP |
| 1527 | N | 0 | SC-P405A | Speed Control Output | DAF Flocculator FLC-P405A Required Speed | WP-P0007 | | | | | | CP-P31 | AO TCP |
| 1528 | N | 0 | SC-P406A | Speed Control Output | DAF Flocculator FLC-P406A Required Speed | WP-P0007 | | | | | | CP-P31 | AO TCP |
| 1529 | N | 0 | UF-P400A | No Fault | DAF Float Reciprocating Scraper FLC-P400A Fault | WP-P0007 | | | | | | CP-P31 | DI TCP |
| 1530 | N | 0 | UF-P401A | No Fault | DAF Flocculator FLC-P401A Fault | WP-P0007 | | | | | | CP-P31 | DI TCP |
| 1531 | N | 0 | UF-P402A | No Fault | DAF Flocculator FLC-P402A Fault | WP-P0007 | | | | | | CP-P31 | DI TCP |
| 1532 | N | 0 | UF-P403A | No Fault | DAF Flocculator FLC-P403A Fault | WP-P0007 | | | | | | CP-P31 | DI TCP |
| 1533 | N | 0 | UF-P404A | No Fault | DAF Flocculator FLC-P404A Fault | WP-P0007 | | | | | | CP-P31 | DI TCP |
| 1534 | N | 0 | UF-P405A | No Fault | DAF Flocculator FLC-P405A Fault | WP-P0007 | | | | | | CP-P31 | DI TCP |
| 1535 | N | 0 | UF-P406A | No Fault | DAF Flocculator FLC-P406A Fault | WP-P0007 | | | | | | CP-P31 | DI TCP |
| 1536 | N | 0 | YS-P410A | C/O/H Switch in Computer Position | Air Saturated Water to DAF TNK-P400A Valve in Computer Mode | WP-P0007 | | | | | | CP-P31 | DI |
| 1537 | N | 0 | YS-P410B | C/O/H Switch in Computer Position | Air Saturated Water to DAF TNK-P400A Valve in Computer Mode | WP-P0007 | | | | | | CP-P31 | DI |
| 1538 | N | 0 | YS-P440A | C/O/H Switch in Computer Position | DAF Basin Effluent Weir Bypass Gate (TNKP400A) in Computer Mode | WP-P0007 | | | | | | CP-P31 | DI |
| 1539 | N | 0 | YS-P400A | C/O/H Switch in Computer Position | DAF Float Reciprocating Scraper FLC-P400A in Computer Mode | WP-P0007 | | | | | | CP-P31 | DI TCP |
| 1540 | N | 0 | YS-P401A | C/O/H Switch in Computer Position | DAF Flocculator FLC-P401A in Computer Mode | WP-P0007 | | | | | | CP-P31 | DI TCP |
| 1541 | N | 0 | YS-P402A | C/O/H Switch in Computer Position | DAF Flocculator FLC-P402A in Computer Mode | WP-P0007 | | | | | | CP-P31 | DI TCP |
| 1542 | N | 0 | YS-P403A | C/O/H Switch in Computer Position | DAF Flocculator FLC-P403A in Computer Mode | WP-P0007 | | | | | | CP-P31 | DI TCP |
| 1543 | N | 0 | YS-P404A | C/O/H Switch in Computer Position | DAF Flocculator FLC-P404A in Computer Mode | WP-P0007 | | | | | | CP-P31 | DI TCP |
| 1544 | N | 0 | YS-P405A | C/O/H Switch in Computer Position | DAF Flocculator FLC-P405A in Computer Mode | WP-P0007 | | | | | | CP-P31 | DI TCP |
| 1545 | N | 0 | YS-P406A | C/O/H Switch in Computer Position | DAF Flocculator FLC-P406A in Computer Mode | WP-P0007 | | | | | | CP-P31 | DI TCP |
| 1546 | N | 0 | YD-P420A | Solenoid Actuator Output | DAF Basin Headwall Spray Wash Header Valve (TNKP400A) Open | WP-P0007 | | | | | | CP-P31 | DO |
| 1547 | N | 0 | YD-P420B | Solenoid Actuator Output | DAF Basin Float Trough Spray Wash Valve (TNKP400A) Open | WP-P0007 | | | | | | CP-P31 | DO |
| 1548 | N | 0 | ZT-P410A | Position Feedback | Air Saturated Water to DAF TNK-P400A Valve Position | WP-P0007 | | | | | | CP-P31 | AI |
| 1549 | N | 0 | ZT-P410B | Position Feedback | Air Saturated Water to DAF TNK-P400A Valve Position | WP-P0007 | | | | | | CP-P31 | AI |
| 1550 | N | 0 | ZT-P440A | Position Feedback | DAF Basin Effluent Weir Bypass Gate (TNKP400A) Position | WP-P0007 | | | | | | CP-P31 | AI |
| 1551 | N | 0 | ZC-P410A | Position Control Output | Air Saturated Water to DAF TNK-P400A Valve Required Position | WP-P0007 | | | | | | CP-P31 | AO |
| 1552 | N | 0 | ZC-P410B | Position Control Output | Air Saturated Water to DAF TNK-P400A Valve Required Position | WP-P0007 | | | | | | CP-P31 | AO |
| 1553 | N | 0 | ZC-P440A | Position Control Output | DAF Basin Effluent Weir Bypass Gate (TNKP400A) Required Position | WP-P0007 | | | | | | CP-P31 | AO |
| 1554 | N | 0 | ZB-P410A | Closed Status | Air Saturated Water to DAF TNK-P400A Valve Closed | WP-P0007 | | | | | | CP-P31 | DI |
| 1555 | N | 0 | ZD-P410A | Open Status | Air Saturated Water to DAF TNK-P400A Valve Open | WP-P0007 | | | | | | CP-P31 | DI |
| 1556 | N | 0 | ZB-P410B | Closed Status | Air Saturated Water to DAF TNK-P400A Valve Closed | WP-P0007 | | | | | | CP-P31 | DI |
| 1557 | N | 0 | ZD-P410B | Open Status | Air Saturated Water to DAF TNK-P400A Valve Open | WP-P0007 | | | | | | CP-P31 | DI |
| 1558 | N | 0 | ZB-P440A | Closed Status | DAF Basin Effluent Weir Bypass Gate (TNKP400A) Closed | WP-P0007 | | | | | | CP-P31 | DI |
| 1559 | N | 0 | ZD-P440A | Open Status | DAF Basin Effluent Weir Bypass Gate (TNKP400A) Open | WP-P0007 | | | | | | CP-P31 | DI |
| 1560 | Y | 0 | AT-P975A | Turbidity Indication | DAF Common Effluent Channel Turbidity | WP-P0017 | | | | | | LCP-H10 | AI |
| 1561 | Y | 0 | FA-P975A | Flow Alarm | DAF Common Effluent Channel Turbidity Low Sample Flow | WP-P0017 | | | | | | LCP-H10 | DI |
| 1562 | Y | 0 | HS-DO044A | Open Command (Manual) | Branch 1 Pump PP-4 Throttling Valve Manual Open | WD-P0003 | | | | | | LCP-D11 | DI |
| 1563 | Y | 0 | HS-DO044B | Close Command (Manual | Branch 1 Pump PP-4 Throttling Valve Manual Closed | WD-P0003 | | | | | | LCP-D11 | DI |
| 1564 | Y | 0 | YS-DO044A | C/O/H Switch in Computer Position | Branch 1 Pump PP-4 Throttling Valve in Computer Mode | WD-P0003 | | | | | | LCP-D11 | DI |
| 1565 | Y | 0 | YD-DE044A | Open Command | Branch 1 Pump PP-4 Cooling Water Valve Open | WD-P0003 | | | | | | LCP-D11 | DO |
| 1566 | Y | 0 | YB-DD044A | Close Command | Branch 1 Pump PP-4 Throttling Valve Close (energize to close) | WD-P0003 | | | | | | LCP-D11 | DO |
| 1567 | Y | 0 | YB-DD044B | Emergency Close Command | Branch 1 Pump PP-4 Throttling Valve Emergency Close | WD-P0003 | | | | | | LCP-D11 | DO |
| 1568 | Y | 0 | YD-DD044A | Open Command | Branch 1 Pump PP-4 Throttling Valve Open (de-energize to open) | WD-P0003 | | | | | | LCP-D11 | DO |
| 1569 | Y | 0 | ZI-DD044A | Position Indication | Branch 1 Pump PP-4 Throttling Valve Position | WD-P0003 | | | | | | LCP-D11 | AI |

I/O POINT TYPES: TCP = Modbus/TCP Ethernet, AI = Analog Input, AO = Analog Output, DI = Discrete Input, DO = Discrete Output

## PLC I/O INDEX

| | | | | DESCRIPTION | | | I/O SPECIFICATION | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| RECORD NO. | PLC Programming reqd | REV. N0. | TAG NAME | FUNCTION | SERVICE | P&ID DRAWING | ENG. UNITS | SCALE LOW | SCALE HIGH | ALARMS LOW | ALARMS HIGH | PLC CABINET | I/O TYPE |
| 1570 | Y | 0 | ZB-DD044A | Closed Status | Branch 1 Pump PP-4 Throttling Valve Closed | WD-P0003 | | | | | | LCP-D11 | DI |
| 1571 | Y | 0 | ZD-DD044A | Open Status | Branch 1 Pump PP-4 Throttling Valve Open | WD-P0003 | | | | | | LCP-D11 | DI |
| 1572 | Y | 0 | ZB-DS044A | Closed Status | Branch 1 Pump PP-4 Suction Hand Valve Closed | WD-P0003 | | | | | | LCP-D11 | DI |
| 1573 | Y | 0 | ZD-DS044A | Open Status | Branch 1 Pump PP-4 Suction Hand Valve Open | WD-P0003 | | | | | | LCP-D11 | DI |
| 1574 | Y | 0 | ZB-DD044B | Closed Status | Branch 1 Pump PP-4 Discharge Hand Valve Closed | WD-P0003 | | | | | | LCP-D11 | DI |
| 1575 | Y | 0 | ZD-DD044B | Open Status | Branch 1 Pump PP-4 Discharge Hand Valve Open | WD-P0003 | | | | | | LCP-D11 | DI |
| 1576 | Y | 0 | FS-DE044A | Low Flow | Branch 1 Pump PP-4 Cooling Water Low Flow | WD-P0004 | | | | | | LCP-D11 | DI |
| 1577 | Y | 0 | MN-DE044A | Running Status | Branch 1 Pump PP-4 Running | WD-P0004 | | | | | | LCP-D11 | DI |
| 1578 | Y | 0 | MM-DE044A | Start Command | Branch 1 Pump PP-4 Start | WD-P0004 | | | | | | LCP-D11 | DO |
| 1579 | Y | 0 | PI-DE044A | Pressure Indication | Branch 1 Pump PP-4 Differential Pressure | WD-P0004 | | | | | | LCP-D11 | AI |
| 1580 | Y | 0 | PS-DE044A | Low Pressure | Branch 1 Pump PP-4 Cooling Water Low Pressure | WD-P0004 | | | | | | LCP-D11 | DI |
| 1581 | Y | 0 | SI-DE044A | Speed Indication | Branch 1 Pump PP-4 Speed Indication Monitor | WD-P0004 | | | | | | LCP-D11 | AI |
| 1582 | Y | 0 | SA-DE044A | Reverse Spin Alarm | Branch 1 Pump PP-4 Reverse Spin Alarm | WD-P0004 | | | | | | LCP-D11 | DI |
| 1583 | Y | 0 | TS-DE044A | High Temperature | Branch 1 Pump PP-4 Cooling Water High Temperature | WD-P0004 | | | | | | LCP-D11 | DI |
| 1584 | Y | 0 | UF-DE044A | No Fault | Branch 1 Pump PP-4 No Fault | WD-P0004 | | | | | | LCP-D11 | DI |
| 1585 | Y | 0 | YS-DE044A | C/O/H Switch in Computer Position | Branch 1 Pump PP-4 In Computer Mode | WD-P0004 | | | | | | LCP-D11 | DI |
| 1586 | Y | 0 | YS-DE044B | C/O/H Switch in Computer Position | Branch 1 Pump PP-4 Speed Control Actuator in Comp Mode | WD-P0004 | | | | | | LCP-D11 | DI |
| 1587 | Y | 0 | ZI-DE044A | Position Feedback | Branch 1 Pump PP-4 Speed Control Actuator Position | WD-P0004 | | | | | | LCP-D11 | AI |
| 1588 | Y | 0 | ZC-DE044A | Position Control Output | Branch 1 Pump PP-4 Speed Control Actuator Required Position | WD-P0004 | | | | | | LCP-D11 | AO |
| 1589 | Y | 0 | HS-DO045A | Open Command (Manual) | Branch 1 Pump PP-5 Throttling Valve Manual Open | WD-P0003 | | | | | | LCP-D12 | DI |
| 1590 | Y | 0 | HS-DO045B | Close Command (Manual | Branch 1 Pump PP-5 Throttling Valve Manual Closed | WD-P0003 | | | | | | LCP-D12 | DI |
| 1591 | Y | 0 | YS-DO045A | C/O/H Switch in Computer Position | Branch 1 Pump PP-5 Throttling Valve in Computer Mode | WD-P0003 | | | | | | LCP-D12 | DI |
| 1592 | Y | 0 | YD-DE045A | Open Command | Branch 1 Pump PP-4 Cooling Water Valve Open | WD-P0003 | | | | | | LCP-D12 | DO |
| 1593 | Y | 0 | YB-DO045A | Close Command | Branch 1 Pump PP-5 Throttling Valve Close (energize to close) | WD-P0003 | | | | | | LCP-D12 | DO |
| 1594 | Y | 0 | YB-DO045B | Emergency Close Command | Branch 1 Pump PP-5 Throttling Valve Emergency Close | WD-P0003 | | | | | | LCP-D12 | DO |
| 1595 | Y | 0 | YD-DO045A | Open Command | Branch 1 Pump PP-5 Throttling Valve Open (de-energize to open) | WD-P0003 | | | | | | LCP-D12 | DO |
| 1596 | Y | 0 | ZI-DO045A | Position Indication | Branch 1 Pump PP-5 Throttling Valve Position | WD-P0003 | | | | | | LCP-D12 | AI |
| 1597 | Y | 0 | ZB-DO045A | Closed Status | Branch 1 Pump PP-5 Throttling Valve Closed | WD-P0003 | | | | | | LCP-D12 | DI |
| 1598 | Y | 0 | ZD-DO045A | Open Status | Branch 1 Pump PP-5 Throttling Valve Open | WD-P0003 | | | | | | LCP-D12 | DI |
| 1599 | Y | 0 | ZB-DS045A | Closed Status | Branch 1 Pump PP-5 Suction Hand Valve Closed | WD-P0003 | | | | | | LCP-D12 | DI |
| 1600 | Y | 0 | ZD-DS045A | Open Status | Branch 1 Pump PP-5 Suction Hand Valve Open | WD-P0003 | | | | | | LCP-D12 | DI |
| 1601 | Y | 0 | ZB-DD045B | Closed Status | Branch 1 Pump PP-5 Discharge Hand Valve Closed | WD-P0003 | | | | | | LCP-D12 | DI |
| 1602 | Y | 0 | ZD-DD045B | Open Status | Branch 1 Pump PP-5 Discharge Hand Valve Open | WD-P0003 | | | | | | LCP-D12 | DI |
| 1603 | Y | 0 | FS-D045A | Low Flow | Branch 1 Pump PP-5 Cooling Water Low Flow | WD-P0004 | | | | | | LCP-D12 | DI |
| 1604 | Y | 0 | MN-DE045A | Running Status | Branch 1 Pump PP-5 Running | WD-P0004 | | | | | | LCP-D12 | DI |
| 1605 | Y | 0 | MM-DE045A | Start Command | Branch 1 Pump PP-5 Start | WD-P0004 | | | | | | LCP-D12 | DO |
| 1606 | Y | 0 | PI-DE045A | Pressure Indication | Branch 1 Pump PP-5 Differential Pressure | WD-P0004 | | | | | | LCP-D12 | AI |
| 1607 | Y | 0 | PS-D045A | Low Pressure | Branch 1 Pump PP-5 Cooling Water Low Pressure | WD-P0004 | | | | | | LCP-D12 | DI |
| 1608 | Y | 0 | SI-DE045A | Speed Indication | Branch 1 Pump PP-5 Speed Indication Monitor | WD-P0004 | | | | | | LCP-D12 | AI |
| 1609 | Y | 0 | SA-DE045A | Reverse Spin Alarm | Branch 1 Pump PP-5 Reverse Spin Alarm | WD-P0004 | | | | | | LCP-D12 | DI |
| 1610 | Y | 0 | TS-DE045A | High Temperature | Branch 1 Pump PP-5 Cooling Water High Temperature | WD-P0004 | | | | | | LCP-D12 | DI |
| 1611 | Y | 0 | UF-DE045A | No Fault | Branch 1 Pump PP-5 No Fault | WD-P0004 | | | | | | LCP-D12 | DI |
| 1612 | Y | 0 | YS-DE045A | C/O/H Switch in Computer Position | Branch 1 Pump PP-5 In Computer Mode | WD-P0004 | | | | | | LCP-D12 | DI |
| 1613 | Y | 0 | YS-DE045B | C/O/H Switch in Computer Position | Branch 1 Pump PP-5 Speed Control Actuator in Comp Mode | WD-P0004 | | | | | | LCP-D12 | DI |
| 1614 | Y | 0 | ZI-DE045A | Position Feedback | Branch 1 Pump PP-5 Speed Control Actuator Position | WD-P0004 | | | | | | LCP-D12 | AI |
| 1615 | Y | 0 | ZC-DE045A | Position Control Output | Branch 1 Pump PP-5 Speed Control Actuator Required Position | WD-P0004 | | | | | | LCP-D12 | AO |
| 1616 | Y | 0 | ZI-DO041A | Position Indication | Branch 2 Pump PP-1 Throttling Valve Position | WD-P0005 | | | | | | LCP-D12 | AI |
| 1617 | Y | 0 | ZI-DO042A | Position Indication | Branch 2 Pump PP-2 Throttling Valve Position | WD-P0005 | | | | | | LCP-D12 | AI |
| 1618 | Y | 0 | ZI-DO043A | Position Indication | Branch 2 Pump PP-3 Throttling Valve Position | WD-P0005 | | | | | | LCP-D12 | AI |
| 1619 | Y | 0 | AI-F110A | Turbidity Indication | Filter TKF100A Outlet Turbidity | WF-P0001 | | | | | | LCP-F01 | AI |
| 1620 | Y | 0 | AI-F110B | Particle Counter Indication | Filter TKF100A Outlet Particle Count | WF-P0001 | | | | | | LCP-F01 | AI |
| 1621 | Y | 0 | AF-F110A | Turbidity Fault | Filter TKF100A Outlet Turbidity Fault | WF-P0001 | | | | | | LCP-F01 | DI |
| 1622 | Y | 0 | AF-F110B | Particle Counter Fault | Filter TKF100A Outlet Particle Count Fault | WF-P0001 | | | | | | LCP-F01 | DI |
| 1623 | Y | 0 | FI-F103A | Flow Indication | Filter TKF100A Outlet Flow Rate | WF-P0001 | | | | | | LCP-F01 | AI |
| 1624 | Y | 0 | FQ-F103A | Flow Pulse | Filter TKF100A Outlet Flow Total | WF-P0001 | | | | | | LCP-F01 | DI |

I/O POINT TYPES: TCP = Modbus/TCP Ethernet, AI = Analog Input, AO = Analog Output, DI = Discrete Input, DO = Discrete Output

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| RECORD NO. | PLC Programming reqd | REV. N0. | TAG NAME | FUNCTION | SERVICE | P&ID DRAWING | ENG. UNITS | SCALE LOW | SCALE HIGH | ALARMS LOW | ALARMS HIGH | PLC CABINET | I/O TYPE |
| 1625 | Y | 0 | FA-F110A | Flow Alarm | Filter TKF100A Outlet Turbidity Sample Flow Low | WF-P0001 | | | | | | LCP-F01 | DI |
| 1626 | Y | 0 | FA-F110B | Flow Alarm | Filter TKF100A Outlet Particle Count Sample Flow Low | WF-P0001 | | | | | | LCP-F01 | DI |
| 1627 | Y | 0 | PI-F100A | Differential Pressure Indication | Overall Filter Differential Pressure | WF-P0001 | | | | | | LCP-F01 | AI |
| 1628 | Y | 0 | YS-F103A | C/O/H Switch in Computer Position | Filter TKF100A Outlet Flow Control Valve in Computer Mode | WF-P0001 | | | | | | LCP-F01 | DI |
| 1629 | Y | 0 | YS-F104A | C/O/H Switch in Computer Position | Filter TKF100A Outlet Flow Valve in Computer Mode | WF-P0001 | | | | | | LCP-F01 | DI |
| 1630 | Y | 0 | YS-F105A | C/O/H Switch in Computer Position | Filter TKF100A Outlet Flow to Backwash Tank Valve in Computer Mode | WF-P0001 | | | | | | LCP-F01 | DI |
| 1631 | Y | 0 | YS-F106A | C/O/H Switch in Computer Position | Filter TKF100A Backwash Water Inlet Valve in Computer Mode | WF-P0001 | | | | | | LCP-F01 | DI |
| 1632 | Y | 0 | YS-F107A | C/O/H Switch in Computer Position | Filter TKF100A Air Scour Valve in Computer Mode | WF-P0001 | | | | | | LCP-F01 | DI |
| 1633 | Y | 0 | YB-F104A | Close Command | Filter TKF100A Outlet Flow Valve Closed | WF-P0001 | | | | | | LCP-F01 | DO |
| 1634 | Y | 0 | YD-F104A | Open Command | Filter TKF100A Outlet Flow Valve Open | WF-P0001 | | | | | | LCP-F01 | DO |
| 1635 | Y | 0 | YB-F105A | Close Command | Filter TKF100A Outlet Flow to Backwash Tank Valve Close | WF-P0001 | | | | | | LCP-F01 | DO |
| 1636 | Y | 0 | YD-F105A | Open Command | Filter TKF100A Outlet Flow to Backwash Tank Valve Open | WF-P0001 | | | | | | LCP-F01 | DO |
| 1637 | Y | 0 | YB-F106A | Close Command | Filter TKF100A Backwash Water Inlet Valve Closed | WF-P0001 | | | | | | LCP-F01 | DO |
| 1638 | Y | 0 | YD-F106A | Open Command | Filter TKF100A Backwash Water Inlet Valve Open | WF-P0001 | | | | | | LCP-F01 | DO |
| 1639 | Y | 0 | YB-F107A | Close Command | Filter TKF100A Air Scour Valve Closed | WF-P0001 | | | | | | LCP-F01 | DO |
| 1640 | Y | 0 | YD-F107A | Open Command | Filter TKF100A Air Scour Valve Open | WF-P0001 | | | | | | LCP-F01 | DO |
| 1641 | Y | 0 | ZT-F103A | Position Feedback | Filter TKF100A Outlet Flow Control Valve Position | WF-P0001 | | | | | | LCP-F01 | AI |
| 1642 | Y | 0 | ZC-F103A | Position Control Output | Filter TKF100A Outlet Flow Control Valve Required Position | WF-P0001 | | | | | | LCP-F01 | AO |
| 1643 | Y | 0 | ZB-F103A | Closed Status | Filter TKF100A Outlet Flow Control Valve Closed | WF-P0001 | | | | | | LCP-F01 | DI |
| 1644 | Y | 0 | ZD-F103A | Open Status | Filter TKF100A Outlet Flow Control Valve Open | WF-P0001 | | | | | | LCP-F01 | DI |
| 1645 | Y | 0 | ZB-F104A | Closed Status | Filter TKF100A Outlet Flow Valve Closed | WF-P0001 | | | | | | LCP-F01 | DI |
| 1646 | Y | 0 | ZD-F104A | Open Status | Filter TKF100A Outlet Flow Valve Open | WF-P0001 | | | | | | LCP-F01 | DI |
| 1647 | Y | 0 | ZB-F105A | Closed Status | Filter TKF100A Outlet Flow to Backwash Tank Valve Closed | WF-P0001 | | | | | | LCP-F01 | DI |
| 1648 | Y | 0 | ZD-F105A | Open Status | Filter TKF100A Outlet Flow to Backwash Tank Valve Open | WF-P0001 | | | | | | LCP-F01 | DI |
| 1649 | Y | 0 | ZB-F106A | Closed Status | Filter TKF100A Backwash Water Inlet Valve Closed | WF-P0001 | | | | | | LCP-F01 | DI |
| 1650 | Y | 0 | ZD-F106A | Open Status | Filter TKF100A Backwash Water Inlet Valve Open | WF-P0001 | | | | | | LCP-F01 | DI |
| 1651 | Y | 0 | ZB-F107A | Closed Status | Filter TKF100A Air Scour Valve Closed | WF-P0001 | | | | | | LCP-F01 | DI |
| 1652 | Y | 0 | ZD-F107A | Open Status | Filter TKF100A Air Scour Valve Open | WF-P0001 | | | | | | LCP-F01 | DI |
| 1653 | Y | 0 | AI-F210A | Turbidity Indication | Filter TKF200A Outlet Turbidity | WF-P0002 | | | | | | LCP-F01 | AI |
| 1654 | Y | 0 | AI-F210B | Particle Counter Indication | Filter TKF200A Outlet Particle Count | WF-P0002 | | | | | | LCP-F01 | AI |
| 1655 | Y | 0 | AF-F210A | Turbidity Fault | Filter TKF200A Outlet Turbidity Fault | WF-P0002 | | | | | | LCP-F01 | DI |
| 1656 | Y | 0 | AF-F210B | Particle Counter Fault | Filter TKF200A Outlet Particle Count Fault | WF-P0002 | | | | | | LCP-F01 | DI |
| 1657 | Y | 0 | FI-F203A | Flow Indication | Filter TKF200A Outlet Flow Rate | WF-P0002 | | | | | | LCP-F01 | AI |
| 1658 | Y | 0 | FQ-F203A | Flow Pulse | Filter TKF200A Outlet Flow Total | WF-P0002 | | | | | | LCP-F01 | DI |
| 1659 | Y | 0 | FA-F210A | Flow Alarm | Filter TKF200A Outlet Turbidity Sample Flow Low | WF-P0002 | | | | | | LCP-F01 | DI |
| 1660 | Y | 0 | FA-F210B | Flow Alarm | Filter TKF200A Outlet Particle Count Sample Flow Low | WF-P0002 | | | | | | LCP-F01 | DI |
| 1661 | Y | 0 | PI-F200A | Differential Pressure Indication | Overall Filter Differential Pressure | WF-P0002 | | | | | | LCP-F01 | AI |
| 1662 | Y | 0 | YS-F203A | C/O/H Switch in Computer Position | Filter TKF200A Outlet Flow Control Valve in Computer Mode | WF-P0002 | | | | | | LCP-F01 | DI |
| 1663 | Y | 0 | YS-F204A | C/O/H Switch in Computer Position | Filter TKF200A Outlet Flow Valve in Computer Mode | WF-P0002 | | | | | | LCP-F01 | DI |
| 1664 | Y | 0 | YS-F205A | C/O/H Switch in Computer Position | Filter TKF200A Outlet Flow to Backwash Tank Valve in Computer Mode | WF-P0002 | | | | | | LCP-F01 | DI |
| 1665 | Y | 0 | YS-F206A | C/O/H Switch in Computer Position | Filter TKF200A Backwash Water Inlet Valve in Computer Mode | WF-P0002 | | | | | | LCP-F01 | DI |
| 1666 | Y | 0 | YS-F207A | C/O/H Switch in Computer Position | Filter TKF200A Air Scour Valve in Computer Mode | WF-P0002 | | | | | | LCP-F01 | DI |
| 1667 | Y | 0 | YB-F204A | Close Command | Filter TKF200A Outlet Flow Valve Closed | WF-P0002 | | | | | | LCP-F01 | DO |
| 1668 | Y | 0 | YD-F204A | Open Command | Filter TKF200A Outlet Flow Valve Open | WF-P0002 | | | | | | LCP-F01 | DO |
| 1669 | Y | 0 | YB-F205A | Close Command | Filter TKF200A Outlet Flow to Backwash Tank Valve Close | WF-P0002 | | | | | | LCP-F01 | DO |
| 1670 | Y | 0 | YD-F205A | Open Command | Filter TKF200A Outlet Flow to Backwash Tank Valve Open | WF-P0002 | | | | | | LCP-F01 | DO |
| 1671 | Y | 0 | YB-F206A | Close Command | Filter TKF200A Backwash Water Inlet Valve Closed | WF-P0002 | | | | | | LCP-F01 | DO |
| 1672 | Y | 0 | YD-F206A | Open Command | Filter TKF200A Backwash Water Inlet Valve Open | WF-P0002 | | | | | | LCP-F01 | DO |
| 1673 | Y | 0 | YB-F207A | Close Command | Filter TKF200A Air Scour Valve Closed | WF-P0002 | | | | | | LCP-F01 | DO |
| 1674 | Y | 0 | YD-F207A | Open Command | Filter TKF200A Air Scour Valve Open | WF-P0002 | | | | | | LCP-F01 | DO |
| 1675 | Y | 0 | ZT-F203A | Position Feedback | Filter TKF200A Outlet Flow Control Valve Position | WF-P0002 | | | | | | LCP-F01 | AI |
| 1676 | Y | 0 | ZC-F203A | Position Control Output | Filter TKF200A Outlet Flow Control Valve Required Position | WF-P0002 | | | | | | LCP-F01 | AO |
| 1677 | Y | 0 | ZB-F203A | Closed Status | Filter TKF200A Outlet Flow Control Valve Closed | WF-P0002 | | | | | | LCP-F01 | DI |

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| RECORD NO. | PLC Programming reqd | REV. N0. | TAG NAME | FUNCTION | SERVICE | P&ID DRAWING | ENG. UNITS | SCALE LOW | SCALE HIGH | ALARMS LOW | ALARMS HIGH | PLC CABINET | I/O TYPE |
| 1678 | Y | 0 | ZD-F203A | Open Status | Filter TKF200A Outlet Flow Control Valve Open | WF-P0002 | | | | | | LCP-F01 | DI |
| 1679 | Y | 0 | ZB-F204A | Closed Status | Filter TKF200A Outlet Flow Valve Closed | WF-P0002 | | | | | | LCP-F01 | DI |
| 1680 | Y | 0 | ZD-F204A | Open Status | Filter TKF200A Outlet Flow Valve Open | WF-P0002 | | | | | | LCP-F01 | DI |
| 1681 | Y | 0 | ZB-F205A | Closed Status | Filter TKF200A Outlet Flow to Backwash Tank Valve Closed | WF-P0002 | | | | | | LCP-F01 | DI |
| 1682 | Y | 0 | ZD-F205A | Open Status | Filter TKF200A Outlet Flow to Backwash Tank Valve Open | WF-P0002 | | | | | | LCP-F01 | DI |
| 1683 | Y | 0 | ZB-F206A | Closed Status | Filter TKF200A Backwash Water Inlet Valve Closed | WF-P0002 | | | | | | LCP-F01 | DI |
| 1684 | Y | 0 | ZD-F206A | Open Status | Filter TKF200A Backwash Water Inlet Valve Open | WF-P0002 | | | | | | LCP-F01 | DI |
| 1685 | Y | 0 | ZB-F207A | Closed Status | Filter TKF200A Air Scour Valve Closed | WF-P0002 | | | | | | LCP-F01 | DI |
| 1686 | Y | 0 | ZD-F207A | Open Status | Filter TKF200A Air Scour Valve Open | WF-P0002 | | | | | | LCP-F01 | DI |
| 1687 | Y | 0 | AI-F310A | Turbidity Indication | Filter TKF300A Outlet Turbidity | WF-P0003 | | | | | | LCP-F01 | AI |
| 1688 | Y | 0 | AI-F310B | Particle Counter Indication | Filter TKF300A Outlet Particle Count | WF-P0003 | | | | | | LCP-F01 | AI |
| 1689 | Y | 0 | AF-F310A | Turbidity Fault | Filter TKF300A Outlet Turbidity Fault | WF-P0003 | | | | | | LCP-F01 | DI |
| 1690 | Y | 0 | AF-F310B | Particle Counter Fault | Filter TKF300A Outlet Particle Count Fault | WF-P0003 | | | | | | LCP-F01 | DI |
| 1691 | Y | 0 | FI-F303A | Flow Indication | Filter TKF300A Outlet Flow Rate | WF-P0003 | | | | | | LCP-F01 | AI |
| 1692 | Y | 0 | FQ-F303A | Flow Pulse | Filter TKF300A Outlet Flow Total | WF-P0003 | | | | | | LCP-F01 | DI |
| 1693 | Y | 0 | FA-F310A | Flow Alarm | Filter TKF300A Outlet Turbidity Sample Flow Low | WF-P0003 | | | | | | LCP-F01 | DI |
| 1694 | Y | 0 | FA-F310B | Flow Alarm | Filter TKF300A Outlet Particle Count Sample Flow Low | WF-P0003 | | | | | | LCP-F01 | DI |
| 1695 | Y | 0 | PI-F300A | Differential Pressure Indication | Overall Filter Differential Pressure | WF-P0003 | | | | | | LCP-F01 | AI |
| 1696 | Y | 0 | YS-F303A | C/O/H Switch in Computer Position | Filter TKF300A Outlet Flow Control Valve in Computer Mode | WF-P0003 | | | | | | LCP-F01 | DI |
| 1697 | Y | 0 | YS-F304A | C/O/H Switch in Computer Position | Filter TKF300A Outlet Flow Valve in Computer Mode | WF-P0003 | | | | | | LCP-F01 | DI |
| 1698 | Y | 0 | YS-F305A | C/O/H Switch in Computer Position | Filter TKF300A Outlet Flow to Backwash Tank Valve in Computer Mode | WF-P0003 | | | | | | LCP-F01 | DI |
| 1699 | Y | 0 | YS-F306A | C/O/H Switch in Computer Position | Filter TKF300A Backwash Water Inlet Valve in Computer Mode | WF-P0003 | | | | | | LCP-F01 | DI |
| 1700 | Y | 0 | YS-F307A | C/O/H Switch in Computer Position | Filter TKF300A Air Scour Valve in Computer Mode | WF-P0003 | | | | | | LCP-F01 | DI |
| 1701 | Y | 0 | YB-F304A | Close Command | Filter TKF300A Outlet Flow Valve Closed | WF-P0003 | | | | | | LCP-F01 | DO |
| 1702 | Y | 0 | YD-F304A | Open Command | Filter TKF300A Outlet Flow Valve Open | WF-P0003 | | | | | | LCP-F01 | DO |
| 1703 | Y | 0 | YB-F305A | Close Command | Filter TKF300A Outlet Flow to Backwash Tank Valve Close | WF-P0003 | | | | | | LCP-F01 | DO |
| 1704 | Y | 0 | YD-F305A | Open Command | Filter TKF300A Outlet Flow to Backwash Tank Valve Open | WF-P0003 | | | | | | LCP-F01 | DO |
| 1705 | Y | 0 | YB-F306A | Close Command | Filter TKF300A Backwash Water Inlet Valve Closed | WF-P0003 | | | | | | LCP-F01 | DO |
| 1706 | Y | 0 | YD-F306A | Open Command | Filter TKF300A Backwash Water Inlet Valve Open | WF-P0003 | | | | | | LCP-F01 | DO |
| 1707 | Y | 0 | YB-F307A | Close Command | Filter TKF300A Air Scour Valve Closed | WF-P0003 | | | | | | LCP-F01 | DO |
| 1708 | Y | 0 | YD-F307A | Open Command | Filter TKF300A Air Scour Valve Open | WF-P0003 | | | | | | LCP-F01 | DO |
| 1709 | Y | 0 | ZT-F303A | Position Feedback | Filter TKF300A Outlet Flow Control Valve Position | WF-P0003 | | | | | | LCP-F01 | AI |
| 1710 | Y | 0 | ZC-F303A | Position Control Output | Filter TKF300A Outlet Flow Control Valve Required Position | WF-P0003 | | | | | | LCP-F01 | AO |
| 1711 | Y | 0 | ZB-F303A | Closed Status | Filter TKF300A Outlet Flow Control Valve Closed | WF-P0003 | | | | | | LCP-F01 | DI |
| 1712 | Y | 0 | ZD-F303A | Open Status | Filter TKF300A Outlet Flow Control Valve Open | WF-P0003 | | | | | | LCP-F01 | DI |
| 1713 | Y | 0 | ZB-F304A | Closed Status | Filter TKF300A Outlet Flow Valve Closed | WF-P0003 | | | | | | LCP-F01 | DI |
| 1714 | Y | 0 | ZD-F304A | Open Status | Filter TKF300A Outlet Flow Valve Open | WF-P0003 | | | | | | LCP-F01 | DI |
| 1715 | Y | 0 | ZB-F305A | Closed Status | Filter TKF300A Outlet Flow to Backwash Tank Valve Closed | WF-P0003 | | | | | | LCP-F01 | DI |
| 1716 | Y | 0 | ZD-F305A | Open Status | Filter TKF300A Outlet Flow to Backwash Tank Valve Open | WF-P0003 | | | | | | LCP-F01 | DI |
| 1717 | Y | 0 | ZB-F306A | Closed Status | Filter TKF300A Backwash Water Inlet Valve Closed | WF-P0003 | | | | | | LCP-F01 | DI |
| 1718 | Y | 0 | ZD-F306A | Open Status | Filter TKF300A Backwash Water Inlet Valve Open | WF-P0003 | | | | | | LCP-F01 | DI |
| 1719 | Y | 0 | ZB-F307A | Closed Status | Filter TKF300A Air Scour Valve Closed | WF-P0003 | | | | | | LCP-F01 | DI |
| 1720 | Y | 0 | ZD-F307A | Open Status | Filter TKF300A Air Scour Valve Open | WF-P0003 | | | | | | LCP-F01 | DI |
| 1721 | Y | 0 | AI-F410A | Turbidity Indication | Filter TKF400A Outlet Turbidity | WF-P0004 | | | | | | LCP-F01 | AI |
| 1722 | Y | 0 | AI-F410B | Particle Counter Indication | Filter TKF400A Outlet Particle Count | WF-P0004 | | | | | | LCP-F01 | AI |
| 1723 | Y | 0 | AF-F410A | Turbidity Fault | Filter TKF400A Outlet Turbidity Fault | WF-P0004 | | | | | | LCP-F01 | DI |
| 1724 | Y | 0 | AF-F410B | Particle Counter Fault | Filter TKF400A Outlet Particle Count Fault | WF-P0004 | | | | | | LCP-F01 | DI |
| 1725 | Y | 0 | FI-F403A | Flow Indication | Filter TKF400A Outlet Flow Rate | WF-P0004 | | | | | | LCP-F01 | AI |
| 1726 | Y | 0 | FQ-F403A | Flow Pulse | Filter TKF400A Outlet Flow Total | WF-P0004 | | | | | | LCP-F01 | DI |
| 1727 | Y | 0 | FA-F410A | Flow Alarm | Filter TKF400A Outlet Turbidity Sample Flow Low | WF-P0004 | | | | | | LCP-F01 | DI |
| 1728 | Y | 0 | FA-F410B | Flow Alarm | Filter TKF400A Outlet Particle Count Sample Flow Low | WF-P0004 | | | | | | LCP-F01 | DI |
| 1729 | Y | 0 | PI-F400A | Differential Pressure Indication | Overall Filter Differential Pressure | WF-P0004 | | | | | | LCP-F01 | AI |
| 1730 | Y | 0 | YS-F403A | C/O/H Switch in Computer Position | Filter TKF400A Outlet Flow Control Valve in Computer Mode | WF-P0004 | | | | | | LCP-F01 | DI |
| 1731 | Y | 0 | YS-F404A | C/O/H Switch in Computer Position | Filter TKF400A Outlet Flow Valve in Computer Mode | WF-P0004 | | | | | | LCP-F01 | DI |

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| RECORD NO. | PLC Programming reqd | REV. N0. | TAG NAME | FUNCTION | SERVICE | P&ID DRAWING | ENG. UNITS | SCALE LOW | SCALE HIGH | ALARMS LOW | ALARMS HIGH | PLC CABINET | I/O TYPE |
| 1732 | Y | 0 | YS-F405A | C/O/H Switch in Computer Position | Filter TKF400A Outlet Flow to Backwash Tank Valve in Computer Mode | WF-P0004 | | | | | | LCP-F01 | DI |
| 1733 | Y | 0 | YS-F406A | C/O/H Switch in Computer Position | Filter TKF400A Backwash Water Inlet Valve in Computer Mode | WF-P0004 | | | | | | LCP-F01 | DI |
| 1734 | Y | 0 | YS-F407A | C/O/H Switch in Computer Position | Filter TKF400A Air Scour Valve in Computer Mode | WF-P0004 | | | | | | LCP-F01 | DI |
| 1735 | Y | 0 | YB-F404A | Close Command | Filter TKF400A Outlet Flow Valve Closed | WF-P0004 | | | | | | LCP-F01 | DO |
| 1736 | Y | 0 | YD-F404A | Open Command | Filter TKF400A Outlet Flow Valve Open | WF-P0004 | | | | | | LCP-F01 | DO |
| 1737 | Y | 0 | YB-F405A | Close Command | Filter TKF400A Outlet Flow to Backwash Tank Valve Close | WF-P0004 | | | | | | LCP-F01 | DO |
| 1738 | Y | 0 | YD-F405A | Open Command | Filter TKF400A Outlet Flow to Backwash Tank Valve Open | WF-P0004 | | | | | | LCP-F01 | DO |
| 1739 | Y | 0 | YB-F406A | Close Command | Filter TKF400A Backwash Water Inlet Valve Closed | WF-P0004 | | | | | | LCP-F01 | DO |
| 1740 | Y | 0 | YD-F406A | Open Command | Filter TKF400A Backwash Water Inlet Valve Open | WF-P0004 | | | | | | LCP-F01 | DO |
| 1741 | Y | 0 | YB-F407A | Close Command | Filter TKF400A Air Scour Valve Closed | WF-P0004 | | | | | | LCP-F01 | DO |
| 1742 | Y | 0 | YD-F407A | Open Command | Filter TKF400A Air Scour Valve Open | WF-P0004 | | | | | | LCP-F01 | DO |
| 1743 | Y | 0 | ZT-F403A | Position Feedback | Filter TKF400A Outlet Flow Control Valve Position | WF-P0004 | | | | | | LCP-F01 | AI |
| 1744 | Y | 0 | ZC-F403A | Position Control Output | Filter TKF400A Outlet Flow Control Valve Required Position | WF-P0004 | | | | | | LCP-F01 | AO |
| 1745 | Y | 0 | ZB-F403A | Closed Status | Filter TKF400A Outlet Flow Control Valve Closed | WF-P0004 | | | | | | LCP-F01 | DI |
| 1746 | Y | 0 | ZD-F403A | Open Status | Filter TKF400A Outlet Flow Control Valve Open | WF-P0004 | | | | | | LCP-F01 | DI |
| 1747 | Y | 0 | ZB-F404A | Closed Status | Filter TKF400A Outlet Flow Valve Closed | WF-P0004 | | | | | | LCP-F01 | DI |
| 1748 | Y | 0 | ZD-F404A | Open Status | Filter TKF400A Outlet Flow Valve Open | WF-P0004 | | | | | | LCP-F01 | DI |
| 1749 | Y | 0 | ZB-F405A | Closed Status | Filter TKF400A Outlet Flow to Backwash Tank Valve Closed | WF-P0004 | | | | | | LCP-F01 | DI |
| 1750 | Y | 0 | ZD-F405A | Open Status | Filter TKF400A Outlet Flow to Backwash Tank Valve Open | WF-P0004 | | | | | | LCP-F01 | DI |
| 1751 | Y | 0 | ZB-F406A | Closed Status | Filter TKF400A Backwash Water Inlet Valve Closed | WF-P0004 | | | | | | LCP-F01 | DI |
| 1752 | Y | 0 | ZD-F406A | Open Status | Filter TKF400A Backwash Water Inlet Valve Open | WF-P0004 | | | | | | LCP-F01 | DI |
| 1753 | Y | 0 | ZB-F407A | Closed Status | Filter TKF400A Air Scour Valve Closed | WF-P0004 | | | | | | LCP-F01 | DI |
| 1754 | Y | 0 | ZD-F407A | Open Status | Filter TKF400A Air Scour Valve Open | WF-P0004 | | | | | | LCP-F01 | DI |
| 1755 | Y | 0 | FI-F911A | Flow Indication | Filter Backwash Pump P-F911A Outlet Flow Rate | WF-P0009 | | | | | | LCP-F01 | AI |
| 1756 | Y | 0 | FQ-F911A | Flow Pulse | Filter Backwash Pump P-F911A Outlet Flow Total | WF-P0009 | | | | | | LCP-F01 | DI |
| 1757 | Y | 0 | LI-F910A | Level Indicator Transmitter | Backwash Tank TNKF910A Level | WF-P0009 | | | | | | LCP-F01 | AI |
| 1758 | Y | 0 | PI-F911A | Pressure Indication | Filter Backwash Pump P-F911A Outlet Pressure | WF-P0009 | | | | | | LCP-F01 | AI |
| 1759 | Y | 0 | TI-F911A | Temperature Indicator Transmitter | Filter Backwash Pump P-F911A Outlet Temperature | WF-P0009 | | | | | | LCP-F01 | AI |
| 1760 | Y | 0 | YS-F910A | C/O/H Switch in Computer Position | Backwash Tank TNKF910A Outlet Valve in Computer Mode | WF-P0009 | | | | | | LCP-F01 | DI |
| 1761 | Y | 0 | YS-F911A | C/O/H Switch in Computer Position | Filter Backwash Pump P-F911A Outlet Control Valve in Computer Mode | WF-P0009 | | | | | | LCP-F01 | DI |
| 1762 | Y | 0 | YS-F912A | C/O/H Switch in Computer Position | Backwash Tank TNKF910A Inlet Valve in Computer Mode | WF-P0009 | | | | | | LCP-F01 | DI |
| 1763 | Y | 0 | YS-F933A | C/O/H Switch in Computer Position | Backwash Pump Outlet Crossover Valve in Computer Mode | WF-P0009 | | | | | | LCP-F01 | DI |
| 1764 | Y | 0 | YB-F910A | Close Command | Backwash Tank TNKF910A Outlet Valve Close | WF-P0009 | | | | | | LCP-F01 | DO |
| 1765 | Y | 0 | YD-F910A | Open Command | Backwash Tank TNKF910A Outlet Valve Open | WF-P0009 | | | | | | LCP-F01 | DO |
| 1766 | Y | 0 | YB-F912A | Close Command | Backwash Tank TNKF910A Inlet Valve Close | WF-P0009 | | | | | | LCP-F01 | DO |
| 1767 | Y | 0 | YD-F912A | Open Command | Backwash Tank TNKF910A Inlet Valve Open | WF-P0009 | | | | | | LCP-F01 | DO |
| 1768 | Y | 0 | YB-F933A | Close Command | Backwash Pump Outlet Crossover Valve Close | WF-P0009 | | | | | | LCP-F01 | DO |
| 1769 | Y | 0 | YD-F933A | Open Command | Backwash Pump Outlet Crossover Valve Open | WF-P0009 | | | | | | LCP-F01 | DO |
| 1770 | Y | 0 | ZT-F911A | Position Feedback | Filter Backwash Pump P-F911A Outlet Control Valve Required Position | WF-P0009 | | | | | | LCP-F01 | AI |
| 1771 | Y | 0 | ZC-F911A | Position Control Output | Filter Backwash Pump P-F911A Outlet Control Valve Position | WF-P0009 | | | | | | LCP-F01 | AO |
| 1772 | Y | 0 | ZB-F910A | Closed Status | Backwash Tank TNKF910A Outlet Valve Close | WF-P0009 | | | | | | LCP-F01 | DI |
| 1773 | Y | 0 | ZD-F910A | Open Status | Backwash Tank TNKF910A Outlet Valve Open | WF-P0009 | | | | | | LCP-F01 | DI |
| 1774 | Y | 0 | ZB-F911A | Closed Status | Filter Backwash Pump P-F911A Outlet Control Valve Closed | WF-P0009 | | | | | | LCP-F01 | DI |
| 1775 | Y | 0 | ZD-F911A | Open Status | Filter Backwash Pump P-F911A Outlet Control Valve Open | WF-P0009 | | | | | | LCP-F01 | DI |
| 1776 | Y | 0 | ZB-F912A | Closed Status | Backwash Tank TNKF910A Inlet Valve Closed | WF-P0009 | | | | | | LCP-F01 | DI |
| 1777 | Y | 0 | ZD-F912A | Open Status | Backwash Tank TNKF910A Inlet Valve Open | WF-P0009 | | | | | | LCP-F01 | DI |
| 1778 | Y | 0 | ZB-F933A | Closed Status | Backwash Pump Outlet Crossover Valve Closed | WF-P0009 | | | | | | LCP-F01 | DI |
| 1779 | Y | 0 | ZD-F933A | Open Status | Backwash Pump Outlet Crossover Valve Open | WF-P0009 | | | | | | LCP-F01 | DI |
| 1780 | Y | 0 | YD-J991A | Open Command | Sodium Hypochlorite to Backwash Pump P-F911A Valve Open | WF-P0009 | | | | | | LCP-F01 | DO |
| 1781 | Y | 0 | AI-F056A | Free Chlorine Indication | Chlorine Contact Tank Outlet Free Chlorine Measurement | WF-P0011 | | | | | | LCP-F01 | AI |
| 1782 | Y | 0 | FA-F056A | Flow Alarm | Chlorine Contact Tank Outlet Free Chlorine Sample Low Flow | WF-P0011 | | | | | | LCP-F01 | DI |

I/O POINT TYPES: TCP = Modbus/TCP Ethernet, AI = Analog Input, AO = Analog Output, DI = Discrete Input, DO = Discrete Output

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| RECORD NO. | PLC Programming reqd | REV. N0. | TAG NAME | FUNCTION | SERVICE | P&ID DRAWING | ENG. UNITS | SCALE LOW | SCALE HIGH | ALARMS LOW | ALARMS HIGH | PLC CABINET | I/O TYPE |
| 1783 | Y | 0 | YS-F051A | C/O/H Switch in Computer Position | Filter No. 1-4 Outlet to Filtered Water Chamber Valve in Computer Mode | WF-P0011 | | | | | | LCP-F01 | DI |
| 1784 | Y | 0 | YB-F051A | Close Command | Filter No. 1-4 Outlet to Filtered Water Chamber Valve Close | WF-P0011 | | | | | | LCP-F01 | DO |
| 1785 | Y | 0 | YD-F051A | Open Command | Filter No. 1-4 Outlet to Filtered Water Chamber Valve Open | WF-P0011 | | | | | | LCP-F01 | DO |
| 1786 | Y | 0 | ZB-F051A | Closed Status | Filter No. 1-4 Outlet to Filtered Water Chamber Valve Closed | WF-P0011 | | | | | | LCP-F01 | DI |
| 1787 | Y | 0 | ZD-F051A | Open Status | Filter No. 1-4 Outlet to Filtered Water Chamber Valve Open | WF-P0011 | | | | | | LCP-F01 | DI |
| 1788 | Y | 0 | FA-F055A | Flow Switch | Chlorine Contact Tank to Supernatant Pump Station Drain Pump Outlet Flow | WF-P0012 | | | | | | LCP-F01 | DI |
| 1789 | Y | 0 | LI-F980A | Level Indication | Backwash Area Process Sump Pump Level | WF-P0012 | | | | | | LCP-F01 | AI |
| 1790 | Y | 0 | LI-F980B | Level Indication | Backwash Area Process Sump Pump Level | WF-P0012 | | | | | | LCP-F01 | AI |
| 1791 | Y | 0 | LF-F980A | Level Fault | Backwash Area Process Sump Pump Level | WF-P0012 | | | | | | LCP-F01 | DI |
| 1792 | Y | 0 | LF-F980B | Level Fault | Backwash Area Process Sump Pump Level | WF-P0012 | | | | | | LCP-F01 | DI |
| 1793 | Y | 0 | LA-F984A | Level Alarm | Backwash Area Process Sump Pump P-F984A Stop Level | WF-P0012 | | | | | | LCP-F01 | DI |
| 1794 | Y | 0 | LA-F984B | Level Alarm | Backwash Area Process Sump Pump P-F984A Start Level | WF-P0012 | | | | | | LCP-F01 | DI |
| 1795 | Y | 0 | MM-F055A | Running Status | Chlorine Contact Tank to Supernatant Pump Station Drain Pump P-F055A Running | WF-P0012 | | | | | | LCP-F01 | DI |
| 1796 | Y | 0 | MM-F981A | Running Status | Backwash Area Process Sump Pump P-F981A to Floodway Running | WF-P0012 | | | | | | LCP-F01 | DI |
| 1797 | Y | 0 | MM-F982A | Running Status | Backwash Area Process Sump Pump P-F982A to Floodway Running | WF-P0012 | | | | | | LCP-F01 | DI |
| 1798 | Y | 0 | MM-F983A | Running Status | Backwash Area Process Sump Pump P-F983A to Floodway Running | WF-P0012 | | | | | | LCP-F01 | DI |
| 1799 | Y | 0 | MM-F984A | Running Status | Backwash Area Process Sump Pump P-F984A to Sanitary Sump Running | WF-P0012 | | | | | | LCP-F01 | DI |
| 1800 | Y | 0 | MN-F055A | Start Command | Chlorine Contact Tank to Supernatant Pump Station Drain Pump P-F055A Start | WF-P0012 | | | | | | LCP-F01 | DO |
| 1801 | Y | 0 | MN-F981A | Start Command | Backwash Area Process Sump Pump P-F981A to Floodway Start | WF-P0012 | | | | | | LCP-F01 | DO |
| 1802 | Y | 0 | MN-F982A | Start Command | Backwash Area Process Sump Pump P-F982A to Floodway Start | WF-P0012 | | | | | | LCP-F01 | DO |
| 1803 | Y | 0 | MN-F983A | Start Command | Backwash Area Process Sump Pump P-F983A to Floodway Start | WF-P0012 | | | | | | LCP-F01 | DO |
| 1804 | Y | 0 | MN-F984A | Start Command | Backwash Area Process Sump Pump P-F984A to Sanitary Sump Start | WF-P0012 | | | | | | LCP-F01 | DO |
| 1805 | Y | 0 | UF-F055A | No Fault | Chlorine Contact Tank to Supernatant Pump Station Drain Pump P-F055A Fault | WF-P0012 | | | | | | LCP-F01 | DI |
| 1806 | Y | 0 | UF-F981A | No Fault | Backwash Area Process Sump Pump P-F981A to Floodway Fault | WF-P0012 | | | | | | LCP-F01 | DI |
| 1807 | Y | 0 | UF-F982A | No Fault | Backwash Area Process Sump Pump P-F982A to Floodway Fault | WF-P0012 | | | | | | LCP-F01 | DI |
| 1808 | Y | 0 | UF-F983A | No Fault | Backwash Area Process Sump Pump P-F983A to Floodway Fault | WF-P0012 | | | | | | LCP-F01 | DI |
| 1809 | Y | 0 | UF-F984A | No Fault | Backwash Area Process Sump Pump P-F984A to Sanitary Sump Fault | WF-P0012 | | | | | | LCP-F01 | DI |
| 1810 | Y | 0 | YS-F055A | C/O/H Switch in Computer Position | Chlorine Contact Tank to Supernatant Pump Station Drain Pump P-F055A in Computer Mode | WF-P0012 | | | | | | LCP-F01 | DI |
| 1811 | Y | 0 | YS-F981A | C/O/H Switch in Computer Position | Backwash Area Process Sump Pump P-F981A to Floodway in Computer Mode | WF-P0012 | | | | | | LCP-F01 | DI |
| 1812 | Y | 0 | YS-F982A | C/O/H Switch in Computer Position | Backwash Area Process Sump Pump P-F982A to Floodway in Computer Mode | WF-P0012 | | | | | | LCP-F01 | DI |
| 1813 | Y | 0 | YS-F983A | C/O/H Switch in Computer Position | Backwash Area Process Sump Pump P-F983A to Floodway in Computer Mode | WF-P0012 | | | | | | LCP-F01 | DI |
| 1814 | Y | 0 | YS-F984A | C/O/H Switch in Computer Position | Backwash Area Process Sump Pump P-F984A to Sanitary Sump in Computer Mode | WF-P0012 | | | | | | LCP-F01 | DI |
| 1815 | Y | 0 | AI-O404A | Turbidity Indication | Open Loop Cooling Water Turbidity | WO-P0015 | | | | | | LCP-F01 | AI |
| 1816 | Y | 0 | AF-O404A | Flow Switch | Open Loop Cooling Water to Turbidity Analyzer Low Flow | WO-P0015 | | | | | | LCP-F01 | DI |
| 1817 | Y | 0 | FA-O404A | Flow Alarm | Flow to Analyzer Low Flow | WO-P0015 | | | | | | LCP-F01 | DI |
| 1818 | Y | 0 | MM-O401A | Running Status | Ozonation Open Loop Cooling Water Pump P-PO401A Running | WO-P0015 | | | | | | LCP-F01 | DI |
| 1819 | Y | 0 | MM-O402A | Running Status | Ozonation Open Loop Cooling Water Pump P-PO402A Running | WO-P0015 | | | | | | LCP-F01 | DI |
| 1820 | Y | 0 | MM-O403A | Running Status | Ozonation Open Loop Cooling Water Pump P-PO403A Running | WO-P0015 | | | | | | LCP-F01 | DI |
| 1821 | Y | 0 | MN-O401A | Start Command | Ozonation Open Loop Cooling Water Pump P-PO401A Start | WO-P0015 | | | | | | LCP-F01 | DO |

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| RECORD NO. | PLC Programming reqd | REV. N0. | TAG NAME | FUNCTION | SERVICE | P&ID DRAWING | ENG. UNITS | SCALE LOW | SCALE HIGH | ALARMS LOW | ALARMS HIGH | PLC CABINET | I/O TYPE |
| 1822 | Y | 0 | MN-O402A | Start Command | Ozonation Open Loop Cooling Water Pump P-PO402A Start | WO-P0015 | | | | | | LCP-F01 | DO |
| 1823 | Y | 0 | MN-O403A | Start Command | Ozonation Open Loop Cooling Water Pump P-PO403A Start | WO-P0015 | | | | | | LCP-F01 | DO |
| 1824 | Y | 0 | UF-O401A | No Fault | Ozonation Open Loop Cooling Water Pump P-PO401A Fault | WO-P0015 | | | | | | LCP-F01 | DI |
| 1825 | Y | 0 | UF-O402A | No Fault | Ozonation Open Loop Cooling Water Pump P-PO402A Fault | WO-P0015 | | | | | | LCP-F01 | DI |
| 1826 | Y | 0 | UF-O403A | No Fault | Ozonation Open Loop Cooling Water Pump P-PO403A Fault | WO-P0015 | | | | | | LCP-F01 | DI |
| 1827 | Y | 0 | YS-O401A | C/O/H Switch in Computer Position | Ozonation Open Loop Cooling Water Pump P-PO401A in Computer Mode | WO-P0015 | | | | | | LCP-F01 | DI |
| 1828 | Y | 0 | YS-O402A | C/O/H Switch in Computer Position | Ozonation Open Loop Cooling Water Pump P-PO402A in Computer Mode | WO-P0015 | | | | | | LCP-F01 | DI |
| 1829 | Y | 0 | YS-O403A | C/O/H Switch in Computer Position | Ozonation Open Loop Cooling Water Pump P-PO403A in Computer Mode | WO-P0015 | | | | | | LCP-F01 | DI |
| 1830 | Y | 0 | AI-F510A | Turbidity Indication | Filter TKF500A Outlet Turbidity | WF-P0005 | | | | | | LCP-F02 | AI |
| 1831 | Y | 0 | AI-F510B | Particle Counter Indication | Filter TKF500A Outlet Particle Count | WF-P0005 | | | | | | LCP-F02 | AI |
| 1832 | Y | 0 | AF-F510A | Turbidity Fault | Filter TKF500A Outlet Turbidity Fault | WF-P0005 | | | | | | LCP-F02 | DI |
| 1833 | Y | 0 | AF-F510B | Particle Counter Fault | Filter TKF500A Outlet Particle Count Fault | WF-P0005 | | | | | | LCP-F02 | DI |
| 1834 | Y | 0 | FI-F503A | Flow Indication | Filter TKF500A Outlet Flow Rate | WF-P0005 | | | | | | LCP-F02 | AI |
| 1835 | Y | 0 | FQ-F503A | Flow Pulse | Filter TKF500A Outlet Flow Total | WF-P0005 | | | | | | LCP-F02 | DI |
| 1836 | Y | 0 | FA-F510A | Flow Alarm | Filter TKF500A Outlet Turbidity Sample Flow Low | WF-P0005 | | | | | | LCP-F02 | DI |
| 1837 | Y | 0 | FA-F510B | Flow Alarm | Filter TKF500A Outlet Particle Count Sample Flow Low | WF-P0005 | | | | | | LCP-F02 | DI |
| 1838 | Y | 0 | PI-F500A | Differential Pressure Indication | Overall Filter Differential Pressure | WF-P0005 | | | | | | LCP-F02 | AI |
| 1839 | Y | 0 | YS-F503A | C/O/H Switch in Computer Position | Filter TKF500A Outlet Flow Control Valve in Computer Mode | WF-P0005 | | | | | | LCP-F02 | DI |
| 1840 | Y | 0 | YS-F504A | C/O/H Switch in Computer Position | Filter TKF500A Outlet Flow Valve in Computer Mode | WF-P0005 | | | | | | LCP-F02 | DI |
| 1841 | Y | 0 | YS-F505A | C/O/H Switch in Computer Position | Filter TKF500A Outlet Flow to Backwash Tank Valve in Computer Mode | WF-P0005 | | | | | | LCP-F02 | DI |
| 1842 | Y | 0 | YS-F506A | C/O/H Switch in Computer Position | Filter TKF500A Backwash Water Inlet Valve in Computer Mode | WF-P0005 | | | | | | LCP-F02 | DI |
| 1843 | Y | 0 | YS-F507A | C/O/H Switch in Computer Position | Filter TKF500A Air Scour Valve in Computer Mode | WF-P0005 | | | | | | LCP-F02 | DI |
| 1844 | Y | 0 | YB-F504A | Close Command | Filter TKF500A Outlet Flow Valve Closed | WF-P0005 | | | | | | LCP-F02 | DO |
| 1845 | Y | 0 | YD-F504A | Open Command | Filter TKF500A Outlet Flow Valve Open | WF-P0005 | | | | | | LCP-F02 | DO |
| 1846 | Y | 0 | YB-F505A | Close Command | Filter TKF500A Outlet Flow to Backwash Tank Valve Close | WF-P0005 | | | | | | LCP-F02 | DO |
| 1847 | Y | 0 | YD-F505A | Open Command | Filter TKF500A Outlet Flow to Backwash Tank Valve Open | WF-P0005 | | | | | | LCP-F02 | DO |
| 1848 | Y | 0 | YB-F506A | Close Command | Filter TKF500A Backwash Water Inlet Valve Closed | WF-P0005 | | | | | | LCP-F02 | DO |
| 1849 | Y | 0 | YD-F506A | Open Command | Filter TKF500A Backwash Water Inlet Valve Open | WF-P0005 | | | | | | LCP-F02 | DO |
| 1850 | Y | 0 | YB-F507A | Close Command | Filter TKF500A Air Scour Valve Closed | WF-P0005 | | | | | | LCP-F02 | DO |
| 1851 | Y | 0 | YD-F507A | Open Command | Filter TKF500A Air Scour Valve Open | WF-P0005 | | | | | | LCP-F02 | DO |
| 1852 | Y | 0 | ZT-F503A | Position Feedback | Filter TKF500A Outlet Flow Control Valve Position | WF-P0005 | | | | | | LCP-F02 | AI |
| 1853 | Y | 0 | ZC-F503A | Position Control Output | Filter TKF500A Outlet Flow Control Valve Required Position | WF-P0005 | | | | | | LCP-F02 | AO |
| 1854 | Y | 0 | ZB-F503A | Closed Status | Filter TKF500A Outlet Flow Control Valve Closed | WF-P0005 | | | | | | LCP-F02 | DI |
| 1855 | Y | 0 | ZD-F503A | Open Status | Filter TKF500A Outlet Flow Control Valve Open | WF-P0005 | | | | | | LCP-F02 | DI |
| 1856 | Y | 0 | ZB-F504A | Closed Status | Filter TKF500A Outlet Flow Valve Closed | WF-P0005 | | | | | | LCP-F02 | DI |
| 1857 | Y | 0 | ZD-F504A | Open Status | Filter TKF500A Outlet Flow Valve Open | WF-P0005 | | | | | | LCP-F02 | DI |
| 1858 | Y | 0 | ZB-F505A | Closed Status | Filter TKF500A Outlet Flow to Backwash Tank Valve Closed | WF-P0005 | | | | | | LCP-F02 | DI |
| 1859 | Y | 0 | ZD-F505A | Open Status | Filter TKF500A Outlet Flow to Backwash Tank Valve Open | WF-P0005 | | | | | | LCP-F02 | DI |
| 1860 | Y | 0 | ZB-F506A | Closed Status | Filter TKF500A Backwash Water Inlet Valve Closed | WF-P0005 | | | | | | LCP-F02 | DI |
| 1861 | Y | 0 | ZD-F506A | Open Status | Filter TKF500A Backwash Water Inlet Valve Open | WF-P0005 | | | | | | LCP-F02 | DI |
| 1862 | Y | 0 | ZB-F507A | Closed Status | Filter TKF500A Air Scour Valve Closed | WF-P0005 | | | | | | LCP-F02 | DI |
| 1863 | Y | 0 | ZD-F507A | Open Status | Filter TKF500A Air Scour Valve Open | WF-P0005 | | | | | | LCP-F02 | DI |
| 1864 | Y | 0 | AI-F610A | Turbidity Indication | Filter TKF600A Outlet Turbidity | WF-P0006 | | | | | | LCP-F02 | AI |
| 1865 | Y | 0 | AI-F610B | Particle Counter Indication | Filter TKF600A Outlet Particle Count | WF-P0006 | | | | | | LCP-F02 | AI |
| 1866 | Y | 0 | AF-F610A | Turbidity Fault | Filter TKF600A Outlet Turbidity Fault | WF-P0006 | | | | | | LCP-F02 | DI |
| 1867 | Y | 0 | AF-F610B | Particle Counter Fault | Filter TKF600A Outlet Particle Count Fault | WF-P0006 | | | | | | LCP-F02 | DI |
| 1868 | Y | 0 | FI-F603A | Flow Indication | Filter TKF600A Outlet Flow Rate | WF-P0006 | | | | | | LCP-F02 | AI |
| 1869 | Y | 0 | FQ-F603A | Flow Pulse | Filter TKF600A Outlet Flow Total | WF-P0006 | | | | | | LCP-F02 | DI |
| 1870 | Y | 0 | FA-F610A | Flow Alarm | Filter TKF600A Outlet Turbidity Sample Flow Low | WF-P0006 | | | | | | LCP-F02 | DI |
| 1871 | Y | 0 | FA-F610B | Flow Alarm | Filter TKF600A Outlet Particle Count Sample Flow Low | WF-P0006 | | | | | | LCP-F02 | DI |
| 1872 | Y | 0 | PI-F600A | Differential Pressure Indication | Overall Filter Differential Pressure | WF-P0006 | | | | | | LCP-F02 | AI |

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| RECORD NO. | PLC Programming reqd | REV. N0. | TAG NAME | FUNCTION | SERVICE | P&ID DRAWING | ENG. UNITS | SCALE LOW | SCALE HIGH | ALARMS LOW | ALARMS HIGH | PLC CABINET | I/O TYPE |
| 1873 | Y | 0 | YS-F603A | C/O/H Switch in Computer Position | Filter TKF600A Outlet Flow Control Valve in Computer Mode | WF-P0006 | | | | | | LCP-F02 | DI |
| 1874 | Y | 0 | YS-F604A | C/O/H Switch in Computer Position | Filter TKF600A Outlet Flow Valve in Computer Mode | WF-P0006 | | | | | | LCP-F02 | DI |
| 1875 | Y | 0 | YS-F605A | C/O/H Switch in Computer Position | Filter TKF600A Outlet Flow to Backwash Tank Valve in Computer Mode | WF-P0006 | | | | | | LCP-F02 | DI |
| 1876 | Y | 0 | YS-F606A | C/O/H Switch in Computer Position | Filter TKF600A Backwash Water Inlet Valve in Computer Mode | WF-P0006 | | | | | | LCP-F02 | DI |
| 1877 | Y | 0 | YS-F607A | C/O/H Switch in Computer Position | Filter TKF600A Air Scour Valve in Computer Mode | WF-P0006 | | | | | | LCP-F02 | DI |
| 1878 | Y | 0 | YB-F604A | Close Command | Filter TKF600A Outlet Flow Valve Closed | WF-P0006 | | | | | | LCP-F02 | DO |
| 1879 | Y | 0 | YD-F604A | Open Command | Filter TKF600A Outlet Flow Valve Open | WF-P0006 | | | | | | LCP-F02 | DO |
| 1880 | Y | 0 | YB-F605A | Close Command | Filter TKF600A Outlet Flow to Backwash Tank Valve Close | WF-P0006 | | | | | | LCP-F02 | DO |
| 1881 | Y | 0 | YD-F605A | Open Command | Filter TKF600A Outlet Flow to Backwash Tank Valve Open | WF-P0006 | | | | | | LCP-F02 | DO |
| 1882 | Y | 0 | YB-F606A | Close Command | Filter TKF600A Backwash Water Inlet Valve Closed | WF-P0006 | | | | | | LCP-F02 | DO |
| 1883 | Y | 0 | YD-F606A | Open Command | Filter TKF600A Backwash Water Inlet Valve Open | WF-P0006 | | | | | | LCP-F02 | DO |
| 1884 | Y | 0 | YB-F607A | Close Command | Filter TKF600A Air Scour Valve Closed | WF-P0006 | | | | | | LCP-F02 | DO |
| 1885 | Y | 0 | YD-F607A | Open Command | Filter TKF600A Air Scour Valve Open | WF-P0006 | | | | | | LCP-F02 | DO |
| 1886 | Y | 0 | ZT-F603A | Position Feedback | Filter TKF600A Outlet Flow Control Valve Position | WF-P0006 | | | | | | LCP-F02 | AI |
| 1887 | Y | 0 | ZC-F603A | Position Control Output | Filter TKF600A Outlet Flow Control Valve Required Position | WF-P0006 | | | | | | LCP-F02 | AO |
| 1888 | Y | 0 | ZB-F603A | Closed Status | Filter TKF600A Outlet Flow Control Valve Closed | WF-P0006 | | | | | | LCP-F02 | DI |
| 1889 | Y | 0 | ZD-F603A | Open Status | Filter TKF600A Outlet Flow Control Valve Open | WF-P0006 | | | | | | LCP-F02 | DI |
| 1890 | Y | 0 | ZB-F604A | Closed Status | Filter TKF600A Outlet Flow Valve Closed | WF-P0006 | | | | | | LCP-F02 | DI |
| 1891 | Y | 0 | ZD-F604A | Open Status | Filter TKF600A Outlet Flow Valve Open | WF-P0006 | | | | | | LCP-F02 | DI |
| 1892 | Y | 0 | ZB-F605A | Closed Status | Filter TKF600A Outlet Flow to Backwash Tank Valve Closed | WF-P0006 | | | | | | LCP-F02 | DI |
| 1893 | Y | 0 | ZD-F605A | Open Status | Filter TKF600A Outlet Flow to Backwash Tank Valve Open | WF-P0006 | | | | | | LCP-F02 | DI |
| 1894 | Y | 0 | ZB-F606A | Closed Status | Filter TKF600A Backwash Water Inlet Valve Closed | WF-P0006 | | | | | | LCP-F02 | DI |
| 1895 | Y | 0 | ZD-F606A | Open Status | Filter TKF600A Backwash Water Inlet Valve Open | WF-P0006 | | | | | | LCP-F02 | DI |
| 1896 | Y | 0 | ZB-F607A | Closed Status | Filter TKF600A Air Scour Valve Closed | WF-P0006 | | | | | | LCP-F02 | DI |
| 1897 | Y | 0 | ZD-F607A | Open Status | Filter TKF600A Air Scour Valve Open | WF-P0006 | | | | | | LCP-F02 | DI |
| 1898 | Y | 0 | AI-F710A | Turbidity Indication | Filter TKF700A Outlet Turbidity | WF-P0007 | | | | | | LCP-F02 | AI |
| 1899 | Y | 0 | AI-F710B | Particle Counter Indication | Filter TKF700A Outlet Particle Count | WF-P0007 | | | | | | LCP-F02 | AI |
| 1900 | Y | 0 | AF-F710A | Turbidity Fault | Filter TKF700A Outlet Turbidity Fault | WF-P0007 | | | | | | LCP-F02 | DI |
| 1901 | Y | 0 | AF-F710B | Particle Counter Fault | Filter TKF700A Outlet Particle Count Fault | WF-P0007 | | | | | | LCP-F02 | DI |
| 1902 | Y | 0 | FI-F703A | Flow Indication | Filter TKF700A Outlet Flow Rate | WF-P0007 | | | | | | LCP-F02 | AI |
| 1903 | Y | 0 | FQ-F703A | Flow Pulse | Filter TKF700A Outlet Flow Total | WF-P0007 | | | | | | LCP-F02 | DI |
| 1904 | Y | 0 | FA-F710A | Flow Alarm | Filter TKF700A Outlet Turbidity Sample Flow Low | WF-P0007 | | | | | | LCP-F02 | DI |
| 1905 | Y | 0 | FA-F710B | Flow Alarm | Filter TKF700A Outlet Particle Count Sample Flow Low | WF-P0007 | | | | | | LCP-F02 | DI |
| 1906 | Y | 0 | PI-F700A | Differential Pressure Indication | Overall Filter Differential Pressure | WF-P0007 | | | | | | LCP-F02 | AI |
| 1907 | Y | 0 | YS-F703A | C/O/H Switch in Computer Position | Filter TKF700A Outlet Flow Control Valve in Computer Mode | WF-P0007 | | | | | | LCP-F02 | DI |
| 1908 | Y | 0 | YS-F704A | C/O/H Switch in Computer Position | Filter TKF700A Outlet Flow Valve in Computer Mode | WF-P0007 | | | | | | LCP-F02 | DI |
| 1909 | Y | 0 | YS-F705A | C/O/H Switch in Computer Position | Filter TKF700A Outlet Flow to Backwash Tank Valve in Computer Mode | WF-P0007 | | | | | | LCP-F02 | DI |
| 1910 | Y | 0 | YS-F706A | C/O/H Switch in Computer Position | Filter TKF700A Backwash Water Inlet Valve in Computer Mode | WF-P0007 | | | | | | LCP-F02 | DI |
| 1911 | Y | 0 | YS-F707A | C/O/H Switch in Computer Position | Filter TKF700A Air Scour Valve in Computer Mode | WF-P0007 | | | | | | LCP-F02 | DI |
| 1912 | Y | 0 | YB-F704A | Close Command | Filter TKF700A Outlet Flow Valve Closed | WF-P0007 | | | | | | LCP-F02 | DO |
| 1913 | Y | 0 | YD-F704A | Open Command | Filter TKF700A Outlet Flow Valve Open | WF-P0007 | | | | | | LCP-F02 | DO |
| 1914 | Y | 0 | YB-F705A | Close Command | Filter TKF700A Outlet Flow to Backwash Tank Valve Close | WF-P0007 | | | | | | LCP-F02 | DO |
| 1915 | Y | 0 | YD-F705A | Open Command | Filter TKF700A Outlet Flow to Backwash Tank Valve Open | WF-P0007 | | | | | | LCP-F02 | DO |
| 1916 | Y | 0 | YB-F706A | Close Command | Filter TKF700A Backwash Water Inlet Valve Closed | WF-P0007 | | | | | | LCP-F02 | DO |
| 1917 | Y | 0 | YD-F706A | Open Command | Filter TKF700A Backwash Water Inlet Valve Open | WF-P0007 | | | | | | LCP-F02 | DO |
| 1918 | Y | 0 | YB-F707A | Close Command | Filter TKF700A Air Scour Valve Closed | WF-P0007 | | | | | | LCP-F02 | DO |
| 1919 | Y | 0 | YD-F707A | Open Command | Filter TKF700A Air Scour Valve Open | WF-P0007 | | | | | | LCP-F02 | DO |
| 1920 | Y | 0 | ZT-F703A | Position Feedback | Filter TKF700A Outlet Flow Control Valve Position | WF-P0007 | | | | | | LCP-F02 | AI |
| 1921 | Y | 0 | ZC-F703A | Position Control Output | Filter TKF700A Outlet Flow Control Valve Required Position | WF-P0007 | | | | | | LCP-F02 | AO |
| 1922 | Y | 0 | ZB-F703A | Closed Status | Filter TKF700A Outlet Flow Control Valve Closed | WF-P0007 | | | | | | LCP-F02 | DI |
| 1923 | Y | 0 | ZD-F703A | Open Status | Filter TKF700A Outlet Flow Control Valve Open | WF-P0007 | | | | | | LCP-F02 | DI |
| 1924 | Y | 0 | ZB-F704A | Closed Status | Filter TKF700A Outlet Flow Valve Closed | WF-P0007 | | | | | | LCP-F02 | DI |
| 1925 | Y | 0 | ZD-F704A | Open Status | Filter TKF700A Outlet Flow Valve Open | WF-P0007 | | | | | | LCP-F02 | DI |

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| | | | | DESCRIPTION | | | I/O SPECIFICATION | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| RECORD NO. | PLC Programming reqd | REV. N0. | TAG NAME | FUNCTION | SERVICE | P&ID DRAWING | ENG. UNITS | SCALE LOW | SCALE HIGH | ALARMS LOW | ALARMS HIGH | PLC CABINET | I/O TYPE |
| 1926 | Y | 0 | ZB-F705A | Closed Status | Filter TKF700A Outlet Flow to Backwash Tank Valve Closed | WF-P0007 | | | | | | LCP-F02 | DI |
| 1927 | Y | 0 | ZD-F705A | Open Status | Filter TKF700A Outlet Flow to Backwash Tank Valve Open | WF-P0007 | | | | | | LCP-F02 | DI |
| 1928 | Y | 0 | ZB-F706A | Closed Status | Filter TKF700A Backwash Water Inlet Valve Closed | WF-P0007 | | | | | | LCP-F02 | DI |
| 1929 | Y | 0 | ZD-F706A | Open Status | Filter TKF700A Backwash Water Inlet Valve Open | WF-P0007 | | | | | | LCP-F02 | DI |
| 1930 | Y | 0 | ZB-F707A | Closed Status | Filter TKF700A Air Scour Valve Closed | WF-P0007 | | | | | | LCP-F02 | DI |
| 1931 | Y | 0 | ZD-F707A | Open Status | Filter TKF700A Air Scour Valve Open | WF-P0007 | | | | | | LCP-F02 | DI |
| 1932 | Y | 0 | AI-F810A | Turbidity Indication | Filter TKF800A Outlet Turbidity | WF-P0008 | | | | | | LCP-F02 | AI |
| 1933 | Y | 0 | AI-F810B | Particle Counter Indication | Filter TKF800A Outlet Particle Count | WF-P0008 | | | | | | LCP-F02 | AI |
| 1934 | Y | 0 | AF-F810A | Turbidity Fault | Filter TKF800A Outlet Turbidity Fault | WF-P0008 | | | | | | LCP-F02 | DI |
| 1935 | Y | 0 | AF-F810B | Particle Counter Fault | Filter TKF800A Outlet Particle Count Fault | WF-P0008 | | | | | | LCP-F02 | DI |
| 1936 | Y | 0 | FI-F803A | Flow Indication | Filter TKF800A Outlet Flow Rate | WF-P0008 | | | | | | LCP-F02 | AI |
| 1937 | Y | 0 | FQ-F803A | Flow Pulse | Filter TKF800A Outlet Flow Total | WF-P0008 | | | | | | LCP-F02 | DI |
| 1938 | Y | 0 | FA-F810A | Flow Alarm | Filter TKF800A Outlet Turbidity Sample Flow Low | WF-P0008 | | | | | | LCP-F02 | DI |
| 1939 | Y | 0 | FA-F810B | Flow Alarm | Filter TKF800A Outlet Particle Count Sample Flow Low | WF-P0008 | | | | | | LCP-F02 | DI |
| 1940 | Y | 0 | PI-F800A | Differential Pressure Indication | Overall Filter Differential Pressure | WF-P0008 | | | | | | LCP-F02 | AI |
| 1941 | Y | 0 | YS-F803A | C/O/H Switch in Computer Position | Filter TKF800A Outlet Flow Control Valve in Computer Mode | WF-P0008 | | | | | | LCP-F02 | DI |
| 1942 | Y | 0 | YS-F804A | C/O/H Switch in Computer Position | Filter TKF800A Outlet Flow Valve in Computer Mode | WF-P0008 | | | | | | LCP-F02 | DI |
| 1943 | Y | 0 | YS-F805A | C/O/H Switch in Computer Position | Filter TKF800A Outlet Flow to Backwash Tank Valve in Computer Mode | WF-P0008 | | | | | | LCP-F02 | DI |
| 1944 | Y | 0 | YS-F806A | C/O/H Switch in Computer Position | Filter TKF800A Backwash Water Inlet Valve in Computer Mode | WF-P0008 | | | | | | LCP-F02 | DI |
| 1945 | Y | 0 | YS-F807A | C/O/H Switch in Computer Position | Filter TKF800A Air Scour Valve in Computer Mode | WF-P0008 | | | | | | LCP-F02 | DI |
| 1946 | Y | 0 | YB-F804A | Close Command | Filter TKF800A Outlet Flow Valve Closed | WF-P0008 | | | | | | LCP-F02 | DO |
| 1947 | Y | 0 | YD-F804A | Open Command | Filter TKF800A Outlet Flow Valve Open | WF-P0008 | | | | | | LCP-F02 | DO |
| 1948 | Y | 0 | YB-F805A | Close Command | Filter TKF800A Outlet Flow to Backwash Tank Valve Close | WF-P0008 | | | | | | LCP-F02 | DO |
| 1949 | Y | 0 | YD-F805A | Open Command | Filter TKF800A Outlet Flow to Backwash Tank Valve Open | WF-P0008 | | | | | | LCP-F02 | DO |
| 1950 | Y | 0 | YB-F806A | Close Command | Filter TKF800A Backwash Water Inlet Valve Closed | WF-P0008 | | | | | | LCP-F02 | DO |
| 1951 | Y | 0 | YD-F806A | Open Command | Filter TKF800A Backwash Water Inlet Valve Open | WF-P0008 | | | | | | LCP-F02 | DO |
| 1952 | Y | 0 | YB-F807A | Close Command | Filter TKF800A Air Scour Valve Closed | WF-P0008 | | | | | | LCP-F02 | DO |
| 1953 | Y | 0 | YD-F807A | Open Command | Filter TKF800A Air Scour Valve Open | WF-P0008 | | | | | | LCP-F02 | DO |
| 1954 | Y | 0 | ZT-F803A | Position Feedback | Filter TKF800A Outlet Flow Control Valve Position | WF-P0008 | | | | | | LCP-F02 | AI |
| 1955 | Y | 0 | ZC-F803A | Position Control Output | Filter TKF800A Outlet Flow Control Valve Required Position | WF-P0008 | | | | | | LCP-F02 | AO |
| 1956 | Y | 0 | ZB-F803A | Closed Status | Filter TKF800A Outlet Flow Control Valve Closed | WF-P0008 | | | | | | LCP-F02 | DI |
| 1957 | Y | 0 | ZD-F803A | Open Status | Filter TKF800A Outlet Flow Control Valve Open | WF-P0008 | | | | | | LCP-F02 | DI |
| 1958 | Y | 0 | ZB-F804A | Closed Status | Filter TKF800A Outlet Flow Valve Closed | WF-P0008 | | | | | | LCP-F02 | DI |
| 1959 | Y | 0 | ZD-F804A | Open Status | Filter TKF800A Outlet Flow Valve Open | WF-P0008 | | | | | | LCP-F02 | DI |
| 1960 | Y | 0 | ZB-F805A | Closed Status | Filter TKF800A Outlet Flow to Backwash Tank Valve Closed | WF-P0008 | | | | | | LCP-F02 | DI |
| 1961 | Y | 0 | ZD-F805A | Open Status | Filter TKF800A Outlet Flow to Backwash Tank Valve Open | WF-P0008 | | | | | | LCP-F02 | DI |
| 1962 | Y | 0 | ZB-F806A | Closed Status | Filter TKF800A Backwash Water Inlet Valve Closed | WF-P0008 | | | | | | LCP-F02 | DI |
| 1963 | Y | 0 | ZD-F806A | Open Status | Filter TKF800A Backwash Water Inlet Valve Open | WF-P0008 | | | | | | LCP-F02 | DI |
| 1964 | Y | 0 | ZB-F807A | Closed Status | Filter TKF800A Air Scour Valve Closed | WF-P0008 | | | | | | LCP-F02 | DI |
| 1965 | Y | 0 | ZD-F807A | Open Status | Filter TKF800A Air Scour Valve Open | WF-P0008 | | | | | | LCP-F02 | DI |
| 1966 | Y | 0 | FI-F921A | Flow Indication | Filter Backwash Pump P-F921A Outlet Flow Rate | WF-P0009 | | | | | | LCP-F02 | AI |
| 1967 | Y | 0 | FQ-F921A | Flow Pulse | Filter Backwash Pump P-F921A Outlet Flow Total | WF-P0009 | | | | | | LCP-F02 | DI |
| 1968 | Y | 0 | LI-F920A | Level Indicator Transmitter | Backwash Tank TNKF920A Level | WF-P0009 | | | | | | LCP-F02 | AI |
| 1969 | Y | 0 | PI-F921A | Pressure Indication | Filter Backwash Pump P-F921A Outlet Pressure | WF-P0009 | | | | | | LCP-F02 | AI |
| 1970 | Y | 0 | TI-F921A | Temperature Indication | Filter Backwash Pump P-F921 Outlet Temperature | WF-P0009 | | | | | | LCP-F02 | AI |
| 1971 | Y | 0 | YS-F920A | C/O/H Switch in Computer Position | Backwash Tank TNKF920A Outlet Valve in Computer Mode | WF-P0009 | | | | | | LCP-F02 | DI |
| 1972 | Y | 0 | YS-F921A | C/O/H Switch in Computer Position | Filter Backwash Pump P-F921A Outlet Control Valve in Computer Mode | WF-P0009 | | | | | | LCP-F02 | DI |
| 1973 | Y | 0 | YS-F922A | C/O/H Switch in Computer Position | Backwash Tank TNKF920A Inlet Valve in Computer Mode | WF-P0009 | | | | | | LCP-F02 | DI |
| 1974 | Y | 0 | YS-F931A | C/O/H Switch in Computer Position | Backwash Tank Inlet Crossover Valve in Computer Mode | WF-P0009 | | | | | | LCP-F02 | DI |
| 1975 | Y | 0 | YS-F932A | C/O/H Switch in Computer Position | Backwash Tank Inlet Crossover Valve in Computer Mode | WF-P0009 | | | | | | LCP-F02 | DI |
| 1976 | Y | 0 | YB-F920A | Close Command | Backwash Tank TNKF920A Outlet Valve Close | WF-P0009 | | | | | | LCP-F02 | DO |
| 1977 | Y | 0 | YD-F920A | Open Command | Backwash Tank TNKF920A Outlet Valve Open | WF-P0009 | | | | | | LCP-F02 | DO |
| 1978 | Y | 0 | YB-F922A | Close Command | Backwash Tank TNKF920A Inlet Valve Close | WF-P0009 | | | | | | LCP-F02 | DO |

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## PLC I/O INDEX

| | | | | DESCRIPTION | | | I/O SPECIFICATION | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| RECORD NO. | PLC Programming reqd | REV. N0. | TAG NAME | FUNCTION | SERVICE | P&ID DRAWING | ENG. UNITS | SCALE LOW | SCALE HIGH | ALARMS LOW | ALARMS HIGH | PLC CABINET | I/O TYPE |
| 1979 | Y | 0 | YD-F922A | Open Command | Backwash Tank TNKF920A Inlet Valve Open | WF-P0009 | | | | | | LCP-F02 | DO |
| 1980 | Y | 0 | YB-F931A | Close Command | Backwash Tank Inlet Crossover Valve Close | WF-P0009 | | | | | | LCP-F02 | DO |
| 1981 | Y | 0 | YD-F931A | Open Command | Backwash Tank Inlet Crossover Valve Open | WF-P0009 | | | | | | LCP-F02 | DO |
| 1982 | Y | 0 | YB-F932A | Close Command | Backwash Tank Inlet Crossover Valve Close | WF-P0009 | | | | | | LCP-F02 | DO |
| 1983 | Y | 0 | YD-F932A | Open Command | Backwash Tank Inlet Crossover Valve Open | WF-P0009 | | | | | | LCP-F02 | DO |
| 1984 | Y | 0 | ZT-F921A | Position Feedback | Filter Backwash Pump P-F921A Outlet Control Valve Position | WF-P0009 | | | | | | LCP-F02 | AI |
| 1985 | Y | 0 | ZC-F921A | Position Control Output | Filter Backwash Pump P-F921A Outlet Control Valve Required Position | WF-P0009 | | | | | | LCP-F02 | AO |
| 1986 | Y | 0 | ZB-F920A | Closed Status | Backwash Tank TNKF920A Outlet Valve Closed | WF-P0009 | | | | | | LCP-F02 | DI |
| 1987 | Y | 0 | ZD-F920A | Open Status | Backwash Tank TNKF920A Outlet Valve Open | WF-P0009 | | | | | | LCP-F02 | DI |
| 1988 | Y | 0 | ZB-F921A | Closed Status | Filter Backwash Pump P-F921A Outlet Control Valve Closed | WF-P0009 | | | | | | LCP-F02 | DI |
| 1989 | Y | 0 | ZD-F921A | Open Status | Filter Backwash Pump P-F921A Outlet Control Valve Open | WF-P0009 | | | | | | LCP-F02 | DI |
| 1990 | Y | 0 | ZB-F922A | Closed Status | Backwash Tank TNKF920A Inlet Valve Closed | WF-P0009 | | | | | | LCP-F02 | DI |
| 1991 | Y | 0 | ZD-F922A | Open Status | Backwash Tank TNKF920A Inlet Valve Open | WF-P0009 | | | | | | LCP-F02 | DI |
| 1992 | Y | 0 | ZB-F931A | Closed Status | Backwash Tank Inlet Crossover Valve Closed | WF-P0009 | | | | | | LCP-F02 | DI |
| 1993 | Y | 0 | ZD-F931A | Open Status | Backwash Tank Inlet Crossover Valve Open | WF-P0009 | | | | | | LCP-F02 | DI |
| 1994 | Y | 0 | ZB-F932A | Closed Status | Backwash Tank Inlet Crossover Valve Closed | WF-P0009 | | | | | | LCP-F02 | DI |
| 1995 | Y | 0 | ZD-F932A | Open Status | Backwash Tank Inlet Crossover Valve Open | WF-P0009 | | | | | | LCP-F02 | DI |
| 1996 | Y | 0 | YD-J992A | Open Command | Sodium Hypochlorite to Backwash Pump P-F921A Valve Open | WF-P0009 | | | | | | LCP-F02 | DO |
| 1997 | Y | 0 | YS-F052A | C/O/H Switch in Computer Position | Filter No. 5-8 Outlet to Filtered Water Chamber Valve in Computer Mode | WF-P0011 | | | | | | LCP-F02 | DI |
| 1998 | Y | 0 | YB-F052A | Close Command | Filter No. 5-8 Outlet to Filtered Water Chamber Valve Close | WF-P0011 | | | | | | LCP-F02 | DO |
| 1999 | Y | 0 | YD-F052A | Open Command | Filter No. 5-8 Outlet to Filtered Water Chamber Valve Open | WF-P0011 | | | | | | LCP-F02 | DO |
| 2000 | Y | 0 | ZB-F052A | Closed Status | Filter No. 5-8 Outlet to Filtered Water Chamber Valve Closed | WF-P0011 | | | | | | LCP-F02 | DI |
| 2001 | Y | 0 | ZD-F052A | Open Status | Filter No. 5-8 Outlet to Filtered Water Chamber Valve Open | WF-P0011 | | | | | | LCP-F02 | DI |
| 2002 | Y | 0 | AI-O510A | Ozone Gas Indication | Ozone Contactor #1 to Ozone Destruct Gas Level | WO-P0012 | | | | | | LCP-F02 | AI |
| 2003 | Y | 0 | AI-O510B | Ozone Gas Indication | Ozone Destruct Unit #1 Vent Ozone Gas Level | WO-P0012 | | | | | | LCP-F02 | AI |
| 2004 | Y | 0 | IT-F911A | Current Indication | Filter Backwash Pump P-F911A Current | WF-P0013 | | | | | | LCP-H10A | AI TCP |
| 2005 | Y | 0 | IT-F921A | Current Indication | Filter Backwash Pump P-F921A Current | WF-P0013 | | | | | | LCP-H10A | AI TCP |
| 2006 | Y | 0 | MM-F911A | Running Status | Filter Backwash Pump P-F911A Running | WF-P0013 | | | | | | LCP-H10A | DI TCP |
| 2007 | Y | 0 | MM-F921A | Running Status | Filter Backwash Pump P-F921A Running | WF-P0013 | | | | | | LCP-H10A | DI TCP |
| 2008 | Y | 0 | MN-F911A | Start Command | Filter Backwash Pump P-F911A Start | WF-P0013 | | | | | | LCP-H10A | DO TCP |
| 2009 | Y | 0 | MN-F921A | Start Command | Filter Backwash Pump P-F921A Start | WF-P0013 | | | | | | LCP-H10A | DO TCP |
| 2010 | Y | 0 | SI-F911A | Speed Indication | Filter Backwash Pump P-F911A Speed | WF-P0013 | | | | | | LCP-H10A | AI TCP |
| 2011 | Y | 0 | SI-F921A | Speed Indication | Filter Backwash Pump P-F921A Speed | WF-P0013 | | | | | | LCP-H10A | AI TCP |
| 2012 | Y | 0 | SC-F911A | Speed Control Output | Filter Backwash Pump P-F911A Required Speed | WF-P0013 | | | | | | LCP-H10A | AO TCP |
| 2013 | Y | 0 | SC-F921A | Speed Control Output | Filter Backwash Pump P-F921A Required Speed | WF-P0013 | | | | | | LCP-H10A | AO TCP |
| 2014 | Y | 0 | TI-F911A | Temperature Transmitter | Filter Backwash Pump P-F911A Winding Temperature | WF-P0013 | | | | | | LCP-H10A | AI TCP |
| 2015 | Y | 0 | TI-F911B | Temperature Transmitter | Filter Backwash Pump P-F911A Winding Temperature | WF-P0013 | | | | | | LCP-H10A | AI TCP |
| 2016 | Y | 0 | TI-F911C | Temperature Transmitter | Filter Backwash Pump P-F911A Winding Temperature | WF-P0013 | | | | | | LCP-H10A | AI TCP |
| 2017 | Y | 0 | TI-F911D | Temperature Transmitter | Filter Backwash Pump P-F911A Winding Temperature | WF-P0013 | | | | | | LCP-H10A | AI TCP |
| 2018 | Y | 0 | TI-F911E | Temperature Transmitter | Filter Backwash Pump P-F911A Winding Temperature | WF-P0013 | | | | | | LCP-H10A | AI TCP |
| 2019 | Y | 0 | TI-F911F | Temperature Transmitter | Filter Backwash Pump P-F911A Winding Temperature | WF-P0013 | | | | | | LCP-H10A | AI TCP |
| 2020 | Y | 0 | TI-F911G | Temperature Transmitter | Filter Backwash Pump P-F911A Front Bearing Temperature | WF-P0013 | | | | | | LCP-H10A | AI TCP |
| 2021 | Y | 0 | TI-F911H | Temperature Transmitter | Filter Backwash Pump P-F911A Back Bearing Temperature | WF-P0013 | | | | | | LCP-H10A | AI TCP |
| 2022 | Y | 0 | TT-F921A | Temperature Transmitter | Filter Backwash Pump P-F921A Winding Temperature | WF-P0013 | | | | | | LCP-H10A | AI TCP |
| 2023 | Y | 0 | TT-F921B | Temperature Transmitter | Filter Backwash Pump P-F921A Winding Temperature | WF-P0013 | | | | | | LCP-H10A | AI TCP |
| 2024 | Y | 0 | TT-F921C | Temperature Transmitter | Filter Backwash Pump P-F921A Winding Temperature | WF-P0013 | | | | | | LCP-H10A | AI TCP |
| 2025 | Y | 0 | TT-F921D | Temperature Transmitter | Filter Backwash Pump P-F921A Winding Temperature | WF-P0013 | | | | | | LCP-H10A | AI TCP |
| 2026 | Y | 0 | TT-F921E | Temperature Transmitter | Filter Backwash Pump P-F921A Winding Temperature | WF-P0013 | | | | | | LCP-H10A | AI TCP |
| 2027 | Y | 0 | TT-F921F | Temperature Transmitter | Filter Backwash Pump P-F921A Winding Temperature | WF-P0013 | | | | | | LCP-H10A | AI TCP |
| 2028 | Y | 0 | TT-F921G | Temperature Transmitter | Filter Backwash Pump P-F921A Front Bearing Temperature | WF-P0013 | | | | | | LCP-H10A | AI TCP |
| 2029 | Y | 0 | TT-F921H | Temperature Transmitter | Filter Backwash Pump P-F921A Back Bearing Temperature | WF-P0013 | | | | | | LCP-H10A | AI TCP |
| 2030 | Y | 0 | UF-F911A | No Fault | Filter Backwash Pump P-F911A VFD Fault | WF-P0013 | | | | | | LCP-H10A | DI TCP |
| 2031 | Y | 0 | UF-F911B | No Fault | Filter Backwash Pump P-F911A Protection Relay Fault | WF-P0013 | | | | | | LCP-H10A | DI TCP |

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| | | | | DESCRIPTION | | | I/O SPECIFICATION | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| RECORD NO. | PLC Programming reqd | REV. N0. | TAG NAME | FUNCTION | SERVICE | P&ID DRAWING | ENG. UNITS | SCALE LOW | SCALE HIGH | ALARMS LOW | ALARMS HIGH | PLC CABINET | I/O TYPE |
| 2032 | Y | 0 | UF-F921A | No Fault | Filter Backwash Pump P-F921A VFD Fault | WF-P0013 | | | | | | LCP-H10A | DI TCP |
| 2033 | Y | 0 | UF-F921B | No Fault | Filter Backwash Pump P-F921A Protection Relay Fault | WF-P0013 | | | | | | LCP-H10A | DI TCP |
| 2034 | Y | 0 | YS-F911A | C/O/H Switch in Computer Position | Filter Backwash Pump P-F911A in Computer Mode | WF-P0013 | | | | | | LCP-H10A | DI TCP |
| 2035 | Y | 0 | YS-F921A | C/O/H Switch in Computer Position | Filter Backwash Pump P-F921A in Computer Mode | WF-P0013 | | | | | | LCP-H10A | DI TCP |
| 2036 | Y | 0 | LI-I000A | Level Indication | Raw Water Pumping Station Level | WI-P0001 | | | | | | LCP-H10 | AI |
| 2037 | Y | 0 | LA-I000A | Level Switch | Raw Water Pumping Station Low Low Level | WI-P0001 | | | | | | LCP-H10 | DI |
| 2038 | Y | 0 | LF-I000A | No Fault | Raw Water Pumping Station Level No Fault | WI-P0001 | | | | | | LCP-H10 | DI |
| 2039 | Y | 0 | LA-I000C | Level Switch | Raw Water Pumping Station High High Level | WI-P0001 | | | | | | LCP-H10 | DI |
| 2040 | Y | 0 | YS-I000A | C/O/H Switch in Computer Position | Raw Water Pumping Station Inlet Valve in Comp Mode | WI-P0001 | | | | | | LCP-H10 | DI |
| 2041 | Y | 0 | YS-I000C | C/O/H Switch in Computer Position | Raw Water Pumping Station Dividing Wall Sluice Gate in Comp Mode | WI-P0001 | | | | | | LCP-H10 | DI |
| 2042 | Y | 0 | YB-I000A | Close Command | Raw Water Pumping Station Inlet Valve Close | WI-P0001 | | | | | | LCP-H10 | DO |
| 2043 | Y | 0 | YD-I000A | Open Command | Raw Water Pumping Station Inlet Valve Open | WI-P0001 | | | | | | LCP-H10 | DO |
| 2044 | Y | 0 | YB-I000C | Close Command | Raw Water Pumping Station Dividing Wall Sluice Gate Close | WI-P0001 | | | | | | LCP-H10 | DO |
| 2045 | Y | 0 | YD-I000C | Open Command | Raw Water Pumping Station Dividing Wall Sluice Gate Open | WI-P0001 | | | | | | LCP-H10 | DO |
| 2046 | Y | 0 | ZB-I000A | Closed Status | Raw Water Pumping Station Inlet Valve Closed | WI-P0001 | | | | | | LCP-H10 | DI |
| 2047 | Y | 0 | ZD-I000A | Open Status | Raw Water Pumping Station Inlet Valve Open | WI-P0001 | | | | | | LCP-H10 | DI |
| 2048 | Y | 0 | ZB-I000C | Closed Status | Raw Water Pumping Station Dividing Wall Sluice Gate Closed | WI-P0001 | | | | | | LCP-H10 | DI |
| 2049 | Y | 0 | ZD-I000C | Open Status | Raw Water Pumping Station Dividing Wall Sluice Gate Open | WI-P0001 | | | | | | LCP-H10 | DI |
| 2050 | Y | 0 | ZB-I001C | Closed Status | Raw Water Pump P-I001A Outlet Valve Closed | WI-P0001 | | | | | | LCP-H10 | DI |
| 2051 | Y | 0 | ZD-I001C | Open Status | Raw Water Pump P-I001A Outlet Valve Open | WI-P0001 | | | | | | LCP-H10 | DI |
| 2052 | Y | 0 | ZB-I002C | Closed Status | Raw Water Pump P-I002A Outlet Valve Closed | WI-P0001 | | | | | | LCP-H10 | DI |
| 2053 | Y | 0 | ZD-I002C | Open Status | Raw Water Pump P-I002A Outlet Valve Open | WI-P0001 | | | | | | LCP-H10 | DI |
| 2054 | Y | 0 | LI-I000B | Level Indication | Raw Water Pumping Station Level | WI-P0002 | | | | | | LCP-H10 | AI |
| 2055 | Y | 0 | LA-I000B | Level Switch | Raw Water Pumping Station Low Low Level | WI-P0002 | | | | | | LCP-H10 | DI |
| 2056 | Y | 0 | LF-I000B | No Fault | Raw Water Pumping Station Level No Fault | WI-P0002 | | | | | | LCP-H10 | DI |
| 2057 | Y | 0 | LA-I000D | Level Switch | Raw Water Pumping Station High High Level | WI-P0002 | | | | | | LCP-H10 | DI |
| 2058 | Y | 0 | YS-I000B | C/O/H Switch in Computer Position | Raw Water Pumping Station Inlet Valve in Comp Mode | WI-P0002 | | | | | | LCP-H10 | DI |
| 2059 | Y | 0 | YB-I000B | Close Command | Raw Water Pumping Station Inlet Valve Close | WI-P0002 | | | | | | LCP-H10 | DO |
| 2060 | Y | 0 | YD-I000B | Open Command | Raw Water Pumping Station Inlet Valve Open | WI-P0002 | | | | | | LCP-H10 | DO |
| 2061 | Y | 0 | ZB-I000B | Closed Status | Raw Water Pumping Station Inlet Valve Closed | WI-P0002 | | | | | | LCP-H10 | DI |
| 2062 | Y | 0 | ZD-I000B | Open Status | Raw Water Pumping Station Inlet Valve Open | WI-P0002 | | | | | | LCP-H10 | DI |
| 2063 | Y | 0 | ZB-I003C | Closed Status | Raw Water Pump P-I003A Outlet Valve Closed | WI-P0002 | | | | | | LCP-H10 | DI |
| 2064 | Y | 0 | ZD-I003C | Open Status | Raw Water Pump P-I003A Outlet Valve Open | WI-P0002 | | | | | | LCP-H10 | DI |
| 2065 | Y | 0 | ZB-I004C | Closed Status | Raw Water Pump P-I004A Outlet Valve Closed | WI-P0002 | | | | | | LCP-H10 | DI |
| 2066 | Y | 0 | ZD-I004C | Open Status | Raw Water Pump P-I004A Outlet Valve Open | WI-P0002 | | | | | | LCP-H10 | DI |
| 2067 | Y | 0 | MM-I001A | Running Status | Raw Water Pump P-I001A Running | WI-P0003 | | | | | | LCP-H10 | DI |
| 2068 | Y | 0 | MM-I002A | Running Status | Raw Water Pump P-I002A Running | WI-P0003 | | | | | | LCP-H10 | DI |
| 2069 | Y | 0 | MN-I001A | Start Command | Raw Water Pump P-I001A Start | WI-P0003 | | | | | | LCP-H10 | DO |
| 2070 | Y | 0 | MN-I002A | Start Command | Raw Water Pump P-I002A Start | WI-P0003 | | | | | | LCP-H10 | DO |
| 2071 | Y | 0 | SI-I001A | Speed Indicator Indication | Raw Water Pump P-I001A Speed Monitor | WI-P0003 | | | | | | LCP-H10 | AI |
| 2072 | Y | 0 | SI-I002A | Speed Indicator Indication | Raw Water Pump P-I002A Speed Monitor | WI-P0003 | | | | | | LCP-H10 | AI |
| 2073 | Y | 0 | TI-I001A | Temperature Indication | Raw Water Pump P-I001A Top Bearing Temperature | WI-P0003 | | | | | | LCP-H10A | AI TCP |
| 2074 | Y | 0 | TI-I001B | Temperature Indication | Raw Water Pump P-I001A Winding Temperature | WI-P0003 | | | | | | LCP-H10A | AI TCP |
| 2075 | Y | 0 | TI-I001C | Temperature Indication | Raw Water Pump P-I001A Winding Temperature | WI-P0003 | | | | | | LCP-H10A | AI TCP |
| 2076 | Y | 0 | TI-I001D | Temperature Indication | Raw Water Pump P-I001A Winding Temperature | WI-P0003 | | | | | | LCP-H10A | AI TCP |
| 2077 | Y | 0 | TI-I001E | Temperature Indication | Raw Water Pump P-I001A Winding Temperature | WI-P0003 | | | | | | LCP-H10A | AI TCP |
| 2078 | Y | 0 | TI-I001F | Temperature Indication | Raw Water Pump P-I001A Winding Temperature | WI-P0003 | | | | | | LCP-H10A | AI TCP |
| 2079 | Y | 0 | TI-I001G | Temperature Indication | Raw Water Pump P-I001A Winding Temperature | WI-P0003 | | | | | | LCP-H10A | AI TCP |
| 2080 | Y | 0 | TI-I001H | Temperature Indication | Raw Water Pump P-I001A Bottom Bearing Temperature | WI-P0003 | | | | | | LCP-H10A | AI TCP |
| 2081 | Y | 0 | TI-I001I | Temperature Indication | Raw Water Pump P-I001A VSD Temperature | WI-P0003 | | | | | | LCP-H10A | AI TCP |
| 2082 | Y | 0 | TI-I001J | Temperature Indication | Raw Water Pump P-I001A VSD Temperature | WI-P0003 | | | | | | LCP-H10A | AI TCP |
| 2083 | Y | 0 | TI-I002A | Temperature Indication | Raw Water Pump P-I002A Top Bearing Temperature | WI-P0003 | | | | | | LCP-H10A | AI TCP |
| 2084 | Y | 0 | TI-I002B | Temperature Indication | Raw Water Pump P-I002A Winding Temperature | WI-P0003 | | | | | | LCP-H10A | AI TCP |
| 2085 | Y | 0 | TI-I002C | Temperature Indication | Raw Water Pump P-I002A Winding Temperature | WI-P0003 | | | | | | LCP-H10A | AI TCP |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| RECORD NO. | PLC Programming reqd | REV. N0. | TAG NAME | FUNCTION | SERVICE | P&ID DRAWING | ENG. UNITS | SCALE LOW | SCALE HIGH | ALARMS LOW | ALARMS HIGH | PLC CABINET | I/O TYPE |
| 2086 | Y | 0 | TI-I002D | Temperature Indication | Raw Water Pump P-I002A Winding Temperature | WI-P0003 | | | | | | LCP-H10A | AI TCP |
| 2087 | Y | 0 | TI-I002E | Temperature Indication | Raw Water Pump P-I002A Winding Temperature | WI-P0003 | | | | | | LCP-H10A | AI TCP |
| 2088 | Y | 0 | TI-I002F | Temperature Indication | Raw Water Pump P-I002A Winding Temperature | WI-P0003 | | | | | | LCP-H10A | AI TCP |
| 2089 | Y | 0 | TI-I002G | Temperature Indication | Raw Water Pump P-I002A Winding Temperature | WI-P0003 | | | | | | LCP-H10A | AI TCP |
| 2090 | Y | 0 | TI-I002H | Temperature Indication | Raw Water Pump P-I002A Bottom Bearing Temperature | WI-P0003 | | | | | | LCP-H10A | AI TCP |
| 2091 | Y | 0 | TI-I002I | Temperature Indication | Raw Water Pump P-I002A VSD Temperature | WI-P0003 | | | | | | LCP-H10A | AI TCP |
| 2092 | Y | 0 | TI-I002J | Temperature Indication | Raw Water Pump P-I002A VSD Temperature | WI-P0003 | | | | | | LCP-H10 | AI TCP |
| 2093 | Y | 0 | UF-I001A | No Fault | Raw Water Pump P-I001A No Fault | WI-P0003 | | | | | | LCP-H10 | DI |
| 2094 | Y | 0 | UF-I002A | No Fault | Raw Water Pump P-I002A No Fault | WI-P0003 | | | | | | LCP-H10 | DI |
| 2095 | Y | 0 | VI-I001A | Vibration Monitor | Raw Water Pump P-I001A Vibration Monitor | WI-P0003 | | | | | | LCP-H10A | AI TCP |
| 2096 | Y | 0 | VI-I002A | Vibration Monitor | Raw Water Pump P-I002A Vibration Monitor | WI-P0003 | | | | | | LCP-H10A | AI TCP |
| 2097 | Y | 0 | YS-I001A | C/O/H Switch in Computer Position | Raw Water Pump P-I001A in Comp Mode | WI-P0003 | | | | | | LCP-H10 | DI |
| 2098 | Y | 0 | YS-I001B | C/O/H Switch in Computer Position | Raw Water Pump P-I001A Speed Control Actuator in Comp Mode | WI-P0003 | | | | | | LCP-H10 | DI |
| 2099 | Y | 0 | YS-I002A | C/O/H Switch in Computer Position | Raw Water Pump P-I002A in Comp Mode | WI-P0003 | | | | | | LCP-H10 | DI |
| 2100 | Y | 0 | YS-I002B | C/O/H Switch in Computer Position | Raw Water Pump P-I002A Speed Control Actuator in Comp Mode | WI-P0003 | | | | | | LCP-H10 | DI |
| 2101 | Y | 0 | ZT-I001B | Position Feedback | Raw Water Pump P-I001A Speed Control Actuator Position | WI-P0003 | | | | | | LCP-H10 | AI |
| 2102 | Y | 0 | ZT-I002B | Position Feedback | Raw Water Pump P-I002A Speed Control Actuator Position | WI-P0003 | | | | | | LCP-H10 | AI |
| 2103 | Y | 0 | ZC-I001B | Position Control Output | Raw Water Pump P-I001A Speed Control Actuator Required Position | WI-P0003 | | | | | | LCP-H10 | AO |
| 2104 | Y | 0 | ZC-I002B | Position Control Output | Raw Water Pump P-I002A Speed Control Actuator Required Position | WI-P0003 | | | | | | LCP-H10 | AO |
| 2105 | Y | 0 | MM-I003A | Running Status | Raw Water Pump P-I003A Running | WI-P0004 | | | | | | LCP-H10 | DI |
| 2106 | Y | 0 | MM-I004A | Running Status | Raw Water Pump P-I004A Running | WI-P0004 | | | | | | LCP-H10 | DI |
| 2107 | Y | 0 | MN-I003A | Start Command | Raw Water Pump P-I003A Start | WI-P0004 | | | | | | LCP-H10 | DO |
| 2108 | Y | 0 | MN-I004A | Start Command | Raw Water Pump P-I004A Start | WI-P0004 | | | | | | LCP-H10 | DO |
| 2109 | Y | 0 | SI-I003A | Speed Indicator Indication | Raw Water Pump P-I003A Speed Monitor | WI-P0004 | | | | | | LCP-H10 | AI |
| 2110 | Y | 0 | SI-I004A | Speed Indicator Indication | Raw Water Pump P-I004A Speed Monitor | WI-P0004 | | | | | | LCP-H10 | AI |
| 2111 | Y | 0 | TI-I003H | Temperature Indication | Raw Water Pump P-I003A Bottom Bearing Temperature | WI-P0004 | | | | | | LCP-H10 | AI |
| 2112 | Y | 0 | TI-I003A | Temperature Indication | Raw Water Pump P-I003A Top Bearing Temperature | WI-P0004 | | | | | | LCP-H10A | AI TCP |
| 2113 | Y | 0 | TI-I003B | Temperature Indication | Raw Water Pump P-I003A Winding Temperature | WI-P0004 | | | | | | LCP-H10A | AI TCP |
| 2114 | Y | 0 | TI-I003C | Temperature Indication | Raw Water Pump P-I003A Winding Temperature | WI-P0004 | | | | | | LCP-H10A | AI TCP |
| 2115 | Y | 0 | TI-I003D | Temperature Indication | Raw Water Pump P-I003A Winding Temperature | WI-P0004 | | | | | | LCP-H10A | AI TCP |
| 2116 | Y | 0 | TI-I003E | Temperature Indication | Raw Water Pump P-I003A Winding Temperature | WI-P0004 | | | | | | LCP-H10A | AI TCP |
| 2117 | Y | 0 | TI-I003F | Temperature Indication | Raw Water Pump P-I003A Winding Temperature | WI-P0004 | | | | | | LCP-H10A | AI TCP |
| 2118 | Y | 0 | TI-I003G | Temperature Indication | Raw Water Pump P-I003A Winding Temperature | WI-P0004 | | | | | | LCP-H10A | AI TCP |
| 2119 | Y | 0 | TI-I003I | Temperature Indication | Raw Water Pump P-I003A VSD Temperature | WI-P0004 | | | | | | LCP-H10A | AI TCP |
| 2120 | Y | 0 | TI-I003J | Temperature Indication | Raw Water Pump P-I003A VSD Temperature | WI-P0004 | | | | | | LCP-H10A | AI TCP |
| 2121 | Y | 0 | TI-I004A | Temperature Indication | Raw Water Pump P-I004A Top Bearing Temperature | WI-P0004 | | | | | | LCP-H10A | AI TCP |
| 2122 | Y | 0 | TI-I004B | Temperature Indication | Raw Water Pump P-I004A Winding Temperature | WI-P0004 | | | | | | LCP-H10A | AI TCP |
| 2123 | Y | 0 | TI-I004C | Temperature Indication | Raw Water Pump P-I004A Winding Temperature | WI-P0004 | | | | | | LCP-H10A | AI TCP |
| 2124 | Y | 0 | TI-I004D | Temperature Indication | Raw Water Pump P-I004A Winding Temperature | WI-P0004 | | | | | | LCP-H10A | AI TCP |
| 2125 | Y | 0 | TI-I004E | Temperature Indication | Raw Water Pump P-I004A Winding Temperature | WI-P0004 | | | | | | LCP-H10A | AI TCP |
| 2126 | Y | 0 | TI-I004F | Temperature Indication | Raw Water Pump P-I004A Winding Temperature | WI-P0004 | | | | | | LCP-H10A | AI TCP |
| 2127 | Y | 0 | TI-I004G | Temperature Indication | Raw Water Pump P-I004A Winding Temperature | WI-P0004 | | | | | | LCP-H10A | AI TCP |
| 2128 | Y | 0 | TI-I004H | Temperature Indication | Raw Water Pump P-I004A Bottom Bearing Temperature | WI-P0004 | | | | | | LCP-H10A | AI TCP |
| 2129 | Y | 0 | TI-I004I | Temperature Indication | Raw Water Pump P-I004A VSD Temperature | WI-P0004 | | | | | | LCP-H10A | AI TCP |
| 2130 | Y | 0 | TI-I004J | Temperature Indication | Raw Water Pump P-I004A VSD Temperature | WI-P0004 | | | | | | LCP-H10A | AI TCP |
| 2131 | Y | 0 | UF-I003A | No Fault | Raw Water Pump P-I003A No Fault | WI-P0004 | | | | | | LCP-H10 | DI |
| 2132 | Y | 0 | UF-I004A | No Fault | Raw Water Pump P-I004A No Fault | WI-P0004 | | | | | | LCP-H10 | DI |
| 2133 | Y | 0 | VI-I003A | Vibration Monitor | Raw Water Pump P-I003A Vibration Monitor | WI-P0004 | | | | | | LCP-H10A | AI TCP |
| 2134 | Y | 0 | VI-I004A | Vibration Monitor | Raw Water Pump P-I004A Vibration Monitor | WI-P0004 | | | | | | LCP-H10A | AI TCP |
| 2135 | Y | 0 | YS-I003A | C/O/H Switch in Computer Position | Raw Water Pump P-I003A in Comp Mode | WI-P0004 | | | | | | LCP-H10 | DI |
| 2136 | Y | 0 | YS-I003B | C/O/H Switch in Computer Position | Raw Water Pump P-I003A Speed Control Actuator in Comp Mode | WI-P0004 | | | | | | LCP-H10 | DI |
| 2137 | Y | 0 | YS-I004A | C/O/H Switch in Computer Position | Raw Water Pump P-I004A in Comp Mode | WI-P0004 | | | | | | LCP-H10 | DI |
| 2138 | Y | 0 | YS-I004B | C/O/H Switch in Computer Position | Raw Water Pump P-I004A Speed Control Actuator in Comp Mode | WI-P0004 | | | | | | LCP-H10 | DI |

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| RECORD NO. | PLC Programming reqd | REV. N0. | TAG NAME | FUNCTION | SERVICE | P&ID DRAWING | ENG. UNITS | SCALE LOW | SCALE HIGH | ALARMS LOW | ALARMS HIGH | PLC CABINET | I/O TYPE |
| 2139 | Y | 0 | ZT-I003B | Position Feedback | Raw Water Pump P-I003A Speed Control Actuator Position | WI-P0004 | | | | | | LCP-H10 | AI |
| 2140 | Y | 0 | ZT-I004B | Position Feedback | Raw Water Pump P-I004A Speed Control Actuator Position | WI-P0004 | | | | | | LCP-H10 | AI |
| 2141 | Y | 0 | ZC-I003B | Position Control Output | Raw Water Pump P-I003A Speed Control Actuator Required Position | WI-P0004 | | | | | | LCP-H10 | AO |
| 2142 | Y | 0 | ZC-I004B | Position Control Output | Raw Water Pump P-I004A Speed Control Actuator Required Position | WI-P0004 | | | | | | LCP-H10 | AO |
| 2143 | Y | 0 | AT-I024B | pH Indication | Raw Water pH | WP-P0001 | | | | | | LCP-H10 | AI |
| 2144 | Y | 0 | AT-I025B | pH Indication | Train 1 Post Flash Mixer Raw Water pH | WP-P0001 | | | | | | LCP-H10 | AI |
| 2145 | Y | 0 | AT-I026B | pH Indication | Train 2 Post Flash Mixer Raw Water pH | WP-P0001 | | | | | | LCP-H10 | AI |
| 2146 | Y | 0 | AT-I027B | Turbidity Indicator Transmitter | Raw Water Turbidity | WP-P0001 | | | | | | LCP-H10 | AI |
| 2147 | Y | 0 | FA-I017D | Flow Alarm | Train 1 Ferric Chloride Dosing Flow Low | WP-P0001 | | | | | | LCP-H10 | DI |
| 2148 | Y | 0 | FA-I018D | Flow Alarm | Train 2 Ferric Chloride Dosing Flow Low | WP-P0001 | | | | | | LCP-H10 | DI |
| 2149 | Y | 0 | FA-I022E | Flow Alarm | Train 1 Sulphuric Acid Dosing Flow Low | WP-P0001 | | | | | | LCP-H10 | DI |
| 2150 | Y | 0 | FA-I023E | Flow Alarm | Train 2 Sulphuric Acid Dosing Flow Low | WP-P0001 | | | | | | LCP-H10 | DI |
| 2151 | Y | 0 | FA-I024B | Flow Alarm | Raw Water pH Low Sample Flow | WP-P0001 | | | | | | LCP-H10 | DI |
| 2152 | Y | 0 | FA-I025B | Flow Alarm | Train 1 Post Flash Mixer Raw Water pH Low Sample Flow | WP-P0001 | | | | | | LCP-H10 | DI |
| 2153 | Y | 0 | FA-I026B | Flow Alarm | Train 2 Post Flash Mixer Raw Water pH Low Sample Flow | WP-P0001 | | | | | | LCP-H10 | DI |
| 2154 | Y | 0 | FA-I027B | Flow Alarm | Raw Water Turbidity Low Sample Flow | WP-P0001 | | | | | | LCP-H10 | DI |
| 2155 | Y | 0 | MM-I013A | Running Status | Train 1 Flash Mixing Pump P-I013A Running | WP-P0001 | | | | | | LCP-H10 | DI |
| 2156 | Y | 0 | MM-I014A | Running Status | Common Standby Flash Mixing Pump P-I014A Running | WP-P0001 | | | | | | LCP-H10 | DI |
| 2157 | Y | 0 | MM-I015A | Running Status | Train 2 Flash Mixing Pump P-I015A Running | WP-P0001 | | | | | | LCP-H10 | DI |
| 2158 | Y | 0 | MN-I013A | Start Command | Train 1 Flash Mixing Pump P-I013A Start | WP-P0001 | | | | | | LCP-H10 | DO |
| 2159 | Y | 0 | MN-I014A | Start Command | Common Standby Flash Mixing Pump P-I014A Start | WP-P0001 | | | | | | LCP-H10 | DO |
| 2160 | Y | 0 | MN-I015A | Start Command | Train 2 Flash Mixing Pump P-I015A Start | WP-P0001 | | | | | | LCP-H10 | DO |
| 2161 | Y | 0 | TI-I011A | Temperature Indication | Train 1 Raw Water Temperature | WP-P0001 | | | | | | LCP-H10 | AI |
| 2162 | Y | 0 | TI-I012A | Temperature Indication | Train 2 Raw Water Temperature | WP-P0001 | | | | | | LCP-H10 | AI |
| 2163 | Y | 0 | UF-I013A | No Fault | Train 1 Flash Mixing Pump P-I013A Fault | WP-P0001 | | | | | | LCP-H10 | DI |
| 2164 | Y | 0 | UF-I014A | No Fault | Common Standby Flash Mixing Pump P-I014A Fault | WP-P0001 | | | | | | LCP-H10 | DI |
| 2165 | Y | 0 | UF-I015A | No Fault | Train 2 Flash Mixing Pump P-I015A Fault | WP-P0001 | | | | | | LCP-H10 | DI |
| 2166 | Y | 0 | YS-I013A | C/O/H Switch in Computer Position | Train 1 Flash Mixing Pump P-I013A in Computer Mode | WP-P0001 | | | | | | LCP-H10 | DI |
| 2167 | Y | 0 | YS-I014A | C/O/H Switch in Computer Position | Common Standby Flash Mixing Pump P-I014A in Computer Mode | WP-P0001 | | | | | | LCP-H10 | DI |
| 2168 | Y | 0 | YS-I014D | C/O/H Switch in Computer Position | Common Standby Flash Mixing Pump to Train 1 Valve In Computer Mode | WP-P0001 | | | | | | LCP-H10 | DI |
| 2169 | Y | 0 | YS-I014E | C/O/H Switch in Computer Position | Common Standby Flash Mixing Pump to Train 2 Valve in Computer Mode | WP-P0001 | | | | | | LCP-H10 | DI |
| 2170 | Y | 0 | YS-I015A | C/O/H Switch in Computer Position | Train 2 Flash Mixing Pump P-I015A in Computer Mode | WP-P0001 | | | | | | LCP-H10 | DI |
| 2171 | Y | 0 | YB-I014D | Close Command | Common Standby Flash Mixing Pump to Train 1 Valve Close | WP-P0001 | | | | | | LCP-H10 | DO |
| 2172 | Y | 0 | YD-I014D | Open Command | Common Standby Flash Mixing Pump to Train 1 Valve Open | WP-P0001 | | | | | | LCP-H10 | DO |
| 2173 | Y | 0 | YB-I014E | Close Command | Common Standby Flash Mixing Pump to Train 2 Valve Close | WP-P0001 | | | | | | LCP-H10 | DO |
| 2174 | Y | 0 | YD-I014E | Open Command | Common Standby Flash Mixing Pump to Train 2 Valve Open | WP-P0001 | | | | | | LCP-H10 | DO |
| 2175 | Y | 0 | ZB-I013D | Closed Status | Train 1 Flash Mixing Pump P-I013A Discharge Valve Closed | WP-P0001 | | | | | | LCP-H10 | DI |
| 2176 | Y | 0 | ZD-I013D | Open Status | Train 1 Flash Mixing Pump P-I013A Discharge Valve Open | WP-P0001 | | | | | | LCP-H10 | DI |
| 2177 | Y | 0 | ZB-I014D | Closed Status | Common Standby Flash Mixing Pump to Train 1 Valve Closed | WP-P0001 | | | | | | LCP-H10 | DI |
| 2178 | Y | 0 | ZD-I014D | Open Status | Common Standby Flash Mixing Pump to Train 1 Valve Open | WP-P0001 | | | | | | LCP-H10 | DI |
| 2179 | Y | 0 | ZB-I014E | Closed Status | Common Standby Flash Mixing Pump to Train 2 Valve Closed | WP-P0001 | | | | | | LCP-H10 | DI |
| 2180 | Y | 0 | ZD-I014E | Open Status | Common Standby Flash Mixing Pump to Train 2 Valve Open | WP-P0001 | | | | | | LCP-H10 | DI |
| 2181 | Y | 0 | ZB-I015D | Closed Status | Train 2 Flash Mixing Pump Valve Closed | WP-P0001 | | | | | | LCP-H10 | DI |
| 2182 | Y | 0 | ZD-I015D | Open Status | Train 2 Flash Mixing Pump Discharge Valve Open | WP-P0001 | | | | | | LCP-H10 | DI |
| 2183 | Y | 0 | PI-I011B | Pressure Indication | Train 1 Pressure | WP-P0001 | | | | | | LCP-H10 | AI |
| 2184 | Y | 0 | PI-I012B | Pressure Indication | Train 2 Pressure | WP-P0001 | | | | | | LCP-H10 | AI |
| 2185 | Y | 0 | AI-R924A | TSS Indication | Combined Dewatering Pump Outlet TSS | WR-P0012 | | | | | | LCP-L11 | AI |
| 2186 | Y | 0 | AT-R924A | TSS Fault | Combined Dewatering Pump Outlet TSS Fault | WR-P0012 | | | | | | LCP-L11 | DI |
| 2187 | Y | 0 | FI-R924B | Flow Indication | Combined Dewatering Pump Outlet Flow Rate | WR-P0012 | | | | | | LCP-L11 | AI |
| 2188 | Y | 0 | FQ-R924B | Flow Pulse | Combined Dewatering Pump Outlet Flow Total | WR-P0012 | | | | | | LCP-L11 | DI |
| 2189 | Y | 0 | LI-R920A | Level Indication | Dewatering Pump Station TKR920A Level | WR-P0012 | | | | | | LCP-L11 | AI |

I/O POINT TYPES: TCP = Modbus/TCP Ethernet, AI = Analog Input, AO = Analog Output, DI = Discrete Input, DO = Discrete Output

## PLC I/O INDEX

| | | | | DESCRIPTION | | | I/O SPECIFICATION | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| RECORD NO. | PLC Programming reqd | REV. N0. | TAG NAME | FUNCTION | SERVICE | P&ID DRAWING | ENG. UNITS | SCALE LOW | SCALE HIGH | ALARMS LOW | ALARMS HIGH | PLC CABINET | I/O TYPE |
| 2190 | Y | 0 | LA-R920A | Level Alarm | Dewatering Pump Station TKR920A High High Level | WR-P0012 | | | | | | LCP-L11 | DI |
| 2191 | Y | 0 | LF-R920A | Level Fault | Dewatering Pump Station TKR920A Level Fault | WR-P0012 | | | | | | LCP-L11 | DI |
| 2192 | Y | 0 | LA-R920B | Level Alarm | Dewatering Pump Station TKR920A Low Low Level | WR-P0012 | | | | | | LCP-L11 | DI |
| 2193 | Y | 0 | MM-R921A | Running Status | Freeze Thaw Ponds Dewatering Pump P-R921A Running | WR-P0012 | | | | | | LCP-L11 | DI |
| 2194 | Y | 0 | MM-R922A | Running Status | Freeze Thaw Ponds Dewatering Pump P-R922A Running | WR-P0012 | | | | | | LCP-L11 | DI |
| 2195 | Y | 0 | MN-R921A | Start Command | Freeze Thaw Ponds Dewatering Pump P-R921A Start | WR-P0012 | | | | | | LCP-L11 | DO |
| 2196 | Y | 0 | MN-R922A | Start Command | Freeze Thaw Ponds Dewatering Pump P-R922A Start | WR-P0012 | | | | | | LCP-L11 | DO |
| 2197 | Y | 0 | UF-R921A | No Fault | Freeze Thaw Ponds Dewatering Pump P-R921A Fault | WR-P0012 | | | | | | LCP-L11 | DI |
| 2198 | Y | 0 | UF-R922A | No Fault | Freeze Thaw Ponds Dewatering Pump P-R922A Fault | WR-P0012 | | | | | | LCP-L11 | DI |
| 2199 | Y | 0 | YS-R921A | C/O/H Switch in Computer Position | Freeze Thaw Ponds Dewatering Pump P-R921A in Computer Mode | WR-P0012 | | | | | | LCP-L11 | DI |
| 2200 | Y | 0 | YS-R922A | C/O/H Switch in Computer Position | Freeze Thaw Ponds Dewatering Pump P-R922A in Computer Mode | WR-P0012 | | | | | | LCP-L11 | DI |
| 2201 | N | 0 | AI-O150A | Gas Level Indication | Ambient Ozone Gas Level | WO-P0007 | | | | | | CP-O30 | AI |
| 2202 | N | 0 | AA-O150A | Ambient Alarm | Ambient Ozone Analyzer High High | WO-P0007 | | | | | | CP-O30 | DI |
| 2203 | N | 0 | PI-O150A | Pressure Indication | Liquid Oxygen to Ozone Generator GEN-O150A Pressure | WO-P0007 | | | | | | CP-O30 | AI |
| 2204 | N | 0 | TI-O150A | Temperature Indication | Liquid Oxygen to Ozone Generator GEN-O150A Temperature | WO-P0007 | | | | | | CP-O30 | AI |
| 2205 | N | 0 | AI-O510A | Ozone Gas Indication | Ozone Destruct Unit #1 Vent Ozone Gas Level | WO-P0012 | | | | | | CP-O30 | AI |
| 2206 | N | 0 | MN-O510A | Start Command | Ozone Destruct Unit #1 Blower Start | WO-P0012 | | | | | | CP-O30 | DO |
| 2207 | N | 0 | PI-O510A | Pressure Indicator Transmitter | Catalytic Destruct Unit CDU-O510 Differential Pressure | WO-P0012 | | | | | | CP-O30 | AI |
| 2208 | N | 0 | PI-O510B | Pressure Indicator Transmitter | Ozone Destruct Unit #1 Blower Differential Pressure | WO-P0012 | | | | | | CP-O30 | AI |
| 2209 | N | 0 | TI-O510A | Temperature Indication | Ozone Destruct Unit #1 Heater Inlet Temperature | WO-P0012 | | | | | | CP-O30 | AI |
| 2210 | N | 0 | TI-O510B | Temperature Indication | Ozone Destruct Unit #1 Heater Outlet Temperature | WO-P0012 | | | | | | CP-O30 | AI |
| 2211 | N | 0 | TI-O510C | Temperature Indication | Catalytic Destruct Unit CDU-O510A Outlet Temperature | WO-P0012 | | | | | | CP-O30 | AI |
| 2212 | N | 0 | YS-O510A | C/O/H Switch in Computer Position | Ozone Destruct Unit #1 Inlet Valve in Computer Mode | WO-P0012 | | | | | | CP-O30 | DI |
| 2213 | N | 0 | YD-O510A | Open Command | Ozone Destruct Unit #1 Inlet Valve Open | WO-P0012 | | | | | | CP-O30 | DO |
| 2214 | N | 0 | YB-O510A | Close Command | Ozone Destruct Unit #1 Inlet Valve Closed | WO-P0012 | | | | | | CP-O30 | DO |
| 2215 | N | 0 | ZB-O510A | Closed Status | Ozone Destruct Unit #1 Inlet Valve Closed | WO-P0012 | | | | | | CP-O30 | DI |
| 2216 | N | 0 | ZD-O510A | Open Status | Ozone Destruct Unit #1 Inlet Valve Open | WO-P0012 | | | | | | CP-O30 | DI |
| 2217 | N | 0 | AI-O520A | Ozone Gas Indication | Ozone Destruct Unit #2 Vent Ozone Gas Level | WO-P0013 | | | | | | CP-O30 | AI |
| 2218 | N | 0 | MN-O520A | Start Command | Ozone Destruct Unit #2 Blower Start | WO-P0013 | | | | | | CP-O30 | DO |
| 2219 | N | 0 | PI-O520A | Pressure Indication | Catalytic Destruct Unit CDU-O520A Differential Pressure | WO-P0013 | | | | | | CP-O30 | AI |
| 2220 | N | 0 | PI-O520B | Pressure Indication | Ozone Destruct Unit #2 Blower Differential Pressure | WO-P0013 | | | | | | CP-O30 | AI |
| 2221 | N | 0 | TI-O520A | Temperature Indication | Ozone Destruct Unit #2 Heater Inlet Temperature | WO-P0013 | | | | | | CP-O30 | AI |
| 2222 | N | 0 | TI-O520B | Temperature Indication | Ozone Destruct Unit #2 Heater Outlet Temperature | WO-P0013 | | | | | | CP-O30 | AI |
| 2223 | N | 0 | TI-O520C | Temperature Indication | Catalytic Destruct Unit CDU-O520A Outlet Temperature | WO-P0013 | | | | | | CP-O30 | AI |
| 2224 | N | 0 | YS-O520A | C/O/H Switch in Computer Position | Ozone Destruct Unit #2 Bypass in Computer Mode | WO-P0013 | | | | | | CP-O30 | DI |
| 2225 | N | 0 | YB-O520A | Close Command | Ozone Destruct Unit #2 Bypass Close | WO-P0013 | | | | | | CP-O30 | DO |
| 2226 | N | 0 | YD-O520A | Open Command | Ozone Destruct Unit #2 Bypass Open | WO-P0013 | | | | | | CP-O30 | DO |
| 2227 | N | 0 | ZB-O520A | Closed Status | Ozone Destruct Unit #2 Inlet Valve Closed | WO-P0013 | | | | | | CP-O30 | DI |
| 2228 | N | 0 | ZD-O520A | Open Status | Ozone Destruct Unit #2 Inlet Valve Open | WO-P0013 | | | | | | CP-O30 | DI |
| 2229 | N | 0 | AI-O530A | Ozone Gas Indication | Ozone Destruct Unit #3 Vent Ozone Analyzer Gas Level | WO-P0014 | | | | | | CP-O30 | AI |
| 2230 | N | 0 | MN-O530A | Start Command | Ozone Destruct Unit #3 Blower Start | WO-P0014 | | | | | | CP-O30 | DO |
| 2231 | N | 0 | PI-O530A | Pressure Indication | Catalytic Destruct Unit CDU-O530 Differential Pressure | WO-P0014 | | | | | | CP-O30 | AI |
| 2232 | N | 0 | PI-O530B | Pressure Indication | Ozone Destruct Unit #3 Blower Differential Pressure | WO-P0014 | | | | | | CP-O30 | AI |
| 2233 | N | 0 | TI-O530A | Temperature Indication | Ozone Destruct Unit #3 Heater Inlet Temperature | WO-P0014 | | | | | | CP-O30 | AI |
| 2234 | N | 0 | TI-O530B | Temperature Indication | Ozone Destruct Unit #3 Heater Outlet Temperature | WO-P0014 | | | | | | CP-O30 | AI |
| 2235 | N | 0 | TI-O530C | Temperature Indication | Catalytic Destruct Unit CDU-O530A Outlet Temperature | WO-P0014 | | | | | | CP-O30 | AI |
| 2236 | N | 0 | YS-O530A | C/O/H Switch in Computer Position | Ozone Destruct Unit #3 Inlet Valve in Computer Mode | WO-P0014 | | | | | | CP-O30 | DI |
| 2237 | N | 0 | YB-O530A | Close Command | Ozone Destruct Unit #3 Bypass Valve Close | WO-P0014 | | | | | | CP-O30 | DO |
| 2238 | N | 0 | YD-O530A | Open Command | Ozone Destruct Unit #3 Bypass Valve Open | WO-P0014 | | | | | | CP-O30 | DO |
| 2239 | N | 0 | ZB-O530A | Closed Status | Ozone Destruct Unit #3 Inlet Valve Closed | WO-P0014 | | | | | | CP-O30 | DI |
| 2240 | N | 0 | ZD-O530A | Open Status | Ozone Destruct Unit #3 Inlet Valve Open | WO-P0014 | | | | | | CP-O30 | DI |
| 2241 | N | 0 | IT-P010A | Current Indication | DAF Recycle Pump P-P010A Current | WP-P0012 | | | | | | LCP-P11A | AI TCP |
| 2242 | N | 0 | IT-P020A | Current Indication | DAF Recycle Pump P-P020A Current | WP-P0012 | | | | | | LCP-P11A | AI TCP |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| RECORD NO. | PLC Programming reqd | REV. N0. | TAG NAME | FUNCTION | SERVICE | P&ID DRAWING | ENG. UNITS | SCALE LOW | SCALE HIGH | ALARMS LOW | ALARMS HIGH | PLC CABINET | I/O TYPE |
| 2243 | N | 0 | IT-P030A | Current Indication | DAF Recycle Pump P-P030A Current | WP-P0012 | | | | | | LCP-P11A | AI TCP |
| 2244 | N | 0 | MM-P010A | Running Status | DAF Recycle Pump P-P010A Running | WP-P0012 | | | | | | LCP-P11A | DI TCP |
| 2245 | N | 0 | MM-P020A | Running Status | DAF Recycle Pump P-P020A Running | WP-P0012 | | | | | | LCP-P11A | DI TCP |
| 2246 | N | 0 | MM-P030A | Running Status | DAF Recycle Pump P-P030A Running | WP-P0012 | | | | | | LCP-P11A | DI TCP |
| 2247 | N | 0 | MN-P010A | Start Command | DAF Recycle Pump P-P010A Start | WP-P0012 | | | | | | LCP-P11A | DO TCP |
| 2248 | N | 0 | MN-P020A | Start Command | DAF Recycle Pump P-P020A Start | WP-P0012 | | | | | | LCP-P11A | DO TCP |
| 2249 | N | 0 | MN-P030A | Start Command | DAF Recycle Pump P-P030A Start | WP-P0012 | | | | | | LCP-P11A | DO TCP |
| 2250 | N | 0 | SI-P010A | Speed Indication | DAF Recycle Pump P-P010A Speed | WP-P0012 | | | | | | LCP-P11A | AI TCP |
| 2251 | N | 0 | SI-P020A | Speed Indication | DAF Recycle Pump P-P020A Speed | WP-P0012 | | | | | | LCP-P11A | AI TCP |
| 2252 | N | 0 | SI-P030A | Speed Indication | DAF Recycle Pump P-P030A Speed | WP-P0012 | | | | | | LCP-P11A | AI TCP |
| 2253 | N | 0 | SC-P010A | Speed Control Output | DAF Recycle Pump P-P010A Required Speed | WP-P0012 | | | | | | LCP-P11A | AO TCP |
| 2254 | N | 0 | SC-P020A | Speed Control Output | DAF Recycle Pump P-P020A Required Speed | WP-P0012 | | | | | | LCP-P11A | AO TCP |
| 2255 | N | 0 | SC-P030A | Speed Control Output | DAF Recycle Pump P-P030A Required Speed | WP-P0012 | | | | | | LCP-P11A | AO TCP |
| 2256 | N | 0 | UF-P010A | No Fault | DAF Recycle Pump P-P010A Fault | WP-P0012 | | | | | | LCP-P11A | DI TCP |
| 2257 | N | 0 | UF-P020A | No Fault | DAF Recycle Pump P-P020A Fault | WP-P0012 | | | | | | LCP-P11A | DI TCP |
| 2258 | N | 0 | UF-P030A | No Fault | DAF Recycle Pump P-P030A Fault | WP-P0012 | | | | | | LCP-P11A | DI TCP |
| 2259 | N | 0 | YS-P020D | C/O/H Switch in Computer Position | Pump P-P020A (Common Standby) to DAF Saturator P001A Control Valve in Computer Mode | WP-P0012 | | | | | | CP-P31 | DI |
| 2260 | N | 0 | YS-P020E | C/O/H Switch in Computer Position | Pump P-P020A (Common Standby) to DAF Saturator P002A Control Valve in Computer Mode | WP-P0012 | | | | | | CP-P31 | DI |
| 2261 | N | 0 | YS-P010A | C/O/H Switch in Computer Position | DAF Recycle Pump P-P010A in Computer Mode | WP-P0012 | | | | | | LCP-P11A | DI TCP |
| 2262 | N | 0 | YS-P020A | C/O/H Switch in Computer Position | DAF Recycle Pump P-P020A in Computer Mode | WP-P0012 | | | | | | LCP-P11A | DI TCP |
| 2263 | N | 0 | YS-P030A | C/O/H Switch in Computer Position | DAF Recycle Pump P-P030A in Computer Mode | WP-P0012 | | | | | | LCP-P11A | DI TCP |
| 2264 | N | 0 | YB-P020D | Close Command | Pump P-P020A (Common Standby) to DAF Saturator P001A Control Valve Close | WP-P0012 | | | | | | CP-P31 | DO |
| 2265 | N | 0 | YD-P020D | Open Command | Pump P-P020A (Common Standby) to DAF Saturator P001A Control Valve Open | WP-P0012 | | | | | | CP-P31 | DO |
| 2266 | N | 0 | YB-P020E | Close Command | Pump P-P020A (Common Standby) to DAF Saturator P002A Control Valve Close | WP-P0012 | | | | | | CP-P31 | DO |
| 2267 | N | 0 | YD-P020E | Open Command | Pump P-P020A (Common Standby) to DAF Saturator P002A Control Valve Open | WP-P0012 | | | | | | CP-P31 | DO |
| 2268 | N | 0 | ZB-P010C | Closed Status | DAF Recycle Pump P-P010A Discharge Valve Closed | WP-P0012 | | | | | | CP-P31 | DI |
| 2269 | N | 0 | ZD-P010C | Open Status | DAF Recycle Pump P-P010A Discharge Valve Open | WP-P0012 | | | | | | CP-P31 | DI |
| 2270 | N | 0 | ZB-P020D | Closed Status | Pump P-P020A (Common Standby) to DAF Saturator P001A Control Valve Closed | WP-P0012 | | | | | | CP-P31 | DI |
| 2271 | N | 0 | ZD-P020D | Open Status | Pump P-P020A (Common Standby) to DAF Saturator P001A Control Valve Open | WP-P0012 | | | | | | CP-P31 | DI |
| 2272 | N | 0 | ZB-P020E | Closed Status | Pump P-P020A (Common Standby) to DAF Saturator P002A Control Valve Closed | WP-P0012 | | | | | | CP-P31 | DI |
| 2273 | N | 0 | ZD-P020E | Open Status | Pump P-P020A (Common Standby) to DAF Saturator P002A Control Valve Open | WP-P0012 | | | | | | CP-P31 | DI |
| 2274 | N | 0 | ZB-P030C | Closed Status | DAF Recycle Pump P030A Discharge Valve Closed | WP-P0012 | | | | | | CP-P31 | DI |
| 2275 | N | 0 | ZD-P030C | Open Status | DAF Recycle Pump P-P030A Discharge Valve Open | WP-P0012 | | | | | | CP-P31 | DI |
| 2276 | N | 0 | FI-P001A | Flow Indication | DAF Recycle Water Flow Rate to Saturator P001A | WP-P0013 | | | | | | CP-P31 | AI |
| 2277 | N | 0 | FI-P002A | Flow Indication | DAF Recycle Water Flow Rate to Saturator P002A | WP-P0013 | | | | | | CP-P31 | AI |
| 2278 | N | 0 | FQ-P001A | Flow Pulse | DAF Recycle Water Flow Total to Saturator P001A | WP-P0013 | | | | | | CP-P31 | DI |
| 2279 | N | 0 | FQ-P002A | Flow Pulse | DAF Recycle Water Flow Total to Saturator P002A | WP-P0013 | | | | | | CP-P31 | DI |
| 2280 | N | 0 | LI-P001A | Level Indication | DAF Saturator Vessel P001A Level | WP-P0013 | | | | | | CP-P31 | AI |
| 2281 | N | 0 | LI-P002A | Level Indication | DAF Saturator Vessel P002A Level | WP-P0013 | | | | | | CP-P31 | AI |
| 2282 | N | 0 | LS-P001A | Level Switch | DAF Saturator Vessel P001A Level Low | WP-P0013 | | | | | | CP-P31 | DI |
| 2283 | N | 0 | LS-P002A | Level Switch | DAF Saturator Vessel P002A Level Low | WP-P0013 | | | | | | CP-P31 | DI |
| 2284 | N | 0 | PI-P001A | Pressure Indication | DAF Saturator Vessel P001A Pressure | WP-P0013 | | | | | | CP-P31 | AI |
| 2285 | N | 0 | PS-P001A | Pressure Switch | DAF Saturator Vessel P001A Pressure Low | WP-P0013 | | | | | | CP-P31 | AI |
| 2286 | N | 0 | PI-P002A | Pressure Indicator Transmitter | DAF Saturator Vessel P002A Pressure | WP-P0013 | | | | | | CP-P31 | AI |
| 2287 | N | 0 | PS-P002A | Pressure Switch | DAF Saturator Vessel P002A Pressure Low | WP-P0013 | | | | | | CP-P31 | AI |

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| | | | | DESCRIPTION | | | I/O SPECIFICATION | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| RECORD NO. | PLC Programming reqd | REV. N0. | TAG NAME | FUNCTION | SERVICE | P&ID DRAWING | ENG. UNITS | SCALE LOW | SCALE HIGH | ALARMS LOW | ALARMS HIGH | PLC CABINET | I/O TYPE |
| 2288 | N | 0 | TI-P001A | Temperature Indication | DAF Saturator Vessel P001A Temperature | WP-P0013 | | | | | | CP-P31 | AI |
| 2289 | N | 0 | TI-P002A | Temperature Indicator Transmitter | DAF Saturator Vessel P002A Temperature | WP-P0013 | | | | | | CP-P31 | AI |
| 2290 | N | 0 | ZB-P001A | Closed Status | DAF Saturator Vessel P001A Outlet Flow Shutoff Valve Closed | WP-P0013 | | | | | | CP-P31 | DI |
| 2291 | N | 0 | ZD-P001A | Open Status | DAF Saturator Vessel P001A Outlet Flow Shutoff Valve Open | WP-P0013 | | | | | | CP-P31 | DI |
| 2292 | N | 0 | ZB-P002A | Closed Status | DAF Saturator Vessel P002A Outlet Flow Shutoff Valve Closed | WP-P0013 | | | | | | CP-P31 | DI |
| 2293 | N | 0 | ZD-P002A | Open Status | DAF Saturator Vessel P002A Outlet Flow Shutoff Valve Open | WP-P0013 | | | | | | CP-P31 | DI |
| 2294 | N | 0 | FI-P003A | Flow Indication | DAF Recycle Water Flow Rate to Saturator P003A | WP-P0014 | | | | | | CP-P32 | AI |
| 2295 | N | 0 | FI-P004A | Flow Indication | DAF Recycle Water Flow Rate to Saturator P004A | WP-P0014 | | | | | | CP-P32 | AI |
| 2296 | N | 0 | FQ-P003A | Flow Pulse | DAF Recycle Water Flow Total to Saturator P003A | WP-P0014 | | | | | | CP-P32 | DI |
| 2297 | N | 0 | FQ-P004A | Flow Pulse | DAF Recycle Water Flow Total to Saturator P004A | WP-P0014 | | | | | | CP-P32 | DI |
| 2298 | N | 0 | IT-P040A | Current Indication | DAF Recycle Pump P-P040A Current | WP-P0014 | | | | | | LCP-P12A | AI TCP |
| 2299 | N | 0 | IT-P050A | Current Indication | DAF Recycle Pump P-P050A Current | WP-P0014 | | | | | | LCP-P12A | AI TCP |
| 2300 | N | 0 | IT-P060A | Current Indication | DAF Recycle Pump P-P060A Current | WP-P0014 | | | | | | LCP-P12A | AI TCP |
| 2301 | N | 0 | LI-P003A | Level Indication | DAF Saturator Vessel P003A Level | WP-P0014 | | | | | | CP-P32 | AI |
| 2302 | N | 0 | LI-P004A | Level Indication | DAF Saturator Vessel P004A Level | WP-P0014 | | | | | | CP-P32 | AI |
| 2303 | N | 0 | LS-P003A | Level Switch | DAF Saturator Vessel P003A Level Low | WP-P0014 | | | | | | CP-P32 | DI |
| 2304 | N | 0 | LS-P004A | Level Switch | DAF Saturator Vessel P004A Level Low | WP-P0014 | | | | | | CP-P32 | DI |
| 2305 | N | 0 | MM-P040A | Running Status | DAF Recycle Pump P-P040A Running | WP-P0014 | | | | | | LCP-P12A | DI TCP |
| 2306 | N | 0 | MM-P050A | Running Status | DAF Recycle Pump P-P050A Running | WP-P0014 | | | | | | LCP-P12A | DI TCP |
| 2307 | N | 0 | MM-P060A | Running Status | DAF Recycle Pump P-P060A Running | WP-P0014 | | | | | | LCP-P12A | DI TCP |
| 2308 | N | 0 | MN-P040A | Start Command | DAF Recycle Pump P-P040A Start | WP-P0014 | | | | | | LCP-P12A | DO TCP |
| 2309 | N | 0 | MN-P050A | Start Command | DAF Recycle Pump P-P050A Start | WP-P0014 | | | | | | LCP-P12A | DO TCP |
| 2310 | N | 0 | MN-P060A | Start Command | DAF Recycle Pump P-P060A Start | WP-P0014 | | | | | | LCP-P12A | DO TCP |
| 2311 | N | 0 | PI-P003A | Pressure Indicator Transmitter | DAF Saturator Vessel P003A Pressure | WP-P0014 | | | | | | CP-P32 | AI |
| 2312 | N | 0 | PS-P003A | Pressure Switch | DAF Saturator Vessel P003A Pressure Low | WP-P0014 | | | | | | CP-P32 | AI |
| 2313 | N | 0 | PI-P004A | Pressure Indicator Transmitter | DAF Saturator Vessel P004A Pressure | WP-P0014 | | | | | | CP-P32 | AI |
| 2314 | N | 0 | PS-P004A | Pressure Switch | DAF Saturator Vessel P004A Pressure Low | WP-P0014 | | | | | | CP-P32 | AI |
| 2315 | N | 0 | SI-P040A | Speed Indication | DAF Recycle Pump P-P040A Speed | WP-P0014 | | | | | | LCP-P12A | AI TCP |
| 2316 | N | 0 | SI-P050A | Speed Indication | DAF Recycle Pump P-P050A Speed | WP-P0014 | | | | | | LCP-P12A | AI TCP |
| 2317 | N | 0 | SI-P060A | Speed Indication | DAF Recycle Pump P-P060A Speed | WP-P0014 | | | | | | LCP-P12A | AI TCP |
| 2318 | N | 0 | SC-P040A | Speed Control Output | DAF Recycle Pump P-P040A Required Speed | WP-P0014 | | | | | | LCP-P12A | AO TCP |
| 2319 | N | 0 | SC-P050A | Speed Control Output | DAF Recycle Pump P-P050A Required Speed | WP-P0014 | | | | | | LCP-P12A | AO TCP |
| 2320 | N | 0 | SC-P060A | Speed Control Output | DAF Recycle Pump P-P060A Required Speed | WP-P0014 | | | | | | LCP-P12A | AO TCP |
| 2321 | N | 0 | TI-P003A | Temperature Indicator Transmitter | DAF Saturator Vessel P003A Temperature | WP-P0014 | | | | | | CP-P32 | AI |
| 2322 | N | 0 | TI-P004A | Temperature Indicator Transmitter | DAF Saturator Vessel P004A Temperature | WP-P0014 | | | | | | CP-P32 | AI |
| 2323 | N | 0 | UF-P040A | No Fault | DAF Recycle Pump P-P040A Fault | WP-P0014 | | | | | | LCP-P12A | DI TCP |
| 2324 | N | 0 | UF-P050A | No Fault | DAF Recycle Pump P-P050A Fault | WP-P0014 | | | | | | LCP-P12A | DI TCP |
| 2325 | N | 0 | UF-P060A | No Fault | DAF Recycle Pump P-P060A Fault | WP-P0014 | | | | | | LCP-P12A | DI TCP |
| 2326 | N | 0 | YS-P050D | C/O/H Switch in Computer Position | Pump P-P050A (Common Standby) to DAF Saturator P003A Control Valve in Computer Mode | WP-P0014 | | | | | | CP-P32 | DI |
| 2327 | N | 0 | YS-P050E | C/O/H Switch in Computer Position | Pump P-P050A (Common Standby) to DAF Saturator P004A Control Valve in Computer Mode | WP-P0014 | | | | | | CP-P32 | DI |
| 2328 | N | 0 | YS-P040A | C/O/H Switch in Computer Position | DAF Recycle Pump P-P040A in Computer Mode | WP-P0014 | | | | | | LCP-P12A | DI TCP |
| 2329 | N | 0 | YS-P050A | C/O/H Switch in Computer Position | DAF Recycle Pump P-P050A in Computer Mode | WP-P0014 | | | | | | LCP-P12A | DI TCP |
| 2330 | N | 0 | YS-P060A | C/O/H Switch in Computer Position | DAF Recycle Pump P-P060A in Computer Mode | WP-P0014 | | | | | | LCP-P12A | DI TCP |
| 2331 | N | 0 | YB-P050D | Close Command | Pump P-P050A (Common Standby) to DAF Saturator P003A Control Valve Close | WP-P0014 | | | | | | CP-P32 | DO |
| 2332 | N | 0 | YD-P050D | Open Command | Pump P-P050A (Common Standby) to DAF Saturator P003A Control Valve Open | WP-P0014 | | | | | | CP-P32 | DO |
| 2333 | N | 0 | YB-P050E | Close Command | Pump P-P050A (Common Standby) to DAF Saturator P004A Control Valve Close | WP-P0014 | | | | | | CP-P32 | DO |
| 2334 | N | 0 | YD-P050E | Open Command | Pump P-P050A (Common Standby) to DAF Saturator P004A Control Valve Open | WP-P0014 | | | | | | CP-P32 | DO |
| 2335 | N | 0 | ZB-P003A | Closed Status | DAF Saturator Vessel P003A Outlet Flow Shutoff Valve Closed | WP-P0014 | | | | | | CP-P32 | DI |
| 2336 | N | 0 | ZD-P003A | Open Status | DAF Saturator Vessel P003A Outlet Flow Shutoff Valve Open | WP-P0014 | | | | | | CP-P32 | DI |

I/O POINT TYPES: TCP = Modbus/TCP Ethernet, AI = Analog Input, AO = Analog Output, DI = Discrete Input, DO = Discrete Output

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| RECORD NO. | PLC Programming reqd | REV. N0. | TAG NAME | FUNCTION | SERVICE | P&ID DRAWING | ENG. UNITS | SCALE LOW | SCALE HIGH | ALARMS LOW | ALARMS HIGH | PLC CABINET | I/O TYPE |
| 2337 | N | 0 | ZB-P004A | Closed Status | DAF Saturator Vessel P004A Outlet Flow Shutoff Valve Closed | WP-P0014 | | | | | | CP-P32 | DI |
| 2338 | N | 0 | ZD-P004A | Open Status | DAF Saturator Vessel P004A Outlet Flow Shutoff Valve Open | WP-P0014 | | | | | | CP-P32 | DI |
| 2339 | N | 0 | ZB-P040C | Closed Status | DAF Recycle Pump P-P040A Discharge Valve Closed | WP-P0014 | | | | | | CP-P32 | DI |
| 2340 | N | 0 | ZD-P040C | Open Status | DAF Recycle Pump P-P040A Discharge Valve Open | WP-P0014 | | | | | | CP-P32 | DI |
| 2341 | N | 0 | ZB-P050D | Closed Status | Pump P-P050A (Common Standby) to DAF Saturator P003A Control Valve Closed | WP-P0014 | | | | | | CP-P32 | DI |
| 2342 | N | 0 | ZD-P050D | Open Status | Pump P-P050A (Common Standby) to DAF Saturator P003A Control Valve Open | WP-P0014 | | | | | | CP-P32 | DI |
| 2343 | N | 0 | ZB-P050E | Closed Status | Pump P-P050A (Common Standby) to DAF Saturator P004A Control Valve Closed | WP-P0014 | | | | | | CP-P32 | DI |
| 2344 | N | 0 | ZD-P050E | Open Status | Pump P-P050A (Common Standby) to DAF Saturator P004A Control Valve Open | WP-P0014 | | | | | | CP-P32 | DI |
| 2345 | N | 0 | ZB-P060C | Closed Status | DAF Recycle Pump P-P060A Discharge Valve Closed | WP-P0014 | | | | | | CP-P32 | DI |
| 2346 | N | 0 | ZD-P060C | Open Status | DAF Recycle Pump P-P060A Discharge Valve Open | WP-P0014 | | | | | | CP-P32 | DI |
| 2347 | N | 0 | MM-P910A | Running Status | DAF Air Compressor CMP-P910A Running | WP-P0015 | | | | | | CP-P31 | DI |
| 2348 | N | 0 | MM-P920A | Running Status | DAF Air Compressor CMP-P920A Running | WP-P0015 | | | | | | CP-P31 | DI |
| 2349 | N | 0 | MN-P910A | Start Command | DAF Air Compressor CMP-P910A Start | WP-P0015 | | | | | | CP-P31 | DO |
| 2350 | N | 0 | MN-P920A | Start Command | DAF Air Compressor CMP-P920A Start | WP-P0015 | | | | | | CP-P31 | DO |
| 2351 | N | 0 | PI-P900A | Pressure Indication | DAF Air Receiver Pressure | WP-P0015 | | | | | | CP-P31 | AI |
| 2352 | N | 0 | UF-P910A | No Fault | DAF Air Compressor CMP-P910A Fault | WP-P0015 | | | | | | CP-P31 | DI |
| 2353 | N | 0 | UF-P920A | No Fault | DAF Air Compressor CMP-P920A Fault | WP-P0015 | | | | | | CP-P31 | DI |
| 2354 | Y | 0 | MM-P981A | Running Status | DAF Area Process Sump Pump P-P981A Running | WP-P0020 | | | | | | LCP-H10 | DI |
| 2355 | Y | 0 | MM-P982A | Running Status | DAF Area Process Sump Pump P-P982A Running | WP-P0020 | | | | | | LCP-H10 | DI |
| 2356 | Y | 0 | MN-P981A | Start Command | DAF Area Process Sump Pump P-P981A Start | WP-P0020 | | | | | | LCP-H10 | DO |
| 2357 | Y | 0 | MN-P982A | Start Command | DAF Area Process Sump Pump P-P982A Start | WP-P0020 | | | | | | LCP-H10 | DO |
| 2358 | Y | 0 | UF-P981A | No Fault | DAF Area Process Sump Pump P-P981A Fault | WP-P0020 | | | | | | LCP-H10 | DI |
| 2359 | Y | 0 | UF-P982A | No Fault | DAF Area Process Sump Pump P-P982A Fault | WP-P0020 | | | | | | LCP-H10 | DI |
| 2360 | Y | 0 | YS-P981A | C/O/H Switch in Computer Position | DAF Area Process Sump Pump P-P981A in Computer Mode | WP-P0020 | | | | | | LCP-H10 | DI |
| 2361 | Y | 0 | YS-P982A | C/O/H Switch in Computer Position | DAF Area Process Sump Pump P-P982A in Computer Mode | WP-P0020 | | | | | | LCP-H10 | DI |
| 2362 | Y | 0 | MM-P983A | Running Status | DAF Area Process Sump Pump P-P983A Running | WP-P0020 | | | | | | LCP-H10 | DI |
| 2363 | Y | 0 | MN-P983A | Start Command | DAF Area Process Sump Pump P-P983A Start | WP-P0020 | | | | | | LCP-H10 | DO |
| 2364 | Y | 0 | UF-P983A | No Fault | DAF Area Process Sump Pump P-P983A Fault | WP-P0020 | | | | | | LCP-H10 | DI |
| 2365 | Y | 0 | YS-P983A | C/O/H Switch in Computer Position | DAF Area Process Sump Pump P-P983A in Computer Mode | WP-P0020 | | | | | | LCP-H10 | DI |
| 2366 | Y | 0 | LI-F050A | Level Indication | Filtered Water Chamber Level | WF-P0011 | | | | | | LCP-R21 | AI |
| 2367 | Y | 0 | LF-F050A | Level Fault | Filtered Water Chamber Level Fault | WF-P0011 | | | | | | LCP-R21 | DI |
| 2368 | Y | 0 | ZB-F053A | Closed Status | Filtered Water Chamber to Chlorine Contact Tank Sluice Gate Closed | WF-P0011 | | | | | | LCP-R21 | DI |
| 2369 | Y | 0 | ZD-F053A | Open Status | Filtered Water Chamber to Chlorine Contact Tank Sluice Gate Open | WF-P0011 | | | | | | LCP-R21 | DI |
| 2370 | Y | 0 | ZB-F054A | Closed Status | Filtered Water Chamber Chlorine Contact Tank Bypass Sluice Gate Closed | WF-P0011 | | | | | | LCP-R21 | DI |
| 2371 | Y | 0 | ZD-F054A | Open Status | Filtered Water Chamber Chlorine Contact Tank Bypass Sluice Gate Open | WF-P0011 | | | | | | LCP-R21 | DI |
| 2372 | Y | 0 | ZB-F055A | Closed Status | Chlorine Contact Tank Outlet Sluice Gate Closed | WF-P0011 | | | | | | LCP-R21 | DI |
| 2373 | Y | 0 | ZD-F055A | Open Status | Chlorine Contact Tank Outlet Sluice Gate Open | WF-P0011 | | | | | | LCP-R21 | DI |
| 2374 | Y | | FI-J701A | Discharge Flow | Hypochlorite Mixing Pump P-J701A | WF-P0011 | | | | | | LCP-R21 | DI |
| 2375 | Y | | FQ-J701A | Discharge Flow Pulse | Hypochlorite Mixing Pump P-J701A | WF-P0011 | | | | | | LCP-R21 | DI |
| 2376 | Y | | FI-J702A | Discharge Flow | Hypochlorite Mixing Pump P-J702A | WF-P0011 | | | | | | LCP-R21 | DI |
| 2377 | Y | | FQ-J702A | Discharge Flow Pulse | Hypochlorite Mixing Pump P-J702A | WF-P0011 | | | | | | LCP-R21 | DI |
| 2378 | Y | | MM-J701A | Running Status | Hypochlorite Mixing Pump P-J701A | WF-P0011 | | | | | | LCP-R21 | DI |
| 2379 | Y | | MM-J702A | Running Status | Hypochlorite Mixing Pump P-J702A | WF-P0011 | | | | | | LCP-R21 | DI |
| 2380 | Y | | MN-J701A | Start Command | Hypochlorite Mixing Pump P-J701A | WF-P0011 | | | | | | LCP-R21 | DO |
| 2381 | Y | | MN-J702A | Start Command | Hypochlorite Mixing Pump P-J702A | WF-P0011 | | | | | | LCP-R21 | DO |
| 2382 | Y | | PS-J701A | Discharge Pressure High | Hypochlorite Mixing Pump P-J701A | WF-P0011 | | | | | | LCP-R21 | DI |
| 2383 | Y | | PS-J702A | Discharge Pressure High | Hypochlorite Mixing Pump P-J702A | WF-P0011 | | | | | | LCP-R21 | DI |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| RECORD NO. | PLC Programming reqd | REV. N0. | TAG NAME | FUNCTION | SERVICE | P&ID DRAWING | ENG. UNITS | SCALE LOW | SCALE HIGH | ALARMS LOW | ALARMS HIGH | PLC CABINET | I/O TYPE |
| 2384 | Y | | UF-J701A | No Fault | Hypochlorite Mixing Pump P-J701A | WF-P0011 | | | | | | LCP-R21 | DI |
| 2385 | Y | | UF-J702A | No Fault | Hypochlorite Mixing Pump P-J702A | WF-P0011 | | | | | | LCP-R21 | DI |
| 2386 | Y | | YS-J701A | C/O/H Switch in Computer Position | Hypochlorite Mixing Pump P-J701A | WF-P0011 | | | | | | LCP-R21 | DI |
| 2387 | Y | | YB-J701C | Close Command | Hypochlorite Mixing Pump P-J701A Discharge Valve | WF-P0011 | | | | | | LCP-R21 | DI |
| 2388 | Y | | YD-J701C | Open Command | Hypochlorite Mixing Pump P-J701A Discharge Valve | WF-P0011 | | | | | | LCP-R21 | DI |
| 2389 | Y | | YS-J701C | C/O/H Switch in Computer Position | Hypochlorite Mixing Pump P-J701A Discharge Valve | WF-P0011 | | | | | | LCP-R21 | DI |
| 2390 | Y | | YS-J702A | C/O/H Switch in Computer Position | Hypochlorite Mixing Pump P-J702A | WF-P0011 | | | | | | LCP-R21 | DI |
| 2391 | Y | | YB-J702C | Close Command | Hypochlorite Mixing Pump P-J702A Discharge Valve | WF-P0011 | | | | | | LCP-R21 | DI |
| 2392 | Y | | YD-J702C | Open Command | Hypochlorite Mixing Pump P-J702A Discharge Valve | WF-P0011 | | | | | | LCP-R21 | DI |
| 2393 | Y | | YS-J702C | C/O/H Switch in Computer Position | Hypochlorite Mixing Pump P-J702A Discharge Valve | WF-P0011 | | | | | | LCP-R21 | DI |
| 2394 | Y | | YB-J703C | Close Command | Hypochlorite Mixing Pump P-J703A Crossover Valve | WF-P0011 | | | | | | LCP-R21 | DI |
| 2395 | Y | | YD-J703C | Open Command | Hypochlorite Mixing Pump P-J703A Crossover Valve | WF-P0011 | | | | | | LCP-R21 | DI |
| 2396 | Y | | YS-J703C | C/O/H Switch in Computer Position | Hypochlorite Mixing Pump P-J703A Crossover Valve | WF-P0011 | | | | | | LCP-R21 | DI |
| 2397 | Y | | ZB-J701C | Closed Status | Hypochlorite Mixing Pump P-J701A Discharge Valve | WF-P0011 | | | | | | LCP-R21 | DI |
| 2398 | Y | | ZD-J701C | Open Status | Hypochlorite Mixing Pump P-J701A Discharge Valve | WF-P0011 | | | | | | LCP-R21 | DI |
| 2399 | Y | | ZB-J702C | Closed Status | Hypochlorite Mixing Pump P-J702A Discharge Valve | WF-P0011 | | | | | | LCP-R21 | DI |
| 2400 | Y | | ZD-J702C | Open Status | Hypochlorite Mixing Pump P-J702A Discharge Valve | WF-P0011 | | | | | | LCP-R21 | DI |
| 2401 | Y | | ZB-J703C | Closed Status | Hypochlorite Mixing Pump P-J703A Crossover Valve | WF-P0011 | | | | | | LCP-R21 | DI |
| 2402 | Y | | ZD-J703C | Open Status | Hypochlorite Mixing Pump P-J703A Crossover Valve | WF-P0011 | | | | | | LCP-R21 | DI |
| 2403 | Y | 0 | LA-R010A | Level Alarm | Washwater Recovery Tank Inlet Channel High Level | WR-P0001 | | | | | | LCP-R21 | DI |
| 2404 | Y | 0 | LA-R010B | Level Alarm | Washwater Recovery Tank Inlet Channel Low Level | WR-P0001 | | | | | | LCP-R21 | DI |
| 2405 | Y | 0 | YS-R100A | C/O/H Switch in Computer Position | Washwater Recovery Tank WRTR100A Inlet Sluice Gate in Computer Mode | WR-P0001 | | | | | | LCP-R21 | DI |
| 2406 | Y | 0 | YS-R200A | C/O/H Switch in Computer Position | Washwater Recovery Tank WRTR200A Inlet Sluice Gate in Computer Mode | WR-P0001 | | | | | | LCP-R21 | DI |
| 2407 | Y | 0 | YS-R300A | C/O/H Switch in Computer Position | Washwater Recovery Tank WRTR300A Inlet Sluice Gate in Computer Mode | WR-P0001 | | | | | | LCP-R21 | DI |
| 2408 | Y | 0 | YS-R400A | C/O/H Switch in Computer Position | Washwater Recovery Tank WRTR400A Inlet Sluice Gate in Computer Mode | WR-P0001 | | | | | | LCP-R21 | DI |
| 2409 | Y | 0 | YB-R100A | Close Command | Washwater Recovery Tank WRTR100A Inlet Sluice Gate Closed | WR-P0001 | | | | | | LCP-R21 | DO |
| 2410 | Y | 0 | YD-R100A | Open Command | Washwater Recovery Tank WRTR100A Inlet Sluice Gate Open | WR-P0001 | | | | | | LCP-R21 | DO |
| 2411 | Y | 0 | YB-R200A | Close Command | Washwater Recovery Tank WRTR200A Inlet Sluice Gate Closed | WR-P0001 | | | | | | LCP-R21 | DO |
| 2412 | Y | 0 | YD-R200A | Open Command | Washwater Recovery Tank WRTR200A Inlet Sluice Gate Open | WR-P0001 | | | | | | LCP-R21 | DO |
| 2413 | Y | 0 | YB-R300A | Close Command | Washwater Recovery Tank WRTR300A Inlet Sluice Gate Closed | WR-P0001 | | | | | | LCP-R21 | DO |
| 2414 | Y | 0 | YD-R300A | Open Command | Washwater Recovery Tank WRTR300A Inlet Sluice Gate Open | WR-P0001 | | | | | | LCP-R21 | DO |
| 2415 | Y | 0 | YB-R400A | Close Command | Washwater Recovery Tank WRTR400A Inlet Sluice Gate Closed | WR-P0001 | | | | | | LCP-R21 | DO |
| 2416 | Y | 0 | YD-R400A | Open Command | Washwater Recovery Tank WRTR400A Inlet Sluice Gate Open | WR-P0001 | | | | | | LCP-R21 | DO |
| 2417 | Y | 0 | ZB-R010A | Closed Status | Washwater Recovery Tank Inlet Channel Sluice Gate Open | WR-P0001 | | | | | | LCP-R21 | DI |
| 2418 | Y | 0 | ZD-R010A | Open Status | Washwater Recovery Tank Inlet Channel Sluice Gate Closed | WR-P0001 | | | | | | LCP-R21 | DI |
| 2419 | Y | 0 | ZB-R010B | Closed Status | Washwater Recovery Tank Inlet Channel Sluice Gate Open | WR-P0001 | | | | | | LCP-R21 | DI |
| 2420 | Y | 0 | ZD-R010B | Open Status | Washwater Recovery Tank Inlet Channel Sluice Gate Closed | WR-P0001 | | | | | | LCP-R21 | DI |
| 2421 | Y | 0 | ZB-R100A | Closed Status | Washwater Recovery Tank WRTR100A Inlet Sluice Gate Open | WR-P0001 | | | | | | LCP-R21 | DI |
| 2422 | Y | 0 | ZD-R100A | Open Status | Washwater Recovery Tank WRTR100A Inlet Sluice Gate Closed | WR-P0001 | | | | | | LCP-R21 | DI |
| 2423 | Y | 0 | ZB-R200A | Closed Status | Washwater Recovery Tank WRTR200A Inlet Sluice Gate Open | WR-P0001 | | | | | | LCP-R21 | DI |
| 2424 | Y | 0 | ZD-R200A | Open Status | Washwater Recovery Tank WRTR200A Inlet Sluice Gate Closed | WR-P0001 | | | | | | LCP-R21 | DI |
| 2425 | Y | 0 | ZB-R300A | Closed Status | Washwater Recovery Tank WRTR300A Inlet Sluice Gate Open | WR-P0001 | | | | | | LCP-R21 | DI |
| 2426 | Y | 0 | ZD-R300A | Open Status | Washwater Recovery Tank WRTR300A Inlet Sluice Gate Closed | WR-P0001 | | | | | | LCP-R21 | DI |
| 2427 | Y | 0 | ZB-R400A | Closed Status | Washwater Recovery Tank WRTR400A Inlet Sluice Gate Open | WR-P0001 | | | | | | LCP-R21 | DI |
| 2428 | Y | 0 | ZD-R400A | Open Status | Washwater Recovery Tank WRTR400A Inlet Sluice Gate Closed | WR-P0001 | | | | | | LCP-R21 | DI |
| 2429 | Y | 0 | LI-R100D | Level Indication | Washwater Recovery Tank WRTR100A Level | WR-P0002 | | | | | | LCP-R21 | AI |
| 2430 | Y | 0 | LI-R100E | Turbidity/TSS Indication | Washwater Recovery Tank WRTR100A Turbidity/TSS Level | WR-P0002 | | | | | | LCP-R21 | AI |
| 2431 | Y | 0 | LA-R100A | Level Alarm | Washwater Recovery Tank WRTR100A Low Low Level | WR-P0002 | | | | | | LCP-R21 | DI |
| 2432 | Y | 0 | LA-R100B | Level Alarm | Washwater Recovery Tank WRTR100A High High Level | WR-P0002 | | | | | | LCP-R21 | DI |
| 2433 | Y | 0 | LF-R100D | Level Fault | Washwater Recovery Tank WRTR100A Level | WR-P0002 | | | | | | LCP-R21 | DI |
| 2434 | Y | 0 | LF-R100E | Turbidity/TSS Fault | Washwater Recovery Tank WRTR100A Turbidity/TSS Level | WR-P0002 | | | | | | LCP-R21 | DI |

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| RECORD NO. | PLC Programming reqd | REV. N0. | TAG NAME | FUNCTION | SERVICE | P&ID DRAWING | ENG. UNITS | SCALE LOW | SCALE HIGH | ALARMS LOW | ALARMS HIGH | PLC CABINET | I/O TYPE |
| 2435 | Y | 0 | MM-R100C | Running Status | Washwater Recovery Tank WRTR100A Sludge Pump Running | WR-P0002 | | | | | | LCP-R21 | DI |
| 2436 | Y | 0 | MN-R100C | Start Command | Washwater Recovery Tank WRTR100A Sludge Pump Start | WR-P0002 | | | | | | LCP-R21 | DO |
| 2437 | Y | 0 | SI-R100C | Speed Indication | Washwater Recovery Tank WRTR100A Sludge Pump Speed | WR-P0002 | | | | | | LCP-R21 | AI |
| 2438 | Y | 0 | SC-R100C | Speed Control Output | Washwater Recovery Tank WRTR100A Sludge Pump Required Speed | WR-P0002 | | | | | | LCP-R21 | AO |
| 2439 | Y | 0 | UF-R100C | No Fault | Washwater Recovery Tank WRTR100A Sludge Pump Fault | WR-P0002 | | | | | | LCP-R21 | DI |
| 2440 | Y | 0 | YS-R100A | C/O/H Switch in Computer Position | Washwater Recovery Tank WRTR100A Supernatant Valve in Computer Mode | WR-P0002 | | | | | | LCP-R21 | DI |
| 2441 | Y | 0 | YS-R100C | C/O/H Switch in Computer Position | Washwater Recovery Tank WRTR100A Sludge Pump in Computer Mode | WR-P0002 | | | | | | LCP-R21 | DI |
| 2442 | Y | 0 | YB-R100A | Close Command | Washwater Recovery Tank WRTR100A Supernatant Valve Close | WR-P0002 | | | | | | LCP-R21 | DO |
| 2443 | Y | 0 | YD-R100A | Open Command | Washwater Recovery Tank WRTR100A Supernatant Valve Open | WR-P0002 | | | | | | LCP-R21 | DO |
| 2444 | Y | 0 | ZB-R100A | Closed Status | Washwater Recovery Tank WRTR100A Supernatant Valve Closed | WR-P0002 | | | | | | LCP-R21 | DI |
| 2445 | Y | 0 | ZD-R100A | Open Status | Washwater Recovery Tank WRTR100A Supernatant Valve Open | WR-P0002 | | | | | | LCP-R21 | DI |
| 2446 | Y | 0 | LI-R200D | Level Indication | Washwater Recovery Tank WRTR200A Level | WR-P0003 | | | | | | LCP-R21 | AI |
| 2447 | Y | 0 | LI-R200E | Turbidity/TSS Indication | Washwater Recovery Tank WRTR200A Turbidity/TSS Level | WR-P0003 | | | | | | LCP-R21 | AI |
| 2448 | Y | 0 | LA-R200A | Level Alarm | Washwater Recovery Tank WRTR200A Low Low Level | WR-P0003 | | | | | | LCP-R21 | DI |
| 2449 | Y | 0 | LA-R200B | Level Alarm | Washwater Recovery Tank WRTR200A High High Level | WR-P0003 | | | | | | LCP-R21 | DI |
| 2450 | Y | 0 | LF-R200D | Level Fault | Washwater Recovery Tank WRTR200A Level | WR-P0003 | | | | | | LCP-R21 | DI |
| 2451 | Y | 0 | LF-R200E | Turbidity/TSS Fault | Washwater Recovery Tank WRTR200A Turbidity/TSS Level | WR-P0003 | | | | | | LCP-R21 | DI |
| 2452 | Y | 0 | MM-R200C | Running Status | Washwater Recovery Tank WRTR200A Sludge Pump Running | WR-P0003 | | | | | | LCP-R21 | DI |
| 2453 | Y | 0 | MN-R200C | Start Command | Washwater Recovery Tank WRTR200A Sludge Pump Start | WR-P0003 | | | | | | LCP-R21 | DO |
| 2454 | Y | 0 | SI-R200C | Speed Indication | Washwater Recovery Tank WRTR200A Sludge Pump Speed | WR-P0003 | | | | | | LCP-R21 | AI |
| 2455 | Y | 0 | SC-R200C | Speed Control Output | Washwater Recovery Tank WRTR200A Sludge Pump Required Speed | WR-P0003 | | | | | | LCP-R21 | AO |
| 2456 | Y | 0 | UF-R200C | No Fault | Washwater Recovery Tank WRTR200A Sludge Pump Fault | WR-P0003 | | | | | | LCP-R21 | DI |
| 2457 | Y | 0 | YS-R200A | C/O/H Switch in Computer Position | Washwater Recovery Tank WRTR200A Supernatant Valve in Computer Mode | WR-P0003 | | | | | | LCP-R21 | DI |
| 2458 | Y | 0 | YS-R200C | C/O/H Switch in Computer Position | Washwater Recovery Tank WRTR200A Sludge Pump in Computer Mode | WR-P0003 | | | | | | LCP-R21 | DI |
| 2459 | Y | 0 | YB-R200A | Close Command | Washwater Recovery Tank WRTR200A Supernatant Valve Close | WR-P0003 | | | | | | LCP-R21 | DO |
| 2460 | Y | 0 | YD-R200A | Open Command | Washwater Recovery Tank WRTR200A Supernatant Valve Open | WR-P0003 | | | | | | LCP-R21 | DO |
| 2461 | Y | 0 | ZB-R200A | Closed Status | Washwater Recovery Tank WRTR200A Supernatant Valve Closed | WR-P0003 | | | | | | LCP-R21 | DI |
| 2462 | Y | 0 | ZD-R200A | Open Status | Washwater Recovery Tank WRTR200A Supernatant Valve Open | WR-P0003 | | | | | | LCP-R21 | DI |
| 2463 | Y | 0 | LI-R300D | Level Indication | Washwater Recovery Tank WRTR300A Level | WR-P0004 | | | | | | LCP-R21 | AI |
| 2464 | Y | 0 | LI-R300E | Turbidity/TSS Indication | Washwater Recovery Tank WRTR300A Turbidity/TSS Level | WR-P0004 | | | | | | LCP-R21 | AI |
| 2465 | Y | 0 | LA-R300A | Level Alarm | Washwater Recovery Tank WRTR300A Low Low Level | WR-P0004 | | | | | | LCP-R21 | DI |
| 2466 | Y | 0 | LA-R300B | Level Alarm | Washwater Recovery Tank WRTR300A High High Level | WR-P0004 | | | | | | LCP-R21 | DI |
| 2467 | Y | 0 | LF-R300D | Level Fault | Washwater Recovery Tank WRTR300A Level | WR-P0004 | | | | | | LCP-R21 | DI |
| 2468 | Y | 0 | LF-R300E | Turbidity/TSS Fault | Washwater Recovery Tank WRTR300A Turbidity/TSS Level | WR-P0004 | | | | | | LCP-R21 | DI |
| 2469 | Y | 0 | MM-R300C | Running Status | Washwater Recovery Tank WRTR300A Sludge Pump Running | WR-P0004 | | | | | | LCP-R21 | DI |
| 2470 | Y | 0 | MN-R300C | Start Command | Washwater Recovery Tank WRTR300A Sludge Pump Start | WR-P0004 | | | | | | LCP-R21 | DO |
| 2471 | Y | 0 | SI-R300C | Speed Indication | Washwater Recovery Tank WRTR300A Sludge Pump Speed | WR-P0004 | | | | | | LCP-R21 | AI |
| 2472 | Y | 0 | SC-R300C | Speed Control Output | Washwater Recovery Tank WRTR300A Sludge Pump Required Speed | WR-P0004 | | | | | | LCP-R21 | AO |
| 2473 | Y | 0 | UF-R300C | No Fault | Washwater Recovery Tank WRTR300A Sludge Pump Fault | WR-P0004 | | | | | | LCP-R21 | DI |
| 2474 | Y | 0 | YS-R300A | C/O/H Switch in Computer Position | Washwater Recovery Tank WRTR300A Supernatant Valve in Computer Mode | WR-P0004 | | | | | | LCP-R21 | DI |
| 2475 | Y | 0 | YS-R300C | C/O/H Switch in Computer Position | Washwater Recovery Tank WRTR300A Sludge Pump in Computer Mode | WR-P0004 | | | | | | LCP-R21 | DI |
| 2476 | Y | 0 | YB-R300A | Close Command | Washwater Recovery Tank WRTR300A Supernatant Valve Close | WR-P0004 | | | | | | LCP-R21 | DO |
| 2477 | Y | 0 | YD-R300A | Open Command | Washwater Recovery Tank WRTR300A Supernatant Valve Open | WR-P0004 | | | | | | LCP-R21 | DO |

I/O POINT TYPES: TCP = Modbus/TCP Ethernet, AI = Analog Input, AO = Analog Output, DI = Discrete Input, DO = Discrete Output

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| | | | | DESCRIPTION | | | I/O SPECIFICATION | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| RECORD NO. | PLC Programming reqd | REV. N0. | TAG NAME | FUNCTION | SERVICE | P&ID DRAWING | ENG. UNITS | SCALE LOW | SCALE HIGH | ALARMS LOW | ALARMS HIGH | PLC CABINET | I/O TYPE |
| 2478 | Y | 0 | ZB-R300A | Closed Status | Washwater Recovery Tank WRTR300A Supernatant Valve Closed | WR-P0004 | | | | | | LCP-R21 | DI |
| 2479 | Y | 0 | ZD-R300A | Open Status | Washwater Recovery Tank WRTR300A Supernatant Valve Open | WR-P0004 | | | | | | LCP-R21 | DI |
| 2480 | Y | 0 | LI-R400D | Level Indication | Washwater Recovery Tank WRTR400A Level | WR-P0005 | | | | | | LCP-R21 | AI |
| 2481 | Y | 0 | LI-R400E | Turbidity/TSS Indication | Washwater Recovery Tank WRTR400A Turbidity/TSS Level | WR-P0005 | | | | | | LCP-R21 | AI |
| 2482 | Y | 0 | LA-R400A | Level Alarm | Washwater Recovery Tank WRTR400A Low Low Level | WR-P0005 | | | | | | LCP-R21 | DI |
| 2483 | Y | 0 | LA-R400B | Level Alarm | Washwater Recovery Tank WRTR400A High High Level | WR-P0005 | | | | | | LCP-R21 | DI |
| 2484 | Y | 0 | LF-R400D | Level Fault | Washwater Recovery Tank WRTR400A Level | WR-P0005 | | | | | | LCP-R21 | DI |
| 2485 | Y | 0 | LF-R400E | Turbidity/TSS Fault | Washwater Recovery Tank WRTR400A Turbidity/TSS Level | WR-P0005 | | | | | | LCP-R21 | DI |
| 2486 | Y | 0 | MM-R400C | Running Status | Washwater Recovery Tank WRTR400A Sludge Pump Running | WR-P0005 | | | | | | LCP-R21 | DI |
| 2487 | Y | 0 | MN-R400C | Start Command | Washwater Recovery Tank WRTR400A Sludge Pump Start | WR-P0005 | | | | | | LCP-R21 | DO |
| 2488 | Y | 0 | SI-R400C | Speed Indication | Washwater Recovery Tank WRTR400A Sludge Pump Speed | WR-P0005 | | | | | | LCP-R21 | AI |
| 2489 | Y | 0 | SC-R400C | Speed Control Output | Washwater Recovery Tank WRTR400A Sludge Pump Required Speed | WR-P0005 | | | | | | LCP-R21 | AO |
| 2490 | Y | 0 | UF-R400C | No Fault | Washwater Recovery Tank WRTR400A Sludge Pump Fault | WR-P0005 | | | | | | LCP-R21 | DI |
| 2491 | Y | 0 | YS-R400A | C/O/H Switch in Computer Position | Washwater Recovery Tank WRTR400A Supernatant Valve in Computer Mode | WR-P0005 | | | | | | LCP-R21 | DI |
| 2492 | Y | 0 | YS-R400C | C/O/H Switch in Computer Position | Washwater Recovery Tank WRTR400A Sludge Pump in Computer Mode | WR-P0005 | | | | | | LCP-R21 | DI |
| 2493 | Y | 0 | YB-R400A | Close Command | Washwater Recovery Tank WRTR400A Supernatant Valve Close | WR-P0005 | | | | | | LCP-R21 | DO |
| 2494 | Y | 0 | YD-R400A | Open Command | Washwater Recovery Tank WRTR400A Supernatant Valve Open | WR-P0005 | | | | | | LCP-R21 | DO |
| 2495 | Y | 0 | ZB-R400A | Closed Status | Washwater Recovery Tank WRTR400A Supernatant Valve Closed | WR-P0005 | | | | | | LCP-R21 | DI |
| 2496 | Y | 0 | ZD-R400A | Open Status | Washwater Recovery Tank WRTR400A Supernatant Valve Open | WR-P0005 | | | | | | LCP-R21 | DI |
| 2497 | Y | 0 | AF-R001A | Suspended Solids Fault | Washwater Recovery Tanks Sludge to Flocculation Chamber Suspended Solids Monitor Fault | WR-P0006 | | | | | | LCP-R21 | AI |
| 2498 | Y | 0 | AI-R001A | Suspended Solids Indication | Washwater Recovery Tanks Sludge to Flocculation Chamber Suspended Solids Monitor | WR-P0006 | | | | | | LCP-R21 | AI |
| 2499 | Y | 0 | AI-R010A | Suspended Solids Indication | Washwater Recovery Tank Supernatant Suspended Solids | WR-P0006 | | | | | | LCP-R21 | AI |
| 2500 | Y | 0 | AF-R010A | Suspended Solids Fault | Washwater Recovery Tank Supernatant Suspended Solids Monitor Fault | WR-P0006 | | | | | | LCP-R21 | DI |
| 2501 | Y | 0 | FI-R001B | Flow Indication | Washwater Recovery Tanks Sludge to Flocculation Chamber Flow Rate | WR-P0006 | | | | | | LCP-R21 | AI |
| 2502 | Y | 0 | FQ-R001B | Flow Pulse | Washwater Recovery Tanks Sludge to Flocculation Chamber Flow Total | WR-P0006 | | | | | | LCP-R21 | DI |
| 2503 | Y | 0 | FA-R010A | Flow Alarm | Washwater Recovery Tank Supernatant Suspended Solids Monitor Sample Pump Outlet Flow | WR-P0006 | | | | | | LCP-R21 | DI |
| 2504 | Y | 0 | LA-R001A | Level Relay | Flocculation Chamber Low Level | WR-P0006 | | | | | | LCP-R21 | DI |
| 2505 | Y | 0 | LA-R001B | Level Relay | Flocculation Chamber High Level Relay | WR-P0006 | | | | | | LCP-R21 | DI |
| 2506 | Y | 0 | LA-R001C | Level Relay | Flocculation Chamber High High Level | WR-P0006 | | | | | | LCP-R21 | DI |
| 2507 | Y | 0 | MM-R001C | Running Status | Washwater Recovery Tanks Sludge Flocculation Chamber Mixer Running | WR-P0006 | | | | | | LCP-R21 | DI |
| 2508 | Y | 0 | MM-R001C | Running Status | Washwater Recovery Tank Supernatant Suspended Solids Monitor Sample Pump Running | WR-P0006 | | | | | | LCP-R21 | DI |
| 2509 | Y | 0 | MN-R001C | Start Command | Washwater Recovery Tanks Sludge Flocculation Chamber Mixer Start | WR-P0006 | | | | | | LCP-R21 | DO |
| 2510 | Y | 0 | MN-R001C | Start Command | Washwater Recovery Tank Supernatant Suspended Solids Monitor Sample Pump Start | WR-P0006 | | | | | | LCP-R21 | DO |
| 2511 | Y | 0 | SI-R001C | Speed Indication | Washwater Recovery Tanks Sludge Flocculation Chamber Mixer Required Speed | WR-P0006 | | | | | | LCP-R21 | AI |
| 2512 | Y | 0 | SC-R001C | Speed Control Output | Washwater Recovery Tanks Sludge Flocculation Chamber Mixer Speed | WR-P0006 | | | | | | LCP-R21 | AO |
| 2513 | Y | 0 | UF-R001C | No Fault | Washwater Recovery Tanks Sludge Flocculation Chamber Mixer Fault | WR-P0006 | | | | | | LCP-R21 | DI |

I/O POINT TYPES: TCP = Modbus/TCP Ethernet, AI = Analog Input, AO = Analog Output, DI = Discrete Input, DO = Discrete Output

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| RECORD NO. | PLC Programming reqd | REV. N0. | TAG NAME | FUNCTION | SERVICE | P&ID DRAWING | ENG. UNITS | SCALE LOW | SCALE HIGH | ALARMS LOW | ALARMS HIGH | PLC CABINET | I/O TYPE |
| 2514 | Y | 0 | YS-R001C | C/O/H Switch in Computer Position | Washwater Recovery Tanks Sludge Flocculation Chamber Mixer in Computer Mode | WR-P0006 | | | | | | LCP-R21 | DI |
| 2515 | Y | 0 | YS-R001C | C/O/H Switch in Computer Position | Washwater Recovery Tank Supernatant Suspended Solids Monitor Sample Pump in Computer Mode | WR-P0006 | | | | | | LCP-R21 | DI |
| 2516 | Y | 0 | AF-R024A | Turbidity/ TSS Fault | Supernatant Pump Station Outlet Turbidity/TSS Monitor Fault | WR-P0007 | | | | | | LCP-R21 | AI |
| 2517 | Y | 0 | AI-R024A | Turbidity/ TSS Indication | Supernatant Pump Station Outlet Turbidity/TSS | WR-P0007 | | | | | | LCP-R21 | AI |
| 2518 | Y | 0 | LI-R020A | Level Indicator Transmitter | Supernatant Pump Station Level | WR-P0007 | | | | | | LCP-R21 | AI |
| 2519 | Y | 0 | LA-R020A | Level Switch | Supernatant Pump Station Low Low Level | WR-P0007 | | | | | | LCP-R21 | DI |
| 2520 | Y | 0 | LF-R020A | Level Element | Supernatant Pump Station Level | WR-P0007 | | | | | | LCP-R21 | DI |
| 2521 | Y | 0 | LA-R020B | Level Switch | Supernatant Pump Station High High Level | WR-P0007 | | | | | | LCP-R21 | DI |
| 2522 | Y | 0 | LA-R020C | Level Alarm | Overflow Channel High Level | WR-P0007 | | | | | | LCP-R21 | DI |
| 2523 | Y | 0 | MM-R021A | Running Status | Supernatant Pump P-R021A Running | WR-P0007 | | | | | | LCP-R21 | DI |
| 2524 | Y | 0 | MM-R022A | Running Status | Supernatant Pump P-R022A Running | WR-P0007 | | | | | | LCP-R21 | DI |
| 2525 | Y | 0 | MM-R023A | Running Status | Supernatant Pump P-R023A Running | WR-P0007 | | | | | | LCP-R21 | DI |
| 2526 | Y | 0 | MN-R021A | Start Command | Supernatant Pump P-R021A Start | WR-P0007 | | | | | | LCP-R21 | DO |
| 2527 | Y | 0 | MN-R022A | Start Command | Supernatant Pump P-R022A Start | WR-P0007 | | | | | | LCP-R21 | DO |
| 2528 | Y | 0 | MN-R023A | Start Command | Supernatant Pump P-R023A Start | WR-P0007 | | | | | | LCP-R21 | DO |
| 2529 | Y | 0 | SI-R021A | Speed Indication | Supernatant Pump P-R021A Speed | WR-P0007 | | | | | | LCP-R21 | AI |
| 2530 | Y | 0 | SI-R022A | Speed Indication | Supernatant Pump P-R022A Speed | WR-P0007 | | | | | | LCP-R21 | AI |
| 2531 | Y | 0 | SI-R023A | Speed Indication | Supernatant Pump P-R023A Speed | WR-P0007 | | | | | | LCP-R21 | AI |
| 2532 | Y | 0 | TI-R021B | Temperature Indication | Supernatant Pump P-R021A Winding Temperature | WR-P0007 | | | | | | LCP-R21 | AI |
| 2533 | Y | 0 | TI-R021C | Temperature Indication | Supernatant Pump P-R021A Bottom Bearing Temperature | WR-P0007 | | | | | | LCP-R21 | AI |
| 2534 | Y | 0 | TI-R021D | Temperature Indication | Supernatant Pump P-R021A Top Bearing Temperature | WR-P0007 | | | | | | LCP-R21 | AI |
| 2535 | Y | 0 | TI-R022B | Temperature Indication | Supernatant Pump P-R022A Winding Temperature | WR-P0007 | | | | | | LCP-R21 | AI |
| 2536 | Y | 0 | TI-R022C | Temperature Indication | Supernatant Pump P-R022A Bottom Bearing Temperature | WR-P0007 | | | | | | LCP-R21 | AI |
| 2537 | Y | 0 | TI-R022D | Temperature Indication | Supernatant Pump P-R022A Top Bearing Temperature | WR-P0007 | | | | | | LCP-R21 | AI |
| 2538 | Y | 0 | TI-R023B | Temperature Indication | Supernatant Pump P-R023A Winding Temperature | WR-P0007 | | | | | | LCP-R21 | AI |
| 2539 | Y | 0 | TI-R023C | Temperature Indication | Supernatant Pump P-R023A Bottom Bearing Temperature | WR-P0007 | | | | | | LCP-R21 | AI |
| 2540 | Y | 0 | TI-R023D | Temperature Indication | Supernatant Pump P-R023A Top Bearing Temperature | WR-P0007 | | | | | | LCP-R21 | AI |
| 2541 | Y | 0 | UF-R021A | No Fault | Supernatant Pump P-R021A Running Fault | WR-P0007 | | | | | | LCP-R21 | DI |
| 2542 | Y | 0 | UF-R022A | No Fault | Supernatant Pump P-R022A Running Fault | WR-P0007 | | | | | | LCP-R21 | DI |
| 2543 | Y | 0 | UF-R023A | No Fault | Supernatant Pump P-R023A Running Fault | WR-P0007 | | | | | | LCP-R21 | DI |
| 2544 | Y | 0 | VI-R021A | Vibration Transmitter | Supernatant Pump P-R021A Vibration | WR-P0007 | | | | | | LCP-R21 | AI |
| 2545 | Y | 0 | VI-R022A | Vibration Transmitter | Supernatant Pump P-R022A Vibration | WR-P0007 | | | | | | LCP-R21 | AI |
| 2546 | Y | 0 | VI-R023A | Vibration Transmitter | Supernatant Pump P-R023A Vibration | WR-P0007 | | | | | | LCP-R21 | AI |
| 2547 | Y | 0 | YS-R021A | C/O/H Switch in Computer Position | Supernatant Pump P-R021A In Computer Mode | WR-P0007 | | | | | | LCP-R21 | DI |
| 2548 | Y | 0 | YS-R021A | C/O/H Switch in Computer Position | Supernatant Pump P-R021A Speed Control Actuator in Computer Mode | WR-P0007 | | | | | | LCP-R21 | DI |
| 2549 | Y | 0 | YS-R022A | C/O/H Switch in Computer Position | Supernatant Pump P-R022A In Computer Mode | WR-P0007 | | | | | | LCP-R21 | DI |
| 2550 | Y | 0 | YS-R022A | C/O/H Switch in Computer Position | Supernatant Pump P-R022A Speed Control Actuator in Computer Mode | WR-P0007 | | | | | | LCP-R21 | DI |
| 2551 | Y | 0 | YS-R023A | C/O/H Switch in Computer Position | Supernatant Pump P-R023A In Computer Mode | WR-P0007 | | | | | | LCP-R21 | DI |
| 2552 | Y | 0 | YS-R023A | C/O/H Switch in Computer Position | Supernatant Pump P-R023A Speed Control Actuator in Computer Mode | WR-P0007 | | | | | | LCP-R21 | DI |
| 2553 | Y | 0 | YD-R024B | Solenoid Valve Output | Supernatant Pump Station Pump Control Valve Solenoid Operator | WR-P0007 | | | | | | LCP-R21 | DO |
| 2554 | Y | 0 | ZT-R021A | Position Feedback | Supernatant Pump P-R021A Speed Control Actuator Position | WR-P0007 | | | | | | LCP-R21 | AI |
| 2555 | Y | 0 | ZT-R022A | Position Feedback | Supernatant Pump P-R022A Speed Control Actuator Position | WR-P0007 | | | | | | LCP-R21 | AI |
| 2556 | Y | 0 | ZT-R023A | Position Feedback | Supernatant Pump P-R023A Speed Control Actuator Position | WR-P0007 | | | | | | LCP-R21 | AI |
| 2557 | Y | 0 | ZC-R021A | Position Control Output | Supernatant Pump P-R021A Speed Control Actuator Required Position | WR-P0007 | | | | | | LCP-R21 | AO |
| 2558 | Y | 0 | ZC-R022A | Position Control Output | Supernatant Pump P-R022A Speed Control Actuator Required Position | WR-P0007 | | | | | | LCP-R21 | AO |
| 2559 | Y | 0 | ZC-R023A | Position Control Output | Supernatant Pump P-R023A Speed Control Actuator Required Position | WR-P0007 | | | | | | LCP-R21 | AO |
| 2560 | Y | 0 | ZB-R021A | Closed Status | Supernatant Pump P-R021A Outlet Manual Valve Closed | WR-P0007 | | | | | | LCP-R21 | DI |

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| RECORD NO. | PLC Programming reqd | REV. N0. | TAG NAME | FUNCTION | SERVICE | P&ID DRAWING | ENG. UNITS | SCALE LOW | SCALE HIGH | ALARMS LOW | ALARMS HIGH | PLC CABINET | I/O TYPE |
| 2561 | Y | 0 | ZD-R021A | Open Status | Supernatant Pump P-R021A Outlet Manual Valve Open | WR-P0007 | | | | | | LCP-R21 | DI |
| 2562 | Y | 0 | ZB-R021B | Closed Status | Supernatant Pump P-R021A Outlet Control Valve Closed | WR-P0007 | | | | | | LCP-R21 | DI |
| 2563 | Y | 0 | ZD-R021B | Open Status | Supernatant Pump P-R021A Outlet Control Valve Open | WR-P0007 | | | | | | LCP-R21 | DI |
| 2564 | Y | 0 | ZB-R022A | Closed Status | Supernatant Pump P-R022A Outlet Manual Valve Closed | WR-P0007 | | | | | | LCP-R21 | DI |
| 2565 | Y | 0 | ZD-R022A | Open Status | Supernatant Pump P-R022A Outlet Manual Valve Open | WR-P0007 | | | | | | LCP-R21 | DI |
| 2566 | Y | 0 | ZB-R022B | Closed Status | Supernatant Pump P-R022A Outlet Control Valve Closed | WR-P0007 | | | | | | LCP-R21 | DI |
| 2567 | Y | 0 | ZD-R022B | Open Status | Supernatant Pump P-R022A Outlet Control Valve Open | WR-P0007 | | | | | | LCP-R21 | DI |
| 2568 | Y | 0 | ZB-R023A | Closed Status | Supernatant Pump P-R023A Outlet Manual Valve Closed | WR-P0007 | | | | | | LCP-R21 | DI |
| 2569 | Y | 0 | ZD-R023A | Open Status | Supernatant Pump P-R023A Outlet Manual Valve Open | WR-P0007 | | | | | | LCP-R21 | DI |
| 2570 | Y | 0 | ZB-R023B | Closed Status | Supernatant Pump P-R023A Outlet Control Valve Closed | WR-P0007 | | | | | | LCP-R21 | DI |
| 2571 | Y | 0 | ZD-R023B | Open Status | Supernatant Pump P-R023A Outlet Control Valve Open | WR-P0007 | | | | | | LCP-R21 | DI |
| 2572 | Y | 0 | ZB-R024A | Closed Status | Surge Anticipatory Valve Closed | WR-P0007 | | | | | | LCP-R21 | DI |
| 2573 | Y | 0 | ZD-R024A | Open Status | Surge Anticipatory Valve Open | WR-P0007 | | | | | | LCP-R21 | DI |
| 2574 | Y | 0 | ZB-R024B | Closed Status | Supernatant Pump Station Pump Control Valve Closed | WR-P0007 | | | | | | LCP-R21 | DI |
| 2575 | Y | 0 | ZD-R024B | Open Status | Supernatant Pump Station Pump Control Valve Open | WR-P0007 | | | | | | LCP-R21 | DI |
| 2576 | Y | 0 | AI-R500B | TSS Indication | Gravity Thickener GT500A TSS | WR-P0008 | | | | | | LCP-R21 | AI |
| 2577 | Y | 0 | AI-R500C | Turbidity Indication | Gravity Thickener GT500A Turbidity | WR-P0008 | | | | | | LCP-R21 | AI |
| 2578 | Y | 0 | AI-R600B | TSS Indication | Gravity Thickener GT600A TSS | WR-P0008 | | | | | | LCP-R21 | AI |
| 2579 | Y | 0 | AI-R600C | Turbidity Indication | Gravity Thickener GT600A Turbidity | WR-P0008 | | | | | | LCP-R21 | AI |
| 2580 | Y | 0 | LA-R500A | Level Alarm | Gravity Thickener GT500A High Level | WR-P0008 | | | | | | LCP-R21 | DI |
| 2581 | Y | 0 | LA-R600A | Level Alarm | Gravity Thickener GT600A High Level | WR-P0008 | | | | | | LCP-R21 | DI |
| 2582 | Y | 0 | MM-R500A | Running Status | Gravity Thickener Running | WR-P0008 | | | | | | LCP-R21 | DI |
| 2583 | Y | 0 | MM-R600A | Running Status | Gravity Thickener Running | WR-P0008 | | | | | | LCP-R21 | DI |
| 2584 | Y | 0 | MN-R500A | Start Command | Gravity Thickener in Computer Start | WR-P0008 | | | | | | LCP-R21 | DO |
| 2585 | Y | 0 | MN-R600A | Start Command | Gravity Thickener in Computer Start | WR-P0008 | | | | | | LCP-R21 | DO |
| 2586 | Y | 0 | UF-R500B | TSS Fault | Gravity Thickener GT500A TSS Fault | WR-P0008 | | | | | | LCP-R21 | DI |
| 2587 | Y | 0 | UF-R500C | Turbidity Fault | Gravity Thickener GT500A Turbidity Fault | WR-P0008 | | | | | | LCP-R21 | DI |
| 2588 | Y | 0 | UF-R600B | TSS Fault | Gravity Thickener GT600A TSS Fault | WR-P0008 | | | | | | LCP-R21 | DI |
| 2589 | Y | 0 | UF-R600C | Turbidity Fault | Gravity Thickener GT600A Turbidity Fault | WR-P0008 | | | | | | LCP-R21 | DI |
| 2590 | Y | 0 | VA-R500A | Torque Alarm | Gravity Thickener GT500A High Torque | WR-P0008 | | | | | | LCP-R21 | DI |
| 2591 | Y | 0 | VA-R600A | Torque Alarm | Gravity Thickener GT600A High Torque | WR-P0008 | | | | | | LCP-R21 | DI |
| 2592 | Y | 0 | YS-R500A | C/O/H Switch in Computer Position | Gravity Thickener in Computer Mode | WR-P0008 | | | | | | LCP-R21 | DI |
| 2593 | Y | 0 | YS-R600A | C/O/H Switch in Computer Position | Gravity Thickener in Computer Mode | WR-P0008 | | | | | | LCP-R21 | DI |
| 2594 | Y | 0 | AI-R730B | TSS Indication | Thickened Sludge to Freeze Thaw Ponds TSS | WR-P0009 | | | | | | LCP-R21 | AI |
| 2595 | Y | 0 | AF-R730B | TSS Fault | Thickened Sludge to Freeze Thaw Ponds TSS Fault | WR-P0009 | | | | | | LCP-R21 | DI |
| 2596 | Y | 0 | FI-R730A | Flow Indication | Thickened Sludge to Freeze Thaw Ponds Flow Rate | WR-P0009 | | | | | | LCP-R21 | AI |
| 2597 | Y | 0 | FQ-R730A | Flow Pulse | Thickened Sludge to Freeze Thaw Ponds Flow Total | WR-P0009 | | | | | | LCP-R21 | DI |
| 2598 | Y | 0 | LI-R710D | Level Indication | Thickened Sludge Tank TKR710 Level | WR-P0009 | | | | | | LCP-R21 | AI |
| 2599 | Y | 0 | LI-R720D | Level Indication | Thickened Sludge Tank TKR720 Level | WR-P0009 | | | | | | LCP-R21 | AI |
| 2600 | Y | 0 | LA-R710A | Level Alarm | Thickened Sludge Tank TKR710 Low Low Level | WR-P0009 | | | | | | LCP-R21 | DI |
| 2601 | Y | 0 | LA-R710B | Level Alarm | Thickened Sludge Tank TKR710 High High Level | WR-P0009 | | | | | | LCP-R21 | DI |
| 2602 | Y | 0 | LF-R710D | Level Fault | Thickened Sludge Tank TKR710 Level Fault | WR-P0009 | | | | | | LCP-R21 | DI |
| 2603 | Y | 0 | LA-R720A | Level Alarm | Thickened Sludge Tank TKR720 Low Low Level | WR-P0009 | | | | | | LCP-R21 | DI |
| 2604 | Y | 0 | LA-R720B | Level Alarm | Thickened Sludge Tank TKR720 High High Level | WR-P0009 | | | | | | LCP-R21 | DI |
| 2605 | Y | 0 | LF-R720D | Level Fault | Thickened Sludge Tank TKR720 Level Fault | WR-P0009 | | | | | | LCP-R21 | DI |
| 2606 | Y | 0 | MM-R710B | Running Status | Thickened Sludge Tank TKR710 Sludge Pump P-R710B Running | WR-P0009 | | | | | | LCP-R21 | DI |
| 2607 | Y | 0 | MM-R710C | Running Status | Thickened Sludge Tank TKR710 Mixer MXR-R710C Running | WR-P0009 | | | | | | LCP-R21 | DI |
| 2608 | Y | 0 | MM-R720B | Running Status | Thickened Sludge Tank TKR720 Sludge Pump P-R720B Running | WR-P0009 | | | | | | LCP-R21 | DI |
| 2609 | Y | 0 | MM-R720C | Running Status | Thickened Sludge Tank TKR720 Mixer MXR-R720C Running | WR-P0009 | | | | | | LCP-R21 | DI |
| 2610 | Y | 0 | MN-R710B | Start Command | Thickened Sludge Tank TKR710 Sludge Pump P-R710B Start | WR-P0009 | | | | | | LCP-R21 | DO |
| 2611 | Y | 0 | MN-R710C | Start Command | Thickened Sludge Tank TKR710 Mixer MXR-R710C Start | WR-P0009 | | | | | | LCP-R21 | DO |
| 2612 | Y | 0 | MN-R720B | Start Command | Thickened Sludge Tank TKR720 Sludge Pump P-R720B Start | WR-P0009 | | | | | | LCP-R21 | DO |
| 2613 | Y | 0 | MN-R720C | Start Command | Thickened Sludge Tank TKR720 Mixer MXR-R720C Start | WR-P0009 | | | | | | LCP-R21 | DO |
| 2614 | Y | 0 | SI-R710B | Speed Indication | Thickened Sludge Tank TKR710 Sludge Pump P-R710B Speed | WR-P0009 | | | | | | LCP-R21 | AI |
| 2615 | Y | 0 | SI-R710C | Speed Indication | Thickened Sludge Tank TKR710 Mixer MXR-R710C Speed | WR-P0009 | | | | | | LCP-R21 | AI |

I/O POINT TYPES: TCP = Modbus/TCP Ethernet, AI = Analog Input, AO = Analog Output, DI = Discrete Input, DO = Discrete Output

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| RECORD NO. | PLC Programming reqd | REV. N0. | TAG NAME | FUNCTION | SERVICE | P&ID DRAWING | ENG. UNITS | SCALE LOW | SCALE HIGH | ALARMS LOW | ALARMS HIGH | PLC CABINET | I/O TYPE |
| 2616 | Y | 0 | SI-R720B | Speed Indication | Thickened Sludge Tank TKR720 Sludge Pump P-R720B Speed | WR-P0009 | | | | | | LCP-R21 | AI |
| 2617 | Y | 0 | SI-R720C | Speed Indication | Thickened Sludge Tank TKR720 Mixer MXR-R720C Speed | WR-P0009 | | | | | | LCP-R21 | AI |
| 2618 | Y | 0 | SC-R710B | Speed Control Output | Thickened Sludge Tank TKR710 Sludge Pump P-R710B Required Speed | WR-P0009 | | | | | | LCP-R21 | AO |
| 2619 | Y | 0 | SC-R710C | Speed Control Output | Thickened Sludge Tank TKR710 Mixer MXR-R710C Required Speed | WR-P0009 | | | | | | LCP-R21 | AO |
| 2620 | Y | 0 | SC-R720B | Speed Control Output | Thickened Sludge Tank TKR720 Sludge Pump P-R720B Required Speed | WR-P0009 | | | | | | LCP-R21 | AO |
| 2621 | Y | 0 | SC-R720C | Speed Control Output | Thickened Sludge Tank TKR720 Mixer MXR-R720C Required Speed | WR-P0009 | | | | | | LCP-R21 | AO |
| 2622 | Y | 0 | UF-R710B | No Fault | Thickened Sludge Tank TKR710 Sludge Pump P-R710B Fault | WR-P0009 | | | | | | LCP-R21 | DI |
| 2623 | Y | 0 | UF-R710C | No Fault | Thickened Sludge Tank TKR710 Mixer MXR-R710C Fault | WR-P0009 | | | | | | LCP-R21 | DI |
| 2624 | Y | 0 | UF-R720B | No Fault | Thickened Sludge Tank TKR720 Sludge Pump P-R720B Fault | WR-P0009 | | | | | | LCP-R21 | DI |
| 2625 | Y | 0 | UF-R720C | No Fault | Thickened Sludge Tank TKR720 Mixer MXR-R720C Fault | WR-P0009 | | | | | | LCP-R21 | DI |
| 2626 | Y | 0 | YS-R710A | C/O/H Switch in Computer Position | Gravity Thickener GTR500A to Thickened Sludge Equalization Tank TKR710 Sludge Valve in Computer Mode | WR-P0009 | | | | | | LCP-R21 | DI |
| 2627 | Y | 0 | YS-R710B | C/O/H Switch in Computer Position | Thickened Sludge Tank TKR710 Sludge Pump P-R710B in Computer Mode | WR-P0009 | | | | | | LCP-R21 | DI |
| 2628 | Y | 0 | YS-R710C | C/O/H Switch in Computer Position | Thickened Sludge Tank TKR710 Mixer MXR-R710C in Computer Mode | WR-P0009 | | | | | | LCP-R21 | DI |
| 2629 | Y | 0 | YS-R720A | C/O/H Switch in Computer Position | Gravity Thickener GTR600A to Thickened Sludge Equalization Tank TKR720 Sludge Valve in Computer Mode | WR-P0009 | | | | | | LCP-R21 | DI |
| 2630 | Y | 0 | YS-R720B | C/O/H Switch in Computer Position | Thickened Sludge Tank TKR720 Sludge Pump P-R720B in Computer Mode | WR-P0009 | | | | | | LCP-R21 | DI |
| 2631 | Y | 0 | YS-R720C | C/O/H Switch in Computer Position | Thickened Sludge Tank TKR720 Mixer MXR-R720C in Computer Mode | WR-P0009 | | | | | | LCP-R21 | DI |
| 2632 | Y | 0 | YB-R710A | Close Command | Gravity Thickener GTR500A to Thickened Sludge Equalization Tank TKR710 Sludge Valve Close | WR-P0009 | | | | | | LCP-R21 | DO |
| 2633 | Y | 0 | YD-R710A | Open Command | Gravity Thickener GTR500A to Thickened Sludge Equalization Tank TKR710 Sludge Valve Open | WR-P0009 | | | | | | LCP-R21 | DO |
| 2634 | Y | 0 | YB-R720A | Close Command | Gravity Thickener GTR600A to Thickened Sludge Equalization Tank TKR720 Sludge Valve Close | WR-P0009 | | | | | | LCP-R21 | DO |
| 2635 | Y | 0 | YD-R720A | Open Command | Gravity Thickener GTR600A to Thickened Sludge Equalization Tank TKR720 Sludge Valve Open | WR-P0009 | | | | | | LCP-R21 | DO |
| 2636 | Y | 0 | YD-R730A | Solenoid Valve | Thickened Sludge to Freeze Thaw Ponds Pump Outlet Control Valve Open | WR-P0009 | | | | | | LCP-R21 | DO |
| 2637 | Y | 0 | ZB-R710A | Closed Status | Gravity Thickener GTR500A to Thickened Sludge Equalization Tank TKR710 Sludge Valve Closed | WR-P0009 | | | | | | LCP-R21 | DI |
| 2638 | Y | 0 | ZD-R710A | Open Status | Gravity Thickener GTR500A to Thickened Sludge Equalization Tank TKR710 Sludge Valve Open | WR-P0009 | | | | | | LCP-R21 | DI |
| 2639 | Y | 0 | ZB-R720A | Closed Status | Gravity Thickener GTR600A to Thickened Sludge Equalization Tank TKR720 Sludge Valve Closed | WR-P0009 | | | | | | LCP-R21 | DI |
| 2640 | Y | 0 | ZD-R720A | Open Status | Gravity Thickener GTR600A to Thickened Sludge Equalization Tank TKR720 Sludge Valve Open | WR-P0009 | | | | | | LCP-R21 | DI |
| 2641 | Y | 0 | ZB-R730A | Closed Status | Thickened Sludge to Freeze Thaw Ponds Pump Outlet Control Valve Closed | WR-P0009 | | | | | | LCP-R21 | DI |
| 2642 | Y | 0 | ZD-R730A | Open Status | Thickened Sludge to Freeze Thaw Ponds Pump Outlet Control Valve Open | WR-P0009 | | | | | | LCP-R21 | DI |
| 2643 | Y | 0 | AI-S701A | Water Hardness Indication | Softened Water Hardness Monitor | WS-H0502 | | | | | | LCP-S11 | AI |
| 2644 | Y | 0 | LA-S703A | Level Alarm | Condensate Tank TNK-S703A Low Level | WS-H0502 | | | | | | LCP-S11 | DI |
| 2645 | Y | 0 | UF-S701A | Water Hardness Fault | Softened Water Hardness Monitor | WS-H0502 | | | | | | LCP-S11 | DI |
| 2646 | Y | 0 | WI-S702A | Weight Indicator | Amine Drum Weight | WS-H0502 | | | | | | LCP-S11 | AI |
| 2647 | Y | 0 | LA-S705A | Level Alarm | Steam Boiler BLR-S704A Low Level | WS-H0503 | | | | | | LCP-S11 | DI |
| 2648 | Y | 0 | LA-S705A | Level Alarm | Steam Boiler BLR-S705A Low Level | WS-H0503 | | | | | | LCP-S11 | DI |
| 2649 | Y | 0 | MM-S707A | Running Status | Standby Boiler Feedwater Pump P-S707A Running | WS-H0503 | | | | | | LCP-S11 | DI |

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| RECORD NO. | PLC Programming reqd | REV. N0. | TAG NAME | FUNCTION | SERVICE | P&ID DRAWING | ENG. UNITS | SCALE LOW | SCALE HIGH | ALARMS LOW | ALARMS HIGH | PLC CABINET | I/O TYPE |
| 2650 | Y | 0 | MM-S706A | Running Status | Boiler Feedwater Pump P-S706A Running | WS-H0503 | | | | | | LCP-S11 | DI |
| 2651 | Y | 0 | MN-S707A | Start Command | Standby Boiler Feedwater Pump P-S707A Start | WS-H0503 | | | | | | LCP-S11 | DO |
| 2652 | Y | 0 | MN-S706A | Start Command | Boiler Feedwater Pump P-S706A Start | WS-H0503 | | | | | | LCP-S11 | DO |
| 2653 | Y | 0 | PA-S709A | Pressure Alarm | Steam Heater Pressure Low | WS-H0503 | | | | | | LCP-S11 | DI |
| 2654 | Y | 0 | UF-S707A | No Fault | Standby Boiler Feedwater Pump P-S707A Fault | WS-H0503 | | | | | | LCP-S11 | DI |
| 2655 | Y | 0 | UF-S706A | No Fault | Boiler Feedwater Pump P-S706A Fault | WS-H0503 | | | | | | LCP-S11 | DI |
| 2656 | Y | 0 | XU-S704A | Boiler Fault | Steam Boiler BLR-S704A Fault | WS-H0503 | | | | | | LCP-S11 | DI |
| 2657 | Y | 0 | XU-S705A | Boiler Fault | Steam Boiler BLR-S705A Fault | WS-H0503 | | | | | | LCP-S11 | DI |
| 2658 | Y | 0 | XN-S704A | Boiler Start Command | Steam Boiler BLR-S704A Start | WS-H0503 | | | | | | LCP-S11 | DO |
| 2659 | Y | 0 | XN-S705A | Boiler Start Command | Steam Boiler BLR-S705A Start | WS-H0503 | | | | | | LCP-S11 | DO |
| 2660 | Y | 0 | YS-S707A | C/O/H Switch in Computer Position | Standby Boiler Feedwater Pump P-S707A in Computer Mode | WS-H0503 | | | | | | LCP-S11 | DI |
| 2661 | Y | 0 | YS-S706A | C/O/H Switch in Computer Position | Boiler Feedwater Pump P-S706A in Computer Mode | WS-H0503 | | | | | | LCP-S11 | DI |
| 2662 | Y | 0 | YD-S708A | Open Command | Boiler Water Supply Solenoid Valve SOL-S708A Open | WS-H0503 | | | | | | LCP-S11 | DI |
| 2663 | Y | 0 | YD-S708B | Open Command | Boiler Water Supply Solenoid Valve SOL-S708B Open | WS-H0503 | | | | | | LCP-S11 | DI |
| 2664 | Y | 0 | UF-H805A | No Fault | Hot Water Boiler BG-H805A Fault | WS-H0508 | | | | | | LCP-S11 | DI |
| 2665 | Y | 0 | UF-H805B | No Fault | Hot Water Boiler BG-H805B Fault | WS-H0508 | | | | | | LCP-S11 | DI |
| 2666 | Y | 0 | UF-H808A | No Fault | Glycol Recirc Pump GP-H808A Fault | WS-H0508 | | | | | | LCP-S11 | DI |
| 2667 | Y | 0 | UF-H808B | No Fault | Glycol Recirc Pump GP-H808B Fault | WS-H0508 | | | | | | LCP-S11 | DI |
| 2668 | Y | 0 | XX-S800A | HVAC Load Shedding | Standby Power Mode load shedding signal to HVAC/ BMS | WS-H0508 | | | | | | LCP-S11 | DO |
| 2669 | Y | 0 | UF-H810A | No Fault | West Hydronic Glycol Pump GP-H810A Fault | WS-H0509 | | | | | | LCP-S11 | DI |
| 2670 | Y | 0 | UF-H810B | No Fault | West Hydronic Glycol Pump GP-H810B Fault | WS-H0509 | | | | | | LCP-S11 | DI |
| 2671 | Y | 0 | UF-H812A | No Fault | Hypo Building Glycol Pump GP-H812A Fault | WS-H0511 | | | | | | LCP-S11 | DI |
| 2672 | Y | 0 | UF-H812B | No Fault | Hypo Building Glycol Pump GP-H812B Fault | WS-H0511 | | | | | | LCP-S11 | DI |
| 2673 | Y | 0 | MN-H825A | Start Command | Emergency Exhaust Fan EF-H825C Start | WS-H0513 | | | | | | LCP-S11 | DO |
| 2674 | Y | 0 | TI-H800F | Temperature Indication | Ferric Chloride Room Temperature | WS-H0513 | | | | | | LCP-S11 | AI |
| 2675 | Y | 0 | UF-H800A | No Fault | Make Up Air Unit MAU-H800A Fault | WS-H0513 | | | | | | LCP-S11 | DI |
| 2676 | Y | 0 | MN-H824A | Start Command | Emergency Exhaust Fan EF-H824C Start | WS-H0514 | | | | | | LCP-S11 | DO |
| 2677 | Y | 0 | TI-H801F | Temperature Indication | Sulphuric Acid Room Temperature | WS-H0514 | | | | | | LCP-S11 | AI |
| 2678 | Y | 0 | UF-H801A | No Fault | Make Up Air Unit MAU-H801A Fault | WS-H0514 | | | | | | LCP-S11 | DI |
| 2679 | Y | 0 | MN-H821A | Start Command | Emergency Exhaust Fan EF-H821C Start | WS-H0515 | | | | | | LCP-S11 | DO |
| 2680 | Y | 0 | TI-H802F | Temperature Indication | Sodium Hydroxide Room Temperature | WS-H0515 | | | | | | LCP-S11 | AI |
| 2681 | Y | 0 | UF-H802A | No Fault | Make Up Air Unit MAU-H802A Fault | WS-H0515 | | | | | | LCP-S11 | DI |
| 2682 | Y | 0 | MN-H820A | Start Command | Emergency Exhaust Fan EF-H820C Start | WS-H0516 | | | | | | LCP-S11 | DO |
| 2683 | Y | 0 | TI-H804F | Temperature Indication | Aqua Ammonia Room Temperature | WS-H0516 | | | | | | LCP-S11 | AI |
| 2684 | Y | 0 | UF-H804A | No Fault | Make Up Air Unit MAU-H802A Fault | WS-H0516 | | | | | | LCP-S11 | DI |
| 2685 | Y | 0 | TI-H803A | Temperature Indication | Electrical Room Temperature | WS-H0517 | | | | | | LCP-S11 | AI |
| 2686 | Y | 0 | UF-H803A | No Fault | Air Handling Unit AHU-H803A Fault | WS-H0517 | | | | | | LCP-S11 | DI |
| 2687 | Y | 0 | TI-H828A | Temperature Indication | Electrical Room Temperature | WS-H0518 | | | | | | LCP-S11 | AI |
| 2688 | Y | 0 | UF-H828A | No Fault | Air Handling Unit AHU-H803A Fault | WS-H0518 | | | | | | LCP-S11 | DI |
| 2689 | Y | 0 | UF-H000A | No Fault | Common Trace Heating Fault | WS-H0520 | | | | | | LCP-S11 | DI |
| 2690 | Y | 0 | MM-S816A | Running Status | Air Compressor CMP-S816A Running | WS-H0521 | | | | | | LCP-S11 | DI |
| 2691 | Y | 0 | MM-S815A | Running Status | Air Compressor CMP-S815A Running | WS-H0521 | | | | | | LCP-S11 | DI |
| 2692 | Y | 0 | MN-S816A | Start Command | Air Compressor CMP-S816A Start | WS-H0521 | | | | | | LCP-S11 | DO |
| 2693 | Y | 0 | MN-S815A | Start Command | Air Compressor CMP-S815A Start | WS-H0521 | | | | | | LCP-S11 | DO |
| 2694 | Y | 0 | UF-S816A | No Fault | Air Compressor CMP-S816A Fault | WS-H0521 | | | | | | LCP-S11 | DI |
| 2695 | Y | 0 | UF-S815A | No Fault | Air Compressor CMP-S815A Fault | WS-H0521 | | | | | | LCP-S11 | DI |
| 2696 | Y | 0 | YS-S816A | C/O/H Switch in Computer Position | Air Compressor CMP-S816A in Computer Mode | WS-H0521 | | | | | | LCP-S11 | DI |
| 2697 | Y | 0 | YS-S815A | C/O/H Switch in Computer Position | Air Compressor CMP-S815A in Computer Mode | WS-H0521 | | | | | | LCP-S11 | DI |
| 2698 | Y | 0 | FA-S750A | Flow Alarm | Emergency Shower Operating EEWS-S750A | WS-P0001 | | | | | | LCP-S11 | DI |
| 2699 | Y | 0 | FA-S758A | Flow Alarm | Emergency Shower Operating EEWS-S758A | WS-P0001 | | | | | | LCP-S11 | DI |
| 2700 | Y | 0 | HS-S200A | Hand Switch | Bulk Sulphuric Acid Storage Tank TK-S210A Select Tank to Fill From Rail Car | WS-P0001 | | | | | | LCP-S11 | DI |
| 2701 | Y | 0 | HS-S200B | Hand Switch | Bulk Sulphuric Acid Storage Tank TK-S220A Select Tank to Fill From Rail car | WS-P0001 | | | | | | LCP-S11 | DI |

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| 2702 | Y | 0 | HS-S200C | Hand Switch | Bulk Sulphuric Acid Storage Tank TK-S210A or TK-S220A Start Fill From Rail Car | WS-P0001 | | | | | | LCP-S11 | DI |
| 2703 | Y | 0 | HS-S200D | Hand Switch | Start Steam System for Sulphuric Acid Rail Car | WS-P0001 | | | | | | LCP-S11 | DI |
| 2704 | Y | 0 | HS-S200E | Hand Switch | Bulk Sulphuric Acid Storage Tank Start Air Purge | WS-P0001 | | | | | | LCP-S11 | DI |
| 2705 | Y | 0 | HS-S204A | Hand Switch | Bulk Sulphuric Acid Storage Tank TK-S210A Select Tank to Fill From Truck | WS-P0001 | | | | | | LCP-S11 | DI |
| 2706 | Y | 0 | HS-S204B | Hand Switch | Bulk Sulphuric Acid Storage Tank TK-S220A Select Tank to Fill From Truck | WS-P0001 | | | | | | LCP-S11 | DI |
| 2707 | Y | 0 | HS-S204C | Hand Switch | Bulk Sulphuric Acid Storage Tank TK-S210A or TK-S220A Start Fill From Truck | WS-P0001 | | | | | | LCP-S11 | DI |
| 2708 | Y | 0 | HS-S204D | Hand Switch | Bulk Sulphuric Acid Storage Tank Start Air Purge | WS-P0001 | | | | | | LCP-S11 | DI |
| 2709 | Y | 0 | LA-S206A | Level Alarm | Sulphuric Acid Spill Containment Manhole Level | WS-P0001 | | | | | | LCP-S11 | DI |
| 2710 | Y | 0 | LA-S210A | Level Alarm | Bulk Sulphuric Acid Storage Tank TK-S210A Remote High Level | WS-P0001 | | | | | | LCP-S11 | DO |
| 2711 | Y | 0 | LA-S210B | Level Alarm | Bulk Sulphuric Acid Storage Tank TK-S210A Remote High Level | WS-P0001 | | | | | | LCP-S11 | DO |
| 2712 | Y | 0 | LA-S220A | Level Alarm | Bulk Sulphuric Acid Storage Tank TK-S220A Remote High Level | WS-P0001 | | | | | | LCP-S11 | DO |
| 2713 | Y | 0 | LA-S220B | Level Alarm | Bulk Sulphuric Acid Storage Tank TK-S220A Remote High Level | WS-P0001 | | | | | | LCP-S11 | DO |
| 2714 | Y | 0 | XM-S200A | Lamp Output | Bulk Sulphuric Acid Storage Tank Air Purge Complete | WS-P0001 | | | | | | LCP-S11 | DO |
| 2715 | Y | 0 | XM-S204A | Lamp Output | Bulk Sulphuric Acid Storage Tank Air Purge Complete | WS-P0001 | | | | | | LCP-S11 | DO |
| 2716 | Y | 0 | YS-S206A | C/O/H Switch in Computer Position | Sulphuric Acid Spill Containment Manhole Outlet Flow Valve in Computer Mode | WS-P0001 | | | | | | LCP-S11 | DI |
| 2717 | Y | 0 | YS-S207A | C/O/H Switch in Computer Position | Sulphuric Acid Spill Containment to North Sump Inlet Flow Valve in Computer Mode | WS-P0001 | | | | | | LCP-S11 | DI |
| 2718 | Y | 0 | YD-S200A | Open Command | Open Fill Valve SOL-S200A | WS-P0001 | | | | | | LCP-S11 | DO |
| 2719 | Y | 0 | YD-S204A | Open Command | Open Fill Valve SOL-S204A | WS-P0001 | | | | | | LCP-S11 | DO |
| 2720 | Y | 0 | YD-S206A | Open Command | Sulphuric Acid Spill Containment Manhole Outlet Flow Valve Open | WS-P0001 | | | | | | LCP-S11 | DO |
| 2721 | Y | 0 | YB-S206A | Close Command | Sulphuric Acid Spill Containment Manhole Outlet Flow Valve Close | WS-P0001 | | | | | | LCP-S11 | DO |
| 2722 | Y | 0 | YD-S207A | Open Command | Sulphuric Acid Spill Containment to North Sump Inlet Flow Valve Open | WS-P0001 | | | | | | LCP-S11 | DO |
| 2723 | Y | 0 | YB-S207A | Close Command | Sulphuric Acid Spill Containment to North Sump Inlet Flow Valve Close | WS-P0001 | | | | | | LCP-S11 | DO |
| 2724 | Y | 0 | YB-S210A | Close Command | Bulk Sulphuric Acid Storage Tank TK-S210A Inlet Flow Valve Close | WS-P0001 | | | | | | LCP-S11 | DO |
| 2725 | Y | 0 | YD-S210A | Open Command | Bulk Sulphuric Acid Storage Tank TK-S210A Inlet Flow Valve Open | WS-P0001 | | | | | | LCP-S11 | DO |
| 2726 | Y | 0 | YB-S210B | Close Command | Bulk Sulphuric Acid Storage Tank TK-S210A Inlet Flow Valve Close | WS-P0001 | | | | | | LCP-S11 | DO |
| 2727 | Y | 0 | YD-S210B | Open Command | Bulk Sulphuric Acid Storage Tank TK-S210A Inlet Flow Valve Open | WS-P0001 | | | | | | LCP-S11 | DO |
| 2728 | Y | 0 | YB-S220A | Close Command | Bulk Sulphuric Acid Storage Tank TK-S220A Inlet Flow Valve Close | WS-P0001 | | | | | | LCP-S11 | DO |
| 2729 | Y | 0 | YD-S220A | Open Command | Bulk Sulphuric Acid Storage Tank TK-S220A Inlet Flow Valve Open | WS-P0001 | | | | | | LCP-S11 | DO |
| 2730 | Y | 0 | YB-S220B | Close Command | Bulk Sulphuric Acid Storage Tank TK-S220A Inlet Flow Valve Close | WS-P0001 | | | | | | LCP-S11 | DO |
| 2731 | Y | 0 | YD-S220B | Open Command | Bulk Sulphuric Acid Storage Tank TK-S220A Inlet Flow Valve Open | WS-P0001 | | | | | | LCP-S11 | DO |
| 2732 | Y | 0 | ZD-S206A | Open Status | Sulphuric Acid Spill Containment Manhole Outlet Flow Valve Open | WS-P0001 | | | | | | LCP-S11 | DI |
| 2733 | Y | 0 | ZB-S206A | Closed Status | Sulphuric Acid Spill Containment Manhole Outlet Flow Valve Closed | WS-P0001 | | | | | | LCP-S11 | DI |
| 2734 | Y | 0 | ZD-S207A | Open Status | Sulphuric Acid Spill Containment to North Sump Inlet Flow Valve Open | WS-P0001 | | | | | | LCP-S11 | DI |
| 2735 | Y | 0 | ZB-S207A | Closed Status | Sulphuric Acid Spill Containment to North Sump Inlet Flow Valve Closed | WS-P0001 | | | | | | LCP-S11 | DI |

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| RECORD NO. | PLC Programming reqd | REV. NO. | TAG NAME | FUNCTION | SERVICE | P&ID DRAWING | ENG. UNITS | SCALE LOW | SCALE HIGH | ALARMS LOW | ALARMS HIGH | PLC CABINET | I/O TYPE |
| 2736 | Y | 0 | ZD-S210A | Open Status | Bulk Sulphuric Acid Storage Tank TK-S210A Inlet Flow Valve Open | WS-P0001 | | | | | | LCP-S11 | DI |
| 2737 | Y | 0 | ZB-S210A | Closed Status | Bulk Sulphuric Acid Storage Tank TK-S210A Inlet Flow Valve Closed | WS-P0001 | | | | | | LCP-S11 | DI |
| 2738 | Y | 0 | ZD-S210B | Open Status | Bulk Sulphuric Acid Storage Tank TK-S210A Inlet Flow Valve Open | WS-P0001 | | | | | | LCP-S11 | DI |
| 2739 | Y | 0 | ZB-S210B | Closed Status | Bulk Sulphuric Acid Storage Tank TK-S210A Inlet Flow Valve Closed | WS-P0001 | | | | | | LCP-S11 | DI |
| 2740 | Y | 0 | ZD-S220A | Open Status | Bulk Sulphuric Acid Storage Tank TK-S220A Inlet Flow Valve Open | WS-P0001 | | | | | | LCP-S11 | DI |
| 2741 | Y | 0 | ZB-S220A | Closed Status | Bulk Sulphuric Acid Storage Tank TK-S220A Inlet Flow Valve Closed | WS-P0001 | | | | | | LCP-S11 | DI |
| 2742 | Y | 0 | ZD-S220B | Open Status | Bulk Sulphuric Acid Storage Tank TK-S220A Inlet Flow Valve Open | WS-P0001 | | | | | | LCP-S11 | DI |
| 2743 | Y | 0 | ZB-S220B | Closed Status | Bulk Sulphuric Acid Storage Tank TK-S220A Inlet Flow Valve Closed | WS-P0001 | | | | | | LCP-S11 | DI |
| 2744 | Y | 0 | ZD-S210C | Open Status | Bulk Sulphuric Acid Storage Tank TK-S210A Inlet Valve Open | WS-P0001 | | | | | | LCP-S11 | DO |
| 2745 | Y | 0 | ZD-S210D | Open Status | Bulk Sulphuric Acid Storage Tank TK-S210A Inlet Valve Open | WS-P0001 | | | | | | LCP-S11 | DO |
| 2746 | Y | 0 | ZD-S220C | Open Status | Bulk Sulphuric Acid Storage Tank TK-S220A Inlet Valve Open | WS-P0001 | | | | | | LCP-S11 | DO |
| 2747 | Y | 0 | ZD-S220D | Open Status | Bulk Sulphuric Acid Storage Tank TK-S220A Inlet Valve Open | WS-P0001 | | | | | | LCP-S11 | DO |
| 2748 | Y | 0 | HS-S200F | Hand Switch | Bulk Sulphuric Acid Storage Tank Fill System Stop | WS-P0001 | | | | | | LCP-S11 | DI |
| 2749 | Y | 0 | HS-S200G | Pushbutton | Bulk Sulphuric Acid Storage Tank Rail Car Unloading Audible Alarm Accept | WS-P0001 | | | | | | LCP-S11 | DI |
| 2750 | Y | 0 | HS-S204E | Hand Switch | Bulk Sulphuric Acid Storage Tank Fill System Stop | WS-P0001 | | | | | | LCP-S11 | DI |
| 2751 | Y | 0 | HS-S204F | Pushbutton | Bulk Sulphuric Acid Storage Tank Truck Unloading Audible Alarm Accept | WS-P0001 | | | | | | LCP-S11 | DI |
| 2752 | Y | 0 | LA-S200A | Level Alarm | Bulk Sulphuric Acid Storage Tank High Level Audible Alarm Rail Car Side | WS-P0001 | | | | | | LCP-S11 | DO |
| 2753 | Y | 0 | LA-S204A | Level Alarm | Bulk Sulphuric Acid Storage Tank High Level Audible Alarm Truck Side | WS-P0001 | | | | | | LCP-S11 | DO |
| 2754 | Y | 0 | FA-S755A | Flow Alarm | Emergency Shower Operating EEWS-S755A | WS-P0002 | | | | | | LCP-S11 | DI |
| 2755 | Y | 0 | LI-S210B | Level Indicator | Bulk Sulphuric Acid Storage Tank TK-S210A Level | WS-P0002 | | | | | | LCP-S11 | AI |
| 2756 | Y | 0 | LI-S210D | Level Indicator | Bulk Sulphuric Acid Storage Tank TK-S210A Level | WS-P0002 | | | | | | LCP-S11 | AI |
| 2757 | Y | 0 | LI-S220B | Level Indicator | Bulk Sulphuric Acid Storage Tank TK-S220A Level | WS-P0002 | | | | | | LCP-S11 | AI |
| 2758 | Y | 0 | LI-S220D | Level Indicator | Bulk Sulphuric Acid Storage Tank TK-S220A Level | WS-P0002 | | | | | | LCP-S11 | AI |
| 2759 | Y | 0 | LF-S210A | Level Fault | Bulk Sulphuric Acid Storage Tank TK-S210A Level Fault | WS-P0002 | | | | | | LCP-S11 | DI |
| 2760 | Y | 0 | LF-S220A | Level Fault | Bulk Sulphuric Acid Storage Tank TK-S220A Level Fault | WS-P0002 | | | | | | LCP-S11 | DI |
| 2761 | Y | 0 | LA-S260B | Level Alarm | Bulk Sulphuric Acid Containment High Level | WS-P0002 | | | | | | LCP-S11 | DI |
| 2762 | Y | 0 | LA-S260B | Level Alarm | Bulk Sulphuric Acid Containment High Level Visual Alarm | WS-P0002 | | | | | | LCP-S11 | DO |
| 2763 | Y | 0 | YS-S210C | C/O/H Switch in Computer Position | Bulk Sulphuric Acid Storage Tank TK-S210A in Computer Mode | WS-P0002 | | | | | | LCP-S11 | DI |
| 2764 | Y | 0 | YS-S220C | C/O/H Switch in Computer Position | Bulk Sulphuric Acid Storage Tank TK-S220A in Computer Mode | WS-P0002 | | | | | | LCP-S11 | DI |
| 2765 | Y | 0 | YB-S210C | Close Command | Bulk Sulphuric Acid Storage Tank TK-S210A Outlet Flow Valve Close | WS-P0002 | | | | | | LCP-S11 | DO |
| 2766 | Y | 0 | YD-S210C | Open Command | Bulk Sulphuric Acid Storage Tank TK-S210A Outlet Flow Valve Open | WS-P0002 | | | | | | LCP-S11 | DO |
| 2767 | Y | 0 | YB-S220C | Close Command | Bulk Sulphuric Acid Storage Tank TK-S220A Outlet Flow Valve Closed | WS-P0002 | | | | | | LCP-S11 | DO |
| 2768 | Y | 0 | YD-S220C | Open Command | Bulk Sulphuric Acid Storage Tank TK-S220A Outlet Flow Valve Open | WS-P0002 | | | | | | LCP-S11 | DO |
| 2769 | Y | 0 | ZD-S210C | Open Status | Bulk Sulphuric Acid Storage Tank TK-S210A Outlet Flow Valve Open | WS-P0002 | | | | | | LCP-S11 | DI |
| 2770 | Y | 0 | ZB-S210C | Closed Status | Bulk Sulphuric Acid Storage Tank TK-S210A Outlet Flow Valve Closed | WS-P0002 | | | | | | LCP-S11 | DI |
| 2771 | Y | 0 | ZD-S220C | Open Status | Bulk Sulphuric Acid Storage Tank TK-S220A Outlet Flow Valve Open | WS-P0002 | | | | | | LCP-S11 | DI |

I/O POINT TYPES: TCP = Modbus/TCP Ethernet, AI = Analog Input, AO = Analog Output, DI = Discrete Input, DO = Discrete Output

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| RECORD NO. | PLC Programming reqd | REV. N0. | TAG NAME | FUNCTION | SERVICE | P&ID DRAWING | ENG. UNITS | SCALE LOW | SCALE HIGH | ALARMS LOW | ALARMS HIGH | PLC CABINET | I/O TYPE |
| 2772 | Y | 0 | ZB-S220C | Closed Status | Bulk Sulphuric Acid Storage Tank TK-S220A Outlet Flow Valve Closed | WS-P0002 | | | | | | LCP-S11 | DI |
| 2773 | Y | 0 | FI-S235A | Flow Indication | Sulphuric Acid Feed Pump P-S230A Outlet Flow Rate | WS-P0003 | | | | | | LCP-S11 | AI |
| 2774 | Y | 0 | FI-S255A | Flow Indication | Sulphuric Acid Feed Pump P-S250A Outlet Flow Rate | WS-P0003 | | | | | | LCP-S11 | AI |
| 2775 | Y | 0 | FQ-S235A | Flow Pulse | Sulphuric Acid Feed Pump P-S230A Outlet Flow Total | WS-P0003 | | | | | | LCP-S11 | DI |
| 2776 | Y | 0 | FQ-S255A | Flow Pulse | Sulphuric Acid Feed Pump P-S250A Outlet Flow Total | WS-P0003 | | | | | | LCP-S11 | DI |
| 2777 | Y | 0 | LA-S260A | Level Alarm | Sulphuric Acid Spill Containment High Level | WS-P0003 | | | | | | LCP-S11 | DI |
| 2778 | Y | 0 | MM-S230A | Running Status | Sulphuric Acid Feed Pump P-S230A Running | WS-P0003 | | | | | | LCP-S11 | DI |
| 2779 | Y | 0 | MM-S240A | Running Status | Sulphuric Acid Feed Pump P-S240A Running | WS-P0003 | | | | | | LCP-S11 | DI |
| 2780 | Y | 0 | MM-S250A | Running Status | Sulphuric Acid Feed Pump P-S250A Running | WS-P0003 | | | | | | LCP-S11 | DI |
| 2781 | Y | 0 | MN-S230A | Start Command | Sulphuric Acid Feed Pump P-S230A Start | WS-P0003 | | | | | | LCP-S11 | DO |
| 2782 | Y | 0 | MN-S240A | Start Command | Sulphuric Acid Feed Pump P-S240A Start | WS-P0003 | | | | | | LCP-S11 | DO |
| 2783 | Y | 0 | MN-S250A | Start Command | Sulphuric Acid Feed Pump P-S250A Start | WS-P0003 | | | | | | LCP-S11 | DO |
| 2784 | Y | 0 | SI-S230A | Speed Indication | Sulphuric Acid Feed Pump P-S230A Speed | WS-P0003 | | | | | | LCP-S11 | AI |
| 2785 | Y | 0 | SI-S240A | Speed Indication | Sulphuric Acid Feed Pump P-S240A Speed | WS-P0003 | | | | | | LCP-S11 | AI |
| 2786 | Y | 0 | SI-S250A | Speed Indication | Sulphuric Acid Feed Pump P-S250A Speed | WS-P0003 | | | | | | LCP-S11 | AI |
| 2787 | Y | 0 | SC-S230A | Speed Control Output | Sulphuric Acid Feed Pump P-S230A Required Speed | WS-P0003 | | | | | | LCP-S11 | AO |
| 2788 | Y | 0 | SC-S240A | Speed Control Output | Sulphuric Acid Feed Pump P-S240A Required Speed | WS-P0003 | | | | | | LCP-S11 | AO |
| 2789 | Y | 0 | SC-S250A | Speed Control Output | Sulphuric Acid Feed Pump P-S250A Required Speed | WS-P0003 | | | | | | LCP-S11 | AO |
| 2790 | Y | 0 | UF-S230A | No Fault | Sulphuric Acid Feed Pump P-S230A Fault | WS-P0003 | | | | | | LCP-S11 | DI |
| 2791 | Y | 0 | UF-S240A | No Fault | Sulphuric Acid Feed Pump P-S240A Fault | WS-P0003 | | | | | | LCP-S11 | DI |
| 2792 | Y | 0 | UF-S250A | No Fault | Sulphuric Acid Feed Pump P-S250A Fault | WS-P0003 | | | | | | LCP-S11 | DI |
| 2793 | Y | 0 | YS-S230A | C/O/H Switch in Computer Position | Sulphuric Acid Feed Pump P-S230A in Computer Mode | WS-P0003 | | | | | | LCP-S11 | DI |
| 2794 | Y | 0 | YS-S240A | C/O/H Switch in Computer Position | Sulphuric Acid Feed Pump P-S240A in Computer Mode | WS-P0003 | | | | | | LCP-S11 | DI |
| 2795 | Y | 0 | YS-S240B | C/O/H Switch in Computer Position | Standby Sulphuric Acid Feed Pump P-S240A in Computer Mode | WS-P0003 | | | | | | LCP-S11 | DI |
| 2796 | Y | 0 | YS-S240C | C/O/H Switch in Computer Position | Standby Sulphuric Acid Feed Pump P-S240A in Computer Mode | WS-P0003 | | | | | | LCP-S11 | DI |
| 2797 | Y | 0 | YS-S250A | C/O/H Switch in Computer Position | Sulphuric Acid Feed Pump P-S250A in Computer Mode | WS-P0003 | | | | | | LCP-S11 | DI |
| 2798 | Y | 0 | YD-S240A | Open Command | Standby Sulphuric Acid Feed Pump P-S240A Open | WS-P0003 | | | | | | LCP-S11 | DO |
| 2799 | Y | 0 | YB-S240A | Close Command | Standby Sulphuric Acid Feed Pump P-S240A Close | WS-P0003 | | | | | | LCP-S11 | DO |
| 2800 | Y | 0 | YD-S240B | Open Command | Standby Sulphuric Acid Feed Pump P-S240A Open | WS-P0003 | | | | | | LCP-S11 | DO |
| 2801 | Y | 0 | YB-S240B | Close Command | Standby Sulphuric Acid Feed Pump P-S240A Close | WS-P0003 | | | | | | LCP-S11 | DO |
| 2802 | Y | 0 | ZB-S240A | Closed Status | Standby Sulphuric Acid Feed Pump P-S240A Outlet Control Valve Closed | WS-P0003 | | | | | | LCP-S11 | DI |
| 2803 | Y | 0 | ZD-S240A | Open Status | Standby Sulphuric Acid Feed Pump P-S240A Outlet Control Valve Open | WS-P0003 | | | | | | LCP-S11 | DI |
| 2804 | Y | 0 | ZB-S240B | Closed Status | Standby Sulphuric Acid Feed Pump P-S240A Outlet Control Valve Closed | WS-P0003 | | | | | | LCP-S11 | DI |
| 2805 | Y | 0 | ZD-S240B | Open Status | Standby Sulphuric Acid Feed Pump P-S240A Outlet Control Valve Open | WS-P0003 | | | | | | LCP-S11 | DI |
| 2806 | Y | 0 | HS-S100B | Hand Switch | Select Bulk Ferric Chloride Storage Tank TK-S110A to Fill | WS-P0004 | | | | | | LCP-S11 | DI |
| 2807 | Y | 0 | HS-S100C | Hand Switch | Select Bulk Ferric Chloride Storage Tank TK-S120A to Fill | WS-P0004 | | | | | | LCP-S11 | DI |
| 2808 | Y | 0 | HS-S100D | Hand Switch | Select Bulk Ferric Chloride Storage Tank TK-S130A to Fill | WS-P0004 | | | | | | LCP-S11 | DI |
| 2809 | Y | 0 | HS-S100E | Hand Switch | Select Bulk Ferric Chloride Storage Tank TK-S140A to Fill | WS-P0004 | | | | | | LCP-S11 | DI |
| 2810 | Y | 0 | HS-S100A | Hand Switch | Selected Bulk Ferric Chloride Storage Tank Start Fill | WS-P0004 | | | | | | LCP-S11 | DI |
| 2811 | Y | 0 | HS-S100F | Hand Switch | Bulk Ferric Chloride Storage Tank Start Air Purge | WS-P0004 | | | | | | LCP-S11 | DI |
| 2812 | Y | 0 | HS-S105B | Hand Switch | Select Bulk Ferric Chloride Storage Tank TK-S110A to Fill | WS-P0004 | | | | | | LCP-S11 | DI |
| 2813 | Y | 0 | HS-S105C | Hand Switch | Select Bulk Ferric Chloride Storage Tank TK-S120A to Fill | WS-P0004 | | | | | | LCP-S11 | DI |
| 2814 | Y | 0 | HS-S105D | Hand Switch | Select Bulk Ferric Chloride Storage Tank TK-S130A to Fill | WS-P0004 | | | | | | LCP-S11 | DI |
| 2815 | Y | 0 | HS-S105E | Hand Switch | Select Bulk Ferric Chloride Storage Tank TK-S140A to Fill | WS-P0004 | | | | | | LCP-S11 | DI |
| 2816 | Y | 0 | HS-S105A | Hand Switch | Selected Bulk Ferric Chloride Storage Tank Start Fill | WS-P0004 | | | | | | LCP-S11 | DI |
| 2817 | Y | 0 | HS-S105F | Hand Switch | Bulk Ferric Chloride Storage Tank Start Air Purge | WS-P0004 | | | | | | LCP-S11 | DI |
| 2818 | Y | 0 | LA-S100A | Level Alarm | Bulk Ferric Chloride Storage Tank High Level Audible Alarm Rail Car Side | WS-P0004 | | | | | | LCP-S11 | DO |
| 2819 | Y | 0 | LA-S110A | Level Alarm | Bulk Ferric Chloride Storage Tank TK-S110A High Level | WS-P0004 | | | | | | LCP-S11 | DO |
| 2820 | Y | 0 | LA-S110B | Level Alarm | Bulk Ferric Chloride Storage Tank TK-S110A High Level | WS-P0004 | | | | | | LCP-S11 | DO |

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| | | | | DESCRIPTION | | | I/O SPECIFICATION | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| RECORD NO. | PLC Programming reqd | REV. NO. | TAG NAME | FUNCTION | SERVICE | P&ID DRAWING | ENG. UNITS | SCALE LOW | SCALE HIGH | ALARMS LOW | ALARMS HIGH | PLC CABINET | I/O TYPE |
| 2821 | Y | 0 | LA-S120A | Level Alarm | Bulk Ferric Chloride Storage Tank TK-S120A High Level | WS-P0004 | | | | | | LCP-S11 | DO |
| 2822 | Y | 0 | LA-S120B | Level Alarm | Bulk Ferric Chloride Storage Tank TK-S120A High Level | WS-P0004 | | | | | | LCP-S11 | DO |
| 2823 | Y | 0 | LA-S130A | Level Alarm | Bulk Ferric Chloride Storage Tank TK-S130A High Level | WS-P0004 | | | | | | LCP-S11 | DO |
| 2824 | Y | 0 | LA-S130B | Level Alarm | Bulk Ferric Chloride Storage Tank TK-S130A High Level | WS-P0004 | | | | | | LCP-S11 | DO |
| 2825 | Y | 0 | LA-S140A | Level Alarm | Bulk Ferric Chloride Storage Tank TK-S140A High Level | WS-P0004 | | | | | | LCP-S11 | DO |
| 2826 | Y | 0 | LA-S140B | Level Alarm | Bulk Ferric Chloride Storage Tank TK-S140A High Level | WS-P0004 | | | | | | LCP-S11 | DO |
| 2827 | Y | 0 | XM-S100A | Lamp Output | Bulk Ferric Chloride Storage Tank Air Purge Complete | WS-P0004 | | | | | | LCP-S11 | DO |
| 2828 | Y | 0 | XM-S105A | Lamp Output | Bulk Ferric Chloride Storage Tank Air Purge Complete | WS-P0004 | | | | | | LCP-S11 | DO |
| 2829 | Y | 0 | YS-S107A | C/O/H Switch in Computer Position | Ferric Chloride Spill Containment to North Sump Inlet Flow Valve in Computer Mode | WS-P0004 | | | | | | LCP-S11 | DI |
| 2830 | Y | 0 | YD-S100A | Open Command | Open Fill Valve for Bulk Ferric Chloride Rail Car | WS-P0004 | | | | | | LCP-S11 | DO |
| 2831 | Y | 0 | YD-S105A | Open Command | Open Fill Valve for Bulk Ferric Chloride Rail Car | WS-P0004 | | | | | | LCP-S11 | DO |
| 2832 | Y | 0 | YD-S107A | Open Command | Ferric Chloride Spill Containment to North Sump Inlet Flow Valve Open | WS-P0004 | | | | | | LCP-S11 | DO |
| 2833 | Y | 0 | YB-S107A | Close Command | Ferric Chloride Spill Containment to North Sump Inlet Flow Valve Close | WS-P0004 | | | | | | LCP-S11 | DO |
| 2834 | Y | 0 | YB-S110A | Close Command | Bulk Ferric Chloride Storage Tank TK-S110A Inlet Flow Valve Close | WS-P0004 | | | | | | LCP-S11 | DO |
| 2835 | Y | 0 | YD-S110A | Open Command | Bulk Ferric Chloride Storage Tank TK-S110A Inlet Flow Valve Open | WS-P0004 | | | | | | LCP-S11 | DO |
| 2836 | Y | 0 | YB-S110B | Close Command | Bulk Ferric Chloride Storage Tank TK-S110A Inlet Flow Valve Close | WS-P0004 | | | | | | LCP-S11 | DO |
| 2837 | Y | 0 | YD-S110B | Open Command | Bulk Ferric Chloride Storage Tank TK-S110A Inlet Flow Valve Open | WS-P0004 | | | | | | LCP-S11 | DO |
| 2838 | Y | 0 | YB-S120A | Close Command | Bulk Ferric Chloride Storage Tank TK-S120A Inlet Flow Valve Close | WS-P0004 | | | | | | LCP-S11 | DO |
| 2839 | Y | 0 | YD-S120A | Open Command | Bulk Ferric Chloride Storage Tank TK-S120A Inlet Flow Valve Open | WS-P0004 | | | | | | LCP-S11 | DO |
| 2840 | Y | 0 | YB-S120B | Close Command | Bulk Ferric Chloride Storage Tank TK-S120A Inlet Flow Valve Close | WS-P0004 | | | | | | LCP-S11 | DO |
| 2841 | Y | 0 | YD-S120B | Open Command | Bulk Ferric Chloride Storage Tank TK-S120A Inlet Flow Valve Open | WS-P0004 | | | | | | LCP-S11 | DO |
| 2842 | Y | 0 | YB-S130A | Close Command | Bulk Ferric Chloride Storage Tank TK-S130A Inlet Flow Valve Close | WS-P0004 | | | | | | LCP-S11 | DO |
| 2843 | Y | 0 | YD-S130A | Open Command | Bulk Ferric Chloride Storage Tank TK-S130A Inlet Flow Valve Open | WS-P0004 | | | | | | LCP-S11 | DO |
| 2844 | Y | 0 | YB-S130B | Close Command | Bulk Ferric Chloride Storage Tank TK-S130A Inlet Flow Valve Close | WS-P0004 | | | | | | LCP-S11 | DO |
| 2845 | Y | 0 | YD-S130B | Open Command | Bulk Ferric Chloride Storage Tank TK-S130A Inlet Flow Valve Open | WS-P0004 | | | | | | LCP-S11 | DO |
| 2846 | Y | 0 | YB-S140A | Close Command | Bulk Ferric Chloride Storage Tank TK-S140A Inlet Flow Valve Close | WS-P0004 | | | | | | LCP-S11 | DO |
| 2847 | Y | 0 | YD-S140A | Open Command | Bulk Ferric Chloride Storage Tank TK-S140A Inlet Flow Valve Open | WS-P0004 | | | | | | LCP-S11 | DO |
| 2848 | Y | 0 | YB-S140B | Close Command | Bulk Ferric Chloride Storage Tank TK-S140A Inlet Flow Valve Close | WS-P0004 | | | | | | LCP-S11 | DO |
| 2849 | Y | 0 | YD-S140B | Open Command | Bulk Ferric Chloride Storage Tank TK-S140A Inlet Flow Valve Open | WS-P0004 | | | | | | LCP-S11 | DO |
| 2850 | Y | 0 | ZD-S107A | Open Status | Ferric Chloride Spill Containment to North Sump Inlet Flow Valve Open | WS-P0004 | | | | | | LCP-S11 | DI |
| 2851 | Y | 0 | ZB-S107A | Closed Status | Ferric Chloride Spill Containment to North Sump Inlet Flow Valve Closed | WS-P0004 | | | | | | LCP-S11 | DI |
| 2852 | Y | 0 | ZD-S110A | Open Status | Bulk Ferric Chloride Storage Tank TK-S110A Inlet Flow Valve Open | WS-P0004 | | | | | | LCP-S11 | DI |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| RECORD NO. | PLC Programming reqd | REV. N0. | TAG NAME | FUNCTION | SERVICE | P&ID DRAWING | ENG. UNITS | SCALE LOW | SCALE HIGH | ALARMS LOW | ALARMS HIGH | PLC CABINET | I/O TYPE |
| 2853 | Y | 0 | ZB-S110A | Closed Status | Bulk Ferric Chloride Storage Tank TK-S110A Inlet Flow Valve Closed | WS-P0004 | | | | | | LCP-S11 | DI |
| 2854 | Y | 0 | ZD-S110B | Open Status | Bulk Ferric Chloride Storage Tank TK-S110A Inlet Flow Valve Open | WS-P0004 | | | | | | LCP-S11 | DI |
| 2855 | Y | 0 | ZB-S110B | Closed Status | Bulk Ferric Chloride Storage Tank TK-S110A Inlet Flow Valve Closed | WS-P0004 | | | | | | LCP-S11 | DI |
| 2856 | Y | 0 | ZD-S120A | Open Status | Bulk Ferric Chloride Storage Tank TK-S120A Inlet Flow Valve Open | WS-P0004 | | | | | | LCP-S11 | DI |
| 2857 | Y | 0 | ZB-S120A | Closed Status | Bulk Ferric Chloride Storage Tank TK-S120A Inlet Flow Valve Closed | WS-P0004 | | | | | | LCP-S11 | DI |
| 2858 | Y | 0 | ZD-S120B | Open Status | Bulk Ferric Chloride Storage Tank TK-S120A Inlet Flow Valve Open | WS-P0004 | | | | | | LCP-S11 | DI |
| 2859 | Y | 0 | ZB-S120B | Closed Status | Bulk Ferric Chloride Storage Tank TK-S120A Inlet Flow Valve Closed | WS-P0004 | | | | | | LCP-S11 | DI |
| 2860 | Y | 0 | ZD-S130A | Open Status | Bulk Ferric Chloride Storage Tank TK-S130A Inlet Flow Valve Open | WS-P0004 | | | | | | LCP-S11 | DI |
| 2861 | Y | 0 | ZB-S130A | Closed Status | Bulk Ferric Chloride Storage Tank TK-S130A Inlet Flow Valve Closed | WS-P0004 | | | | | | LCP-S11 | DI |
| 2862 | Y | 0 | ZD-S130B | Open Status | Bulk Ferric Chloride Storage Tank TK-S130A Inlet Flow Valve Open | WS-P0004 | | | | | | LCP-S11 | DI |
| 2863 | Y | 0 | ZB-S130B | Closed Status | Bulk Ferric Chloride Storage Tank TK-S130A Inlet Flow Valve Closed | WS-P0004 | | | | | | LCP-S11 | DI |
| 2864 | Y | 0 | ZD-S140A | Open Status | Bulk Ferric Chloride Storage Tank TK-S140A Inlet Flow Valve Open | WS-P0004 | | | | | | LCP-S11 | DI |
| 2865 | Y | 0 | ZB-S140A | Closed Status | Bulk Ferric Chloride Storage Tank TK-S140A Inlet Flow Valve Closed | WS-P0004 | | | | | | LCP-S11 | DI |
| 2866 | Y | 0 | ZD-S140B | Open Status | Bulk Ferric Chloride Storage Tank TK-S140A Inlet Flow Valve Open | WS-P0004 | | | | | | LCP-S11 | DI |
| 2867 | Y | 0 | ZB-S140B | Closed Status | Bulk Ferric Chloride Storage Tank TK-S140A Inlet Flow Valve Closed | WS-P0004 | | | | | | LCP-S11 | DI |
| 2868 | Y | 0 | ZD-S110A | Open Status | Bulk Ferric Chloride Storage Tank TK-S110A Inlet Valve Open | WS-P0004 | | | | | | LCP-S11 | DO |
| 2869 | Y | 0 | ZD-S110B | Open Status | Bulk Ferric Chloride Storage Tank TK-S110A Inlet Valve Open | WS-P0004 | | | | | | LCP-S11 | DO |
| 2870 | Y | 0 | ZD-S120A | Open Status | Bulk Ferric Chloride Storage Tank TK-S120A Inlet Valve Open | WS-P0004 | | | | | | LCP-S11 | DO |
| 2871 | Y | 0 | ZD-S120B | Open Status | Bulk Ferric Chloride Storage Tank TK-S120A Inlet Valve Open | WS-P0004 | | | | | | LCP-S11 | DO |
| 2872 | Y | 0 | ZD-S130A | Open Status | Bulk Ferric Chloride Storage Tank TK-S130A Inlet Valve Open | WS-P0004 | | | | | | LCP-S11 | DO |
| 2873 | Y | 0 | ZD-S130B | Open Status | Bulk Ferric Chloride Storage Tank TK-S130A Inlet Valve Open | WS-P0004 | | | | | | LCP-S11 | DO |
| 2874 | Y | 0 | ZD-S140A | Open Status | Bulk Ferric Chloride Storage Tank TK-S140A Inlet Valve Open | WS-P0004 | | | | | | LCP-S11 | DO |
| 2875 | Y | 0 | ZD-S140B | Open Status | Bulk Ferric Chloride Storage Tank TK-S140A Inlet Valve Open | WS-P0004 | | | | | | LCP-S11 | DO |
| 2876 | Y | 0 | HS-S100G | Hand Switch | Bulk Ferric Chloride Storage Tank Fill System Stop | WS-P0004 | | | | | | LCP-S11 | DI |
| 2877 | Y | 0 | HS-S100H | Pushbutton | Bulk Ferric Chloride Storage Tank High Level Audible Alarm Accept Rail Car Side | WS-P0004 | | | | | | LCP-S11 | DI |
| 2878 | Y | 0 | HS-S105G | Hand Switch | Bulk Ferric Chloride Storage Tank Fill System Stop | WS-P0004 | | | | | | LCP-S11 | DI |
| 2879 | Y | | HS-S105H | Pushbutton | Bulk Ferric Chloride Storage Tank High Level Audible Alarm Accept Truck Fill Side | WS-P0004 | | | | | | LCP-S11 | DI |
| 2880 | Y | 0 | LA-S105A | Level Alarm | Bulk Ferric Chloride Storage Tank High Level Audible Alarm Truck Side | WS-P0004 | | | | | | LCP-S11 | DO |
| 2881 | Y | 0 | FA-S757A | Flow Alarm | Emergency Shower Operating EEWS-S757A | WS-P0005 | | | | | | LCP-S11 | DI |
| 2882 | Y | 0 | LI-S110B | Level Indicator | Bulk Ferric Chloride Storage Tank TK-S110A Level | WS-P0005 | | | | | | LCP-S11 | AI |
| 2883 | Y | 0 | LI-S110D | Level Indicator | Bulk Ferric Chloride Storage Tank TK-S110A Level | WS-P0005 | | | | | | LCP-S11 | AI |
| 2884 | Y | 0 | LI-S120B | Level Indicator | Bulk Ferric Chloride Storage Tank TK-S120A Level | WS-P0005 | | | | | | LCP-S11 | AI |
| 2885 | Y | 0 | LI-S120D | Level Indicator | Bulk Ferric Chloride Storage Tank TK-S120A Level | WS-P0005 | | | | | | LCP-S11 | AI |
| 2886 | Y | 0 | LF-S110A | Level Fault | Bulk Ferric Chloride Storage Tank TK-S110A Level Fault | WS-P0005 | | | | | | LCP-S11 | DI |
| 2887 | Y | 0 | LF-S120A | Level Fault | Bulk Ferric Chloride Storage Tank TK-S120A Level Fault | WS-P0005 | | | | | | LCP-S11 | DI |
| 2888 | Y | 0 | LA-S190B | Level Alarm | Bulk Ferric Chloride Containment High Level Alarm | WS-P0005 | | | | | | LCP-S11 | DI |
| 2889 | Y | 0 | LA-S190C | Level Alarm | Bulk Ferric Chloride Containment High Level Visual Alarm | WS-P0005 | | | | | | LCP-S11 | DO |

I/O POINT TYPES: TCP = Modbus/TCP Ethernet, AI = Analog Input, AO = Analog Output, DI = Discrete Input, DO = Discrete Output

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| RECORD NO. | PLC Programming reqd | REV. N0. | TAG NAME | FUNCTION | SERVICE | P&ID DRAWING | ENG. UNITS | SCALE LOW | SCALE HIGH | ALARMS LOW | ALARMS HIGH | PLC CABINET | I/O TYPE |
| 2890 | Y | 0 | YS-S110C | C/O/H Switch in Computer Position | Bulk Ferric Chloride Storage Tank TK-S110A Outlet Flow Valve in Computer Mode | WS-P0005 | | | | | | LCP-S11 | DI |
| 2891 | Y | 0 | YS-S120C | C/O/H Switch in Computer Position | Bulk Ferric Chloride Storage Tank TK-S120A Outlet Flow Valve in Computer Mode | WS-P0005 | | | | | | LCP-S11 | DI |
| 2892 | Y | 0 | YB-S110C | Close Command | Bulk Ferric Chloride Storage Tank TK-S110A Outlet Flow Valve Close | WS-P0005 | | | | | | LCP-S11 | DO |
| 2893 | Y | 0 | YD-S110C | Open Command | Bulk Ferric Chloride Storage Tank TK-S110A Outlet Flow Valve Open | WS-P0005 | | | | | | LCP-S11 | DO |
| 2894 | Y | 0 | YB-S120C | Close Command | Bulk Ferric Chloride Storage Tank TK-S120A Outlet Flow Valve Close | WS-P0005 | | | | | | LCP-S11 | DO |
| 2895 | Y | 0 | YD-S120C | Open Command | Bulk Ferric Chloride Storage Tank TK-S120A Outlet Flow Valve Open | WS-P0005 | | | | | | LCP-S11 | DO |
| 2896 | Y | 0 | ZD-S110C | Open Status | Bulk Ferric Chloride Storage Tank TK-S110A Outlet Flow Valve Open | WS-P0005 | | | | | | LCP-S11 | DI |
| 2897 | Y | 0 | ZB-S110C | Closed Status | Bulk Ferric Chloride Storage Tank TK-S110A Outlet Flow Valve Close | WS-P0005 | | | | | | LCP-S11 | DI |
| 2898 | Y | 0 | ZD-S120C | Open Status | Bulk Ferric Chloride Storage Tank TK-S120A Outlet Flow Valve Open | WS-P0005 | | | | | | LCP-S11 | DI |
| 2899 | Y | 0 | ZB-S120C | Closed Status | Bulk Ferric Chloride Storage Tank TK-S120A Outlet Flow Valve Close | WS-P0005 | | | | | | LCP-S11 | DI |
| 2900 | Y | 0 | LI-S130B | Level Indicator | Bulk Ferric Chloride Storage Tank TK-S130A Level | WS-P0006 | | | | | | LCP-S11 | AI |
| 2901 | Y | 0 | LI-S130D | Level Indicator | Bulk Ferric Chloride Storage Tank TK-S130A Level | WS-P0006 | | | | | | LCP-S11 | AI |
| 2902 | Y | 0 | LI-S140B | Level Indicator | Bulk Ferric Chloride Storage Tank TK-S140A Level | WS-P0006 | | | | | | LCP-S11 | AI |
| 2903 | Y | 0 | LI-S140D | Level Indicator | Bulk Ferric Chloride Storage Tank TK-S140A Level | WS-P0006 | | | | | | LCP-S11 | AI |
| 2904 | Y | 0 | LF-S130A | Level Fault | Bulk Ferric Chloride Storage Tank TK-S130A Level Fault | WS-P0006 | | | | | | LCP-S11 | DI |
| 2905 | Y | 0 | LF-S140A | Level Fault | Bulk Ferric Chloride Storage Tank TK-S140A Level Fault | WS-P0006 | | | | | | LCP-S11 | DI |
| 2906 | Y | 0 | YS-S130C | C/O/H Switch in Computer Position | Bulk Ferric Chloride Storage Tank TK-S130A Outlet Flow Valve in Computer Mode | WS-P0006 | | | | | | LCP-S11 | DI |
| 2907 | Y | 0 | YS-S140C | C/O/H Switch in Computer Position | Bulk Ferric Chloride Storage Tank TK-S140A Outlet Flow Valve in Computer Mode | WS-P0006 | | | | | | LCP-S11 | DI |
| 2908 | Y | 0 | YB-S130C | Close Command | Bulk Ferric Chloride Storage Tank TK-S130A Outlet Flow Valve Close | WS-P0006 | | | | | | LCP-S11 | DO |
| 2909 | Y | 0 | YD-S130C | Open Command | Bulk Ferric Chloride Storage Tank TK-S130A Outlet Flow Valve Open | WS-P0006 | | | | | | LCP-S11 | DO |
| 2910 | Y | 0 | YB-S140C | Close Command | Bulk Ferric Chloride Storage Tank TK-S140A Outlet Flow Valve Close | WS-P0006 | | | | | | LCP-S11 | DO |
| 2911 | Y | 0 | YD-S140C | Open Command | Bulk Ferric Chloride Storage Tank TK-S140A Outlet Flow Valve Open | WS-P0006 | | | | | | LCP-S11 | DO |
| 2912 | Y | 0 | ZD-S130C | Open Status | Bulk Ferric Chloride Storage Tank TK-S130A Outlet Flow Valve Open | WS-P0006 | | | | | | LCP-S11 | DI |
| 2913 | Y | 0 | ZB-S130C | Closed Status | Bulk Ferric Chloride Storage Tank TK-S130A Outlet Flow Valve Close | WS-P0006 | | | | | | LCP-S11 | DI |
| 2914 | Y | 0 | ZD-S140C | Open Status | Bulk Ferric Chloride Storage Tank TK-S140A Outlet Flow Valve Open | WS-P0006 | | | | | | LCP-S11 | DI |
| 2915 | Y | 0 | ZB-S140C | Closed Status | Bulk Ferric Chloride Storage Tank TK-S140A Outlet Flow Valve Close | WS-P0006 | | | | | | LCP-S11 | DI |
| 2916 | Y | 0 | FI-S165A | Flow Indication | Ferric Chloride Feed Pump P-S260A Outlet Flow Rate | WS-P0007 | | | | | | LCP-S11 | AI |
| 2917 | Y | 0 | FI-S185A | Flow Indication | Ferric Chloride Feed Pump P-S280A Outlet Flow Rate | WS-P0007 | | | | | | LCP-S11 | AI |
| 2918 | Y | 0 | FQ-S165A | Flow Pulse | Ferric Chloride Feed Pump P-S260A Outlet Flow Total | WS-P0007 | | | | | | LCP-S11 | DI |
| 2919 | Y | 0 | FQ-S185A | Flow Pulse | Ferric Chloride Feed Pump P-S280A Outlet Flow Total | WS-P0007 | | | | | | LCP-S11 | DI |
| 2920 | Y | 0 | LA-S190A | Level Alarm | Ferric Chloride Spill Containment High Level | WS-P0007 | | | | | | LCP-S11 | DI |
| 2921 | Y | 0 | MM-S160A | Running Status | Ferric Chloride Feed Pump P-S260A Running | WS-P0007 | | | | | | LCP-S11 | DI |
| 2922 | Y | 0 | MM-S170A | Running Status | Ferric Chloride Feed Pump P-S270A Running | WS-P0007 | | | | | | LCP-S11 | DI |
| 2923 | Y | 0 | MM-S180A | Running Status | Ferric Chloride Feed Pump P-S280A Running | WS-P0007 | | | | | | LCP-S11 | DI |
| 2924 | Y | 0 | MN-S160A | Start Command | Ferric Chloride Feed Pump P-S260A Start | WS-P0007 | | | | | | LCP-S11 | DO |

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| | | | | DESCRIPTION | | | I/O SPECIFICATION | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| RECORD NO. | PLC Programming reqd | REV. N0. | TAG NAME | FUNCTION | SERVICE | P&ID DRAWING | ENG. UNITS | SCALE LOW | SCALE HIGH | ALARMS LOW | ALARMS HIGH | PLC CABINET | I/O TYPE |
| 2925 | Y | 0 | MN-S170A | Start Command | Ferric Chloride Feed Pump P-S270A Start | WS-P0007 | | | | | | LCP-S11 | DO |
| 2926 | Y | 0 | MN-S180A | Start Command | Ferric Chloride Feed Pump P-S280A Start | WS-P0007 | | | | | | LCP-S11 | DO |
| 2927 | Y | 0 | SI-S160A | Speed Indication | Ferric Chloride Feed Pump P-S260A Speed | WS-P0007 | | | | | | LCP-S11 | AI |
| 2928 | Y | 0 | SI-S170A | Speed Indication | Ferric Chloride Feed Pump P-S270A Speed | WS-P0007 | | | | | | LCP-S11 | AI |
| 2929 | Y | 0 | SI-S180A | Speed Indication | Ferric Chloride Feed Pump P-S280A Speed | WS-P0007 | | | | | | LCP-S11 | AI |
| 2930 | Y | 0 | SC-S160A | Speed Control Output | Ferric Chloride Feed Pump P-S260A Required Speed | WS-P0007 | | | | | | LCP-S11 | AO |
| 2931 | Y | 0 | SC-S170A | Speed Control Output | Ferric Chloride Feed Pump P-S270A Required Speed | WS-P0007 | | | | | | LCP-S11 | AO |
| 2932 | Y | 0 | SC-S180A | Speed Control Output | Ferric Chloride Feed Pump P-S280A Required Speed | WS-P0007 | | | | | | LCP-S11 | AO |
| 2933 | Y | 0 | UF-S160A | No Fault | Ferric Chloride Feed Pump P-S260A Fault | WS-P0007 | | | | | | LCP-S11 | DI |
| 2934 | Y | 0 | UF-S170A | No Fault | Ferric Chloride Feed Pump P-S270A Fault | WS-P0007 | | | | | | LCP-S11 | DI |
| 2935 | Y | 0 | UF-S180A | No Fault | Ferric Chloride Feed Pump P-S280A Fault | WS-P0007 | | | | | | LCP-S11 | DI |
| 2936 | Y | 0 | YS-S160A | C/O/H Switch in Computer Position | Ferric Chloride Feed Pump P-S260A in Computer Mode | WS-P0007 | | | | | | LCP-S11 | DI |
| 2937 | Y | 0 | YS-S170A | C/O/H Switch in Computer Position | Ferric Chloride Feed Pump P-S270A in Computer Mode | WS-P0007 | | | | | | LCP-S11 | DI |
| 2938 | Y | 0 | YS-S170B | C/O/H Switch in Computer Position | Standby Ferric Chloride Feed Pump P-S170A in Computer Mode | WS-P0007 | | | | | | LCP-S11 | DI |
| 2939 | Y | 0 | YS-S170C | C/O/H Switch in Computer Position | Standby Ferric Chloride Feed Pump P-S170A in Computer Mode | WS-P0007 | | | | | | LCP-S11 | DI |
| 2940 | Y | 0 | YS-S180A | C/O/H Switch in Computer Position | Ferric Chloride Feed Pump P-S280A in Computer Mode | WS-P0007 | | | | | | LCP-S11 | DI |
| 2941 | Y | 0 | YD-S170A | Open Command | Standby Ferric Chloride Feed Pump P-S170A Open | WS-P0007 | | | | | | LCP-S11 | DO |
| 2942 | Y | 0 | YB-S170A | Close Command | Standby Ferric Chloride Feed Pump P-S170A Close | WS-P0007 | | | | | | LCP-S11 | DO |
| 2943 | Y | 0 | YD-S170B | Open Command | Standby Ferric Chloride Feed Pump P-S170A Open | WS-P0007 | | | | | | LCP-S11 | DO |
| 2944 | Y | 0 | YB-S170B | Close Command | Standby Ferric Chloride Feed Pump P-S170A Close | WS-P0007 | | | | | | LCP-S11 | DO |
| 2945 | Y | 0 | ZB-S170A | Closed Status | Standby Ferric Chloride Feed Pump P-S170A Outlet Control Valve Closed | WS-P0007 | | | | | | LCP-S11 | DI |
| 2946 | Y | 0 | ZD-S170A | Open Status | Standby Ferric Chloride Feed Pump P-S170A Outlet Control Valve Open | WS-P0007 | | | | | | LCP-S11 | DI |
| 2947 | Y | 0 | ZB-S170B | Closed Status | Standby Ferric Chloride Feed Pump P-S170A Outlet Control Valve Closed | WS-P0007 | | | | | | LCP-S11 | DI |
| 2948 | Y | 0 | ZD-S170B | Open Status | Standby Ferric Chloride Feed Pump P-S170A Outlet Control Valve Open | WS-P0007 | | | | | | LCP-S11 | DI |
| 2949 | Y | 0 | FA-S751A | Flow Alarm | Emergency Shower Operating EEWS-S751A | WS-P0008 | | | | | | LCP-S11 | DI |
| 2950 | Y | 0 | FA-S759A | Flow Alarm | Emergency Shower Operating EEWS-S759A | WS-P0008 | | | | | | LCP-S11 | DI |
| 2951 | Y | 0 | HS-S300B | Hand Switch | Select Sodium Hydroxide Storage Tank TK-S310A to Fill | WS-P0008 | | | | | | LCP-S11 | DI |
| 2952 | Y | 0 | HS-S300C | Hand Switch | Select Sodium Hydroxide Storage Tank TK-S320A to Fill | WS-P0008 | | | | | | LCP-S11 | DI |
| 2953 | Y | 0 | HS-S300D | Hand Switch | Select Sodium Hydroxide Storage Tank TK-S330A to Fill | WS-P0008 | | | | | | LCP-S11 | DI |
| 2954 | Y | 0 | HS-S300E | Hand Switch | Select Sodium Hydroxide Storage Tank TK-S340A to Fill | WS-P0008 | | | | | | LCP-S11 | DI |
| 2955 | Y | 0 | HS-S300A | Hand Switch | Selected Sodium Hydroxide Storage Tank Start Fill | WS-P0008 | | | | | | LCP-S11 | DI |
| 2956 | Y | 0 | HS-S300G | Hand Switch | Start Air Purge for Sodium Hydroxide Rail Car | WS-P0008 | | | | | | LCP-S11 | DI |
| 2957 | Y | 0 | HS-S307B | Hand Switch | Select Sodium Hydroxide Storage Tank TK-S310A to Fill | WS-P0008 | | | | | | LCP-S11 | DI |
| 2958 | Y | 0 | HS-S307C | Hand Switch | Select Sodium Hydroxide Storage Tank TK-S320A to Fill | WS-P0008 | | | | | | LCP-S11 | DI |
| 2959 | Y | 0 | HS-S307D | Hand Switch | Select Sodium Hydroxide Storage Tank TK-S330A to Fill | WS-P0008 | | | | | | LCP-S11 | DI |
| 2960 | Y | 0 | HS-S307E | Hand Switch | Select Sodium Hydroxide Storage Tank TK-S340A to Fill | WS-P0008 | | | | | | LCP-S11 | DI |
| 2961 | Y | 0 | HS-S307A | Hand Switch | Selected Sodium Hydroxide Storage Tank Start Fill | WS-P0008 | | | | | | LCP-S11 | DI |
| 2962 | Y | 0 | HS-S307F | Hand Switch | Start Air Purge for Sodium Hydroxide Truck | WS-P0008 | | | | | | LCP-S11 | DI |
| 2963 | Y | 0 | LA-S309A | Level Alarm | Sodium Hydroxide Containment Manhole High Level | WS-P0008 | | | | | | LCP-S11 | DI |
| 2964 | Y | 0 | LA-S310A | Level Alarm | Sodium Hydroxide Storage Tank TK-S310A High Level | WS-P0008 | | | | | | LCP-S11 | DO |
| 2965 | Y | 0 | LA-S310B | Level Alarm | Sodium Hydroxide Storage Tank TK-S310A High Level | WS-P0008 | | | | | | LCP-S11 | DO |
| 2966 | Y | 0 | LA-S320A | Level Alarm | Sodium Hydroxide Storage Tank TK-S320A High Level | WS-P0008 | | | | | | LCP-S11 | DO |
| 2967 | Y | 0 | LA-S320B | Level Alarm | Sodium Hydroxide Storage Tank TK-S320A High Level | WS-P0008 | | | | | | LCP-S11 | DO |
| 2968 | Y | 0 | LA-S330A | Level Alarm | Sodium Hydroxide Storage Tank TK-S330A High Level | WS-P0008 | | | | | | LCP-S11 | DO |
| 2969 | Y | 0 | LA-S330B | Level Alarm | Sodium Hydroxide Storage Tank TK-S330A High Level | WS-P0008 | | | | | | LCP-S11 | DO |
| 2970 | Y | 0 | LA-S340A | Level Alarm | Sodium Hydroxide Storage Tank TK-S340A High Level | WS-P0008 | | | | | | LCP-S11 | DO |
| 2971 | Y | 0 | LA-S340B | Level Alarm | Sodium Hydroxide Storage Tank TK-S340A High Level | WS-P0008 | | | | | | LCP-S11 | DO |
| 2972 | Y | 0 | XM-S301A | Lamp Output | Air Purge Completed for Sodium Hydroxide Rail Car | WS-P0008 | | | | | | LCP-S11 | DO |
| 2973 | Y | 0 | XM-S307A | Lamp Output | Air Purge Completed for Sodium Hydroxide Truck | WS-P0008 | | | | | | LCP-S11 | DO |
| 2974 | Y | 0 | YS-S309A | C/O/H Switch in Computer Position | Sodium Hydroxide Containment Manhole Outlet Flow Valve in Computer Mode | WS-P0008 | | | | | | LCP-S11 | DI |

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| RECORD NO. | PLC Programming reqd | REV. N0. | TAG NAME | FUNCTION | SERVICE | P&ID DRAWING | ENG. UNITS | SCALE LOW | SCALE HIGH | ALARMS LOW | ALARMS HIGH | PLC CABINET | I/O TYPE |
| 2975 | Y | 0 | YD-S300A | Open Command | Open Fill Valve for Sodium Hydroxide Rail Car | WS-P0008 | | | | | | LCP-S11 | DO |
| 2976 | Y | 0 | YD-S300F | Open Command | Start Steam System for Sodium Hydroxide Rail Car | WS-P0008 | | | | | | LCP-S11 | DO |
| 2977 | Y | 0 | YD-S307A | Open Command | Open Fill Valve for Sodium Hydroxide Rail Car | WS-P0008 | | | | | | LCP-S11 | DO |
| 2978 | Y | 0 | YD-S309A | Open Command | Sodium Hydroxide Containment Manhole Outlet Flow Valve Open | WS-P0008 | | | | | | LCP-S11 | DO |
| 2979 | Y | 0 | YB-S309A | Close Command | Sodium Hydroxide Containment Manhole Outlet Flow Valve Close | WS-P0008 | | | | | | LCP-S11 | DO |
| 2980 | Y | 0 | YD-S310A | Open Command | Sodium Hydroxide Storage Tank TK-S310A Inlet Flow Valve Open | WS-P0008 | | | | | | LCP-S11 | DO |
| 2981 | Y | 0 | YB-S310B | Close Command | Sodium Hydroxide Storage Tank TK-S310A Inlet Flow Valve Close | WS-P0008 | | | | | | LCP-S11 | DO |
| 2982 | Y | 0 | YD-S310B | Open Command | Sodium Hydroxide Storage Tank TK-S310A Inlet Flow Valve Open | WS-P0008 | | | | | | LCP-S11 | DO |
| 2983 | Y | 0 | YD-S320A | Open Command | Sodium Hydroxide Storage Tank TK-S320A Inlet Flow Valve Open | WS-P0008 | | | | | | LCP-S11 | DO |
| 2984 | Y | 0 | YB-S320B | Close Command | Sodium Hydroxide Storage Tank TK-S320A Inlet Flow Valve Close | WS-P0008 | | | | | | LCP-S11 | DO |
| 2985 | Y | 0 | YD-S320B | Open Command | Sodium Hydroxide Storage Tank TK-S320A Inlet Flow Valve Open | WS-P0008 | | | | | | LCP-S11 | DO |
| 2986 | Y | 0 | YD-S330A | Open Command | Sodium Hydroxide Storage Tank TK-S330A Inlet Flow Valve Open | WS-P0008 | | | | | | LCP-S11 | DO |
| 2987 | Y | 0 | YB-S330B | Close Command | Sodium Hydroxide Storage Tank TK-S330A Inlet Flow Valve Close | WS-P0008 | | | | | | LCP-S11 | DO |
| 2988 | Y | 0 | YD-S330B | Open Command | Sodium Hydroxide Storage Tank TK-S330A Inlet Flow Valve Open | WS-P0008 | | | | | | LCP-S11 | DO |
| 2989 | Y | 0 | YD-S340A | Open Command | Sodium Hydroxide Storage Tank TK-S340A Inlet Flow Valve Open | WS-P0008 | | | | | | LCP-S11 | DO |
| 2990 | Y | 0 | YB-S340B | Close Command | Sodium Hydroxide Storage Tank TK-S340A Inlet Flow Valve Close | WS-P0008 | | | | | | LCP-S11 | DO |
| 2991 | Y | 0 | YD-S340B | Open Command | Sodium Hydroxide Storage Tank TK-S340A Inlet Flow Valve Open | WS-P0008 | | | | | | LCP-S11 | DO |
| 2992 | Y | 0 | ZD-S309A | Open Status | Sodium Hydroxide Containment Manhole Outlet Flow Valve Open | WS-P0008 | | | | | | LCP-S11 | DI |
| 2993 | Y | 0 | ZB-S309A | Closed Status | Sodium Hydroxide Containment Manhole Outlet Flow Valve Closed | WS-P0008 | | | | | | LCP-S11 | DI |
| 2994 | Y | 0 | ZD-S310A | Open Status | Sodium Hydroxide Storage Tank TK-S310A Inlet Flow Valve Open | WS-P0008 | | | | | | LCP-S11 | DI |
| 2995 | Y | 0 | ZB-S310A | Closed Status | Sodium Hydroxide Storage Tank TK-S310A Inlet Flow Valve Closed | WS-P0008 | | | | | | LCP-S11 | DI |
| 2996 | Y | 0 | ZD-S310B | Open Status | Sodium Hydroxide Storage Tank TK-S310A Inlet Flow Valve Open | WS-P0008 | | | | | | LCP-S11 | DI |
| 2997 | Y | 0 | ZB-S310B | Closed Status | Sodium Hydroxide Storage Tank TK-S310A Inlet Flow Valve Closed | WS-P0008 | | | | | | LCP-S11 | DI |
| 2998 | Y | 0 | ZD-S320A | Open Status | Sodium Hydroxide Storage Tank TK-S320A Inlet Flow Valve Open | WS-P0008 | | | | | | LCP-S11 | DI |
| 2999 | Y | 0 | ZB-S320A | Closed Status | Sodium Hydroxide Storage Tank TK-S320A Inlet Flow Valve Closed | WS-P0008 | | | | | | LCP-S11 | DI |
| 3000 | Y | 0 | ZD-S320B | Open Status | Sodium Hydroxide Storage Tank TK-S320A Inlet Flow Valve Open | WS-P0008 | | | | | | LCP-S11 | DI |
| 3001 | Y | 0 | ZB-S320B | Closed Status | Sodium Hydroxide Storage Tank TK-S320A Inlet Flow Valve Closed | WS-P0008 | | | | | | LCP-S11 | DI |
| 3002 | Y | 0 | ZD-S330A | Open Status | Sodium Hydroxide Storage Tank TK-S330A Inlet Flow Valve Open | WS-P0008 | | | | | | LCP-S11 | DI |
| 3003 | Y | 0 | ZB-S330A | Closed Status | Sodium Hydroxide Storage Tank TK-S330A Inlet Flow Valve Closed | WS-P0008 | | | | | | LCP-S11 | DI |
| 3004 | Y | 0 | ZD-S330B | Open Status | Sodium Hydroxide Storage Tank TK-S330A Inlet Flow Valve Open | WS-P0008 | | | | | | LCP-S11 | DI |

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| RECORD NO. | PLC Programming reqd | REV. NO. | TAG NAME | FUNCTION | SERVICE | P&ID DRAWING | ENG. UNITS | SCALE LOW | SCALE HIGH | ALARMS LOW | ALARMS HIGH | PLC CABINET | I/O TYPE |
| 3005 | Y | 0 | ZB-S330B | Closed Status | Sodium Hydroxide Storage Tank TK-S330A Inlet Flow Valve Closed | WS-P0008 | | | | | | LCP-S11 | DI |
| 3006 | Y | 0 | ZD-S340A | Open Status | Sodium Hydroxide Storage Tank TK-S340A Inlet Flow Valve Open | WS-P0008 | | | | | | LCP-S11 | DI |
| 3007 | Y | 0 | ZB-S340A | Closed Status | Sodium Hydroxide Storage Tank TK-S340A Inlet Flow Valve Closed | WS-P0008 | | | | | | LCP-S11 | DI |
| 3008 | Y | 0 | ZD-S340B | Open Status | Sodium Hydroxide Storage Tank TK-S340A Inlet Flow Valve Open | WS-P0008 | | | | | | LCP-S11 | DI |
| 3009 | Y | 0 | ZB-S340B | Closed Status | Sodium Hydroxide Storage Tank TK-S340A Inlet Flow Valve Closed | WS-P0008 | | | | | | LCP-S11 | DI |
| 3010 | Y | 0 | ZD-S310A | Open Status | Sodium Hydroxide Storage Tank TK-S310A Inlet Valve Open | WS-P0008 | | | | | | LCP-S11 | DO |
| 3011 | Y | 0 | ZD-S310B | Open Status | Sodium Hydroxide Storage Tank TK-S310A Inlet Valve Open | WS-P0008 | | | | | | LCP-S11 | DO |
| 3012 | Y | 0 | ZD-S320A | Open Status | Sodium Hydroxide Storage Tank TK-S320A Inlet Valve Open | WS-P0008 | | | | | | LCP-S11 | DO |
| 3013 | Y | 0 | ZD-S320B | Open Status | Sodium Hydroxide Storage Tank TK-S320A Inlet Valve Open | WS-P0008 | | | | | | LCP-S11 | DO |
| 3014 | Y | 0 | ZD-S330A | Open Status | Sodium Hydroxide Storage Tank TK-S330A Inlet Valve Open | WS-P0008 | | | | | | LCP-S11 | DO |
| 3015 | Y | 0 | ZD-S330B | Open Status | Sodium Hydroxide Storage Tank TK-S330A Inlet Valve Open | WS-P0008 | | | | | | LCP-S11 | DO |
| 3016 | Y | 0 | ZD-S340A | Open Status | Sodium Hydroxide Storage Tank TK-S340A Inlet Valve Open | WS-P0008 | | | | | | LCP-S11 | DO |
| 3017 | Y | 0 | ZD-S340B | Open Status | Sodium Hydroxide Storage Tank TK-S340A Inlet Valve Open | WS-P0008 | | | | | | LCP-S11 | DO |
| 3018 | Y | 0 | HS-S307G | Hand Switch | Sodium Hydroxide Storage Tank Fill System Stop | WS-P0008 | | | | | | LCP-S11 | DI |
| 3019 | Y | | LA-S300A | Level Alarm | Bulk Sodium Hydroxide Storage Tank High Level Audible Alarm Rail Car Side | WS-P0008 | | | | | | LCP-S11 | DO |
| 3020 | Y | 0 | HS-S300H | Hand Switch | Sodium Hydroxide Storage Tank Fill System Stop | WS-P0008 | | | | | | LCP-S11 | DO |
| 3021 | Y | 0 | HS-S300I | Pushbutton | Bulk Sodium Hydroxide Storage Tank High Level Audible Alarm Accept Rail Car Side | WS-P0008 | | | | | | LCP-S11 | DO |
| 3022 | Y | | LA-S307A | Level Alarm | Bulk Sodium Hydroxide Storage Tank High Level Audible Alarm Truck Side | WS-P0008 | | | | | | LCP-S11 | DO |
| 3023 | Y | 0 | HS-S300H | Pushbutton | Bulk Sodium Hydroxide Storage Tank High Level Audible Alarm Accept Truck Side | WS-P0008 | | | | | | LCP-S11 | DO |
| 3024 | Y | 0 | FA-S754A | Flow Alarm | Emergency Shower Operating EEWS-S754A | WS-P0009 | | | | | | LCP-S11 | DI |
| 3025 | Y | 0 | LI-S310B | Level Indicator | Bulk Sodium Hydroxide Storage Tank TK-S310A Level | WS-P0009 | | | | | | LCP-S11 | AI |
| 3026 | Y | 0 | LI-S310D | Level Indicator | Bulk Sodium Hydroxide Storage Tank TK-S310A Level | WS-P0009 | | | | | | LCP-S11 | AI |
| 3027 | Y | 0 | LI-S320B | Level Indicator | Bulk Sodium Hydroxide Storage Tank TK-S320A Level | WS-P0009 | | | | | | LCP-S11 | AI |
| 3028 | Y | 0 | LF-S310A | Level Fault | Bulk Sodium Hydroxide Storage Tank TK-S310A Level Fault | WS-P0009 | | | | | | LCP-S11 | DI |
| 3029 | Y | 0 | LF-S320A | Level Fault | Bulk Sodium Hydroxide Storage Tank TK-S320A Level Fault | WS-P0009 | | | | | | LCP-S11 | DI |
| 3030 | Y | 0 | LA-S371B | Level Alarm | Sodium Hydroxide Containment North Sump Level High | WS-P0009 | | | | | | LCP-S11 | DI |
| 3031 | Y | 0 | LA-S371C | Level Alarm | Sodium Hydroxide Containment Visual Level High Alarm | WS-P0009 | | | | | | LCP-S11 | DO |
| 3032 | Y | 0 | TI-S310B | Temperature Indicator | Bulk Sodium Hydroxide Storage Tank TK-S310A Temperature | WS-P0009 | | | | | | LCP-S11 | AI |
| 3033 | Y | 0 | TI-S320B | Temperature Indicator | Bulk Sodium Hydroxide Storage Tank TK-S320A Temperature | WS-P0009 | | | | | | LCP-S11 | AI |
| 3034 | Y | 0 | XN-S310A | Heater Control Output | Bulk Sodium Hydroxide Storage Tank TK-S310A Heaters On | WS-P0009 | | | | | | LCP-S11 | DO |
| 3035 | Y | 0 | XN-S320A | Heater Control Output | Bulk Sodium Hydroxide Storage Tank TK-S320A Heaters On | WS-P0009 | | | | | | LCP-S11 | DO |
| 3036 | Y | 0 | YS-S310C | C/O/H Switch in Computer Position | Bulk Sodium Hydroxide Storage Tank TK-S310A Outlet Flow Valve in Computer Mode | WS-P0009 | | | | | | LCP-S11 | DI |
| 3037 | Y | 0 | YS-S320C | C/O/H Switch in Computer Position | Bulk Sodium Hydroxide Storage Tank TK-S320A Outlet Flow Valve in Computer Mode | WS-P0009 | | | | | | LCP-S11 | DI |
| 3038 | Y | 0 | YB-S310C | Close Command | Bulk Sodium Hydroxide Storage Tank TK-S310A Outlet Flow Valve Close | WS-P0009 | | | | | | LCP-S11 | DO |
| 3039 | Y | 0 | YD-S310C | Open Command | Bulk Sodium Hydroxide Storage Tank TK-S310A Outlet Flow Valve Open | WS-P0009 | | | | | | LCP-S11 | DO |
| 3040 | Y | 0 | YB-S320C | Close Command | Bulk Sodium Hydroxide Storage Tank TK-S320A Outlet Flow Valve Close | WS-P0009 | | | | | | LCP-S11 | DO |
| 3041 | Y | 0 | YD-S320C | Open Command | Bulk Sodium Hydroxide Storage Tank TK-S320A Outlet Flow Valve Open | WS-P0009 | | | | | | LCP-S11 | DO |
| 3042 | Y | 0 | ZD-S310C | Open Status | Bulk Sodium Hydroxide Storage Tank TK-S310A Outlet Flow Valve Open | WS-P0009 | | | | | | LCP-S11 | DI |

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| 3043 | Y | 0 | ZB-S310C | Closed Status | Bulk Sodium Hydroxide Storage Tank TK-S310A Outlet Flow Valve Close | WS-P0009 | | | | | | LCP-S11 | DI |
| 3044 | Y | 0 | ZD-S320C | Open Status | Bulk Sodium Hydroxide Storage Tank TK-S320A Outlet Flow Valve Open | WS-P0009 | | | | | | LCP-S11 | DI |
| 3045 | Y | 0 | ZB-S320C | Closed Status | Bulk Sodium Hydroxide Storage Tank TK-S320A Outlet Flow Valve Close | WS-P0009 | | | | | | LCP-S11 | DI |
| 3046 | Y | 0 | LI-S330B | Level Indicator | Bulk Sodium Hydroxide Storage Tank TK-S330A Level | WS-P0010 | | | | | | LCP-S11 | AI |
| 3047 | Y | 0 | LI-S330D | Level Indicator | Bulk Sodium Hydroxide Storage Tank TK-S330A Level | WS-P0010 | | | | | | LCP-S11 | AI |
| 3048 | Y | 0 | LI-S340B | Level Indicator | Bulk Sodium Hydroxide Storage Tank TK-S340A Level | WS-P0010 | | | | | | LCP-S11 | AI |
| 3049 | Y | 0 | LI-S340D | Level Indicator | Bulk Sodium Hydroxide Storage Tank TK-S340A Level | WS-P0010 | | | | | | LCP-S11 | AI |
| 3050 | Y | 0 | LF-S330A | Level Fault | Bulk Sodium Hydroxide Storage Tank TK-S330A Level Fault | WS-P0010 | | | | | | LCP-S11 | DI |
| 3051 | Y | 0 | LF-S340A | Level Fault | Bulk Sodium Hydroxide Storage Tank TK-S340A Level Fault | WS-P0010 | | | | | | LCP-S11 | DI |
| 3052 | Y | 0 | TI-S330B | Temperature Indicator | Bulk Sodium Hydroxide Storage Tank TK-S330A Temperature | WS-P0010 | | | | | | LCP-S11 | AI |
| 3053 | Y | 0 | TI-S340B | Temperature Indicator | Bulk Sodium Hydroxide Storage Tank TK-S340A Temperature | WS-P0010 | | | | | | LCP-S11 | AI |
| 3054 | Y | 0 | XN-S330A | Heater Control Output | Bulk Sodium Hydroxide Storage Tank TK-S330A Heaters On | WS-P0010 | | | | | | LCP-S11 | DO |
| 3055 | Y | 0 | XN-S340A | Heater Control Output | Bulk Sodium Hydroxide Storage Tank TK-S340A Heaters On | WS-P0010 | | | | | | LCP-S11 | DO |
| 3056 | Y | 0 | YS-S330C | C/O/H Switch in Computer Position | Bulk Sodium Hydroxide Storage Tank TK-S330A Outlet Flow Valve in Computer Mode | WS-P0010 | | | | | | LCP-S11 | DI |
| 3057 | Y | 0 | YS-S340C | C/O/H Switch in Computer Position | Bulk Sodium Hydroxide Storage Tank TK-S340A Outlet Flow Valve in Computer Mode | WS-P0010 | | | | | | LCP-S11 | DI |
| 3058 | Y | 0 | YB-S330C | Close Command | Bulk Sodium Hydroxide Storage Tank TK-S330A Outlet Flow Valve Close | WS-P0010 | | | | | | LCP-S11 | DO |
| 3059 | Y | 0 | YD-S330C | Open Command | Bulk Sodium Hydroxide Storage Tank TK-S330A Outlet Flow Valve Open | WS-P0010 | | | | | | LCP-S11 | DO |
| 3060 | Y | 0 | YB-S340C | Close Command | Bulk Sodium Hydroxide Storage Tank TK-S340A Outlet Flow Valve Close | WS-P0010 | | | | | | LCP-S11 | DO |
| 3061 | Y | 0 | YD-S340C | Open Command | Bulk Sodium Hydroxide Storage Tank TK-S340A Outlet Flow Valve Open | WS-P0010 | | | | | | LCP-S11 | DO |
| 3062 | Y | 0 | ZD-S330C | Open Status | Bulk Sodium Hydroxide Storage Tank TK-S330A Outlet Flow Valve Open | WS-P0010 | | | | | | LCP-S11 | DI |
| 3063 | Y | 0 | ZB-S330C | Closed Status | Bulk Sodium Hydroxide Storage Tank TK-S330A Outlet Flow Valve Close | WS-P0010 | | | | | | LCP-S11 | DI |
| 3064 | Y | 0 | ZD-S340C | Open Status | Bulk Sodium Hydroxide Storage Tank TK-S340A Outlet Flow Valve Open | WS-P0010 | | | | | | LCP-S11 | DI |
| 3065 | Y | 0 | ZB-S340C | Closed Status | Bulk Sodium Hydroxide Storage Tank TK-S340A Outlet Flow Valve Close | WS-P0010 | | | | | | LCP-S11 | DI |
| 3066 | Y | 0 | FI-S350A | Flow Indication | Sodium Hydroxide Feed Pump P-S350A Outlet Flow Rate | WS-P0011 | | | | | | LCP-S11 | AI |
| 3067 | Y | 0 | FI-S370A | Flow Indication | Sodium Hydroxide Feed Pump P-S370A Outlet Flow Rate | WS-P0011 | | | | | | LCP-S11 | AI |
| 3068 | Y | 0 | FQ-S350A | Flow Pulse | Sodium Hydroxide Feed Pump P-S350A Outlet Flow Total | WS-P0011 | | | | | | LCP-S11 | DI |
| 3069 | Y | 0 | FQ-S370A | Flow Pulse | Sodium Hydroxide Feed Pump P-S370A Outlet Flow Total | WS-P0011 | | | | | | LCP-S11 | DI |
| 3070 | Y | 0 | LA-S371A | Level Alarm | Sodium Hydroxide Spill Containment South Sump High Level | WS-P0011 | | | | | | LCP-S11 | DI |
| 3071 | Y | 0 | MM-S350A | Running Status | Sodium Hydroxide Feed Pump P-S350A Running | WS-P0011 | | | | | | LCP-S11 | DI |
| 3072 | Y | 0 | MM-S360A | Running Status | Sodium Hydroxide Feed Pump P-S360A Running | WS-P0011 | | | | | | LCP-S11 | DI |
| 3073 | Y | 0 | MM-S370A | Running Status | Sodium Hydroxide Feed Pump P-S370A Running | WS-P0011 | | | | | | LCP-S11 | DI |
| 3074 | Y | 0 | MN-S350A | Start Command | Sodium Hydroxide Feed Pump P-S350A Start | WS-P0011 | | | | | | LCP-S11 | DO |
| 3075 | Y | 0 | MN-S360A | Start Command | Sodium Hydroxide Feed Pump P-S360A Start | WS-P0011 | | | | | | LCP-S11 | DO |
| 3076 | Y | 0 | MN-S370A | Start Command | Sodium Hydroxide Feed Pump P-S370A Start | WS-P0011 | | | | | | LCP-S11 | DO |
| 3077 | Y | 0 | SI-S350A | Speed Indication | Sodium Hydroxide Feed Pump P-S350A Speed | WS-P0011 | | | | | | LCP-S11 | AI |
| 3078 | Y | 0 | SI-S360A | Speed Indication | Sodium Hydroxide Feed Pump P-S360A Speed | WS-P0011 | | | | | | LCP-S11 | AI |
| 3079 | Y | 0 | SI-S370A | Speed Indication | Sodium Hydroxide Feed Pump P-S370A Speed | WS-P0011 | | | | | | LCP-S11 | AI |
| 3080 | Y | 0 | SC-S350A | Speed Control Output | Sodium Hydroxide Feed Pump P-S350A Required Speed | WS-P0011 | | | | | | LCP-S11 | AO |
| 3081 | Y | 0 | SC-S360A | Speed Control Output | Sodium Hydroxide Feed Pump P-S360A Required Speed | WS-P0011 | | | | | | LCP-S11 | AO |
| 3082 | Y | 0 | SC-S370A | Speed Control Output | Sodium Hydroxide Feed Pump P-S370A Required Speed | WS-P0011 | | | | | | LCP-S11 | AO |
| 3083 | Y | 0 | UF-S350A | No Fault | Sodium Hydroxide Feed Pump P-S350A Fault | WS-P0011 | | | | | | LCP-S11 | DI |
| 3084 | Y | 0 | UF-S360A | No Fault | Sodium Hydroxide Feed Pump P-S360A Fault | WS-P0011 | | | | | | LCP-S11 | DI |

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| RECORD NO. | PLC Programming reqd | REV. N0. | TAG NAME | FUNCTION | SERVICE | P&ID DRAWING | ENG. UNITS | SCALE LOW | SCALE HIGH | ALARMS LOW | ALARMS HIGH | PLC CABINET | I/O TYPE |
| 3085 | Y | 0 | UF-S370A | No Fault | Sodium Hydroxide Feed Pump P-S370A Fault | WS-P0011 | | | | | | LCP-S11 | DI |
| 3086 | Y | 0 | UF-S350A | No Fault | Sodium Hydroxide Dosing Line Trace Heating Fault | WS-P0011 | | | | | | LCP-S11 | DI |
| 3087 | Y | 0 | UF-S370A | No Fault | Sodium Hydroxide Dosing Line Trace Heating Fault | WS-P0011 | | | | | | LCP-S11 | DI |
| 3088 | Y | 0 | YS-S350A | C/O/H Switch in Computer Position | Sodium Hydroxide Feed Pump P-S350A in Computer Mode | WS-P0011 | | | | | | LCP-S11 | DI |
| 3089 | Y | 0 | YS-S350B | C/O/H Switch in Computer Position | Sodium Hydroxide Feed Pump P-S350A Outlet Control Valve in Computer Mode | WS-P0011 | | | | | | LCP-S11 | DI |
| 3090 | Y | 0 | YS-S360A | C/O/H Switch in Computer Position | Sodium Hydroxide Feed Pump P-S360A in Computer Mode | WS-P0011 | | | | | | LCP-S11 | DI |
| 3091 | Y | 0 | YS-S360B | C/O/H Switch in Computer Position | Standby Sodium Hydroxide Feed Pump P-S360A Outlet Control Valve in Computer Mode | WS-P0011 | | | | | | LCP-S11 | DI |
| 3092 | Y | 0 | YS-S370A | C/O/H Switch in Computer Position | Sodium Hydroxide Feed Pump P-S370A in Computer Mode | WS-P0011 | | | | | | LCP-S11 | DI |
| 3093 | Y | 0 | YS-S370B | C/O/H Switch in Computer Position | Sodium Hydroxide Feed Pump P-S370A Outlet Control Valve in Computer Mode | WS-P0011 | | | | | | LCP-S11 | DI |
| 3094 | Y | 0 | YB-S350A | Close Command | Sodium Hydroxide Feed Pump P-S350A Outlet Control Valve Close | WS-P0011 | | | | | | LCP-S11 | DO |
| 3095 | Y | 0 | YD-S350A | Open Command | Sodium Hydroxide Feed Pump P-S350A Outlet Control Valve Open | WS-P0011 | | | | | | LCP-S11 | DO |
| 3096 | Y | 0 | YB-S360A | Close Command | Standby Sodium Hydroxide Feed Pump P-S360A Outlet Control Valve Close | WS-P0011 | | | | | | LCP-S11 | DO |
| 3097 | Y | 0 | YD-S360A | Open Command | Standby Sodium Hydroxide Feed Pump P-S360A Outlet Control Valve Open | WS-P0011 | | | | | | LCP-S11 | DO |
| 3098 | Y | 0 | YB-S370A | Close Command | Sodium Hydroxide Feed Pump P-S370A Outlet Control Valve Close | WS-P0011 | | | | | | LCP-S11 | DO |
| 3099 | Y | 0 | YD-S370A | Open Command | Sodium Hydroxide Feed Pump P-S370A Outlet Control Valve Open | WS-P0011 | | | | | | LCP-S11 | DO |
| 3100 | Y | 0 | ZB-S350A | Closed Status | Sodium Hydroxide Feed Pump P-S350A Outlet Control Valve Closed | WS-P0011 | | | | | | LCP-S11 | DI |
| 3101 | Y | 0 | ZD-S350A | Open Status | Sodium Hydroxide Feed Pump P-S350A Outlet Control Valve Open | WS-P0011 | | | | | | LCP-S11 | DI |
| 3102 | Y | 0 | ZB-S360A | Closed Status | Standby Sodium Hydroxide Feed Pump P-S360A Outlet Control Valve Closed | WS-P0011 | | | | | | LCP-S11 | DI |
| 3103 | Y | 0 | ZD-S360A | Open Status | Standby Sodium Hydroxide Feed Pump P-S360A Outlet Control Valve Open | WS-P0011 | | | | | | LCP-S11 | DI |
| 3104 | Y | 0 | ZB-S370A | Closed Status | Sodium Hydroxide Feed Pump P-S370A Outlet Control Valve Closed | WS-P0011 | | | | | | LCP-S11 | DI |
| 3105 | Y | 0 | ZD-S370A | Open Status | Sodium Hydroxide Feed Pump P-S370A Outlet Control Valve Open | WS-P0011 | | | | | | LCP-S11 | DI |
| 3106 | Y | 0 | FA-S752A | Flow Alarm | Emergency Shower Operating EEWS-S752A | WS-P0012 | | | | | | LCP-S11 | DI |
| 3107 | Y | 0 | HS-S401A | Hand Switch | Bulk Ammonia Storage Tank TK-S410A or TK-S420A Start Fill From Truck | WS-P0012 | | | | | | LCP-S11 | DI |
| 3108 | Y | 0 | HS-S401B | Hand Switch | Start Air Purge for Bulk Ammonia Truck | WS-P0012 | | | | | | LCP-S11 | DI |
| 3109 | Y | 0 | HS-S410A | Hand Switch | Bulk Ammonia Storage Tank TK-S410A Select Tank to Fill Truck | WS-P0012 | | | | | | LCP-S11 | DI |
| 3110 | Y | 0 | HS-S420A | Hand Switch | Bulk Ammonia Storage Tank TK-S420A Select Tank to Fill Truck | WS-P0012 | | | | | | LCP-S11 | DI |
| 3111 | Y | 0 | LA-S400A | Level Alarm | Bulk Ammonia Containment Manhole High Level | WS-P0012 | | | | | | LCP-S11 | DI |
| 3112 | Y | 0 | LA-S401A | Level Alarm | Bulk Ammonia Tank High Level Audible Alarm | WS-P0012 | | | | | | LCP-S11 | DO |
| 3113 | Y | 0 | LA-S410A | Level Alarm | Bulk Ammonia Storage Tank TK-S410A High Level | WS-P0012 | | | | | | LCP-S11 | DO |
| 3114 | Y | 0 | LA-S420A | Level Alarm | Bulk Ammonia Storage Tank TK-S420A High Level | WS-P0012 | | | | | | LCP-S11 | DO |
| 3115 | Y | 0 | XM-S410A | Lamp Output | Air Purge Completed for Bulk Ammonia Truck | WS-P0012 | | | | | | LCP-S11 | DO |
| 3116 | Y | 0 | YS-S400A | C/O/H Switch in Computer Position | Bulk Ammonia Containment Manhole Outlet Flow Valve in Computer Mode | WS-P0012 | | | | | | LCP-S11 | DI |
| 3117 | Y | 0 | YB-S400A | Close Command | Bulk Ammonia Containment Manhole Outlet Flow Valve Close | WS-P0012 | | | | | | LCP-S11 | DO |
| 3118 | Y | 0 | YD-S400A | Open Command | Bulk Ammonia Containment Manhole Outlet Flow Valve Open | WS-P0012 | | | | | | LCP-S11 | DO |
| 3119 | Y | 0 | YD-S401A | Close Command | Open Fill Valve SOL-S401A | WS-P0012 | | | | | | LCP-S11 | DO |
| 3120 | Y | 0 | YB-S410A | Close Command | Bulk Ammonia Storage Tank TK-S410A Inlet Flow Valve Close | WS-P0012 | | | | | | LCP-S11 | DO |
| 3121 | Y | 0 | YD-S410A | Open Command | Bulk Ammonia Storage Tank TK-S410A Inlet Flow Valve Open | WS-P0012 | | | | | | LCP-S11 | DO |
| 3122 | Y | 0 | YB-S420A | Close Command | Bulk Ammonia Storage Tank TK-S420A Inlet Flow Valve Close | WS-P0012 | | | | | | LCP-S11 | DO |

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| 3123 | Y | 0 | YD-S420A | Open Command | Bulk Ammonia Storage Tank TK-S420A Inlet Flow Valve Open | WS-P0012 | | | | | | LCP-S11 | DO |
| 3124 | Y | 0 | ZD-S400A | Open Status | Bulk Ammonia Containment Manhole Outlet Flow Valve Open | WS-P0012 | | | | | | LCP-S11 | DI |
| 3125 | Y | 0 | ZB-S400A | Closed Status | Bulk Ammonia Containment Manhole Outlet Flow Valve Closed | WS-P0012 | | | | | | LCP-S11 | DI |
| 3126 | Y | 0 | ZD-S410A | Open Status | Bulk Ammonia Storage Tank TK-S410A Inlet Flow Valve Open | WS-P0012 | | | | | | LCP-S11 | DI |
| 3127 | Y | 0 | ZB-S410A | Closed Status | Bulk Ammonia Storage Tank TK-S410A Inlet Flow Valve Closed | WS-P0012 | | | | | | LCP-S11 | DI |
| 3128 | Y | 0 | ZD-S420A | Open Status | Bulk Ammonia Storage Tank TK-S420A Inlet Flow Valve Open | WS-P0012 | | | | | | LCP-S11 | DI |
| 3129 | Y | 0 | ZB-S420A | Closed Status | Bulk Ammonia Storage Tank TK-S420A Inlet Flow Valve Closed | WS-P0012 | | | | | | LCP-S11 | DI |
| 3130 | Y | 0 | ZD-S410A | Open Status | Bulk Ammonia Storage Tank TK-S410A Inlet Valve Open | WS-P0012 | | | | | | LCP-S11 | DO |
| 3131 | Y | 0 | ZD-S420A | Open Status | Bulk Ammonia Storage Tank TK-S420A Inlet Valve Open | WS-P0012 | | | | | | LCP-S11 | DO |
| 3132 | Y | 0 | HS-S401D | Hand Switch | Bulk Ammonia Tank Fill System Stop | WS-P0012 | | | | | | LCP-S11 | DI |
| 3133 | Y | 0 | HS-S401C | Pushbutton | Bulk Ammonia Tank High Level Audible Alarm Accept | WS-P0012 | | | | | | LCP-S11 | DI |
| 3134 | Y | 0 | GI-S450B | Gas Indicator | Bulk Ammonia Gas Indicator | WS-P0013 | | | | | | LCP-S11 | DI |
| 3135 | Y | 0 | LI-S410A | Level Indicator | Bulk Ammonia Storage Tank TK-S410A Level | WS-P0013 | | | | | | LCP-S11 | AI |
| 3136 | Y | 0 | LI-S410B | Level Indicator | Bulk Ammonia Storage Tank TK-S410A Level | WS-P0013 | | | | | | LCP-S11 | AI |
| 3137 | Y | 0 | LI-S420A | Level Indicator | Bulk Ammonia Storage Tank TK-S420A Level | WS-P0013 | | | | | | LCP-S11 | AI |
| 3138 | Y | 0 | LI-S420B | Level Indicator | Bulk Ammonia Storage Tank TK-S420A Level | WS-P0013 | | | | | | LCP-S11 | AI |
| 3139 | Y | 0 | LA-S405A | Level Alarm | Bulk Ammonia Storage Tank TK-S410A Water Column Water Level Low | WS-P0013 | | | | | | LCP-S11 | DI |
| 3140 | Y | 0 | LA-S405B | Level Alarm | Bulk Ammonia Storage Tank TK-S420A Water Column Water Level Low | WS-P0013 | | | | | | LCP-S11 | DI |
| 3141 | Y | 0 | LA-S405C | Level Alarm | Bulk Ammonia Containment Level High or Gas Visual Alarm | WS-P0013 | | | | | | LCP-S11 | DI |
| 3142 | Y | 0 | PA-S410A | Pressure Alarm | Bulk Ammonia Storage Tank TK-S410A Relief Valve Operating | WS-P0013 | | | | | | LCP-S11 | DI |
| 3143 | Y | 0 | PA-S420A | Pressure Alarm | Bulk Ammonia Storage Tank TK-S420A Relief Valve Operating | WS-P0013 | | | | | | LCP-S11 | DI |
| 3144 | Y | 0 | UF-S410A | Level Fault | Bulk Ammonia Storage Tank TK-S410A Level | WS-P0013 | | | | | | LCP-S11 | DI |
| 3145 | Y | 0 | UF-S410B | Level Fault | Bulk Ammonia Storage Tank TK-S410A Level | WS-P0013 | | | | | | LCP-S11 | DI |
| 3146 | Y | 0 | UF-S420A | Level Fault | Bulk Ammonia Storage Tank TK-S420A Level | WS-P0013 | | | | | | LCP-S11 | DI |
| 3147 | Y | 0 | UF-S420B | Level Fault | Bulk Ammonia Storage Tank TK-S420A Level | WS-P0013 | | | | | | LCP-S11 | DI |
| 3148 | Y | 0 | YS-S410C | C/O/H Switch in Computer Position | Bulk Ammonia Storage Tank TK-S410A in Computer Mode | WS-P0013 | | | | | | LCP-S11 | DI |
| 3149 | Y | 0 | YS-S420C | C/O/H Switch in Computer Position | Bulk Ammonia Storage Tank TK-S420A Outlet Flow Valve in Computer Mode | WS-P0013 | | | | | | LCP-S11 | DI |
| 3150 | Y | 0 | YD-S405A | Open Command | Bulk Ammonia Storage Tank TK-S410A Solenoid Valve Open | WS-P0013 | | | | | | LCP-S11 | DO |
| 3151 | Y | 0 | YD-S405B | Open Command | Bulk Ammonia Storage Tank TK-S420A Solenoid Valve Open | WS-P0013 | | | | | | LCP-S11 | DO |
| 3152 | Y | 0 | YB-S410B | Close Command | Bulk Ammonia Storage Tank TK-S410A Vacuum/Pressure Relief Valve Close | WS-P0013 | | | | | | LCP-S11 | DO |
| 3153 | Y | 0 | YD-S410B | Open Command | Bulk Ammonia Storage Tank TK-S410A Vacuum/Pressure Relief Valve Open | WS-P0013 | | | | | | LCP-S11 | DO |
| 3154 | Y | 0 | YB-S410C | Close Command | Bulk Ammonia Storage Tank TK-S410A Outlet Flow Valve Close | WS-P0013 | | | | | | LCP-S11 | DO |
| 3155 | Y | 0 | YD-S410C | Open Command | Bulk Ammonia Storage Tank TK-S410A Outlet Flow Valve Open | WS-P0013 | | | | | | LCP-S11 | DO |
| 3156 | Y | 0 | YB-S420B | Close Command | Bulk Ammonia Storage Tank TK-S420A Vacuum/Pressure Relief Valve Close | WS-P0013 | | | | | | LCP-S11 | DO |
| 3157 | Y | 0 | YD-S420B | Open Command | Bulk Ammonia Storage Tank TK-S420A Vacuum/Pressure Relief Valve Open | WS-P0013 | | | | | | LCP-S11 | DO |
| 3158 | Y | 0 | YB-S420C | Close Command | Bulk Ammonia Storage Tank TK-S420A Outlet Flow Valve Close | WS-P0013 | | | | | | LCP-S11 | DO |
| 3159 | Y | 0 | YD-S420C | Open Command | Bulk Ammonia Storage Tank TK-S420A Outlet Flow Valve Open | WS-P0013 | | | | | | LCP-S11 | DO |
| 3160 | Y | 0 | ZD-S410B | Open Status | Bulk Ammonia Storage Tank TK-S410A Vacuum/Pressure Relief Valve Open | WS-P0013 | | | | | | LCP-S11 | DI |
| 3161 | Y | 0 | ZB-S410B | Closed Status | Bulk Ammonia Storage Tank TK-S410A Vacuum/Pressure Relief Valve Closed | WS-P0013 | | | | | | LCP-S11 | DI |
| 3162 | Y | 0 | ZD-S410C | Open Status | Bulk Ammonia Storage Tank TK-S410A Outlet Flow Valve Open | WS-P0013 | | | | | | LCP-S11 | DI |
| 3163 | Y | 0 | ZB-S410C | Closed Status | Bulk Ammonia Storage Tank TK-S410A Outlet Flow Valve Closed | WS-P0013 | | | | | | LCP-S11 | DI |
| 3164 | Y | 0 | ZD-S420B | Open Status | Bulk Ammonia Storage Tank TK-S420A Vacuum/Pressure Relief Valve Open | WS-P0013 | | | | | | LCP-S11 | DI |
| 3165 | Y | 0 | ZB-S420B | Closed Status | Bulk Ammonia Storage Tank TK-S420A Vacuum/Pressure Relief Valve Closed | WS-P0013 | | | | | | LCP-S11 | DI |
| 3166 | Y | 0 | ZD-S420C | Open Status | Bulk Ammonia Storage Tank TK-S420A Outlet Flow Valve Open | WS-P0013 | | | | | | LCP-S11 | DI |

I/O POINT TYPES: TCP = Modbus/TCP Ethernet, AI = Analog Input, AO = Analog Output, DI = Discrete Input, DO = Discrete Output

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| RECORD NO. | PLC Programming reqd | REV. N0. | TAG NAME | FUNCTION | SERVICE | P&ID DRAWING | ENG. UNITS | SCALE LOW | SCALE HIGH | ALARMS LOW | ALARMS HIGH | PLC CABINET | I/O TYPE |
| 3167 | Y | 0 | ZB-S420C | Closed Status | Bulk Ammonia Storage Tank TK-S420A Outlet Flow Valve Closed | WS-P0013 | | | | | | LCP-S11 | DI |
| 3168 | Y | 0 | FI-S430A | Flow Indication | Ammonia Feed Pump P-S430A Outlet Flow Rate | WS-P0014 | | | | | | LCP-S11 | AI |
| 3169 | Y | 0 | FI-S440A | Flow Indication | Ammonia Feed Pump P-S440A Outlet Flow Rate | WS-P0014 | | | | | | LCP-S11 | AI |
| 3170 | Y | 0 | FQ-S430A | Flow Pulse | Ammonia Feed Pump P-S430A Outlet Flow Total | WS-P0014 | | | | | | LCP-S11 | DI |
| 3171 | Y | 0 | FQ-S440A | Flow Pulse | Ammonia Feed Pump P-S440A Outlet Flow Total | WS-P0014 | | | | | | LCP-S11 | DI |
| 3172 | Y | 0 | LA-S450A | Level Alarm | Ammonia Spill Containment High Level | WS-P0014 | | | | | | LCP-S11 | DI |
| 3173 | Y | 0 | MM-S430A | Running Status | Ammonia Feed Pump P-S430A Running | WS-P0014 | | | | | | LCP-S11 | DI |
| 3174 | Y | 0 | MM-S440A | Running Status | Ammonia Feed Pump P-S440A Running | WS-P0014 | | | | | | LCP-S11 | DI |
| 3175 | Y | 0 | MN-S430A | Start Command | Ammonia Feed Pump P-S430A Start | WS-P0014 | | | | | | LCP-S11 | DO |
| 3176 | Y | 0 | MN-S440A | Start Command | Ammonia Feed Pump P-S440A Start | WS-P0014 | | | | | | LCP-S11 | DO |
| 3177 | Y | 0 | SI-S430A | Speed Indication | Ammonia Feed Pump P-S430A Speed | WS-P0014 | | | | | | LCP-S11 | AI |
| 3178 | Y | 0 | SI-S440A | Speed Indication | Ammonia Feed Pump P-S440A Speed | WS-P0014 | | | | | | LCP-S11 | AI |
| 3179 | Y | 0 | SC-S430A | Speed Control Output | Ammonia Feed Pump P-S430A Required Speed | WS-P0014 | | | | | | LCP-S11 | AO |
| 3180 | Y | 0 | SC-S440A | Speed Control Output | Ammonia Feed Pump P-S440A Required Speed | WS-P0014 | | | | | | LCP-S11 | AO |
| 3181 | Y | 0 | UF-S430A | No Fault | Ammonia Feed Pump P-S430A Fault | WS-P0014 | | | | | | LCP-S11 | DI |
| 3182 | Y | 0 | UF-S440A | No Fault | Ammonia Feed Pump P-S440A Fault | WS-P0014 | | | | | | LCP-S11 | DI |
| 3183 | Y | 0 | YS-S430A | C/O/H Switch in Computer Position | Ammonia Feed Pump P-S430A in Computer Mode | WS-P0014 | | | | | | LCP-S11 | DI |
| 3184 | Y | 0 | YS-S440A | C/O/H Switch in Computer Position | Ammonia Feed Pump P-S440A in Computer Mode | WS-P0014 | | | | | | LCP-S11 | DI |
| 3185 | Y | 0 | YS-S440A | C/O/H Switch in Computer Position | Ammonia Feed Pump Outlet Control Valve in Computer Mode | WS-P0014 | | | | | | LCP-S11 | DI |
| 3186 | Y | 0 | YB-S440A | Close Command | Ammonia Feed Pump Outlet Control Valve Close | WS-P0014 | | | | | | LCP-S11 | DO |
| 3187 | Y | 0 | YD-S440A | Open Command | Ammonia Feed Pump Outlet Control Valve Open | WS-P0014 | | | | | | LCP-S11 | DO |
| 3188 | Y | 0 | ZB-S440A | Closed Status | Ammonia Feed Pump Outlet Control Valve Closed | WS-P0014 | | | | | | LCP-S11 | DI |
| 3189 | Y | 0 | ZD-S440A | Open Status | Ammonia Feed Pump Outlet Control Valve Open | WS-P0014 | | | | | | LCP-S11 | DI |
| 3190 | Y | 0 | TI-H240A | Zone Temperature | Clearwell Inlet Building Ambient Temperature | WT-M0007 | | | | | | LCP-T11 | AI |
| 3191 | Y | 0 | UF-H240A | General Alarm | Clearwell Inlet Building HVAC General Fault | WT-M0007 | | | | | | LCP-T11 | DI |
| 3192 | Y | 0 | AF-202A | Analyzer Fault Indication | Clearwell Chloramination Analyzer Fault | WT-P0001 | | | | | | LCP-T11 | DI |
| 3193 | Y | 0 | AI-T102A | Total Chlorine Indication | Clearwell Total Chlorine | WT-P0001 | | | | | | LCP-T11 | AI |
| 3194 | Y | 0 | AI-T102B | Total Ammonia Indication | Clearwell Total Ammonia | WT-P0001 | | | | | | LCP-T11 | AI |
| 3195 | Y | 0 | AI-T102C | Free Ammonia Indication | Clearwell Free Ammonia | WT-P0001 | | | | | | LCP-T11 | AI |
| 3196 | Y | 0 | AI-T102D | Monochloramine Indication | Clearwell Monochloramine | WT-P0001 | | | | | | LCP-T11 | AI |
| 3197 | Y | 0 | AI-T103A | Free Chlorine Indication | Clearwell Free Chlorine Analyzer | WT-P0001 | | | | | | LCP-T11 | AI |
| 3198 | Y | 0 | AI-T104A | pH Indication | Clearwell pH | WT-P0001 | | | | | | LCP-T11 | AI |
| 3199 | Y | 0 | AI-T105A | Turbidity Indication | Clearwell Turbidity | WT-P0001 | | | | | | LCP-T11 | AI |
| 3200 | Y | 0 | AI-T202A | Total Chlorine Indication | Clearwell Total Chlorine | WT-P0001 | | | | | | LCP-T11 | AI |
| 3201 | Y | 0 | AI-T202B | Total Ammonia Indication | Clearwell Total Ammonia | WT-P0001 | | | | | | LCP-T11 | AI |
| 3202 | Y | 0 | AI-T202C | Free Ammonia Indication | Clearwell Free Ammonia | WT-P0001 | | | | | | LCP-T11 | AI |
| 3203 | Y | 0 | AI-T202D | Monochloramine Indication | Clearwell Monochloramine | WT-P0001 | | | | | | LCP-T11 | AI |
| 3204 | Y | 0 | AI-T203A | Free Chlorine Indication | Clearwell Free Chlorine | WT-P0001 | | | | | | LCP-T11 | AI |
| 3205 | Y | 0 | AI-T204A | pH Indication | Clearwell pH | WT-P0001 | | | | | | LCP-T11 | AI |
| 3206 | Y | 0 | AI-T205A | Turbidity Indication | Clearwell Turbidity | WT-P0001 | | | | | | LCP-T11 | AI |
| 3207 | Y | 0 | AI-T101A | Ammonia Indication | Clearwell Inlet Ammonia | WT-P0001 | | | | | | LCP-T11 | AI |
| 3208 | Y | 0 | AI-T101A | Total/ Combined Chlorine Indication | Clearwell Inlet Total/ Combined Chlorine | WT-P0001 | | | | | | LCP-T11 | AI |
| 3209 | Y | 0 | AI-T101A | Free Chlorine Indication | Clearwell Inlet Free Chlorine | WT-P0001 | | | | | | LCP-T11 | AI |
| 3210 | Y | 0 | AI-T102A | pH Indication | Clearwell Inlet pH | WT-P0001 | | | | | | LCP-T11 | AI |
| 3211 | Y | 0 | AI-T103A | Turbidity Indication | Clearwell Inlet Turbidity | WT-P0001 | | | | | | LCP-T11 | AI |
| 3212 | Y | 0 | AI-T201A | Ammonia Indication | Clearwell Inlet Ammonia | WT-P0001 | | | | | | LCP-T11 | AI |
| 3213 | Y | 0 | AI-T201A | Total/ Combined Chlorine Indication | Clearwell Inlet Total/ Combined Chlorine | WT-P0001 | | | | | | LCP-T11 | AI |
| 3214 | Y | 0 | AI-T201A | Free Chlorine Indication | Clearwell Inlet Free Chlorine | WT-P0001 | | | | | | LCP-T11 | AI |
| 3215 | Y | 0 | AI-T202A | pH Indication | Clearwell Inlet pH | WT-P0001 | | | | | | LCP-T11 | AI |
| 3216 | Y | 0 | AI-T203A | Turbidity Indication | Clearwell Inlet Turbidity | WT-P0001 | | | | | | LCP-T11 | AI |
| 3217 | Y | 0 | AF-T102A | Analyzer Fault Indication | Clearwell Chloramination Analyzer Fault | WT-P0001 | | | | | | LCP-T11 | DI |
| 3218 | Y | 0 | AF-T103A | Analyzer Fault Indication | Clearwell Free Chlorine Analyzer Fault | WT-P0001 | | | | | | LCP-T11 | DI |
| 3219 | Y | 0 | AF-T104A | Analyzer Fault Indication | Clearwell pH Analyzer Fault | WT-P0001 | | | | | | LCP-T11 | DI |
| 3220 | Y | 0 | AF-T105A | Analyzer Fault Indication | Clearwell Turbidity Analyzer Fault | WT-P0001 | | | | | | LCP-T11 | DI |
| 3221 | Y | 0 | AF-T203A | Analyzer Fault Indication | Clearwell Free Chlorine Analyzer Fault | WT-P0001 | | | | | | LCP-T11 | DI |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| RECORD NO. | PLC Programming reqd | REV. N0. | TAG NAME | FUNCTION | SERVICE | P&ID DRAWING | ENG. UNITS | SCALE LOW | SCALE HIGH | ALARMS LOW | ALARMS HIGH | PLC CABINET | I/O TYPE |
| 3222 | Y | 0 | AF-T204A | Analyzer Fault Indication | Clearwell pH Analyzer Fault | WT-P0001 | | | | | | LCP-T11 | DI |
| 3223 | Y | 0 | AF-T205A | Analyzer Fault Indication | Clearwell Turbidity Analyzer Fault | WT-P0001 | | | | | | LCP-T11 | DI |
| 3224 | Y | 0 | FA-T102A | Flow Alarm | Clearwell Chloramination Analyzer Sample Low Flow | WT-P0001 | | | | | | LCP-T11 | DI |
| 3225 | Y | 0 | FA-T103A | Flow Alarm | Clearwell Free Chlorine Analyzer Sample Low Flow | WT-P0001 | | | | | | LCP-T11 | DI |
| 3226 | Y | 0 | FA-T104A | Flow Alarm | Clearwell pH Analyzer Sample Low Flow | WT-P0001 | | | | | | LCP-T11 | DI |
| 3227 | Y | 0 | FA-T105A | Flow Alarm | Clearwell Turbidity Analyzer Sample Low Flow | WT-P0001 | | | | | | LCP-T11 | DI |
| 3228 | Y | 0 | FA-T202A | Flow Alarm | Clearwell Chloramination Analyzer Sample Low Flow | WT-P0001 | | | | | | LCP-T11 | DI |
| 3229 | Y | 0 | FA-T203A | Flow Alarm | Clearwell Free Chlorine Analyzer Sample Low Flow | WT-P0001 | | | | | | LCP-T11 | DI |
| 3230 | Y | 0 | FA-T204A | Flow Alarm | Clearwell pH Analyzer Sample Low Flow | WT-P0001 | | | | | | LCP-T11 | DI |
| 3231 | Y | 0 | FA-T205A | Flow Alarm | Clearwell Turbidity Analyzer Sample Low Flow | WT-P0001 | | | | | | LCP-T11 | DI |
| 3232 | Y | 0 | FA-T101A | Flow Alarm | Clearwell Analyser Sample Low Flow | WT-P0001 | | | | | | LCP-T11 | DI |
| 3233 | Y | 0 | FS-T201A | Flow Alarm | Clearwell Analyser Sample Low Flow | WT-P0001 | | | | | | LCP-T11 | DI |
| 3234 | Y | 0 | LI-T101A | Level Indication | Clearwell Cell No.1 Level | WT-P0001 | | | | | | LCP-T11 | AI |
| 3235 | Y | 0 | LI-T101B | Level Indication | Clearwell Cell No.1 Level | WT-P0001 | | | | | | LCP-T11 | AI |
| 3236 | Y | 0 | LI-T201A | Level Indication | Clearwell Cell No.2 Level | WT-P0001 | | | | | | LCP-T11 | AI |
| 3237 | Y | 0 | LI-T201B | Level Indication | Clearwell Cell No.2 Level | WT-P0001 | | | | | | LCP-T11 | AI |
| 3238 | Y | 0 | LI-T101A | Level Indication | Clearwell Cell No.1 Level | WT-P0001 | | | | | | LCP-T11 | AI |
| 3239 | Y | 0 | LI-T101B | Level Indication | Clearwell Cell No.1 Level | WT-P0001 | | | | | | LCP-T11 | AI |
| 3240 | Y | 0 | LI-T201A | Level Indication | Clearwell Cell No.2 Level | WT-P0001 | | | | | | LCP-T11 | AI |
| 3241 | Y | 0 | LI-T201B | Level Indication | Clearwell Cell No.2 Level | WT-P0001 | | | | | | LCP-T11 | AI |
| 3242 | Y | 0 | LF-T101A | Level Fault | Clearwell Cell No.1 Level | WT-P0001 | | | | | | LCP-T11 | DI |
| 3243 | Y | 0 | LF-T101B | Level Fault | Clearwell Cell No.1 Level | WT-P0001 | | | | | | LCP-T11 | DI |
| 3244 | Y | 0 | LF-T201A | Level Fault | Clearwell Cell No.2 Level | WT-P0001 | | | | | | LCP-T11 | DI |
| 3245 | Y | 0 | LF-T201B | Level Fault | Clearwell Cell No.2 Level | WT-P0001 | | | | | | LCP-T11 | DI |
| 3246 | Y | 0 | LF-T101A | Level Fault | Clearwell Cell No.1 Level | WT-P0001 | | | | | | LCP-T11 | DI |
| 3247 | Y | 0 | LF-T101B | Level Fault | Clearwell Cell No.1 Level | WT-P0001 | | | | | | LCP-T11 | DI |
| 3248 | Y | 0 | LF-T201A | Level Fault | Clearwell Cell No.2 Level | WT-P0001 | | | | | | LCP-T11 | DI |
| 3249 | Y | 0 | LF-T201B | Level Fault | Clearwell Cell No.2 Level | WT-P0001 | | | | | | LCP-T11 | DI |
| 3250 | Y | 0 | MM-T101A | Running Status | Clearwell Analyser Sample Pump Running | WT-P0001 | | | | | | LCP-T11 | DI |
| 3251 | Y | 0 | MM-T201A | Running Status | Clearwell Analyser Sample Pump Running | WT-P0001 | | | | | | LCP-T11 | DI |
| 3252 | Y | 0 | MM-T101A | Running Status | Clearwell Analyser Sample Pump Running | WT-P0001 | | | | | | LCP-T11 | DI |
| 3253 | Y | 0 | MM-T101A | Running Status | Clearwell Analyser Sample Pump Running | WT-P0001 | | | | | | LCP-T11 | DI |
| 3254 | Y | 0 | MN-T101A | Start Command | Clearwell Analyser Sample Pump Start | WT-P0001 | | | | | | LCP-T11 | DO |
| 3255 | Y | 0 | MN-T201A | Start Command | Clearwell Analyser Sample Pump Start | WT-P0001 | | | | | | LCP-T11 | DO |
| 3256 | Y | 0 | MN-T101A | Start Command | Clearwell Analyser Sample Pump Start | WT-P0001 | | | | | | LCP-T11 | DO |
| 3257 | Y | 0 | MN-T101A | Start Command | Clearwell Analyser Sample Pump Start | WT-P0001 | | | | | | LCP-T11 | DO |
| 3258 | Y | 0 | YS-T101A | C/O/H Switch in Computer Position | Clearwell Analyser Sample Pump in Computer Mode | WT-P0001 | | | | | | LCP-T11 | DI |
| 3259 | Y | 0 | YS-T201A | C/O/H Switch in Computer Position | Clearwell Analyser Sample Pump in Computer Mode | WT-P0001 | | | | | | LCP-T11 | DI |
| 3260 | Y | 0 | YS-T101A | C/O/H Switch in Computer Position | Clearwell Analyser Sample Pump in Computer Mode | WT-P0001 | | | | | | LCP-T11 | DI |
| 3261 | Y | 0 | YS-T101A | C/O/H Switch in Computer Position | Clearwell Analyser Sample Pump in Computer Mode | WT-P0001 | | | | | | LCP-T11 | DI |
| 3262 | Y | 0 | ZB-T002A | Closed Status | Clearwell Cell 1 & 2 Dividing Wall Sluice Gate Closed | WT-P0001 | | | | | | LCP-T11 | DI |
| 3263 | Y | 0 | ZB-T003A | Closed Status | Clearwell Outlet Chamber Dividing Wall Sluice Gate Closed | WT-P0001 | | | | | | LCP-T11 | DI |
| 3264 | Y | 0 | ZB-T101A | Closed Status | Clearwell Cell 1 Inlet Sluice Gate Closed | WT-P0001 | | | | | | LCP-T11 | DI |
| 3265 | Y | 0 | ZB-T102A | Closed Status | Clearwell Cell 1 Outlet Sluice Gate Closed | WT-P0001 | | | | | | LCP-T11 | DI |
| 3266 | Y | 0 | ZB-T201A | Closed Status | Clearwell Cell 2 Inlet Sluice Gate Closed | WT-P0001 | | | | | | LCP-T11 | DI |
| 3267 | Y | 0 | ZB-T202A | Closed Status | Clearwell Cell 2 Outlet Sluice Gate Closed | WT-P0001 | | | | | | LCP-T11 | DI |
| 3268 | Y | 0 | ZD-T002A | Open Status | Clearwell Cell 1 & 2 Dividing Wall Sluice Gate Open | WT-P0001 | | | | | | LCP-T11 | DI |
| 3269 | Y | 0 | ZD-T003A | Open Status | Clearwell Outlet Chamber Dividing Wall Sluice Gate Open | WT-P0001 | | | | | | LCP-T11 | DI |
| 3270 | Y | 0 | ZD-T101A | Open Status | Clearwell Cell 1 Inlet Sluice Gate Open | WT-P0001 | | | | | | LCP-T11 | DI |
| 3271 | Y | 0 | ZD-T102A | Open Status | Clearwell Cell 1 Outlet Sluice Gate Open | WT-P0001 | | | | | | LCP-T11 | DI |
| 3272 | Y | 0 | ZD-T201A | Open Status | Clearwell Cell 2 Inlet Sluice Gate Open | WT-P0001 | | | | | | LCP-T11 | DI |
| 3273 | Y | 0 | ZD-T202A | Open Status | Clearwell Cell 2 Outlet Sluice Gate Open | WT-P0001 | | | | | | LCP-T11 | DI |
| 3274 | Y | 0 | ZB-T002A | Closed Status | Clearwell Cell 1 & 2 Dividing Wall Sluice Gate Closed | WT-P0001 | | | | | | LCP-T11 | DI |
| 3275 | Y | 0 | ZD-T002A | Open Status | Clearwell Cell 1 & 2 Dividing Wall Sluice Gate Open | WT-P0001 | | | | | | LCP-T11 | DI |
| 3276 | Y | 0 | ZB-T003A | Closed Status | Clearwell Outlet Chamber Dividing Wall Sluice Gate Closed | WT-P0001 | | | | | | LCP-T11 | DI |

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| 3277 | Y | 0 | ZD-T003A | Open Status | Clearwell Outlet Chamber Dividing Wall Sluice Gate Open | WT-P0001 | | | | | | LCP-T11 | DI |
| 3278 | Y | 0 | ZB-T101A | Closed Status | Clearwell Cell 1 Inlet Sluice Gate Closed | WT-P0001 | | | | | | LCP-T11 | DI |
| 3279 | Y | 0 | ZD-T101A | Open Status | Clearwell Cell 1 Inlet Sluice Gate Open | WT-P0001 | | | | | | LCP-T11 | DI |
| 3280 | Y | 0 | ZB-T102A | Closed Status | Clearwell Cell 1 Outlet Sluice Gate Closed | WT-P0001 | | | | | | LCP-T11 | DI |
| 3281 | Y | 0 | ZD-T102A | Open Status | Clearwell Cell 1 Outlet Sluice Gate Open | WT-P0001 | | | | | | LCP-T11 | DI |
| 3282 | Y | 0 | ZB-T201A | Closed Status | Clearwell Cell 2 Inlet Sluice Gate Closed | WT-P0001 | | | | | | LCP-T11 | DI |
| 3283 | Y | 0 | ZD-T201A | Open Status | Clearwell Cell 2 Inlet Sluice Gate Open | WT-P0001 | | | | | | LCP-T11 | DI |
| 3284 | Y | 0 | ZB-T202A | Closed Status | Clearwell Cell 2 Outlet Sluice Gate Closed | WT-P0001 | | | | | | LCP-T11 | DI |
| 3285 | Y | 0 | ZD-T202A | Open Status | Clearwell Cell 2 Outlet Sluice Gate Open | WT-P0001 | | | | | | LCP-T11 | DI |
| 3286 | Y | 0 | TI-DE044A | Temperature Indication | Branch 1 Pump PP-4 Top Bearing Transmitter | WD-P0004 | | | | | | CP-D21A | AI TCP |
| 3287 | Y | 0 | TI-DE044B | Temperature Indication | Branch 1 Pump PP-4 Winding Temperature Transmitter | WD-P0004 | | | | | | CP-D21A | AI TCP |
| 3288 | Y | 0 | TI-DE044C | Temperature Indication | Branch 1 Pump PP-4 Winding Temperature Transmitter | WD-P0004 | | | | | | CP-D21A | AI TCP |
| 3289 | Y | 0 | TI-DE044D | Temperature Indication | Branch 1 Pump PP-4 Winding Temperature Transmitter | WD-P0004 | | | | | | CP-D21A | AI TCP |
| 3290 | Y | 0 | TI-DE044E | Temperature Indication | Branch 1 Pump PP-4 Winding Temperature Transmitter | WD-P0004 | | | | | | CP-D21A | AI TCP |
| 3291 | Y | 0 | TI-DE044F | Temperature Indication | Branch 1 Pump PP-4 Winding Temperature Transmitter | WD-P0004 | | | | | | CP-D21A | AI TCP |
| 3292 | Y | 0 | TI-DE044G | Temperature Indication | Branch 1 Pump PP-4 Winding Temperature Transmitter | WD-P0004 | | | | | | CP-D21A | AI TCP |
| 3293 | Y | 0 | TI-DE044H | Temperature Indication | Branch 1 Pump PP-4 Winding Temperature Transmitter | WD-P0004 | | | | | | CP-D21A | AI TCP |
| 3294 | Y | 0 | TI-DE045A | Temperature Indication | Branch 1 Pump PP-5 Top Bearing Transmitter | WD-P0004 | | | | | | CP-D21A | AI TCP |
| 3295 | Y | 0 | TI-DE045B | Temperature Indication | Branch 1 Pump PP-5 Winding Temperature Transmitter | WD-P0004 | | | | | | CP-D21A | AI TCP |
| 3296 | Y | 0 | TI-DE045C | Temperature Indication | Branch 1 Pump PP-5 Winding Temperature Transmitter | WD-P0004 | | | | | | CP-D21A | AI TCP |
| 3297 | Y | 0 | TI-DE045D | Temperature Indication | Branch 1 Pump PP-5 Winding Temperature Transmitter | WD-P0004 | | | | | | CP-D21A | AI TCP |
| 3298 | Y | 0 | TI-DE045E | Temperature Indication | Branch 1 Pump PP-5 Winding Temperature Transmitter | WD-P0004 | | | | | | CP-D21A | AI TCP |
| 3299 | Y | 0 | TI-DE045F | Temperature Indication | Branch 1 Pump PP-5 Winding Temperature Transmitter | WD-P0004 | | | | | | CP-D21A | AI TCP |
| 3300 | Y | 0 | TI-DE045G | Temperature Indication | Branch 1 Pump PP-5 Winding Temperature Transmitter | WD-P0004 | | | | | | CP-D21A | AI TCP |
| 3301 | Y | 0 | TI-DE045H | Temperature Indication | Branch 1 Pump PP-5 Winding Temperature Transmitter | WD-P0004 | | | | | | CP-D21A | AI TCP |
| 3302 | Y | 0 | VI-DE044A | Vibration Indication | Branch 1 Pump PP-4 Vibration Monitor | WD-P0004 | | | | | | CP-D21A | AI TCP |
| 3303 | Y | 0 | VI-DE045A | Vibration Indication | Branch 1 Pump PP-5 Vibration Monitor | WD-P0004 | | | | | | CP-D21A | AI TCP |
| 3304 | Y | 0 | MM-P931A | Running Status | DAF Float Sump Sludge Pump P-P931A Running | WP-P0018 | | | | | | LCP-H10 | DI |
| 3305 | Y | 0 | MM-P932A | Running Status | DAF Float Sump Sludge Pump P-P932A Running | WP-P0018 | | | | | | LCP-H10 | DI |
| 3306 | Y | 0 | MM-P941A | Running Status | DAF Float Sump Sludge Pump P-P941A Running | WP-P0018 | | | | | | LCP-H10 | DI |
| 3307 | Y | 0 | MM-P942A | Running Status | DAF Float Sump Sludge Pump P-P942A Running | WP-P0018 | | | | | | LCP-H10 | DI |
| 3308 | Y | 0 | MN-P931A | Start Command | DAF Float Sump Sludge Pump P-P931A Start | WP-P0018 | | | | | | LCP-H10 | DO |
| 3309 | Y | 0 | MN-P932A | Start Command | DAF Float Sump Sludge Pump P-P932A Start | WP-P0018 | | | | | | LCP-H10 | DO |
| 3310 | Y | 0 | MN-P941A | Start Command | DAF Float Sump Sludge Pump P-P941A Start | WP-P0018 | | | | | | LCP-H10 | DO |
| 3311 | Y | 0 | MN-P942A | Start Command | DAF Float Sump Sludge Pump P-P942A Start | WP-P0018 | | | | | | LCP-H10 | DO |
| 3312 | Y | 0 | UF-P931A | No Fault | DAF Float Sump Sludge Pump P-P931A Fault | WP-P0018 | | | | | | LCP-H10 | DI |
| 3313 | Y | 0 | UF-P932A | No Fault | DAF Float Sump Sludge Pump P-P932A Fault | WP-P0018 | | | | | | LCP-H10 | DI |
| 3314 | Y | 0 | UF-P941A | No Fault | DAF Float Sump Sludge Pump P-P941A Fault | WP-P0018 | | | | | | LCP-H10 | DI |
| 3315 | Y | 0 | UF-P942A | No Fault | DAF Float Sump Sludge Pump P-P942A Fault | WP-P0018 | | | | | | LCP-H10 | DI |
| 3316 | Y | 0 | YS-P931A | C/O/H Switch in Computer Position | DAF Float Sump Sludge Pump P-P931A in Computer Mode | WP-P0018 | | | | | | LCP-H10 | DI |
| 3317 | Y | 0 | YS-P932A | C/O/H Switch in Computer Position | DAF Float Sump Sludge Pump P-P932A in Computer Mode | WP-P0018 | | | | | | LCP-H10 | DI |
| 3318 | Y | 0 | YS-P941A | C/O/H Switch in Computer Position | DAF Float Sump Sludge Pump P-P941A in Computer Mode | WP-P0018 | | | | | | LCP-H10 | DI |
| 3319 | Y | 0 | YS-P942A | C/O/H Switch in Computer Position | DAF Float Sump Sludge Pump P-P942A in Computer Mode | WP-P0018 | | | | | | LCP-H10 | DI |
| 3320 | Y | 0 | ZB-P931E | Closed Status | DAF Float Transfer Pump P931A Discharge Valve Closed | WP-P0018 | | | | | | LCP-H10 | DI |
| 3321 | Y | 0 | ZD-P931E | Open Status | DAF Float Transfer Pump P931A Discharge Valve Open | WP-P0018 | | | | | | LCP-H10 | DI |
| 3322 | Y | 0 | ZB-P932E | Closed Status | DAF Float Transfer Pump P-P932A Discharge Valve Closed | WP-P0018 | | | | | | LCP-H10 | DI |
| 3323 | Y | 0 | ZD-P932E | Open Status | DAF Float Transfer Pump P-P932A Discharge Valve Open | WP-P0018 | | | | | | LCP-H10 | DI |
| 3324 | Y | 0 | ZB-P941E | Closed Status | DAF Float Transfer Pump P-P941A Discharge Valve Closed | WP-P0018 | | | | | | LCP-H10 | DI |
| 3325 | Y | 0 | ZD-P941E | Open Status | DAF Float Transfer Pump P-P941A Discharge Valve Open | WP-P0018 | | | | | | LCP-H10 | DI |
| 3326 | Y | 0 | ZB-P942A | Closed Status | DAF Float Transfer Pump P-P942A Discharge Valve Closed | WP-P0018 | | | | | | LCP-H10 | DI |
| 3327 | Y | 0 | ZD-P942A | Open Status | DAF Float Transfer Pump P-P942A Discharge Valve Open | WP-P0018 | | | | | | LCP-H10 | DI |
| 3328 | Y | 0 | MM-P951A | Running Status | DAF Float Sump Sludge Pump P-P951A Running | WP-P0019 | | | | | | LCP-H10 | DI |
| 3329 | Y | 0 | MM-P952A | Running Status | DAF Float Sump Sludge Pump P-P952A Running | WP-P0019 | | | | | | LCP-H10 | DI |
| 3330 | Y | 0 | MM-P961A | Running Status | DAF Float Sump Sludge Pump P-P961A Running | WP-P0019 | | | | | | LCP-H10 | DI |
| 3331 | Y | 0 | MN-P951A | Start Command | DAF Float Sump Sludge Pump P-P951A Start | WP-P0019 | | | | | | LCP-H10 | DO |

I/O POINT TYPES: TCP = Modbus/TCP Ethernet, AI = Analog Input, AO = Analog Output, DI = Discrete Input, DO = Discrete Output

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| RECORD NO. | PLC Programming reqd | REV. N0. | TAG NAME | FUNCTION | SERVICE | P&ID DRAWING | ENG. UNITS | SCALE LOW | SCALE HIGH | ALARMS LOW | ALARMS HIGH | PLC CABINET | I/O TYPE |
| 3332 | Y | 0 | MN-P952A | Start Command | DAF Float Sump Sludge Pump P-P952A Start | WP-P0019 | | | | | | LCP-H10 | DO |
| 3333 | Y | 0 | MN-P961A | Start Command | DAF Float Sump Sludge Pump P-P961A Start | WP-P0019 | | | | | | LCP-H10 | DO |
| 3334 | Y | 0 | UF-P951A | No Fault | DAF Float Sump Sludge Pump P-P951A Fault | WP-P0019 | | | | | | LCP-H10 | DI |
| 3335 | Y | 0 | UF-P952A | No Fault | DAF Float Sump Sludge Pump P-P952A Fault | WP-P0019 | | | | | | LCP-H10 | DI |
| 3336 | Y | 0 | UF-P961A | No Fault | DAF Float Sump Sludge Pump P-P961A Fault | WP-P0019 | | | | | | LCP-H10 | DI |
| 3337 | Y | 0 | YS-P951A | C/O/H Switch in Computer Position | DAF Float Sump Sludge Pump P-P951A in Computer Mode | WP-P0019 | | | | | | LCP-H10 | DI |
| 3338 | Y | 0 | YS-P952A | C/O/H Switch in Computer Position | DAF Float Sump Sludge Pump P-P952A in Computer Mode | WP-P0019 | | | | | | LCP-H10 | DI |
| 3339 | Y | 0 | YS-P961A | C/O/H Switch in Computer Position | DAF Float Sump Sludge Pump P-P961A in Computer Mode | WP-P0019 | | | | | | LCP-H10 | DI |
| 3340 | Y | 0 | MM-C701A | Running Status | Filter Inlet Chamber (TK-C701A) Mixer Running | WO-P0010 | | | | | | CP-H30 | DI |
| 3341 | Y | 0 | MN-C701A | Start Command | Filter Inlet Chamber (TK-C701A) Mixer Start | WO-P0010 | | | | | | CP-H30 | DO |
| 3342 | Y | 0 | UF-C701A | No Fault | Filter Inlet Chamber (TK-C701A) Mixer Fault | WO-P0010 | | | | | | CP-H30 | DI |
| 3343 | Y | 0 | YS-C701A | C/O/H Switch in Computer Position | Filter Inlet Chamber (TK-C701A) Mixer in Computer Mode | WO-P0010 | | | | | | CP-H30 | DI |
| 3344 | Y | 0 | MM-C702A | Running Status | Filter Inlet Chamber (TK-C702A) Mixer Running | WO-P0011 | | | | | | CP-H30 | DI |
| 3345 | Y | 0 | MN-C702A | Start Command | Filter Inlet Chamber (TK-C702A) Mixer Start | WO-P0011 | | | | | | CP-H30 | DO |
| 3346 | Y | 0 | UF-C702A | No Fault | Filter Inlet Chamber (TK-C702A) Mixer Fault | WO-P0011 | | | | | | CP-H30 | DI |
| 3347 | Y | 0 | YS-C702A | C/O/H Switch in Computer Position | Filter Inlet Chamber (TK-C702A) Mixer in Computer Mode | WO-P0011 | | | | | | CP-H30 | DI |
| 3348 | N | 0 | AI-O112A | Ozone Gas Concentration Indication | Ozone Generator GEN-O110A Outlet Ozone Gas Concentration | WO-P0005 | | | | | | CP-O31 | AI |
| 3349 | N | 0 | AI-O112A | Ozone Gas Concentration Indication | Ozone Generator GEN-O110A Outlet Ozone Gas Concentration | WO-P0005 | | | | | | CP-O31 | AI |
| 3350 | N | 0 | FI-O112A | Flow Indication | Ozone Generator GEN-O110A Flow Rate | WO-P0005 | | | | | | CP-O31 | AI |
| 3351 | N | 0 | FI-O112A | Flow Indication | Ozone Generator GEN-O110A Flow Rate | WO-P0005 | | | | | | CP-O31 | AI |
| 3352 | N | 0 | FQ-O112A | Flow Pulse | Ozone Generator GEN-O110A Flow Total | WO-P0005 | | | | | | CP-O31 | DI |
| 3353 | N | 0 | LA-O110A | Level Alarm | Ozone Generator #1 Inlet Side High Level Alarm | WO-P0005 | | | | | | CP-O31 | DI |
| 3354 | N | 0 | LA-O110B | Level Alarm | Ozone Generator #1 Outlet Side High Level Alarm | WO-P0005 | | | | | | CP-O31 | DI |
| 3355 | N | 0 | PI-O110A | Pressure Indication | Liquid Oxygen to Ozone Generator GEN-O110A Pressure | WO-P0005 | | | | | | CP-O31 | AI |
| 3356 | N | 0 | PI-O112A | Pressure Indication | Ozone Generator GEN-O110A Outlet Pressure | WO-P0005 | | | | | | CP-O31 | AI |
| 3357 | N | 0 | PI-O112A | Pressure Indication | Ozone Generator GEN-O110A Outlet Pressure | WO-P0005 | | | | | | CP-O31 | AI |
| 3358 | N | 0 | TI-O110A | Temperature Indication | Liquid Oxygen to Ozone Generator GEN-O110A Temperature | WO-P0005 | | | | | | CP-O31 | AI |
| 3359 | N | 0 | TI-O112A | Temperature Indication | Ozone Generator GEN-O110A Outlet Temperature | WO-P0005 | | | | | | CP-O31 | AI |
| 3360 | N | 0 | TI-O112A | Temperature Indication | Ozone Generator GEN-O110A Outlet Temperature | WO-P0005 | | | | | | CP-O31 | AI |
| 3361 | N | 0 | YD-O112B | Open Command | Ozone Generator GEN-O110A Outlet Control Valve Open | WO-P0005 | | | | | | CP-O31 | DI |
| 3362 | N | 0 | YS-O112B | C/O/H Switch in Computer Position | Ozone Generator GEN-O110A Outlet Flow Control Valve in Computer Mode | WO-P0005 | | | | | | CP-O31 | DI |
| 3363 | N | 0 | YS-O112A | C/O/H Switch in Computer Position | Ozone Generator GEN-O110A Outlet Control Valve in Computer Mode | WO-P0005 | | | | | | CP-O31 | DI |
| 3364 | N | 0 | YS-O119A | C/O/H Switch in Computer Position | Liquid Oxygen to Ozone Generator GEN-O110A Flow Control Valve in Computer Mode | WO-P0005 | | | | | | CP-O31 | DI |
| 3365 | N | 0 | YD-O112A | Open Command | Ozone Generator GEN-O110A Outlet Control Valve Open | WO-P0005 | | | | | | CP-O31 | DI |
| 3366 | N | 0 | YS-O112A | C/O/H Switch in Computer Position | Ozone Generator GEN-O110A Outlet Flow Control Valve in Computer Mode | WO-P0005 | | | | | | CP-O31 | DI |
| 3367 | N | 0 | YS-O112A | C/O/H Switch in Computer Position | Ozone Generator GEN-O110A Outlet Control Valve in Computer Mode | WO-P0005 | | | | | | CP-O31 | DI |
| 3368 | N | 0 | YS-O119A | C/O/H Switch in Computer Position | Liquid Oxygen to Ozone Generator GEN-O110A Flow Control Valve in Computer Mode | WO-P0005 | | | | | | CP-O31 | DI |
| 3369 | N | 0 | YB-O112B | Close Command | Ozone Generator GEN-O110A Outlet Control Valve Close | WO-P0005 | | | | | | CP-O31 | DO |
| 3370 | N | 0 | YB-O119A | Close Command | Liquid Oxygen to Ozone Generator GEN-O110A Flow Control Valve Close | WO-P0005 | | | | | | CP-O31 | DO |
| 3371 | N | 0 | YD-O119A | Open Command | Liquid Oxygen to Ozone Generator GEN-O110A Flow Control Valve Open | WO-P0005 | | | | | | CP-O31 | DO |
| 3372 | N | 0 | YB-O112A | Close Command | Ozone Generator GEN-O110A Outlet Control Valve Close | WO-P0005 | | | | | | CP-O31 | DO |
| 3373 | N | 0 | YB-O119A | Close Command | Liquid Oxygen to Ozone Generator GEN-O110A Flow Control Valve Close | WO-P0005 | | | | | | CP-O31 | DO |
| 3374 | N | 0 | YD-O119A | Open Command | Liquid Oxygen to Ozone Generator GEN-O110A Flow Control Valve Open | WO-P0005 | | | | | | CP-O31 | DO |
| 3375 | N | 0 | ZI-O112A | Position Feedback | Ozone Generator GEN-O110A Outlet Flow Control Valve Position | WO-P0005 | | | | | | CP-O31 | AI |
| 3376 | N | 0 | ZT-O112A | Position Feedback | Ozone Generator GEN-O110A Outlet Flow Control Valve Position | WO-P0005 | | | | | | CP-O31 | AI |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| RECORD NO. | PLC Programming reqd | REV. N0. | TAG NAME | FUNCTION | SERVICE | P&ID DRAWING | ENG. UNITS | SCALE LOW | SCALE HIGH | ALARMS LOW | ALARMS HIGH | PLC CABINET | I/O TYPE |
| 3377 | N | 0 | ZC-O112A | Position Control Output | Ozone Generator GEN-O110A Outlet Flow Control Valve Required Position | WO-P0005 | | | | | | CP-O31 | AO |
| 3378 | N | 0 | ZC-O112A | Position Control Output | Ozone Generator GEN-O110A Outlet Flow Control Valve Required Position | WO-P0005 | | | | | | CP-O31 | AO |
| 3379 | N | 0 | ZB-O112A | Closed Status | Ozone Generator GEN-O110A Outlet Flow Control Valve Closed | WO-P0005 | | | | | | CP-O31 | DI |
| 3380 | N | 0 | ZB-O112B | Closed Status | Ozone Generator GEN-O110A Outlet Control Valve Closed | WO-P0005 | | | | | | CP-O31 | DI |
| 3381 | N | 0 | ZD-O112A | Open Status | Ozone Generator GEN-O110A Outlet Flow Control Valve Open | WO-P0005 | | | | | | CP-O31 | DI |
| 3382 | N | 0 | ZD-O112B | Open Status | Ozone Generator GEN-O110A Outlet Control Valve Open | WO-P0005 | | | | | | CP-O31 | DI |
| 3383 | N | 0 | ZB-O119A | Closed Status | Liquid Oxygen to Ozone Generator GEN-O110A Flow Control Valve Closed | WO-P0005 | | | | | | CP-O31 | DI |
| 3384 | N | 0 | ZD-O119A | Open Status | Liquid Oxygen to Ozone Generator GEN-O110A Flow Control Valve Open | WO-P0005 | | | | | | CP-O31 | DI |
| 3385 | N | 0 | ZB-O112A | Closed Status | Ozone Generator GEN-O110A Outlet Flow Control Valve Closed | WO-P0005 | | | | | | CP-O31 | DI |
| 3386 | N | 0 | ZB-O112A | Closed Status | Ozone Generator GEN-O110A Outlet Control Valve Closed | WO-P0005 | | | | | | CP-O31 | DI |
| 3387 | N | 0 | ZD-O112A | Open Status | Ozone Generator GEN-O110A Outlet Flow Control Valve Open | WO-P0005 | | | | | | CP-O31 | DI |
| 3388 | N | 0 | ZD-O112A | Open Status | Ozone Generator GEN-O110A Outlet Control Valve Open | WO-P0005 | | | | | | CP-O31 | DI |
| 3389 | N | 0 | ZB-O119A | Closed Status | Liquid Oxygen to Ozone Generator GEN-O110A Flow Control Valve Closed | WO-P0005 | | | | | | CP-O31 | DI |
| 3390 | N | 0 | ZD-O119A | Open Status | Liquid Oxygen to Ozone Generator GEN-O110A Flow Control Valve Open | WO-P0005 | | | | | | CP-O31 | DI |
| 3391 | N | 0 | CI-O411A | Conductivity Indication | Ozone Generator Closed Loop Cooling Water to Heat Exchanger HEX-0410A Pump Outlet Conductivity | WO-P0016 | | | | | | CP-O31 | AI |
| 3392 | N | 0 | FI-O411B | Flow Indication | Ozone Generator Closed Loop Cooling Water to Heat Exchanger HEX-0410 Inlet Flow Rate | WO-P0016 | | | | | | CP-O31 | AI |
| 3393 | N | 0 | FI-O410A | Flow Indication | Open Loop Cooling Water to Heat Exchanger HEX-O410A Inlet Flow Rate | WO-P0016 | | | | | | CP-O31 | AI |
| 3394 | N | 0 | FQ-O410A | Flow Pulse | Open Loop Cooling Water to Heat Exchanger HEX-O410A Inlet Flow Total | WO-P0016 | | | | | | CP-O31 | DI |
| 3395 | N | 0 | MM-O411A | Running Status | Ozone Generator Closed Loop Cooling Water to Heat Exchanger HEX-0410A Pump Running | WO-P0016 | | | | | | CP-O31 | DI |
| 3396 | N | 0 | MN-O411A | Start Command | Ozone Generator Closed Loop Cooling Water to Heat Exchanger HEX-0410A Pump Start | WO-P0016 | | | | | | CP-O31 | DO |
| 3397 | N | 0 | PI-O411B | Pressure Indication | Ozone Generator Closed Loop Cooling Water to Heat Exchanger HEX-0410 Inlet Pressure | WO-P0016 | | | | | | CP-O31 | AI |
| 3398 | N | 0 | TI-O410A | Temperature Indication | Open Loop Cooling Water to Heat Exchanger HEX-O410A Inlet Temperature | WO-P0016 | | | | | | CP-O31 | AI |
| 3399 | N | 0 | TI-O410B | Temperature Indication | Open Loop Cooling Water to Heat Exchanger HEX-O410A Outlet Temperature | WO-P0016 | | | | | | CP-O31 | AI |
| 3400 | N | 0 | TI-O411A | Temperature Indication | Ozone Generator Closed Loop Cooling Water to Heat Exchanger HEX-0410 Inlet Temperature | WO-P0016 | | | | | | CP-O31 | AI |
| 3401 | N | 0 | TI-O411B | Temperature Indication | Ozone Generator Closed Loop Cooling Water to Heat Exchanger HEX-0410 Outlet Temperature | WO-P0016 | | | | | | CP-O31 | AI |
| 3402 | N | 0 | YS-O411B | C/O/H Switch in Computer Position | Ozone Generator Closed Loop Cooling Water to Heat Exchanger HEX-0410 Inlet Valve in Computer Mode | WO-P0016 | | | | | | CP-O31 | DI |
| 3403 | N | 0 | YS-O410A | C/O/H Switch in Computer Position | Open Loop Cooling Water to Heat Exchanger HEX-O410A Valve in Computer Mode | WO-P0016 | | | | | | CP-O31 | DI |
| 3404 | N | 0 | YS-O411A | C/O/H Switch in Computer Position | Ozone Generator Closed Loop Cooling Water to Heat Exchanger HEX-0410A Pump in Computer Mode | WO-P0016 | | | | | | CP-O31 | DI |
| 3405 | N | 0 | YB-O411B | Close Command | Ozone Generator Closed Loop Cooling Water to Heat Exchanger HEX-0410 Inlet Valve Close | WO-P0016 | | | | | | CP-O31 | DO |
| 3406 | N | 0 | YD-O411B | Open Command | Ozone Generator Closed Loop Cooling Water to Heat Exchanger HEX-0410 Inlet Valve Open | WO-P0016 | | | | | | CP-O31 | DO |
| 3407 | N | 0 | YB-O410A | Close Command | Open Loop Cooling Water to Heat Exchanger HEX-O410A Valve Close | WO-P0016 | | | | | | CP-O31 | DO |

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| RECORD NO. | PLC Programming reqd | REV. N0. | TAG NAME | FUNCTION | SERVICE | P&ID DRAWING | ENG. UNITS | SCALE LOW | SCALE HIGH | ALARMS LOW | ALARMS HIGH | PLC CABINET | I/O TYPE |
| 3408 | N | 0 | YD-O410A | Open Command | Open Loop Cooling Water to Heat Exchanger HEX-O410A Valve Open | WO-P0016 | | | | | | CP-O31 | DO |
| 3409 | N | 0 | ZB-O411B | Closed Status | Ozone Generator Closed Loop Cooling Water to Heat Exchanger HEX-0410 Inlet Valve Closed | WO-P0016 | | | | | | CP-O31 | DI |
| 3410 | N | 0 | ZD-O411B | Open Status | Ozone Generator Closed Loop Cooling Water to Heat Exchanger HEX-0410 Inlet Valve Open | WO-P0016 | | | | | | CP-O31 | DI |
| 3411 | N | 0 | ZB-O410A | Closed Status | Open Loop Cooling Water to Heat Exchanger HEX-O410A Valve Closed | WO-P0016 | | | | | | CP-O31 | DI |
| 3412 | N | 0 | ZD-O410A | Open Status | Open Loop Cooling Water to Heat Exchanger HEX-O410A Valve Open | WO-P0016 | | | | | | CP-O31 | DI |
| 3413 | N | 0 | TA-O310A | Temperature Switch | Electrolyser Power Supply Unit PSU-O310A High Temperature | WO-P0019 | | | | | | CP-O31 | DI |
| 3414 | N | 0 | YA-O310A | Door Alarm | Power Supply Unit PSU-O310A Door Alarm | WO-P0019 | | | | | | CP-O31 | DI |
| 3415 | N | 0 | AI-O132A | Ozone Gas Concentration Indication | Ozone Generator GEN-O130A Outlet Ozone Gas Concentration | WO-P0006 | | | | | | CP-O32 | AI |
| 3416 | N | 0 | AI-O132A | Ozone Gas Concentration Indication | Ozone Generator GEN-O130A Outlet Ozone Gas Concentration | WO-P0006 | | | | | | CP-O32 | AI |
| 3417 | N | 0 | FI-O132A | Flow Indication | Ozone Generator GEN-O130A Flow Rate | WO-P0006 | | | | | | CP-O32 | AI |
| 3418 | N | 0 | FI-O132A | Flow Indication | Ozone Generator GEN-O130A Flow Rate | WO-P0006 | | | | | | CP-O32 | AI |
| 3419 | N | 0 | FQ-O132A | Flow Pulse | Ozone Generator GEN-O130A Flow Total | WO-P0006 | | | | | | CP-O32 | DI |
| 3420 | N | 0 | LA-O130A | Level Alarm | Ozone Generator #2 Inlet Side High Level Alarm | WO-P0006 | | | | | | CP-O32 | DI |
| 3421 | N | 0 | LA-O130B | Level Alarm | Ozone Generator #2 Outlet Side High Level Alarm | WO-P0006 | | | | | | CP-O32 | DI |
| 3422 | N | 0 | PI-O130A | Pressure Indication | Liquid Oxygen to Ozone Generator GEN-O130A Pressure | WO-P0006 | | | | | | CP-O32 | AI |
| 3423 | N | 0 | PI-O132A | Pressure Indication | Ozone Generator GEN-O130A Outlet Pressure | WO-P0006 | | | | | | CP-O32 | AI |
| 3424 | N | 0 | PI-O132A | Pressure Indication | Ozone Generator GEN-O130A Outlet Pressure | WO-P0006 | | | | | | CP-O32 | AI |
| 3425 | N | 0 | TI-O130A | Temperature Indication | Liquid Oxygen to Ozone Generator GEN-O130A Temperature | WO-P0006 | | | | | | CP-O32 | AI |
| 3426 | N | 0 | TI-O132A | Temperature Indication | Ozone Generator GEN-O130A Outlet Temperature | WO-P0006 | | | | | | CP-O32 | AI |
| 3427 | N | 0 | TI-O132A | Temperature Indication | Ozone Generator GEN-O130A Outlet Temperature | WO-P0006 | | | | | | CP-O32 | AI |
| 3428 | N | 0 | YD-O132B | Open Command | Ozone Generator GEN-O130A Outlet Control Valve Open | WO-P0006 | | | | | | CP-O32 | DI |
| 3429 | N | 0 | YS-O132A | C/O/H Switch in Computer Position | Ozone Generator GEN-O130A Outlet Flow Control Valve in Computer Mode | WO-P0006 | | | | | | CP-O32 | DI |
| 3430 | N | 0 | YS-O132B | C/O/H Switch in Computer Position | Ozone Generator GEN-O130A Outlet Control Valve in Computer Mode | WO-P0006 | | | | | | CP-O32 | DI |
| 3431 | N | 0 | YS-O139A | C/O/H Switch in Computer Position | Liquid Oxygen to Ozone Generator GEN-O130A Flow Control Valve in Computer Mode | WO-P0006 | | | | | | CP-O32 | DI |
| 3432 | N | 0 | YD-O132A | Open Command | Ozone Generator GEN-O130A Outlet Control Valve Open | WO-P0006 | | | | | | CP-O32 | DI |
| 3433 | N | 0 | YS-O132A | C/O/H Switch in Computer Position | Ozone Generator GEN-O130A Outlet Flow Control Valve in Computer Mode | WO-P0006 | | | | | | CP-O32 | DI |
| 3434 | N | 0 | YS-O132A | C/O/H Switch in Computer Position | Ozone Generator GEN-O130A Outlet Control Valve in Computer Mode | WO-P0006 | | | | | | CP-O32 | DI |
| 3435 | N | 0 | YB-O132B | Close Command | Ozone Generator GEN-O130A Outlet Control Valve Close | WO-P0006 | | | | | | CP-O32 | DO |
| 3436 | N | 0 | YB-O139A | Close Command | Liquid Oxygen to Ozone Generator GEN-O130A Flow Control Valve Close | WO-P0006 | | | | | | CP-O32 | DO |
| 3437 | N | 0 | YD-O139A | Open Command | Liquid Oxygen to Ozone Generator GEN-O130A Flow Control Valve Open | WO-P0006 | | | | | | CP-O32 | DO |
| 3438 | N | 0 | YB-O132A | Close Command | Ozone Generator GEN-O130A Outlet Control Valve Close | WO-P0006 | | | | | | CP-O32 | DO |
| 3439 | N | 0 | ZI-O132A | Position Feedback | Ozone Generator GEN-O130A Outlet Flow Control Valve Position | WO-P0006 | | | | | | CP-O32 | AI |
| 3440 | N | 0 | ZT-O132A | Position Feedback | Ozone Generator GEN-O130A Outlet Flow Control Valve Position | WO-P0006 | | | | | | CP-O32 | AI |
| 3441 | N | 0 | ZC-O132A | Position Control Output | Ozone Generator GEN-O130A Outlet Flow Control Valve Required Position | WO-P0006 | | | | | | CP-O32 | AO |
| 3442 | N | 0 | ZC-O132A | Position Control Output | Ozone Generator GEN-O130A Outlet Flow Control Valve Required Position | WO-P0006 | | | | | | CP-O32 | AO |
| 3443 | N | 0 | ZB-O132A | Closed Status | Ozone Generator GEN-O130A Outlet Flow Control Valve Closed | WO-P0006 | | | | | | CP-O32 | DI |
| 3444 | N | 0 | ZB-O132B | Closed Status | Ozone Generator GEN-O130A Outlet Control Valve Closed | WO-P0006 | | | | | | CP-O32 | DI |
| 3445 | N | 0 | ZD-O132A | Open Status | Ozone Generator GEN-O130A Outlet Flow Control Valve Open | WO-P0006 | | | | | | CP-O32 | DI |
| 3446 | N | 0 | ZD-O132B | Open Status | Ozone Generator GEN-O130A Outlet Control Valve Open | WO-P0006 | | | | | | CP-O32 | DI |
| 3447 | N | 0 | ZB-O139A | Closed Status | Liquid Oxygen to Ozone Generator GEN-O130A Flow Control Valve Closed | WO-P0006 | | | | | | CP-O32 | DI |

I/O POINT TYPES: TCP = Modbus/TCP Ethernet, AI = Analog Input, AO = Analog Output, DI = Discrete Input, DO = Discrete Output

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| RECORD NO. | PLC Programming reqd | REV. NO. | TAG NAME | FUNCTION | SERVICE | P&ID DRAWING | ENG. UNITS | SCALE LOW | SCALE HIGH | ALARMS LOW | ALARMS HIGH | PLC CABINET | I/O TYPE |
| 3448 | N | 0 | ZD-O139A | Open Status | Liquid Oxygen to Ozone Generator GEN-O130A Flow Control Valve Open | WO-P0006 | | | | | | CP-O32 | DI |
| 3449 | N | 0 | ZB-O132A | Closed Status | Ozone Generator GEN-O130A Outlet Flow Control Valve Closed | WO-P0006 | | | | | | CP-O32 | DI |
| 3450 | N | 0 | ZB-O132A | Closed Status | Ozone Generator GEN-O130A Outlet Control Valve Closed | WO-P0006 | | | | | | CP-O32 | DI |
| 3451 | N | 0 | ZD-O132A | Open Status | Ozone Generator GEN-O130A Outlet Flow Control Valve Open | WO-P0006 | | | | | | CP-O32 | DI |
| 3452 | N | 0 | ZD-O132A | Open Status | Ozone Generator GEN-O130A Outlet Control Valve Open | WO-P0006 | | | | | | CP-O32 | DI |
| 3453 | N | 0 | LA-O150A | Level Alarm | Ozone Generator #3 Inlet Side High Level Alarm | WO-P0007 | | | | | | CP-O32 | DI |
| 3454 | N | 0 | LA-O150B | Level Alarm | Ozone Generator #3 Outlet Side High Level Alarm | WO-P0007 | | | | | | CP-O32 | DI |
| 3455 | N | 0 | CI-O421A | Conductivity Indication | Ozone Generator Closed Loop Cooling Water to Heat Exchanger HEX-0420A Pump Outlet Conductivity | WO-P0017 | | | | | | CP-O32 | AI |
| 3456 | N | 0 | FI-O421A | Flow Indication | Ozone Generator Closed Loop Cooling Water to Heat Exchanger HEX-0420 Inlet Flow Rate | WO-P0017 | | | | | | CP-O32 | AI |
| 3457 | N | 0 | FI-O420A | Flow Indication | Open Loop Cooling Water to Heat Exchanger HEX-O420A Inlet Flow Rate | WO-P0017 | | | | | | CP-O32 | AI |
| 3458 | N | 0 | FQ-O420A | Flow Pulse | Open Loop Cooling Water to Heat Exchanger HEX-O420A Inlet Flow Total | WO-P0017 | | | | | | CP-O32 | DI |
| 3459 | N | 0 | MM-O421A | Running Status | Ozone Generator Closed Loop Cooling Water to Heat Exchanger HEX-0420A Pump Running | WO-P0017 | | | | | | CP-O32 | DI |
| 3460 | N | 0 | MN-O421A | Start Command | Ozone Generator Closed Loop Cooling Water to Heat Exchanger HEX-0420A Pump Start | WO-P0017 | | | | | | CP-O32 | DO |
| 3461 | N | 0 | PI-O421A | Pressure Indication | Ozone Generator Closed Loop Cooling Water to Heat Exchanger HEX-0420 Inlet Pressure | WO-P0017 | | | | | | CP-O32 | AI |
| 3462 | N | 0 | TI-O420A | Temperature Indication | Open Loop Cooling Water to Heat Exchanger HEX-O420A Inlet Temperature | WO-P0017 | | | | | | CP-O32 | AI |
| 3463 | N | 0 | TI-O420B | Temperature Indication | Open Loop Cooling Water to Heat Exchanger HEX-O420A Outlet Temperature | WO-P0017 | | | | | | CP-O32 | AI |
| 3464 | N | 0 | TI-O421A | Temperature Indication | Ozone Generator Closed Loop Cooling Water to Heat Exchanger HEX-0420 Inlet Temperature | WO-P0017 | | | | | | CP-O32 | AI |
| 3465 | N | 0 | TI-O421B | Temperature Indication | Ozone Generator Closed Loop Cooling Water to Heat Exchanger HEX-0420 Outlet Temperature | WO-P0017 | | | | | | CP-O32 | AI |
| 3466 | N | 0 | YS-O421B | C/O/H Switch in Computer Position | Ozone Generator Closed Loop Cooling Water to Heat Exchanger HEX-0420 Inlet Valve in Computer Mode | WO-P0017 | | | | | | CP-O32 | DI |
| 3467 | N | 0 | YS-O420A | C/O/H Switch in Computer Position | Open Loop Cooling Water to Heat Exchanger HEX-O420A Valve in Computer Mode | WO-P0017 | | | | | | CP-O32 | DI |
| 3468 | N | 0 | YS-O421A | C/O/H Switch in Computer Position | Ozone Generator Closed Loop Cooling Water to Heat Exchanger HEX-0420A Pump in Computer Mode | WO-P0017 | | | | | | CP-O32 | DI |
| 3469 | N | 0 | YB-O421B | Close Command | Ozone Generator Closed Loop Cooling Water to Heat Exchanger HEX-0420 Inlet Valve Close | WO-P0017 | | | | | | CP-O32 | DO |
| 3470 | N | 0 | YD-O421B | Open Command | Ozone Generator Closed Loop Cooling Water to Heat Exchanger HEX-0420 Inlet Valve Open | WO-P0017 | | | | | | CP-O32 | DO |
| 3471 | N | 0 | YB-O420A | Close Command | Open Loop Cooling Water to Heat Exchanger HEX-O420A Valve Close | WO-P0017 | | | | | | CP-O32 | DO |
| 3472 | N | 0 | YD-O420A | Open Command | Open Loop Cooling Water to Heat Exchanger HEX-O420A Valve Open | WO-P0017 | | | | | | CP-O32 | DO |
| 3473 | N | 0 | ZB-O421B | Closed Status | Ozone Generator Closed Loop Cooling Water to Heat Exchanger HEX-0420 Inlet Valve Closed | WO-P0017 | | | | | | CP-O32 | DI |
| 3474 | N | 0 | ZD-O421B | Open Status | Ozone Generator Closed Loop Cooling Water to Heat Exchanger HEX-0420 Inlet Valve Open | WO-P0017 | | | | | | CP-O32 | DI |
| 3475 | N | 0 | ZB-O420A | Closed Status | Open Loop Cooling Water to Heat Exchanger HEX-O420A Valve Closed | WO-P0017 | | | | | | CP-O32 | DI |
| 3476 | N | 0 | ZD-O420A | Open Status | Open Loop Cooling Water to Heat Exchanger HEX-O420A Valve Open | WO-P0017 | | | | | | CP-O32 | DI |
| 3477 | N | 0 | TA-O320A | Temperature Switch | Electrolyser Power Supply Unit PSU-O320A High Temperature | WO-P0020 | | | | | | CP-O32 | DI |
| 3478 | N | 0 | YA-O320A | Door Alarm | Power Supply Unit PSU-O320A Door Alarm | WO-P0020 | | | | | | CP-O32 | DI |
| 3479 | N | 0 | AI-O152A | Ozone Gas Concentration Indication | Ozone Generator GEN-O150A Outlet Ozone Gas Concentration | WO-P0007 | | | | | | CP-O33 | AI |

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| 3480 | N | 0 | AI-O152A | Ozone Gas Concentration Indication | Ozone Generator GEN-O150A Outlet Ozone Gas Concentration | WO-P0007 | | | | | | CP-O33 | AI |
| 3481 | N | 0 | FI-O152A | Flow Indication | Ozone Generator GEN-O150A Flow Rate | WO-P0007 | | | | | | CP-O33 | AI |
| 3482 | N | 0 | FI-O152A | Flow Indication | Ozone Generator GEN-O150A Flow Rate | WO-P0007 | | | | | | CP-O33 | AI |
| 3483 | N | 0 | FQ-O152A | Flow Pulse | Ozone Generator GEN-O150A Flow Total | WO-P0007 | | | | | | CP-O33 | DI |
| 3484 | N | 0 | PI-O150A | Pressure Indication | Liquid Oxygen to Ozone Generator GEN-O150A Pressure | WO-P0007 | | | | | | CP-O33 | AI |
| 3485 | N | 0 | PI-O152A | Pressure Indication | Ozone Generator GEN-O150A Outlet Pressure | WO-P0007 | | | | | | CP-O33 | AI |
| 3486 | N | 0 | PI-O152A | Pressure Indication | Ozone Generator GEN-O150A Outlet Pressure | WO-P0007 | | | | | | CP-O33 | AI |
| 3487 | N | 0 | TI-O150A | Temperature Indication | Liquid Oxygen to Ozone Generator GEN-O150A Temperature | WO-P0007 | | | | | | CP-O33 | AI |
| 3488 | N | 0 | TI-O152A | Temperature Indication | Ozone Generator GEN-O150A Outlet Temperature | WO-P0007 | | | | | | CP-O33 | AI |
| 3489 | N | 0 | TI-O152A | Temperature Indication | Ozone Generator GEN-O150A Outlet Temperature | WO-P0007 | | | | | | CP-O33 | AI |
| 3490 | N | 0 | YS-O152B | C/O/H Switch in Computer Position | Ozone Generator GEN-O150A Outlet Flow Control Valve in Computer Mode | WO-P0007 | | | | | | CP-O33 | DI |
| 3491 | N | 0 | YS-O152A | C/O/H Switch in Computer Position | Ozone Generator GEN-O150A Outlet Control Valve in Computer Mode | WO-P0007 | | | | | | CP-O33 | DI |
| 3492 | N | 0 | YS-O159A | C/O/H Switch in Computer Position | Liquid Oxygen to Ozone Generator GEN-O150A Flow Control Valve in Computer Mode | WO-P0007 | | | | | | CP-O33 | DI |
| 3493 | N | 0 | YD-O152A | Open Command | Ozone Generator GEN-O150A Outlet Control Valve Open | WO-P0007 | | | | | | CP-O33 | DI |
| 3494 | N | 0 | YS-O152A | C/O/H Switch in Computer Position | Ozone Generator GEN-O150A Outlet Flow Control Valve in Computer Mode | WO-P0007 | | | | | | CP-O33 | DI |
| 3495 | N | 0 | YS-O152A | C/O/H Switch in Computer Position | Ozone Generator GEN-O150A Outlet Control Valve in Computer Mode | WO-P0007 | | | | | | CP-O33 | DI |
| 3496 | N | 0 | YS-O159A | C/O/H Switch in Computer Position | Liquid Oxygen to Ozone Generator GEN-O150A Flow Control Valve in Computer Mode | WO-P0007 | | | | | | CP-O33 | DI |
| 3497 | N | 0 | YB-O152B | Close Command | Ozone Generator GEN-O150A Outlet Control Valve Close | WO-P0007 | | | | | | CP-O33 | DO |
| 3498 | N | 0 | YD-O152B | Open Command | Ozone Generator GEN-O150A Outlet Control Valve Open | WO-P0007 | | | | | | CP-O33 | DO |
| 3499 | N | 0 | YB-O159A | Close Command | Liquid Oxygen to Ozone Generator GEN-O150A Flow Control Valve Close | WO-P0007 | | | | | | CP-O33 | DO |
| 3500 | N | 0 | YD-O159A | Open Command | Liquid Oxygen to Ozone Generator GEN-O150A Flow Control Valve Open | WO-P0007 | | | | | | CP-O33 | DO |
| 3501 | N | 0 | YB-O152A | Close Command | Ozone Generator GEN-O150A Outlet Control Valve Close | WO-P0007 | | | | | | CP-O33 | DO |
| 3502 | N | 0 | YB-O159A | Close Command | Liquid Oxygen to Ozone Generator GEN-O150A Flow Control Valve Close | WO-P0007 | | | | | | CP-O33 | DO |
| 3503 | N | 0 | YD-O159A | Open Command | Liquid Oxygen to Ozone Generator GEN-O150A Flow Control Valve Open | WO-P0007 | | | | | | CP-O33 | DO |
| 3504 | N | 0 | ZI-O152A | Position Feedback | Ozone Generator GEN-O150A Outlet Flow Control Valve Position | WO-P0007 | | | | | | CP-O33 | AI |
| 3505 | N | 0 | ZT-O152A | Position Feedback | Ozone Generator GEN-O150A Outlet Flow Control Valve Position | WO-P0007 | | | | | | CP-O33 | AI |
| 3506 | N | 0 | ZC-O152A | Position Control Output | Ozone Generator GEN-O150A Outlet Flow Control Valve Required Position | WO-P0007 | | | | | | CP-O33 | AO |
| 3507 | N | 0 | ZC-O152A | Position Control Output | Ozone Generator GEN-O150A Outlet Flow Control Valve Required Position | WO-P0007 | | | | | | CP-O33 | AO |
| 3508 | N | 0 | ZB-O152A | Closed Status | Ozone Generator GEN-O150A Outlet Flow Control Valve Closed | WO-P0007 | | | | | | CP-O33 | DI |
| 3509 | N | 0 | ZB-O152B | Closed Status | Ozone Generator GEN-O150A Outlet Control Valve Closed | WO-P0007 | | | | | | CP-O33 | DI |
| 3510 | N | 0 | ZD-O152A | Open Status | Ozone Generator GEN-O150A Outlet Flow Control Valve Open | WO-P0007 | | | | | | CP-O33 | DI |
| 3511 | N | 0 | ZD-O152B | Open Status | Ozone Generator GEN-O150A Outlet Control Valve Open | WO-P0007 | | | | | | CP-O33 | DI |
| 3512 | N | 0 | ZB-O159A | Closed Status | Liquid Oxygen to Ozone Generator GEN-O150A Flow Control Valve Closed | WO-P0007 | | | | | | CP-O33 | DI |
| 3513 | N | 0 | ZD-O159A | Open Status | Liquid Oxygen to Ozone Generator GEN-O150A Flow Control Valve Open | WO-P0007 | | | | | | CP-O33 | DI |
| 3514 | N | 0 | ZB-O152A | Closed Status | Ozone Generator GEN-O150A Outlet Flow Control Valve Closed | WO-P0007 | | | | | | CP-O33 | DI |
| 3515 | N | 0 | ZB-O152A | Closed Status | Ozone Generator GEN-O150A Outlet Control Valve Closed | WO-P0007 | | | | | | CP-O33 | DI |
| 3516 | N | 0 | ZD-O152A | Open Status | Ozone Generator GEN-O150A Outlet Flow Control Valve Open | WO-P0007 | | | | | | CP-O33 | DI |
| 3517 | N | 0 | ZD-O152A | Open Status | Ozone Generator GEN-O150A Outlet Control Valve Open | WO-P0007 | | | | | | CP-O33 | DI |
| 3518 | N | 0 | ZB-O159A | Closed Status | Liquid Oxygen to Ozone Generator GEN-O150A Flow Control Valve Closed | WO-P0007 | | | | | | CP-O33 | DI |

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| 3519 | N | 0 | ZD-O159A | Open Status | Liquid Oxygen to Ozone Generator GEN-O150A Flow Control Valve Open | WO-P0007 | | | | | | CP-O33 | DI |
| 3520 | N | 0 | CI-O431A | Conductivity Indication | Ozone Generator Closed Loop Cooling Water to Heat Exchanger HEX-0430A Pump Outlet Conductivity | WO-P0018 | | | | | | CP-O33 | AI |
| 3521 | N | 0 | FI-O431A | Flow Indication | Ozone Generator Closed Loop Cooling Water to Heat Exchanger HEX-0430 Inlet Flow Rate | WO-P0018 | | | | | | CP-O33 | AI |
| 3522 | N | 0 | FI-O430A | Flow Indication | Open Loop Cooling Water to Heat Exchanger HEX-O430A Inlet Flow Rate | WO-P0018 | | | | | | CP-O33 | AI |
| 3523 | N | 0 | FQ-O430A | Flow Pulse | Open Loop Cooling Water to Heat Exchanger HEX-O430A Inlet Flow Total | WO-P0018 | | | | | | CP-O33 | DI |
| 3524 | N | 0 | MM-O431A | Running Status | Ozone Generator Closed Loop Cooling Water to Heat Exchanger HEX-0430A Pump Running | WO-P0018 | | | | | | CP-O33 | DI |
| 3525 | N | 0 | MN-O431A | Start Command | Ozone Generator Closed Loop Cooling Water to Heat Exchanger HEX-0430A Pump Start | WO-P0018 | | | | | | CP-O33 | DO |
| 3526 | N | 0 | PI-O431A | Pressure Indication | Ozone Generator Closed Loop Cooling Water to Heat Exchanger HEX-0430 Inlet Pressure | WO-P0018 | | | | | | CP-O33 | AI |
| 3527 | N | 0 | TI-O430A | Temperature Indication | Open Loop Cooling Water to Heat Exchanger HEX-O430A Inlet Temperature | WO-P0018 | | | | | | CP-O33 | AI |
| 3528 | N | 0 | TI-O430B | Temperature Indication | Open Loop Cooling Water to Heat Exchanger HEX-O430A Outlet Temperature | WO-P0018 | | | | | | CP-O33 | AI |
| 3529 | N | 0 | TI-O431A | Temperature Indication | Ozone Generator Closed Loop Cooling Water to Heat Exchanger HEX-0430 Inlet Temperature | WO-P0018 | | | | | | CP-O33 | AI |
| 3530 | N | 0 | TI-O431B | Temperature Indication | Ozone Generator Closed Loop Cooling Water to Heat Exchanger HEX-0430 Outlet Temperature | WO-P0018 | | | | | | CP-O33 | AI |
| 3531 | N | 0 | YS-O431B | C/O/H Switch in Computer Position | Ozone Generator Closed Loop Cooling Water to Heat Exchanger HEX-0430 Inlet Valve in Computer Mode | WO-P0018 | | | | | | CP-O33 | DI |
| 3532 | N | 0 | YS-O430A | C/O/H Switch in Computer Position | Open Loop Cooling Water to Heat Exchanger HEX-O430A Valve in Computer Mode | WO-P0018 | | | | | | CP-O33 | DI |
| 3533 | N | 0 | YS-O431A | C/O/H Switch in Computer Position | Ozone Generator Closed Loop Cooling Water to Heat Exchanger HEX-0430A Pump in Computer Mode | WO-P0018 | | | | | | CP-O33 | DI |
| 3534 | N | 0 | YB-O431B | Close Command | Ozone Generator Closed Loop Cooling Water to Heat Exchanger HEX-0430 Inlet Valve Close | WO-P0018 | | | | | | CP-O33 | DO |
| 3535 | N | 0 | YD-O431B | Open Command | Ozone Generator Closed Loop Cooling Water to Heat Exchanger HEX-0430 Inlet Valve Open | WO-P0018 | | | | | | CP-O33 | DO |
| 3536 | N | 0 | YB-O430A | Close Command | Open Loop Cooling Water to Heat Exchanger HEX-O430A Valve Close | WO-P0018 | | | | | | CP-O33 | DO |
| 3537 | N | 0 | YD-O430A | Open Command | Open Loop Cooling Water to Heat Exchanger HEX-O430A Valve Open | WO-P0018 | | | | | | CP-O33 | DO |
| 3538 | N | 0 | ZB-O431B | Closed Status | Ozone Generator Closed Loop Cooling Water to Heat Exchanger HEX-0430 Inlet Valve Closed | WO-P0018 | | | | | | CP-O33 | DI |
| 3539 | N | 0 | ZD-O431B | Open Status | Ozone Generator Closed Loop Cooling Water to Heat Exchanger HEX-0430 Inlet Valve Open | WO-P0018 | | | | | | CP-O33 | DI |
| 3540 | N | 0 | ZB-O430A | Closed Status | Open Loop Cooling Water to Heat Exchanger HEX-O430A Valve Closed | WO-P0018 | | | | | | CP-O33 | DI |
| 3541 | N | 0 | ZD-O430A | Open Status | Open Loop Cooling Water to Heat Exchanger HEX-O430A Valve Open | WO-P0018 | | | | | | CP-O33 | DI |
| 3542 | N | 0 | TA-O330A | Temperature Switch | Electrolyser Power Supply Unit PSU-O330A High Temperature | WO-P0021 | | | | | | CP-O33 | DI |
| 3543 | N | 0 | YA-O330A | Door Alarm | Power Supply Unit PSU-O330A Door Alarm | WO-P0021 | | | | | | CP-O33 | DI |
| 3544 | Y | 0 | YS-P100A | C/O/H Switch in Computer Position | Raw Water Flow Control to DAF TNKP100A Valve in Computer Mode | WP-P0002 | | | | | | LCP-H10 | DI |
| 3545 | Y | 0 | YS-P200A | C/O/H Switch in Computer Position | Raw Water Flow Control to DAF TNKP200A Valve in Computer Mode | WP-P0002 | | | | | | LCP-H10 | DI |
| 3546 | Y | 0 | YS-P300A | C/O/H Switch in Computer Position | Raw Water Flow Control to DAF TNKP300A Valve in Computer Mode | WP-P0002 | | | | | | LCP-H10 | DI |

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| 3547 | Y | 0 | YS-P400A | C/O/H Switch in Computer Position | Raw Water Flow Control to DAF TNKP400A Valve in Computer Mode | WP-P0002 | | | | | | LCP-H10 | DI |
| 3548 | Y | 0 | ZT-P100A | Position Feedback | Raw Water Flow Control to DAF TNKP100A Valve Position | WP-P0002 | | | | | | LCP-H10 | AI |
| 3549 | Y | 0 | ZT-P200A | Position Feedback | Raw Water Flow Control to DAF TNKP200A Valve Position | WP-P0002 | | | | | | LCP-H10 | AI |
| 3550 | Y | 0 | ZT-P300A | Position Feedback | Raw Water Flow Control to DAF TNKP300A Valve Position | WP-P0002 | | | | | | LCP-H10 | AI |
| 3551 | Y | 0 | ZT-P400A | Position Feedback | Raw Water Flow Control to DAF TNKP400A Valve Position | WP-P0002 | | | | | | LCP-H10 | AI |
| 3552 | Y | 0 | ZC-P100A | Position Control Output | Raw Water Flow Control to DAF TNKP100A Valve Required Position | WP-P0002 | | | | | | LCP-H10 | AO |
| 3553 | Y | 0 | ZC-P200A | Position Control Output | Raw Water Flow Control to DAF TNKP200A Valve Required Position | WP-P0002 | | | | | | LCP-H10 | AO |
| 3554 | Y | 0 | ZC-P300A | Position Control Output | Raw Water Flow Control to DAF TNKP300A Valve Required Position | WP-P0002 | | | | | | LCP-H10 | AO |
| 3555 | Y | 0 | ZC-P400A | Position Control Output | Raw Water Flow Control to DAF TNKP400A Valve Required Position | WP-P0002 | | | | | | LCP-H10 | AO |
| 3556 | Y | 0 | ZB-P100A | Closed Status | Raw Water Flow Control to DAF TNKP100A Valve Closed | WP-P0002 | | | | | | LCP-H10 | DI |
| 3557 | Y | 0 | ZD-P100A | Open Status | Raw Water Flow Control to DAF TNKP100A Valve Open | WP-P0002 | | | | | | LCP-H10 | DI |
| 3558 | Y | 0 | ZB-P200A | Closed Status | Raw Water Flow Control to DAF TNKP200A Valve Closed | WP-P0002 | | | | | | LCP-H10 | DI |
| 3559 | Y | 0 | ZD-P200A | Open Status | Raw Water Flow Control to DAF TNKP200A Valve Open | WP-P0002 | | | | | | LCP-H10 | DI |
| 3560 | Y | 0 | ZB-P300A | Closed Status | Raw Water Flow Control to DAF TNKP300A Valve Closed | WP-P0002 | | | | | | LCP-H10 | DI |
| 3561 | Y | 0 | ZD-P300A | Open Status | Raw Water Flow Control to DAF TNKP300A Valve Open | WP-P0002 | | | | | | LCP-H10 | DI |
| 3562 | Y | 0 | ZB-P400A | Closed Status | Raw Water Flow Control to DAF TNKP400A Valve Closed | WP-P0002 | | | | | | LCP-H10 | DI |
| 3563 | Y | 0 | ZD-P400A | Open Status | Raw Water Flow Control to DAF TNKP400A Valve Open | WP-P0002 | | | | | | LCP-H10 | DI |
| 3564 | Y | 0 | FI-P500A | Flow Indication | Raw Water Flow Rate to DAF TNKP500A | WP-P0003 | | | | | | LCP-H10 | AI |
| 3565 | Y | 0 | FI-P600A | Flow Indication | Raw Water Flow Rate to DAF TNKP600A | WP-P0003 | | | | | | LCP-H10 | AI |
| 3566 | Y | 0 | FI-P700A | Flow Indication | Raw Water Flow Rate to DAF TNKP700A | WP-P0003 | | | | | | LCP-H10 | AI |
| 3567 | Y | 0 | FI-P800A | Flow Indication | Raw Water Flow Rate to DAF TNKP800A | WP-P0003 | | | | | | LCP-H10 | AI |
| 3568 | Y | 0 | FQ-P500A | Flow Pulse | Raw Water Flow Total to DAF TNKP500A | WP-P0003 | | | | | | LCP-H10 | DI |
| 3569 | Y | 0 | FQ-P600A | Flow Pulse | Raw Water Flow Total to DAF TNKP600A | WP-P0003 | | | | | | LCP-H10 | DI |
| 3570 | Y | 0 | FQ-P700A | Flow Pulse | Raw Water Flow Total to DAF TNKP700A | WP-P0003 | | | | | | LCP-H10 | DI |
| 3571 | Y | 0 | FQ-P800A | Flow Pulse | Raw Water Flow Total to DAF TNKP800A | WP-P0003 | | | | | | LCP-H10 | DI |
| 3572 | Y | 0 | YS-P500A | C/O/H Switch in Computer Position | Raw Water Flow Control to DAF TNKP500A Valve in Computer Mode | WP-P0003 | | | | | | LCP-H10 | DI |
| 3573 | Y | 0 | YS-P600A | C/O/H Switch in Computer Position | Raw Water Flow Control to DAF TNKP600A Valve in Computer Mode | WP-P0003 | | | | | | LCP-H10 | DI |
| 3574 | Y | 0 | YS-P700A | C/O/H Switch in Computer Position | Raw Water Flow Control to DAF TNKP700A Valve in Computer Mode | WP-P0003 | | | | | | LCP-H10 | DI |
| 3575 | Y | 0 | YS-P800A | C/O/H Switch in Computer Position | Raw Water Flow Control to DAF TNKP800A Valve in Computer Mode | WP-P0003 | | | | | | LCP-H10 | DI |
| 3576 | Y | 0 | ZT-P500A | Position Feedback | Raw Water Flow Control to DAF TNKP500A Valve Position | WP-P0003 | | | | | | LCP-H10 | AI |
| 3577 | Y | 0 | ZT-P600A | Position Feedback | Raw Water Flow Control to DAF TNKP600A Valve Position | WP-P0003 | | | | | | LCP-H10 | AI |
| 3578 | Y | 0 | ZT-P700A | Position Feedback | Raw Water Flow Control to DAF TNKP700A Valve Position | WP-P0003 | | | | | | LCP-H10 | AI |
| 3579 | Y | 0 | ZT-P800A | Position Feedback | Raw Water Flow Control to DAF TNKP800A Valve Position | WP-P0003 | | | | | | LCP-H10 | AI |
| 3580 | Y | 0 | ZC-P500A | Position Control Output | Raw Water Flow Control to DAF TNKP500A Valve Required Position | WP-P0003 | | | | | | LCP-H10 | AO |
| 3581 | Y | 0 | ZC-P600A | Position Control Output | Raw Water Flow Control to DAF TNKP600A Valve Required Position | WP-P0003 | | | | | | LCP-H10 | AO |
| 3582 | Y | 0 | ZC-P700A | Position Control Output | Raw Water Flow Control to DAF TNKP700A Valve Required Position | WP-P0003 | | | | | | LCP-H10 | AO |
| 3583 | Y | 0 | ZC-P800A | Position Control Output | Raw Water Flow Control to DAF TNKP800A Valve Required Position | WP-P0003 | | | | | | LCP-H10 | AO |
| 3584 | Y | 0 | ZB-P500A | Closed Status | Raw Water Flow Control to DAF TNKP500A Valve Closed | WP-P0003 | | | | | | LCP-H10 | DI |
| 3585 | Y | 0 | ZD-P500A | Open Status | Raw Water Flow Control to DAF TNKP500A Valve Open | WP-P0003 | | | | | | LCP-H10 | DI |
| 3586 | Y | 0 | ZB-P600A | Closed Status | Raw Water Flow Control to DAF TNKP600A Valve Closed | WP-P0003 | | | | | | LCP-H10 | DI |
| 3587 | Y | 0 | ZD-P600A | Open Status | Raw Water Flow Control to DAF TNKP600A Valve Open | WP-P0003 | | | | | | LCP-H10 | DI |
| 3588 | Y | 0 | ZB-P700A | Closed Status | Raw Water Flow Control to DAF TNKP700A Valve Closed | WP-P0003 | | | | | | LCP-H10 | DI |

I/O POINT TYPES: TCP = Modbus/TCP Ethernet, AI = Analog Input, AO = Analog Output, DI = Discrete Input, DO = Discrete Output

## PLC I/O INDEX

| | | | | DESCRIPTION | | | I/O SPECIFICATION | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| RECORD NO. | PLC Programming reqd | REV. N0. | TAG NAME | FUNCTION | SERVICE | P&ID DRAWING | ENG. UNITS | SCALE LOW | SCALE HIGH | ALARMS LOW | ALARMS HIGH | PLC CABINET | I/O TYPE |
| 3589 | Y | 0 | ZD-P700A | Open Status | Raw Water Flow Control to DAF TNKP700A Valve Open | WP-P0003 | | | | | | LCP-H10 | DI |
| 3590 | Y | 0 | ZB-P800A | Closed Status | Raw Water Flow Control to DAF TNKP800A Valve Closed | WP-P0003 | | | | | | LCP-H10 | DI |
| 3591 | Y | 0 | ZD-P800A | Open Status | Raw Water Flow Control to DAF TNKP800A Valve Open | WP-P0003 | | | | | | LCP-H10 | DI |
| 3592 | Y | 0 | LI-P980A | Level Indication | DAF Area Process Sump Pump Level | WP-P0020 | | | | | | LCP-H10 | AI |
| 3593 | Y | 0 | LI-P980B | Level Indication | DAF Area Process Sump Pump Level | WP-P0020 | | | | | | LCP-H10 | AI |
| 3594 | Y | 0 | LF-P980A | Level Fault | DAF Area Process Sump Pump Level Fault | WP-P0020 | | | | | | LCP-H10 | DI |
| 3595 | Y | 0 | LF-P980B | Level Fault | DAF Area Process Sump Pump Level Fault | WP-P0020 | | | | | | LCP-H10 | DI |
| 3596 | Y | 0 | YS-O210B | C/O/H Switch in Computer Position | Ozone Contactor TK-O210A Outlet Sluice Gate in Computer Mode | WO-P0010 | | | | | | CP-H30 | DI |
| 3597 | Y | 0 | YS-O210C | C/O/H Switch in Computer Position | Ozone Contactor TK-O210A Outlet Sluice Gate in Computer Mode | WO-P0010 | | | | | | CP-H30 | DI |
| 3598 | Y | 0 | YB-O210B | Close Command | Ozone Contactor TK-O210A Outlet Sluice Gate Close | WO-P0010 | | | | | | CP-H30 | DO |
| 3599 | Y | 0 | YD-O210B | Open Command | Ozone Contactor TK-O210A Outlet Sluice Gate Open | WO-P0010 | | | | | | CP-H30 | DO |
| 3600 | Y | 0 | YB-O210C | Close Command | Ozone Contactor TK-O210A Outlet Sluice Gate Close | WO-P0010 | | | | | | CP-H30 | DO |
| 3601 | Y | 0 | YD-O210C | Open Command | Ozone Contactor TK-O210A Outlet Sluice Gate Open | WO-P0010 | | | | | | CP-H30 | DO |
| 3602 | Y | 0 | ZB-O210B | Closed Status | Ozone Contactor TK-O210A Outlet Sluice Gate Closed | WO-P0010 | | | | | | CP-H30 | DI |
| 3603 | Y | 0 | ZD-O210B | Open Status | Ozone Contactor TK-O210A Outlet Sluice Gate Open | WO-P0010 | | | | | | CP-H30 | DI |
| 3604 | Y | 0 | ZB-O210C | Closed Status | Ozone Contactor TK-O210A Outlet Sluice Gate Closed | WO-P0010 | | | | | | CP-H30 | DI |
| 3605 | Y | 0 | ZD-O210C | Open Status | Ozone Contactor TK-O210A Outlet Sluice Gate Open | WO-P0010 | | | | | | CP-H30 | DI |
| 3606 | Y | 0 | LI-F001A | Level Indication | Filter Influent Channel Level | WO-P0011 | | | | | | CP-H30 | AI |
| 3607 | Y | 0 | LF-F001A | Level Fault | Filter Influent Channel Level Fault | WO-P0011 | | | | | | CP-H30 | DI |
| 3608 | Y | 0 | ZD-F001A | Open Status | Sluice Gate SLG-F001A Closed | WO-P0011 | | | | | | CP-H30 | DI |
| 3609 | Y | 0 | ZB-F001A | Open Status | Sluice Gate SLG-F001A Open | WO-P0011 | | | | | | CP-H30 | DI |
| 3610 | Y | 0 | YS-O230A | C/O/H Switch in Computer Position | Ozone Contactor TK-O230A Inlet Sluice Gate in Computer Mode | WO-P0011 | | | | | | CP-H30 | DI |
| 3611 | Y | 0 | YS-O230B | C/O/H Switch in Computer Position | Ozone Contactor TK-O230A Outlet Sluice Gate in Computer Mode | WO-P0011 | | | | | | CP-H30 | DI |
| 3612 | Y | 0 | YS-O230C | C/O/H Switch in Computer Position | Ozone Contactor TK-O230A Outlet Sluice Gate in Computer Mode | WO-P0011 | | | | | | CP-H30 | DI |
| 3613 | Y | 0 | YB-O230A | Close Command | Ozone Contactor TK-O230A Inlet Sluice Gate Close | WO-P0011 | | | | | | CP-H30 | DO |
| 3614 | Y | 0 | YD-O230A | Open Command | Ozone Contactor TK-O230A Inlet Sluice Gate Open | WO-P0011 | | | | | | CP-H30 | DO |
| 3615 | Y | 0 | YB-O230B | Close Command | Ozone Contactor TK-O230A Outlet Sluice Gate Close | WO-P0011 | | | | | | CP-H30 | DO |
| 3616 | Y | 0 | YD-O230B | Open Command | Ozone Contactor TK-O230A Outlet Sluice Gate Open | WO-P0011 | | | | | | CP-H30 | DO |
| 3617 | Y | 0 | YB-O230C | Close Command | Ozone Contactor TK-O230A Outlet Sluice Gate Close | WO-P0011 | | | | | | CP-H30 | DO |
| 3618 | Y | 0 | YD-O230C | Open Command | Ozone Contactor TK-O230A Outlet Sluice Gate Open | WO-P0011 | | | | | | CP-H30 | DO |
| 3619 | Y | 0 | ZB-O230A | Closed Status | Ozone Contactor TK-O230A Inlet Sluice Gate Closed | WO-P0011 | | | | | | CP-H30 | DI |
| 3620 | Y | 0 | ZD-O230A | Open Status | Ozone Contactor TK-O230A Inlet Sluice Gate Open | WO-P0011 | | | | | | CP-H30 | DI |
| 3621 | Y | 0 | ZB-O230B | Closed Status | Ozone Contactor TK-O230A Outlet Sluice Gate Closed | WO-P0011 | | | | | | CP-H30 | DI |
| 3622 | Y | 0 | ZD-O230B | Open Status | Ozone Contactor TK-O230A Outlet Sluice Gate Open | WO-P0011 | | | | | | CP-H30 | DI |
| 3623 | Y | 0 | ZB-O230C | Closed Status | Ozone Contactor TK-O230A Outlet Sluice Gate Closed | WO-P0011 | | | | | | CP-H30 | DI |
| 3624 | Y | 0 | ZD-O230C | Open Status | Ozone Contactor TK-O230A Outlet Sluice Gate Open | WO-P0011 | | | | | | CP-H30 | DI |
| 3625 | Y | 0 | FI-P990A | Flow Indication | Sump P930A and Sump P940A Float Flow Rate | WP-P0018 | | | | | | LCP-H10 | AI |
| 3626 | Y | 0 | FQ-P990A | Flow Pulse | Sump P930A and Sump P940A Float Flow Total | WP-P0018 | | | | | | LCP-H10 | DI |
| 3627 | Y | 0 | LI-P930A | Level Indication | DAF Float Sump P930A Level | WP-P0018 | | | | | | LCP-H10 | AI |
| 3628 | Y | 0 | LI-P930B | Level Indication | DAF Float Sump P930A Level | WP-P0018 | | | | | | LCP-H10 | AI |
| 3629 | Y | 0 | LI-P940A | Level Indication | DAF Float Sump P940A Level | WP-P0018 | | | | | | LCP-H10 | AI |
| 3630 | Y | 0 | LI-P940B | Level Indication | DAF Float Sump P940A Level | WP-P0018 | | | | | | LCP-H10 | AI |
| 3631 | Y | 0 | FI-P993A | Flow Indication | Sump P930A and Sump P940A Float Flow Rate | WP-P0019 | | | | | | LCP-H10 | AI |
| 3632 | Y | 0 | FQ-P993A | Flow Pulse | Sump P930A and Sump P940A Float Flow Total | WP-P0019 | | | | | | LCP-H10 | DI |
| 3633 | Y | 0 | LI-P950A | Level Indication | DAF Float Sump P950A Level | WP-P0019 | | | | | | LCP-H10 | AI |
| 3634 | Y | 0 | LI-P950B | Level Indication | DAF Float Sump P950A Level | WP-P0019 | | | | | | LCP-H10 | AI |
| 3635 | Y | 0 | LI-P960A | Level Indication | DAF Float Sump P960A Level | WP-P0019 | | | | | | LCP-H10 | AI |
| 3636 | Y | 0 | LI-P960B | Level Indication | DAF Float Sump P960A Level | WP-P0019 | | | | | | LCP-H10 | AI |
| 3637 | Y | 0 | ZD-P951E | Open Status | DAF Float Transfer Pump P951A Discharge Valve Open | WP-P0019 | | | | | | LCP-H10 | DI |
| 3638 | Y | 0 | ZD-P952E | Open Status | DAF Float Transfer Pump P-P952A Discharge Valve Open | WP-P0019 | | | | | | LCP-H10 | DI |
| 3639 | Y | 0 | ZD-P961E | Open Status | DAF Float Transfer Pump P-P961A Discharge Valve Open | WP-P0019 | | | | | | LCP-H10 | DI |
| 3640 | Y | 0 | YS-O210A | C/O/H Switch in Computer Position | Ozone Contactor TK-O210A Inlet Sluice Gate in Computer Mode | WO-P0010 | | | | | | CP-H30 | DI |
| 3641 | Y | 0 | YB-O210A | Close Command | Ozone Contactor TK-O210A Inlet Sluice Gate Close | WO-P0010 | | | | | | CP-H30 | DO |
| 3642 | Y | 0 | YD-O210A | Open Command | Ozone Contactor TK-O210A Inlet Sluice Gate Open | WO-P0010 | | | | | | CP-H30 | DO |
| 3643 | Y | 0 | ZB-O210A | Closed Status | Ozone Contactor TK-O210A Inlet Sluice Gate Closed | WO-P0010 | | | | | | CP-H30 | DI |

I/O POINT TYPES: TCP = Modbus/TCP Ethernet, AI = Analog Input, AO = Analog Output, DI = Discrete Input, DO = Discrete Output

## PLC I/O INDEX

| | | | | DESCRIPTION | | | I/O SPECIFICATION | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| RECORD NO. | PLC Programming reqd | REV. N0. | TAG NAME | FUNCTION | SERVICE | P&ID DRAWING | ENG. UNITS | SCALE LOW | SCALE HIGH | ALARMS LOW | ALARMS HIGH | PLC CABINET | I/O TYPE |
| 3644 | Y | 0 | ZD-O210A | Open Status | Ozone Contactor TK-O210A Inlet Sluice Gate Open | WO-P0010 | | | | | | CP-H30 | DI |
| 3645 | N | 0 | LI-P500A | Level Indication | DAF TNKP500A Level | WP-P0008 | | | | | | CP-P32 | AI |
| 3646 | N | 0 | LF-P500A | No Fault | DAF TNKP500A Level Fault | WP-P0008 | | | | | | CP-P32 | DI |
| 3647 | N | 0 | MF-P500A | Reverse Limit | DAF Float Reciprocating Scraper FLC-P500A Traveled Reverse | WP-P0008 | | | | | | CP-P32 | DI TCP |
| 3648 | N | 0 | MM-P500A | Running Status | DAF Float Reciprocating Scraper FLC-P500A Running | WP-P0008 | | | | | | CP-P32 | DI TCP |
| 3649 | N | 0 | MR-P500A | Forward Limit | DAF Float Reciprocating Scraper FLC-P500A Traveled Forward | WP-P0008 | | | | | | CP-P32 | DI TCP |
| 3650 | N | 0 | MM-P501A | Running Status | DAF Flocculator FLC-P501A Running | WP-P0008 | | | | | | CP-P32 | DI TCP |
| 3651 | N | 0 | MM-P502A | Running Status | DAF Flocculator FLC-P502A Running | WP-P0008 | | | | | | CP-P32 | DI TCP |
| 3652 | N | 0 | MM-P503A | Running Status | DAF Flocculator FLC-P503A Running | WP-P0008 | | | | | | CP-P32 | DI TCP |
| 3653 | N | 0 | MM-P504A | Running Status | DAF Flocculator FLC-P504A Running | WP-P0008 | | | | | | CP-P32 | DI TCP |
| 3654 | N | 0 | MM-P505A | Running Status | DAF Flocculator FLC-P505A Running | WP-P0008 | | | | | | CP-P32 | DI TCP |
| 3655 | N | 0 | MM-P506A | Running Status | DAF Flocculator FLC-P506A Running | WP-P0008 | | | | | | CP-P32 | DI TCP |
| 3656 | N | 0 | MN-P500A | Start Command | DAF Float Reciprocating Scraper FLC-P500A Start | WP-P0008 | | | | | | CP-P32 | DO TCP |
| 3657 | N | 0 | MN-P501A | Start Command | DAF Flocculator FLC-P501A Start | WP-P0008 | | | | | | CP-P32 | DO TCP |
| 3658 | N | 0 | MN-P502A | Start Command | DAF Flocculator FLC-P502A Start | WP-P0008 | | | | | | CP-P32 | DO TCP |
| 3659 | N | 0 | MN-P503A | Start Command | DAF Flocculator FLC-P503A Start | WP-P0008 | | | | | | CP-P32 | DO TCP |
| 3660 | N | 0 | MN-P504A | Start Command | DAF Flocculator FLC-P504A Start | WP-P0008 | | | | | | CP-P32 | DO TCP |
| 3661 | N | 0 | MN-P505A | Start Command | DAF Flocculator FLC-P505A Start | WP-P0008 | | | | | | CP-P32 | DO TCP |
| 3662 | N | 0 | MN-P506A | Start Command | DAF Flocculator FLC-P506A Start | WP-P0008 | | | | | | CP-P32 | DO TCP |
| 3663 | N | 0 | SI-P500A | Speed Indication | DAF Float Reciprocating Scraper FLC-P500A Speed | WP-P0008 | | | | | | CP-P32 | AI TCP |
| 3664 | N | 0 | SI-P501A | Speed Indication | DAF Flocculator FLC-P501A Speed | WP-P0008 | | | | | | CP-P32 | AI TCP |
| 3665 | N | 0 | SI-P502A | Speed Indication | DAF Flocculator FLC-P502A Speed | WP-P0008 | | | | | | CP-P32 | AI TCP |
| 3666 | N | 0 | SI-P503A | Speed Indication | DAF Flocculator FLC-P503A Speed | WP-P0008 | | | | | | CP-P32 | AI TCP |
| 3667 | N | 0 | SI-P504A | Speed Indication | DAF Flocculator FLC-P504A Speed | WP-P0008 | | | | | | CP-P32 | AI TCP |
| 3668 | N | 0 | SI-P505A | Speed Indication | DAF Flocculator FLC-P505A Speed | WP-P0008 | | | | | | CP-P32 | AI TCP |
| 3669 | N | 0 | SI-P506A | Speed Indication | DAF Flocculator FLC-P506A Speed | WP-P0008 | | | | | | CP-P32 | AI TCP |
| 3670 | N | 0 | SC-P500A | Speed Control Output | DAF Float Reciprocating Scraper FLC-P500A Required Speed | WP-P0008 | | | | | | CP-P32 | AO TCP |
| 3671 | N | 0 | SC-P501A | Speed Control Output | DAF Flocculator FLC-P501A Required Speed | WP-P0008 | | | | | | CP-P32 | AO TCP |
| 3672 | N | 0 | SC-P502A | Speed Control Output | DAF Flocculator FLC-P502A Required Speed | WP-P0008 | | | | | | CP-P32 | AO TCP |
| 3673 | N | 0 | SC-P503A | Speed Control Output | DAF Flocculator FLC-P503A Required Speed | WP-P0008 | | | | | | CP-P32 | AO TCP |
| 3674 | N | 0 | SC-P504A | Speed Control Output | DAF Flocculator FLC-P504A Required Speed | WP-P0008 | | | | | | CP-P32 | AO TCP |
| 3675 | N | 0 | SC-P505A | Speed Control Output | DAF Flocculator FLC-P505A Required Speed | WP-P0008 | | | | | | CP-P32 | AO TCP |
| 3676 | N | 0 | SC-P506A | Speed Control Output | DAF Flocculator FLC-P506A Required Speed | WP-P0008 | | | | | | CP-P32 | AO TCP |
| 3677 | N | 0 | UF-P500A | No Fault | DAF Float Reciprocating Scraper FLC-P500A Fault | WP-P0008 | | | | | | CP-P32 | DI TCP |
| 3678 | N | 0 | UF-P501A | No Fault | DAF Flocculator FLC-P501A Fault | WP-P0008 | | | | | | CP-P32 | DI TCP |
| 3679 | N | 0 | UF-P502A | No Fault | DAF Flocculator FLC-P502A Fault | WP-P0008 | | | | | | CP-P32 | DI TCP |
| 3680 | N | 0 | UF-P503A | No Fault | DAF Flocculator FLC-P503A Fault | WP-P0008 | | | | | | CP-P32 | DI TCP |
| 3681 | N | 0 | UF-P504A | No Fault | DAF Flocculator FLC-P504A Fault | WP-P0008 | | | | | | CP-P32 | DI TCP |
| 3682 | N | 0 | UF-P505A | No Fault | DAF Flocculator FLC-P505A Fault | WP-P0008 | | | | | | CP-P32 | DI TCP |
| 3683 | N | 0 | UF-P506A | No Fault | DAF Flocculator FLC-P506A Fault | WP-P0008 | | | | | | CP-P32 | DI TCP |
| 3684 | N | 0 | YS-P510A | C/O/H Switch in Computer Position | Air Saturated Water to DAF TNK-P500A Valve in Computer Mode | WP-P0008 | | | | | | CP-P32 | DI |
| 3685 | N | 0 | YS-P510B | C/O/H Switch in Computer Position | Air Saturated Water to DAF TNK-P500A Valve in Computer Mode | WP-P0008 | | | | | | CP-P32 | DI |
| 3686 | N | 0 | YS-P540A | C/O/H Switch in Computer Position | DAF Basin Effluent Weir Bypass Gate (TNKP500A) in Computer Mode | WP-P0008 | | | | | | CP-P32 | DI |
| 3687 | N | 0 | YS-P500A | C/O/H Switch in Computer Position | DAF Float Reciprocating Scraper FLC-P500A in Computer Mode | WP-P0008 | | | | | | CP-P32 | DI TCP |
| 3688 | N | 0 | YS-P501A | C/O/H Switch in Computer Position | DAF Flocculator FLC-P501A in Computer Mode | WP-P0008 | | | | | | CP-P32 | DI TCP |
| 3689 | N | 0 | YS-P502A | C/O/H Switch in Computer Position | DAF Flocculator FLC-P502A in Computer Mode | WP-P0008 | | | | | | CP-P32 | DI TCP |
| 3690 | N | 0 | YS-P503A | C/O/H Switch in Computer Position | DAF Flocculator FLC-P503A in Computer Mode | WP-P0008 | | | | | | CP-P32 | DI TCP |
| 3691 | N | 0 | YS-P504A | C/O/H Switch in Computer Position | DAF Flocculator FLC-P504A in Computer Mode | WP-P0008 | | | | | | CP-P32 | DI TCP |
| 3692 | N | 0 | YS-P505A | C/O/H Switch in Computer Position | DAF Flocculator FLC-P505A in Computer Mode | WP-P0008 | | | | | | CP-P32 | DI TCP |
| 3693 | N | 0 | YS-P506A | C/O/H Switch in Computer Position | DAF Flocculator FLC-P506A in Computer Mode | WP-P0008 | | | | | | CP-P32 | DI TCP |
| 3694 | N | 0 | YD-P520A | Solenoid Actuator Output | DAF Basin Headwall Spray Wash Header Valve (TNKP500A) Open | WP-P0008 | | | | | | CP-P32 | DO |
| 3695 | N | 0 | YD-P520B | Solenoid Actuator Output | DAF Basin Float Trough Spray Wash Valve (TNKP500A) Open | WP-P0008 | | | | | | CP-P32 | DO |
| 3696 | N | 0 | ZT-P510A | Position Feedback | Air Saturated Water to DAF TNK-P500A Valve Position | WP-P0008 | | | | | | CP-P32 | AI |
| 3697 | N | 0 | ZT-P510B | Position Feedback | Air Saturated Water to DAF TNK-P500A Valve Position | WP-P0008 | | | | | | CP-P32 | AI |
| 3698 | N | 0 | ZT-P540A | Position Feedback | DAF Basin Effluent Weir Bypass Gate (TNKP500A) Position | WP-P0008 | | | | | | CP-P32 | AI |

I/O POINT TYPES: TCP = Modbus/TCP Ethernet, AI = Analog Input, AO = Analog Output, DI = Discrete Input, DO = Discrete Output

## PLC I/O INDEX

| | | | | DESCRIPTION | | | I/O SPECIFICATION | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| RECORD NO. | PLC Programming reqd | REV. N0. | TAG NAME | FUNCTION | SERVICE | P&ID DRAWING | ENG. UNITS | SCALE LOW | SCALE HIGH | ALARMS LOW | ALARMS HIGH | PLC CABINET | I/O TYPE |
| 3699 | N | 0 | ZC-P510A | Position Control Output | Air Saturated Water to DAF TNK-P500A Valve Required Position | WP-P0008 | | | | | | CP-P32 | AO |
| 3700 | N | 0 | ZC-P510B | Position Control Output | Air Saturated Water to DAF TNK-P500A Valve Required Position | WP-P0008 | | | | | | CP-P32 | AO |
| 3701 | N | 0 | ZC-P540A | Position Control Output | DAF Basin Effluent Weir Bypass Gate (TNKP500A) Required Position | WP-P0008 | | | | | | CP-P32 | AO |
| 3702 | N | 0 | ZB-P510A | Closed Status | Air Saturated Water to DAF TNK-P500A Valve Closed | WP-P0008 | | | | | | CP-P32 | DI |
| 3703 | N | 0 | ZD-P510A | Open Status | Air Saturated Water to DAF TNK-P500A Valve Open | WP-P0008 | | | | | | CP-P32 | DI |
| 3704 | N | 0 | ZB-P510B | Closed Status | Air Saturated Water to DAF TNK-P500A Valve Closed | WP-P0008 | | | | | | CP-P32 | DI |
| 3705 | N | 0 | ZD-P510B | Open Status | Air Saturated Water to DAF TNK-P500A Valve Open | WP-P0008 | | | | | | CP-P32 | DI |
| 3706 | N | 0 | ZB-P540A | Closed Status | DAF Basin Effluent Weir Bypass Gate (TNKP500A) Closed | WP-P0008 | | | | | | CP-P32 | DI |
| 3707 | N | 0 | ZD-P540A | Open Status | DAF Basin Effluent Weir Bypass Gate (TNKP500A) Open | WP-P0008 | | | | | | CP-P32 | DI |
| 3708 | N | 0 | LI-P600A | Level Indication | DAF TNKP600A Level | WP-P0009 | | | | | | CP-P32 | AI |
| 3709 | N | 0 | LF-P600A | No Fault | DAF TNKP600A Level Fault | WP-P0009 | | | | | | CP-P32 | DI |
| 3710 | N | 0 | MF-P600A | Reverse Limit | DAF Float Reciprocating Scraper FLC-P600A Traveled Reverse | WP-P0009 | | | | | | CP-P32 | DI TCP |
| 3711 | N | 0 | MM-P600A | Running Status | DAF Float Reciprocating Scraper FLC-P600A Running | WP-P0009 | | | | | | CP-P32 | DI TCP |
| 3712 | N | 0 | MR-P600A | Forward Limit | DAF Float Reciprocating Scraper FLC-P600A Traveled Forward | WP-P0009 | | | | | | CP-P32 | DI TCP |
| 3713 | N | 0 | MM-P601A | Running Status | DAF Flocculator FLC-P601A Running | WP-P0009 | | | | | | CP-P32 | DI TCP |
| 3714 | N | 0 | MM-P602A | Running Status | DAF Flocculator FLC-P602A Running | WP-P0009 | | | | | | CP-P32 | DI TCP |
| 3715 | N | 0 | MM-P603A | Running Status | DAF Flocculator FLC-P603A Running | WP-P0009 | | | | | | CP-P32 | DI TCP |
| 3716 | N | 0 | MM-P604A | Running Status | DAF Flocculator FLC-P604A Running | WP-P0009 | | | | | | CP-P32 | DI TCP |
| 3717 | N | 0 | MM-P605A | Running Status | DAF Flocculator FLC-P605A Running | WP-P0009 | | | | | | CP-P32 | DI TCP |
| 3718 | N | 0 | MM-P606A | Running Status | DAF Flocculator FLC-P606A Running | WP-P0009 | | | | | | CP-P32 | DI TCP |
| 3719 | N | 0 | MN-P600A | Start Command | DAF Float Reciprocating Scraper FLC-P600A Start | WP-P0009 | | | | | | CP-P32 | DO TCP |
| 3720 | N | 0 | MN-P601A | Start Command | DAF Flocculator FLC-P601A Start | WP-P0009 | | | | | | CP-P32 | DO TCP |
| 3721 | N | 0 | MN-P602A | Start Command | DAF Flocculator FLC-P602A Start | WP-P0009 | | | | | | CP-P32 | DO TCP |
| 3722 | N | 0 | MN-P603A | Start Command | DAF Flocculator FLC-P603A Start | WP-P0009 | | | | | | CP-P32 | DO TCP |
| 3723 | N | 0 | MN-P604A | Start Command | DAF Flocculator FLC-P604A Start | WP-P0009 | | | | | | CP-P32 | DO TCP |
| 3724 | N | 0 | MN-P605A | Start Command | DAF Flocculator FLC-P605A Start | WP-P0009 | | | | | | CP-P32 | DO TCP |
| 3725 | N | 0 | MN-P606A | Start Command | DAF Flocculator FLC-P606A Start | WP-P0009 | | | | | | CP-P32 | DO TCP |
| 3726 | N | 0 | SI-P600A | Speed Indication | DAF Float Reciprocating Scraper FLC-P600A Speed | WP-P0009 | | | | | | CP-P32 | AI TCP |
| 3727 | N | 0 | SI-P601A | Speed Indication | DAF Flocculator FLC-P601A Speed | WP-P0009 | | | | | | CP-P32 | AI TCP |
| 3728 | N | 0 | SI-P602A | Speed Indication | DAF Flocculator FLC-P602A Speed | WP-P0009 | | | | | | CP-P32 | AI TCP |
| 3729 | N | 0 | SI-P603A | Speed Indication | DAF Flocculator FLC-P603A Speed | WP-P0009 | | | | | | CP-P32 | AI TCP |
| 3730 | N | 0 | SI-P604A | Speed Indication | DAF Flocculator FLC-P604A Speed | WP-P0009 | | | | | | CP-P32 | AI TCP |
| 3731 | N | 0 | SI-P605A | Speed Indication | DAF Flocculator FLC-P605A Speed | WP-P0009 | | | | | | CP-P32 | AI TCP |
| 3732 | N | 0 | SI-P606A | Speed Indication | DAF Flocculator FLC-P606A Speed | WP-P0009 | | | | | | CP-P32 | AI TCP |
| 3733 | N | 0 | SC-P600A | Speed Control Output | DAF Float Reciprocating Scraper FLC-P600A Required Speed | WP-P0009 | | | | | | CP-P32 | AO TCP |
| 3734 | N | 0 | SC-P601A | Speed Control Output | DAF Flocculator FLC-P601A Required Speed | WP-P0009 | | | | | | CP-P32 | AO TCP |
| 3735 | N | 0 | SC-P602A | Speed Control Output | DAF Flocculator FLC-P602A Required Speed | WP-P0009 | | | | | | CP-P32 | AO TCP |
| 3736 | N | 0 | SC-P603A | Speed Control Output | DAF Flocculator FLC-P603A Required Speed | WP-P0009 | | | | | | CP-P32 | AO TCP |
| 3737 | N | 0 | SC-P604A | Speed Control Output | DAF Flocculator FLC-P604A Required Speed | WP-P0009 | | | | | | CP-P32 | AO TCP |
| 3738 | N | 0 | SC-P605A | Speed Control Output | DAF Flocculator FLC-P605A Required Speed | WP-P0009 | | | | | | CP-P32 | AO TCP |
| 3739 | N | 0 | SC-P606A | Speed Control Output | DAF Flocculator FLC-P606A Required Speed | WP-P0009 | | | | | | CP-P32 | AO TCP |
| 3740 | N | 0 | UF-P600A | No Fault | DAF Float Reciprocating Scraper FLC-P600A Fault | WP-P0009 | | | | | | CP-P32 | DI TCP |
| 3741 | N | 0 | UF-P601A | No Fault | DAF Flocculator FLC-P601A Fault | WP-P0009 | | | | | | CP-P32 | DI TCP |
| 3742 | N | 0 | UF-P602A | No Fault | DAF Flocculator FLC-P602A Fault | WP-P0009 | | | | | | CP-P32 | DI TCP |
| 3743 | N | 0 | UF-P603A | No Fault | DAF Flocculator FLC-P603A Fault | WP-P0009 | | | | | | CP-P32 | DI TCP |
| 3744 | N | 0 | UF-P604A | No Fault | DAF Flocculator FLC-P604A Fault | WP-P0009 | | | | | | CP-P32 | DI TCP |
| 3745 | N | 0 | UF-P605A | No Fault | DAF Flocculator FLC-P605A Fault | WP-P0009 | | | | | | CP-P32 | DI TCP |
| 3746 | N | 0 | UF-P606A | No Fault | DAF Flocculator FLC-P606A Fault | WP-P0009 | | | | | | CP-P32 | DI TCP |
| 3747 | N | 0 | YS-P610A | C/O/H Switch in Computer Position | Air Saturated Water to DAF TNK-P600A Valve in Computer Mode | WP-P0009 | | | | | | CP-P32 | DI |
| 3748 | N | 0 | YS-P610B | C/O/H Switch in Computer Position | Air Saturated Water to DAF TNK-P600A Valve in Computer Mode | WP-P0009 | | | | | | CP-P32 | DI |
| 3749 | N | 0 | YS-P640A | C/O/H Switch in Computer Position | DAF Basin Effluent Weir Bypass Gate (TNKP600A) in Computer Mode | WP-P0009 | | | | | | CP-P32 | DI |
| 3750 | N | 0 | YS-P600A | C/O/H Switch in Computer Position | DAF Float Reciprocating Scraper FLC-P600A in Computer Mode | WP-P0009 | | | | | | CP-P32 | DI TCP |
| 3751 | N | 0 | YS-P601A | C/O/H Switch in Computer Position | DAF Flocculator FLC-P601A in Computer Mode | WP-P0009 | | | | | | CP-P32 | DI TCP |
| 3752 | N | 0 | YS-P602A | C/O/H Switch in Computer Position | DAF Flocculator FLC-P602A in Computer Mode | WP-P0009 | | | | | | CP-P32 | DI TCP |

I/O POINT TYPES: TCP = Modbus/TCP Ethernet, AI = Analog Input, AO = Analog Output, DI = Discrete Input, DO = Discrete Output

## PLC I/O INDEX

| | | | | DESCRIPTION | | | I/O SPECIFICATION | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| RECORD NO. | PLC Programming reqd | REV. N0. | TAG NAME | FUNCTION | SERVICE | P&ID DRAWING | ENG. UNITS | SCALE LOW | SCALE HIGH | ALARMS LOW | ALARMS HIGH | PLC CABINET | I/O TYPE |
| 3753 | N | 0 | YS-P603A | C/O/H Switch in Computer Position | DAF Flocculator FLC-P603A in Computer Mode | WP-P0009 | | | | | | CP-P32 | DI TCP |
| 3754 | N | 0 | YS-P604A | C/O/H Switch in Computer Position | DAF Flocculator FLC-P604A in Computer Mode | WP-P0009 | | | | | | CP-P32 | DI TCP |
| 3755 | N | 0 | YS-P605A | C/O/H Switch in Computer Position | DAF Flocculator FLC-P605A in Computer Mode | WP-P0009 | | | | | | CP-P32 | DI TCP |
| 3756 | N | 0 | YS-P606A | C/O/H Switch in Computer Position | DAF Flocculator FLC-P606A in Computer Mode | WP-P0009 | | | | | | CP-P32 | DI TCP |
| 3757 | N | 0 | YD-P620A | Solenoid Actuator Output | DAF Basin Headwall Spray Wash Header Valve (TNKP600A) Open | WP-P0009 | | | | | | CP-P32 | DO |
| 3758 | N | 0 | YD-P620B | Solenoid Actuator Output | DAF Basin Float Trough Spray Wash Valve (TNKP600A) Open | WP-P0009 | | | | | | CP-P32 | DO |
| 3759 | N | 0 | ZT-P610A | Position Feedback | Air Saturated Water to DAF TNK-P600A Valve Position | WP-P0009 | | | | | | CP-P32 | AI |
| 3760 | N | 0 | ZT-P610B | Position Feedback | Air Saturated Water to DAF TNK-P600A Valve Position | WP-P0009 | | | | | | CP-P32 | AI |
| 3761 | N | 0 | ZT-P640A | Position Feedback | DAF Basin Effluent Weir Bypass Gate (TNKP600A) Position | WP-P0009 | | | | | | CP-P32 | AI |
| 3762 | N | 0 | ZC-P610A | Position Control Output | Air Saturated Water to DAF TNK-P600A Valve Required Position | WP-P0009 | | | | | | CP-P32 | AO |
| 3763 | N | 0 | ZC-P610B | Position Control Output | Air Saturated Water to DAF TNK-P600A Valve Required Position | WP-P0009 | | | | | | CP-P32 | AO |
| 3764 | N | 0 | ZC-P640A | Position Control Output | DAF Basin Effluent Weir Bypass Gate (TNKP600A) Required Position | WP-P0009 | | | | | | CP-P32 | AO |
| 3765 | N | 0 | ZB-P610A | Closed Status | Air Saturated Water to DAF TNK-P600A Valve Closed | WP-P0009 | | | | | | CP-P32 | DI |
| 3766 | N | 0 | ZD-P610A | Open Status | Air Saturated Water to DAF TNK-P600A Valve Open | WP-P0009 | | | | | | CP-P32 | DI |
| 3767 | N | 0 | ZB-P610B | Closed Status | Air Saturated Water to DAF TNK-P600A Valve Closed | WP-P0009 | | | | | | CP-P32 | DI |
| 3768 | N | 0 | ZD-P610B | Open Status | Air Saturated Water to DAF TNK-P600A Valve Open | WP-P0009 | | | | | | CP-P32 | DI |
| 3769 | N | 0 | ZB-P640A | Closed Status | DAF Basin Effluent Weir Bypass Gate (TNKP600A) Closed | WP-P0009 | | | | | | CP-P32 | DI |
| 3770 | N | 0 | ZD-P640A | Open Status | DAF Basin Effluent Weir Bypass Gate (TNKP600A) Open | WP-P0009 | | | | | | CP-P32 | DI |
| 3771 | N | 0 | LI-P700A | Level Indication | DAF TNKP700A Level | WP-P0010 | | | | | | CP-P32 | AI |
| 3772 | N | 0 | LF-P700A | No Fault | DAF TNKP700A Level Fault | WP-P0010 | | | | | | CP-P32 | DI |
| 3773 | N | 0 | MF-P700A | Reverse Limit | DAF Float Reciprocating Scraper FLC-P700A Traveled Reverse | WP-P0010 | | | | | | CP-P32 | DI TCP |
| 3774 | N | 0 | MM-P700A | Running Status | DAF Float Reciprocating Scraper FLC-P700A Running | WP-P0010 | | | | | | CP-P32 | DI TCP |
| 3775 | N | 0 | MR-P700A | Forward Limit | DAF Float Reciprocating Scraper FLC-P700A Traveled Forward | WP-P0010 | | | | | | CP-P32 | DI TCP |
| 3776 | N | 0 | MM-P701A | Running Status | DAF Flocculator FLC-P701A Running | WP-P0010 | | | | | | CP-P32 | DI TCP |
| 3777 | N | 0 | MM-P702A | Running Status | DAF Flocculator FLC-P702A Running | WP-P0010 | | | | | | CP-P32 | DI TCP |
| 3778 | N | 0 | MM-P703A | Running Status | DAF Flocculator FLC-P703A Running | WP-P0010 | | | | | | CP-P32 | DI TCP |
| 3779 | N | 0 | MM-P704A | Running Status | DAF Flocculator FLC-P704A Running | WP-P0010 | | | | | | CP-P32 | DI TCP |
| 3780 | N | 0 | MM-P705A | Running Status | DAF Flocculator FLC-P705A Running | WP-P0010 | | | | | | CP-P32 | DI TCP |
| 3781 | N | 0 | MM-P706A | Running Status | DAF Flocculator FLC-P706A Running | WP-P0010 | | | | | | CP-P32 | DI TCP |
| 3782 | N | 0 | MN-P700A | Start Command | DAF Float Reciprocating Scraper FLC-P700A Start | WP-P0010 | | | | | | CP-P32 | DO TCP |
| 3783 | N | 0 | MN-P701A | Start Command | DAF Flocculator FLC-P701A Start | WP-P0010 | | | | | | CP-P32 | DO TCP |
| 3784 | N | 0 | MN-P702A | Start Command | DAF Flocculator FLC-P702A Start | WP-P0010 | | | | | | CP-P32 | DO TCP |
| 3785 | N | 0 | MN-P703A | Start Command | DAF Flocculator FLC-P703A Start | WP-P0010 | | | | | | CP-P32 | DO TCP |
| 3786 | N | 0 | MN-P704A | Start Command | DAF Flocculator FLC-P704A Start | WP-P0010 | | | | | | CP-P32 | DO TCP |
| 3787 | N | 0 | MN-P705A | Start Command | DAF Flocculator FLC-P705A Start | WP-P0010 | | | | | | CP-P32 | DO TCP |
| 3788 | N | 0 | MN-P706A | Start Command | DAF Flocculator FLC-P706A Start | WP-P0010 | | | | | | CP-P32 | DO TCP |
| 3789 | N | 0 | SI-P700A | Speed Indication | DAF Float Reciprocating Scraper FLC-P700A Speed | WP-P0010 | | | | | | CP-P32 | AI TCP |
| 3790 | N | 0 | SI-P701A | Speed Indication | DAF Flocculator FLC-P701A Speed | WP-P0010 | | | | | | CP-P32 | AI TCP |
| 3791 | N | 0 | SI-P702A | Speed Indication | DAF Flocculator FLC-P702A Speed | WP-P0010 | | | | | | CP-P32 | AI TCP |
| 3792 | N | 0 | SI-P703A | Speed Indication | DAF Flocculator FLC-P703A Speed | WP-P0010 | | | | | | CP-P32 | AI TCP |
| 3793 | N | 0 | SI-P704A | Speed Indication | DAF Flocculator FLC-P704A Speed | WP-P0010 | | | | | | CP-P32 | AI TCP |
| 3794 | N | 0 | SI-P705A | Speed Indication | DAF Flocculator FLC-P705A Speed | WP-P0010 | | | | | | CP-P32 | AI TCP |
| 3795 | N | 0 | SI-P706A | Speed Indication | DAF Flocculator FLC-P706A Speed | WP-P0010 | | | | | | CP-P32 | AI TCP |
| 3796 | N | 0 | SC-P700A | Speed Control Output | DAF Float Reciprocating Scraper FLC-P700A Required Speed | WP-P0010 | | | | | | CP-P32 | AO TCP |
| 3797 | N | 0 | SC-P701A | Speed Control Output | DAF Flocculator FLC-P701A Required Speed | WP-P0010 | | | | | | CP-P32 | AO TCP |
| 3798 | N | 0 | SC-P702A | Speed Control Output | DAF Flocculator FLC-P702A Required Speed | WP-P0010 | | | | | | CP-P32 | AO TCP |
| 3799 | N | 0 | SC-P703A | Speed Control Output | DAF Flocculator FLC-P703A Required Speed | WP-P0010 | | | | | | CP-P32 | AO TCP |
| 3800 | N | 0 | SC-P704A | Speed Control Output | DAF Flocculator FLC-P704A Required Speed | WP-P0010 | | | | | | CP-P32 | AO TCP |
| 3801 | N | 0 | SC-P705A | Speed Control Output | DAF Flocculator FLC-P705A Required Speed | WP-P0010 | | | | | | CP-P32 | AO TCP |
| 3802 | N | 0 | SC-P706A | Speed Control Output | DAF Flocculator FLC-P706A Required Speed | WP-P0010 | | | | | | CP-P32 | AO TCP |
| 3803 | N | 0 | UF-P700A | No Fault | DAF Float Reciprocating Scraper FLC-P700A Fault | WP-P0010 | | | | | | CP-P32 | DI TCP |
| 3804 | N | 0 | UF-P701A | No Fault | DAF Flocculator FLC-P701A Fault | WP-P0010 | | | | | | CP-P32 | DI TCP |
| 3805 | N | 0 | UF-P702A | No Fault | DAF Flocculator FLC-P702A Fault | WP-P0010 | | | | | | CP-P32 | DI TCP |
| 3806 | N | 0 | UF-P703A | No Fault | DAF Flocculator FLC-P703A Fault | WP-P0010 | | | | | | CP-P32 | DI TCP |

I/O POINT TYPES: TCP = Modbus/TCP Ethernet, AI = Analog Input, AO = Analog Output, DI = Discrete Input, DO = Discrete Output

## PLC I/O INDEX

| | | | | DESCRIPTION | | | I/O SPECIFICATION | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| RECORD NO. | PLC Programming reqd | REV. N0. | TAG NAME | FUNCTION | SERVICE | P&ID DRAWING | ENG. UNITS | SCALE LOW | SCALE HIGH | ALARMS LOW | ALARMS HIGH | PLC CABINET | I/O TYPE |
| 3807 | N | 0 | UF-P704A | No Fault | DAF Flocculator FLC-P704A Fault | WP-P0010 | | | | | | CP-P32 | DI TCP |
| 3808 | N | 0 | UF-P705A | No Fault | DAF Flocculator FLC-P705A Fault | WP-P0010 | | | | | | CP-P32 | DI TCP |
| 3809 | N | 0 | UF-P706A | No Fault | DAF Flocculator FLC-P706A Fault | WP-P0010 | | | | | | CP-P32 | DI TCP |
| 3810 | N | 0 | YS-P710A | C/O/H Switch in Computer Position | Air Saturated Water to DAF TNK-P700A Valve in Computer Mode | WP-P0010 | | | | | | CP-P32 | DI |
| 3811 | N | 0 | YS-P710B | C/O/H Switch in Computer Position | Air Saturated Water to DAF TNK-P700A Valve in Computer Mode | WP-P0010 | | | | | | CP-P32 | DI |
| 3812 | N | 0 | YS-P740A | C/O/H Switch in Computer Position | DAF Basin Effluent Weir Bypass Gate (TNKP700A) in Computer Mode | WP-P0010 | | | | | | CP-P32 | DI |
| 3813 | N | 0 | YS-P700A | C/O/H Switch in Computer Position | DAF Float Reciprocating Scraper FLC-P700A in Computer Mode | WP-P0010 | | | | | | CP-P32 | DI TCP |
| 3814 | N | 0 | YS-P701A | C/O/H Switch in Computer Position | DAF Flocculator FLC-P701A in Computer Mode | WP-P0010 | | | | | | CP-P32 | DI TCP |
| 3815 | N | 0 | YS-P702A | C/O/H Switch in Computer Position | DAF Flocculator FLC-P702A in Computer Mode | WP-P0010 | | | | | | CP-P32 | DI TCP |
| 3816 | N | 0 | YS-P703A | C/O/H Switch in Computer Position | DAF Flocculator FLC-P703A in Computer Mode | WP-P0010 | | | | | | CP-P32 | DI TCP |
| 3817 | N | 0 | YS-P704A | C/O/H Switch in Computer Position | DAF Flocculator FLC-P704A in Computer Mode | WP-P0010 | | | | | | CP-P32 | DI TCP |
| 3818 | N | 0 | YS-P705A | C/O/H Switch in Computer Position | DAF Flocculator FLC-P705A in Computer Mode | WP-P0010 | | | | | | CP-P32 | DI TCP |
| 3819 | N | 0 | YS-P706A | C/O/H Switch in Computer Position | DAF Flocculator FLC-P706A in Computer Mode | WP-P0010 | | | | | | CP-P32 | DI TCP |
| 3820 | N | 0 | YD-P720A | Solenoid Actuator Output | DAF Basin Headwall Spray Wash Header Valve (TNKP700A) Open | WP-P0010 | | | | | | CP-P32 | DO |
| 3821 | N | 0 | YD-P720B | Solenoid Actuator Output | DAF Basin Float Trough Spray Wash Valve (TNKP700A) Open | WP-P0010 | | | | | | CP-P32 | DO |
| 3822 | N | 0 | ZT-P710A | Position Feedback | Air Saturated Water to DAF TNK-P700A Valve Position | WP-P0010 | | | | | | CP-P32 | AI |
| 3823 | N | 0 | ZT-P710B | Position Feedback | Air Saturated Water to DAF TNK-P700A Valve Position | WP-P0010 | | | | | | CP-P32 | AI |
| 3824 | N | 0 | ZT-P740A | Position Feedback | DAF Basin Effluent Weir Bypass Gate (TNKP700A) Position | WP-P0010 | | | | | | CP-P32 | AI |
| 3825 | N | 0 | ZC-P710A | Position Control Output | Air Saturated Water to DAF TNK-P700A Valve Required Position | WP-P0010 | | | | | | CP-P32 | AO |
| 3826 | N | 0 | ZC-P710B | Position Control Output | Air Saturated Water to DAF TNK-P700A Valve Required Position | WP-P0010 | | | | | | CP-P32 | AO |
| 3827 | N | 0 | ZC-P740A | Position Control Output | DAF Basin Effluent Weir Bypass Gate (TNKP700A) Required Position | WP-P0010 | | | | | | CP-P32 | AO |
| 3828 | N | 0 | ZB-P710A | Closed Status | Air Saturated Water to DAF TNK-P700A Valve Closed | WP-P0010 | | | | | | CP-P32 | DI |
| 3829 | N | 0 | ZD-P710A | Open Status | Air Saturated Water to DAF TNK-P700A Valve Open | WP-P0010 | | | | | | CP-P32 | DI |
| 3830 | N | 0 | ZB-P710B | Closed Status | Air Saturated Water to DAF TNK-P700A Valve Closed | WP-P0010 | | | | | | CP-P32 | DI |
| 3831 | N | 0 | ZD-P710B | Open Status | Air Saturated Water to DAF TNK-P700A Valve Open | WP-P0010 | | | | | | CP-P32 | DI |
| 3832 | N | 0 | ZB-P740A | Closed Status | DAF Basin Effluent Weir Bypass Gate (TNKP700A) Closed | WP-P0010 | | | | | | CP-P32 | DI |
| 3833 | N | 0 | ZD-P740A | Open Status | DAF Basin Effluent Weir Bypass Gate (TNKP700A) Open | WP-P0010 | | | | | | CP-P32 | DI |
| 3834 | N | 0 | LI-P800A | Level Indication | DAF TNKP800A Level | WP-P0011 | | | | | | CP-P32 | AI |
| 3835 | N | 0 | LF-P800A | No Fault | DAF TNKP800A Level Fault | WP-P0011 | | | | | | CP-P32 | DI |
| 3836 | N | 0 | MF-P800A | Reverse Limit | DAF Float Reciprocating Scraper FLC-P800A Traveled Reverse | WP-P0011 | | | | | | CP-P32 | DI TCP |
| 3837 | N | 0 | MM-P800A | Running Status | DAF Float Reciprocating Scraper FLC-P800A Running | WP-P0011 | | | | | | CP-P32 | DI TCP |
| 3838 | N | 0 | MR-P800A | Forward Limit | DAF Float Reciprocating Scraper FLC-P800A Traveled Forward | WP-P0011 | | | | | | CP-P32 | DI TCP |
| 3839 | N | 0 | MM-P801A | Running Status | DAF Flocculator FLC-P801A Running | WP-P0011 | | | | | | CP-P32 | DI TCP |
| 3840 | N | 0 | MM-P802A | Running Status | DAF Flocculator FLC-P802A Running | WP-P0011 | | | | | | CP-P32 | DI TCP |
| 3841 | N | 0 | MM-P803A | Running Status | DAF Flocculator FLC-P803A Running | WP-P0011 | | | | | | CP-P32 | DI TCP |
| 3842 | N | 0 | MM-P804A | Running Status | DAF Flocculator FLC-P804A Running | WP-P0011 | | | | | | CP-P32 | DI TCP |
| 3843 | N | 0 | MM-P805A | Running Status | DAF Flocculator FLC-P805A Running | WP-P0011 | | | | | | CP-P32 | DI TCP |
| 3844 | N | 0 | MM-P806A | Running Status | DAF Flocculator FLC-P806A Running | WP-P0011 | | | | | | CP-P32 | DI TCP |
| 3845 | N | 0 | MN-P800A | Start Command | DAF Float Reciprocating Scraper FLC-P800A Start | WP-P0011 | | | | | | CP-P32 | DO TCP |
| 3846 | N | 0 | MN-P801A | Start Command | DAF Flocculator FLC-P801A Start | WP-P0011 | | | | | | CP-P32 | DO TCP |
| 3847 | N | 0 | MN-P802A | Start Command | DAF Flocculator FLC-P802A Start | WP-P0011 | | | | | | CP-P32 | DO TCP |
| 3848 | N | 0 | MN-P803A | Start Command | DAF Flocculator FLC-P803A Start | WP-P0011 | | | | | | CP-P32 | DO TCP |
| 3849 | N | 0 | MN-P804A | Start Command | DAF Flocculator FLC-P804A Start | WP-P0011 | | | | | | CP-P32 | DO TCP |
| 3850 | N | 0 | MN-P805A | Start Command | DAF Flocculator FLC-P805A Start | WP-P0011 | | | | | | CP-P32 | DO TCP |
| 3851 | N | 0 | MN-P806A | Start Command | DAF Flocculator FLC-P806A Start | WP-P0011 | | | | | | CP-P32 | DO TCP |
| 3852 | N | 0 | SI-P800A | Speed Indication | DAF Float Reciprocating Scraper FLC-P800A Speed | WP-P0011 | | | | | | CP-P32 | AI TCP |
| 3853 | N | 0 | SI-P801A | Speed Indication | DAF Flocculator FLC-P801A Speed | WP-P0011 | | | | | | CP-P32 | AI TCP |
| 3854 | N | 0 | SI-P802A | Speed Indication | DAF Flocculator FLC-P802A Speed | WP-P0011 | | | | | | CP-P32 | AI TCP |
| 3855 | N | 0 | SI-P803A | Speed Indication | DAF Flocculator FLC-P803A Speed | WP-P0011 | | | | | | CP-P32 | AI TCP |
| 3856 | N | 0 | SI-P804A | Speed Indication | DAF Flocculator FLC-P804A Speed | WP-P0011 | | | | | | CP-P32 | AI TCP |
| 3857 | N | 0 | SI-P805A | Speed Indication | DAF Flocculator FLC-P805A Speed | WP-P0011 | | | | | | CP-P32 | AI TCP |
| 3858 | N | 0 | SI-P806A | Speed Indication | DAF Flocculator FLC-P806A Speed | WP-P0011 | | | | | | CP-P32 | AI TCP |
| 3859 | N | 0 | SC-P800A | Speed Control Output | DAF Float Reciprocating Scraper FLC-P800A Required Speed | WP-P0011 | | | | | | CP-P32 | AO TCP |
| 3860 | N | 0 | SC-P801A | Speed Control Output | DAF Flocculator FLC-P801A Required Speed | WP-P0011 | | | | | | CP-P32 | AO TCP |

I/O POINT TYPES: TCP = Modbus/TCP Ethernet, AI = Analog Input, AO = Analog Output, DI = Discrete Input, DO = Discrete Output

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| | | | | DESCRIPTION | | | I/O SPECIFICATION | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| RECORD NO. | PLC Programming reqd | REV. N0. | TAG NAME | FUNCTION | SERVICE | P&ID DRAWING | ENG. UNITS | SCALE LOW | SCALE HIGH | ALARMS LOW | ALARMS HIGH | PLC CABINET | I/O TYPE |
| 3861 | N | 0 | SC-P802A | Speed Control Output | DAF Flocculator FLC-P802A Required Speed | WP-P0011 | | | | | | CP-P32 | AO TCP |
| 3862 | N | 0 | SC-P803A | Speed Control Output | DAF Flocculator FLC-P803A Required Speed | WP-P0011 | | | | | | CP-P32 | AO TCP |
| 3863 | N | 0 | SC-P804A | Speed Control Output | DAF Flocculator FLC-P804A Required Speed | WP-P0011 | | | | | | CP-P32 | AO TCP |
| 3864 | N | 0 | SC-P805A | Speed Control Output | DAF Flocculator FLC-P805A Required Speed | WP-P0011 | | | | | | CP-P32 | AO TCP |
| 3865 | N | 0 | SC-P806A | Speed Control Output | DAF Flocculator FLC-P806A Required Speed | WP-P0011 | | | | | | CP-P32 | AO TCP |
| 3866 | N | 0 | UF-P800A | No Fault | DAF Float Reciprocating Scraper FLC-P800A Fault | WP-P0011 | | | | | | CP-P32 | DI TCP |
| 3867 | N | 0 | UF-P801A | No Fault | DAF Flocculator FLC-P801A Fault | WP-P0011 | | | | | | CP-P32 | DI TCP |
| 3868 | N | 0 | UF-P802A | No Fault | DAF Flocculator FLC-P802A Fault | WP-P0011 | | | | | | CP-P32 | DI TCP |
| 3869 | N | 0 | UF-P803A | No Fault | DAF Flocculator FLC-P803A Fault | WP-P0011 | | | | | | CP-P32 | DI TCP |
| 3870 | N | 0 | UF-P804A | No Fault | DAF Flocculator FLC-P804A Fault | WP-P0011 | | | | | | CP-P32 | DI TCP |
| 3871 | N | 0 | UF-P805A | No Fault | DAF Flocculator FLC-P805A Fault | WP-P0011 | | | | | | CP-P32 | DI TCP |
| 3872 | N | 0 | UF-P806A | No Fault | DAF Flocculator FLC-P806A Fault | WP-P0011 | | | | | | CP-P32 | DI TCP |
| 3873 | N | 0 | YS-P810A | C/O/H Switch in Computer Position | Air Saturated Water to DAF TNK-P800A Valve in Computer Mode | WP-P0011 | | | | | | CP-P32 | DI |
| 3874 | N | 0 | YS-P810B | C/O/H Switch in Computer Position | Air Saturated Water to DAF TNK-P800A Valve in Computer Mode | WP-P0011 | | | | | | CP-P32 | DI |
| 3875 | N | 0 | YS-P840A | C/O/H Switch in Computer Position | DAF Basin Effluent Weir Bypass Gate (TNKP800A) in Computer Mode | WP-P0011 | | | | | | CP-P32 | DI |
| 3876 | N | 0 | YS-P800A | C/O/H Switch in Computer Position | DAF Float Reciprocating Scraper FLC-P800A in Computer Mode | WP-P0011 | | | | | | CP-P32 | DI TCP |
| 3877 | N | 0 | YS-P801A | C/O/H Switch in Computer Position | DAF Flocculator FLC-P801A in Computer Mode | WP-P0011 | | | | | | CP-P32 | DI TCP |
| 3878 | N | 0 | YS-P802A | C/O/H Switch in Computer Position | DAF Flocculator FLC-P802A in Computer Mode | WP-P0011 | | | | | | CP-P32 | DI TCP |
| 3879 | N | 0 | YS-P803A | C/O/H Switch in Computer Position | DAF Flocculator FLC-P803A in Computer Mode | WP-P0011 | | | | | | CP-P32 | DI TCP |
| 3880 | N | 0 | YS-P804A | C/O/H Switch in Computer Position | DAF Flocculator FLC-P804A in Computer Mode | WP-P0011 | | | | | | CP-P32 | DI TCP |
| 3881 | N | 0 | YS-P805A | C/O/H Switch in Computer Position | DAF Flocculator FLC-P805A in Computer Mode | WP-P0011 | | | | | | CP-P32 | DI TCP |
| 3882 | N | 0 | YS-P806A | C/O/H Switch in Computer Position | DAF Flocculator FLC-P806A in Computer Mode | WP-P0011 | | | | | | CP-P32 | DI TCP |
| 3883 | N | 0 | YD-P820A | Solenoid Actuator Output | DAF Basin Headwall Spray Wash Header Valve (TNKP800A) Open | WP-P0011 | | | | | | CP-P32 | DO |
| 3884 | N | 0 | YD-P820B | Solenoid Actuator Output | DAF Basin Float Trough Spray Wash Valve (TNKP800A) Open | WP-P0011 | | | | | | CP-P32 | DO |
| 3885 | N | 0 | ZT-P810A | Position Feedback | Air Saturated Water to DAF TNK-P800A Valve Position | WP-P0011 | | | | | | CP-P32 | AI |
| 3886 | N | 0 | ZT-P810B | Position Feedback | Air Saturated Water to DAF TNK-P800A Valve Position | WP-P0011 | | | | | | CP-P32 | AI |
| 3887 | N | 0 | ZT-P840A | Position Feedback | DAF Basin Effluent Weir Bypass Gate (TNKP800A) Position | WP-P0011 | | | | | | CP-P32 | AI |
| 3888 | N | 0 | ZC-P810A | Position Control Output | Air Saturated Water to DAF TNK-P800A Valve Required Position | WP-P0011 | | | | | | CP-P32 | AO |
| 3889 | N | 0 | ZC-P810B | Position Control Output | Air Saturated Water to DAF TNK-P800A Valve Required Position | WP-P0011 | | | | | | CP-P32 | AO |
| 3890 | N | 0 | ZC-P840A | Position Control Output | DAF Basin Effluent Weir Bypass Gate (TNKP800A) Required Position | WP-P0011 | | | | | | CP-P32 | AO |
| 3891 | N | 0 | ZB-P810A | Closed Status | Air Saturated Water to DAF TNK-P800A Valve Closed | WP-P0011 | | | | | | CP-P32 | DI |
| 3892 | N | 0 | ZD-P810A | Open Status | Air Saturated Water to DAF TNK-P800A Valve Open | WP-P0011 | | | | | | CP-P32 | DI |
| 3893 | N | 0 | ZB-P810B | Closed Status | Air Saturated Water to DAF TNK-P800A Valve Closed | WP-P0011 | | | | | | CP-P32 | DI |
| 3894 | N | 0 | ZD-P810B | Open Status | Air Saturated Water to DAF TNK-P800A Valve Open | WP-P0011 | | | | | | CP-P32 | DI |
| 3895 | N | 0 | ZB-P840A | Closed Status | DAF Basin Effluent Weir Bypass Gate (TNKP800A) Closed | WP-P0011 | | | | | | CP-P32 | DI |
| 3896 | N | 0 | ZD-P840A | Open Status | DAF Basin Effluent Weir Bypass Gate (TNKP800A) Open | WP-P0011 | | | | | | CP-P32 | DI |
| 3897 | N | 0 | LI-P970A | Level Indication | DAF Effluent Channel West Side (Train 1) Level | WP-P0017 | | | | | | CP-P32 | AI |
| 3898 | N | 0 | LA-P970A | Level Alarm | DAF Effluent Channel West Side (Train 1) High High Level | WP-P0017 | | | | | | CP-P32 | DI |
| 3899 | N | 0 | LF-P970A | Level Fault | DAF Effluent Channel West Side (Train 1) Level Fault | WP-P0017 | | | | | | CP-P32 | DI |
| 3900 | Y | 0 | FI-P200A | Flow Indication | Raw Water Flow Rate to DAF TNKP200A | WP-P0002 | | | | | | LCP-H10 | AI |
| 3901 | Y | 0 | FI-P300A | Flow Indication | Raw Water Flow Rate to DAF TNKP300A | WP-P0002 | | | | | | LCP-H10 | AI |
| 3902 | Y | 0 | FI-P400A | Flow Indication | Raw Water Flow Rate to DAF TNKP400A | WP-P0002 | | | | | | LCP-H10 | AI |
| 3903 | Y | 0 | FQ-P200A | Flow Pulse | Raw Water Flow Total to DAF TNKP200A | WP-P0002 | | | | | | LCP-H10 | DI |
| 3904 | Y | 0 | FQ-P300A | Flow Pulse | Raw Water Flow Total to DAF TNKP300A | WP-P0002 | | | | | | LCP-H10 | DI |
| 3905 | Y | 0 | FQ-P400A | Flow Pulse | Raw Water Flow Total to DAF TNKP400A | WP-P0002 | | | | | | LCP-H10 | DI |
| 3906 | Y | 0 | LI-P971A | Level Indication | DAF Effluent Channel East Side (Train 2) Level | WP-P0017 | | | | | | LCP-H10 | AI |
| 3907 | Y | 0 | LA-P971A | Level Alarm | DAF Effluent Channel East Side (Train 2) High High Level | WP-P0017 | | | | | | LCP-H10 | DI |
| 3908 | Y | 0 | LA-P971A | Level Fault | DAF Effluent Channel East Side (Train 2) Level Fault | WP-P0017 | | | | | | LCP-H10 | DI |
| 3909 | Y | 0 | LI-C701A | Level Indication | Filter Inlet Chamber (TK-C701A) Level | WO-P0010 | | | | | | CP-H30 | AI |
| 3910 | Y | 0 | LF-C701A | Level Fault | Filter Inlet Chamber (TK-C701A) Level Fault | WO-P0010 | | | | | | CP-H30 | DI |
| 3911 | Y | 0 | YS-D00506A | C/O/H Switch in Computer Position | Branch 2 Outlet Header Valve in Computer Mode | WD-P0006 | | | | | | UV-M | DI |
| 3912 | Y | 0 | YB-D00506A | Close Command | Branch 2 Outlet Header Valve Close | WD-P0006 | | | | | | UV-M | DO |

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| | | | | DESCRIPTION | | | I/O SPECIFICATION | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| RECORD NO. | PLC Programming reqd | REV. N0. | TAG NAME | FUNCTION | SERVICE | P&ID DRAWING | ENG. UNITS | SCALE LOW | SCALE HIGH | ALARMS LOW | ALARMS HIGH | PLC CABINET | I/O TYPE |
| 3913 | Y | 0 | YD-D00506A | Open Command | Branch 2 Outlet Header Valve Open | WD-P0006 | | | | | | UV-M | DO |
| 3914 | Y | 0 | YB-D00506B | Close Command | Branch 2 Outlet Header Valve Emergency Close | WD-P0006 | | | | | | UV-M | DO |
| 3915 | Y | 0 | ZB-D00506A | Closed Status | Branch 2 Outlet Header Valve Closed | WD-P0006 | | | | | | UV-M | DI |
| 3916 | Y | 0 | ZD-D00506A | Open Status | Branch 2 Outlet Header Valve Open | WD-P0006 | | | | | | UV-M | DI |
| 3917 | Y | 0 | YS-DU061A | C/O/H Switch in Computer Position | UV Reactor DVR-061 UVR-1100 Inlet Valve in Computer Mode | WD-P0007 | | | | | | UV-M | DI |
| 3918 | Y | 0 | YB-DU061A | Close Command | UV Reactor DVR-061 UVR-1100 Inlet Valve Close | WD-P0007 | | | | | | UV-M | DO |
| 3919 | Y | 0 | YD-DU061A | Open Command | UV Reactor DVR-061 UVR-1100 Inlet Valve Open | WD-P0007 | | | | | | UV-M | DO |
| 3920 | Y | 0 | YB-DU061B | Close Command | UV Reactor DVR-061 UVR-1100 Inlet Valve Emergency Close | WD-P0007 | | | | | | UV-M | DO |
| 3921 | Y | 0 | ZB-DU061A | Closed Status | UV Reactor DVR-061 UVR-1100 Inlet Valve Closed | WD-P0007 | | | | | | UV-M | DI |
| 3922 | Y | 0 | ZD-DU061A | Open Status | UV Reactor DVR-061 UVR-1100 Inlet Valve Open | WD-P0007 | | | | | | UV-M | DI |
| 3923 | Y | 0 | YS-DU062A | C/O/H Switch in Computer Position | UV Reactor DVR-062 UVR-1200 Inlet Valve in Computer Mode | WD-P0008 | | | | | | UV-M | DI |
| 3924 | Y | 0 | YB-DU062A | Close Command | UV Reactor DVR-062 UVR-1200 Inlet Valve Close | WD-P0008 | | | | | | UV-M | DO |
| 3925 | Y | 0 | YD-DU062A | Open Command | UV Reactor DVR-062 UVR-1200 Inlet Valve Open | WD-P0008 | | | | | | UV-M | DO |
| 3926 | Y | 0 | YB-DU062B | Close Command | UV Reactor DVR-062 UVR-1200 Inlet Valve Emergency Close | WD-P0008 | | | | | | UV-M | DO |
| 3927 | Y | 0 | ZB-DU062A | Closed Status | UV Reactor DVR-062 UVR-1200 Inlet Valve Closed | WD-P0008 | | | | | | UV-M | DI |
| 3928 | Y | 0 | ZD-DU062A | Open Status | UV Reactor DVR-062 UVR-1200 Inlet Valve Open | WD-P0008 | | | | | | UV-M | DI |
| 3929 | Y | 0 | YS-DU063A | C/O/H Switch in Computer Position | UV Reactor DVR-063 UVR-1300 Inlet Valve in Computer Mode | WD-P0009 | | | | | | UV-M | DI |
| 3930 | Y | 0 | YB-DU063A | Close Command | UV Reactor DVR-063 UVR-1300 Inlet Valve Close | WD-P0009 | | | | | | UV-M | DO |
| 3931 | Y | 0 | YD-DU063A | Open Command | UV Reactor DVR-063 UVR-1300 Inlet Valve Open | WD-P0009 | | | | | | UV-M | DO |
| 3932 | Y | 0 | YB-DU063B | Close Command | UV Reactor DVR-063 UVR-1300 Inlet Valve Emergency Close | WD-P0009 | | | | | | UV-M | DO |
| 3933 | Y | 0 | ZB-DU063A | Closed Status | UV Reactor DVR-063 UVR-1300 Inlet Valve Closed | WD-P0009 | | | | | | UV-M | DI |
| 3934 | Y | 0 | ZD-DU063A | Open Status | UV Reactor DVR-063 UVR-1300 Inlet Valve Open | WD-P0009 | | | | | | UV-M | DI |
| 3935 | Y | 0 | YS-DU064A | C/O/H Switch in Computer Position | UV Reactor DVR-064 UVR-1400 Inlet Valve in Computer Mode | WD-P0010 | | | | | | UV-M | DI |
| 3936 | Y | 0 | YB-DU064A | Close Command | UV Reactor DVR-064 UVR-1400 Inlet Valve Close | WD-P0010 | | | | | | UV-M | DO |
| 3937 | Y | 0 | YD-DU064A | Open Command | UV Reactor DVR-064 UVR-1400 Inlet Valve Open | WD-P0010 | | | | | | UV-M | DO |
| 3938 | Y | 0 | YB-DU064B | Close Command | UV Reactor DVR-064 UVR-1400 Inlet Valve Emergency Close | WD-P0010 | | | | | | UV-M | DO |
| 3939 | Y | 0 | ZB-DU064A | Closed Status | UV Reactor DVR-064 UVR-1400 Inlet Valve Closed | WD-P0010 | | | | | | UV-M | DI |
| 3940 | Y | 0 | ZD-DU064A | Open Status | UV Reactor DVR-064 UVR-1400 Inlet Valve Open | WD-P0010 | | | | | | UV-M | DI |
| 3941 | Y | 0 | YS-DU065A | C/O/H Switch in Computer Position | UV Reactor DVR-065 UVR-1500 Inlet Valve in Computer Mode | WD-P0011 | | | | | | UV-M | DI |
| 3942 | Y | 0 | YB-DU065A | Close Command | UV Reactor DVR-065 UVR-1500 Inlet Valve Close | WD-P0011 | | | | | | UV-M | DO |
| 3943 | Y | 0 | YD-DU065A | Open Command | UV Reactor DVR-065 UVR-1500 Inlet Valve Open | WD-P0011 | | | | | | UV-M | DO |
| 3944 | Y | 0 | YB-DU065B | Close Command | UV Reactor DVR-065 UVR-1500 Inlet Valve Emergency Close | WD-P0011 | | | | | | UV-M | DO |
| 3945 | Y | 0 | ZB-DU065A | Closed Status | UV Reactor DVR-065 UVR-1500 Inlet Valve Closed | WD-P0011 | | | | | | UV-M | DI |
| 3946 | Y | 0 | ZD-DU065A | Open Status | UV Reactor DVR-065 UVR-1500 Inlet Valve Open | WD-P0011 | | | | | | UV-M | DI |
| 3947 | Y | 0 | YS-DU066A | C/O/H Switch in Computer Position | UV Reactor DVR-066 UVR-1600 Inlet Valve in Computer Mode | WD-P0012 | | | | | | UV-M | DI |
| 3948 | Y | 0 | YB-DU066A | Close Command | UV Reactor DVR-066 UVR-1600 Inlet Valve Close | WD-P0012 | | | | | | UV-M | DO |
| 3949 | Y | 0 | YD-DU066A | Open Command | UV Reactor DVR-066 UVR-1600 Inlet Valve Open | WD-P0012 | | | | | | UV-M | DO |
| 3950 | Y | 0 | YB-DU066B | Close Command | UV Reactor DVR-066 UVR-1600 Inlet Valve Emergency Close | WD-P0012 | | | | | | UV-M | DO |
| 3951 | Y | 0 | ZB-DU066A | Closed Status | UV Reactor DVR-066 UVR-1600 Inlet Valve Closed | WD-P0012 | | | | | | UV-M | DI |
| 3952 | Y | 0 | ZD-DU066A | Open Status | UV Reactor DVR-066 UVR-1600 Inlet Valve Open | WD-P0012 | | | | | | UV-M | DI |
| 3953 | Y | 0 | JY-H961A | Bulk Chemical Protection Relay-F60 | 600V Incomer to SWGR 2A | WS-E0503 | | | | | | LCP-S11A | TCP |
| 3954 | Y | 0 | JY-H962A | Bulk Chemical Protection Relay-F60 | MCC4A Feeder Protection | WS-E0503 | | | | | | LCP-S11A | TCP |
| 3955 | Y | 0 | JY-H963A | Bulk Chemical Protection Relay-F60 | MCC11A Feeder Protection | WS-E0503 | | | | | | LCP-S11A | TCP |
| 3956 | Y | 0 | JY-H964A | Bulk Chemical Protection Relay-F60 | MCC12A Feeder Protection | WS-E0501 | | | | | | LCP-S11A | TCP |
| 3957 | Y | 0 | JY-H965A | Bulk Chemical Protection Relay-F60 | Harmonic Filter Feeder | WS-E0501 | | | | | | LCP-S11A | TCP |
| 3958 | Y | 0 | JY-H961B | Bulk Chemical Protection Relay-F60 | 600V Incomer to SWGR 2B | WS-E0501 | | | | | | LCP-S11A | TCP |
| 3959 | Y | 0 | JY-H962B | Bulk Chemical Protection Relay-F60 | MCC4B Feeder Protection | WS-E0501 | | | | | | LCP-S11A | TCP |
| 3960 | Y | 0 | JY-H963B | Bulk Chemical Protection Relay-F60 | MCC11B Feeder Protection | WS-E0501 | | | | | | LCP-S11A | TCP |
| 3961 | Y | 0 | JY-H964B | Bulk Chemical Protection Relay-F60 | MCC12B Feeder Protection | WS-E0501 | | | | | | LCP-S11A | TCP |
| 3962 | Y | 0 | JY-H965B | Bulk Chemical Protection Relay-F60 | Harmonic Filter Feeder | WS-E0501 | | | | | | LCP-S11A | TCP |
| 3963 | Y | 0 | JT-H961A | Power Transmitter | 600V Incomer to SWGR 2A | WS-E0501 | | | | | | LCP-S11A | TCP |
| 3964 | Y | 0 | JT-H961B | Power Transmitter | 600V Incomer to SWGR 2B | WS-E0501 | | | | | | LCP-S11A | TCP |
| 3965 | Y | 0 | JT-H962A | Power Transmitter | MCC4A Feeder | WS-E0501 | | | | | | LCP-S11A | TCP |
| 3966 | Y | 0 | JT-H962B | Power Transmitter | MCC4A Feeder | WS-E0501 | | | | | | LCP-S11A | TCP |
| 3967 | Y | 0 | JT-H963A | Power Transmitter | MCC11A Feeder | WS-E0501 | | | | | | LCP-S11A | TCP |

I/O POINT TYPES: TCP = Modbus/TCP Ethernet, AI = Analog Input, AO = Analog Output, DI = Discrete Input, DO = Discrete Output

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| RECORD NO. | PLC Programming reqd | REV. N0. | TAG NAME | FUNCTION | SERVICE | P&ID DRAWING | ENG. UNITS | SCALE LOW | SCALE HIGH | ALARMS LOW | ALARMS HIGH | PLC CABINET | I/O TYPE |
| 3968 | Y | 0 | JT-H963B | Power Transmitter | MCC11A Feeder | WS-E0501 | | | | | | LCP-S11A | TCP |
| 3969 | Y | 0 | JT-H964A | Power Transmitter | MCC12A Feeder | WS-E0501 | | | | | | LCP-S11A | TCP |
| 3970 | Y | 0 | JT-H964B | Power Transmitter | MCC12A Feeder | WS-E0501 | | | | | | LCP-S11A | TCP |
| 3971 | Y | 0 | JY-H951A | Main Building Protection Relay-F60 | SWGR 1A Feeder | WB-E0511 | | | | | | LCP-H10A | TCP |
| 3972 | Y | 0 | JT-H951A | Power Transmitter | SWGR 1A Feeder | WB-E0511 | | | | | | LCP-H10A | TCP |
| 3973 | Y | 0 | JY-H952A | Main Building Protection Relay-F60 | MCC 1A Feeder Protection | WB-E0511 | | | | | | LCP-H10A | TCP |
| 3974 | Y | 0 | JY-H953A | Main Building Protection Relay-F60 | MCC 2A Feeder Protection | WB-E0511 | | | | | | LCP-H10A | TCP |
| 3975 | Y | 0 | JY-H954A | Main Building Protection Relay-F60 | MCC 3A Feeder Protection | WB-E0511 | | | | | | LCP-H10A | TCP |
| 3976 | Y | 0 | JY-H955A | Main Building Protection Relay-F60 | Harmonic Filter Feeder | WB-E0511 | | | | | | LCP-H10A | TCP |
| 3977 | Y | 0 | JT-H952A | Power Transmitter | MCC 1A Feeder | WB-E0511 | | | | | | LCP-H10A | TCP |
| 3978 | Y | 0 | JT-H953A | Power Transmitter | MCC 2A Feeder | WB-E0511 | | | | | | LCP-H10A | TCP |
| 3979 | Y | 0 | JT-H954A | Power Transmitter | MCC 3A Feeder | WB-E0511 | | | | | | LCP-H10A | TCP |
| 3980 | Y | 0 | JY-H951B | Main Building Protection Relay-F60 | SWGR 1B Feeder Protection | WB-E0511 | | | | | | LCP-H10A | TCP |
| 3981 | Y | 0 | JT-H951B | Power Transmitter | SWGR 1B Feeder | WB-E0511 | | | | | | LCP-H10A | TCP |
| 3982 | Y | 0 | JY-H952B | Power Relay | MCC 1B Feeder Protection | WB-E0511 | | | | | | LCP-H10A | TCP |
| 3983 | Y | 0 | JY-H953B | Power Relay | MCC 2B Feeder Protection | WB-E0511 | | | | | | LCP-H10A | TCP |
| 3984 | Y | 0 | JY-H954B | Power Relay | MCC 3A Feeder Protection | WB-E0511 | | | | | | LCP-H10A | TCP |
| 3985 | Y | 0 | JY-H955B | Power Relay | Harmonic Filter Feeder | WB-E0511 | | | | | | LCP-H10A | TCP |
| 3986 | Y | 0 | JT-H952B | Power Transmitter | MCC 1B Feeder | WB-E0511 | | | | | | LCP-H10A | TCP |
| 3987 | Y | 0 | JT-H953B | Power Transmitter | MCC 2B Feeder | WB-E0511 | | | | | | LCP-H10A | TCP |
| 3988 | Y | 0 | JT-H954B | Power Transmitter | MCC 3B Feeder | WB-E0511 | | | | | | LCP-H10A | TCP |
| 3989 | Y | 0 | JY-Pxxxx | Protection Relay | Recycle Pump P-P010A | WB-E0513 | | | | | | LCP-H10A | TCP |
| 3990 | Y | 0 | JY-Pxxxx | Protection Relay | Recycle Pump P-P020A | WB-E0513 | | | | | | LCP-H10A | TCP |
| 3991 | Y | 0 | JY-Pxxxx | Protection Relay | Recycle Pump P-P030A | WB-E0513 | | | | | | LCP-H10A | TCP |
| 3992 | Y | 0 | JY-Pxxxx | Protection Relay | Recycle Pump P-P040A | WB-E0513 | | | | | | LCP-H10A | TCP |
| 3993 | Y | 0 | JY-Pxxxx | Protection Relay | Recycle Pump P-P050A | WB-E0513 | | | | | | LCP-H10A | TCP |
| 3994 | Y | 0 | JY-Pxxxx | Protection Relay | Recycle Pump P-P060A | WB-E0513 | | | | | | LCP-H10A | TCP |
| 3995 | Y | 0 | JY-Rxxxx | Protection Relay | Supernatent Pump P-R021A | WB-E0517 | | | | | | CP-H30A | TCP |
| 3996 | Y | 0 | JY-Rxxxx | Protection Relay | Supernatent Pump P-R022A | WB-E0517 | | | | | | CP-H30A | TCP |
| 3997 | Y | 0 | JY-Rxxxx | Protection Relay | Supernatent Pump P-R023A | WB-E0517 | | | | | | CP-H30A | TCP |
| 3998 | Y | 0 | JY-Fxxxx | Protection Relay | Filter Air Scour Blower BLW-F010A | WB-E0519 | | | | | | CP-H30A | TCP |
| 3999 | Y | 0 | JY-Fxxxx | Protection Relay | Filter Air Scour Blower BLW-F010A | WB-E0519 | | | | | | CP-H30A | TCP |
| 4000 | Y | 0 | JY-DUxxxx | | DBPS Protection Relay-F60 #1 | WD-E0401 | | | | | | CP-D21A | TCP |
| 4001 | Y | 0 | JY-DUxxxx | | DBPS Protection Relay-F60 #2 | WD-E0401 | | | | | | CP-D21A | TCP |
| 4002 | Y | 0 | JY-DUxxxx | | DBPS Protection Relay-F60 #3 | WD-E0401 | | | | | | CP-D21A | TCP |
| 4003 | Y | 0 | JY-DUxxxx | | DBPS Protection Relay-F60 #4 | WD-E0401 | | | | | | CP-D21A | TCP |
| 4004 | Y | 0 | JY-DUxxxx | | DBPS Protection Relay-F60 #5 | WD-E0401 | | | | | | CP-D21A | TCP |
| 4005 | Y | 0 | | | UPS #1 | | | | | | | CP-H30 | AI |
| 4006 | Y | 0 | | | UPS #1 | | | | | | | CP-H30 | AI |
| 4007 | Y | 0 | | | UPS #1 | | | | | | | CP-H30 | AI |
| 4008 | Y | 0 | | | UPS #2 | | | | | | | CP-H30 | AI |
| 4009 | Y | 0 | | | UPS #2 | | | | | | | CP-H30 | AI |
| 4010 | Y | 0 | | | UPS #2 | | | | | | | CP-H30 | AI |
| 4011 | Y | 0 | | | Fire Alarm System | | | | | | | LCP-H10 | DI |
| 4012 | Y | 0 | | | Fire Alarm System | | | | | | | LCP-H10 | DI |
| 4013 | Y | 0 | | | Fire Alarm System | | | | | | | LCP-H10 | DI |
| 4014 | Y | 0 | | | Fire Alarm System | | | | | | | LCP-H10 | DI |
| 4015 | Y | 0 | | | Fire Alarm System | | | | | | | LCP-H10 | DI |
| 4016 | Y | 0 | | | Fire Alarm System | | | | | | | LCP-H10 | DI |
| 4017 | Y | 0 | | | Fire Alarm System | | | | | | | LCP-H10 | DI |
| 4018 | Y | 0 | | | Fire Alarm System | | | | | | | LCP-H10 | DI |
| 4019 | Y | 0 | | | Fire Alarm System | | | | | | | LCP-H10 | DI |
| 4020 | Y | 0 | | | Fire Alarm System | | | | | | | LCP-H10 | DI |
| 4021 | Y | 0 | | | UPS #3 | | | | | | | LCP-H10 | DI |
| 4022 | Y | 0 | | | UPS #3 | | | | | | | LCP-H10 | DI |

I/O POINT TYPES: TCP = Modbus/TCP Ethernet, AI = Analog Input, AO = Analog Output, DI = Discrete Input, DO = Discrete Output

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| | | | | DESCRIPTION | | | I/O SPECIFICATION | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| RECORD NO. | PLC Programming reqd | REV. N0. | TAG NAME | FUNCTION | SERVICE | P&ID DRAWING | ENG. UNITS | SCALE LOW | SCALE HIGH | ALARMS LOW | ALARMS HIGH | PLC CABINET | I/O TYPE |
| 4023 | Y | 0 | | | UPS #3 | | | | | | | LCP-H10 | DI |
| 4024 | Y | 0 | | | UPS #3 | | | | | | | LCP-H10 | DI |
| 4025 | Y | 0 | | | UPS #3 | | | | | | | LCP-H10 | DI |
| 4026 | Y | 0 | | | UPS #4 | | | | | | | LCP-H10 | DI |
| 4027 | Y | 0 | | | UPS #4 | | | | | | | LCP-H10 | DI |
| 4028 | Y | 0 | | | UPS #4 | | | | | | | LCP-H10 | DI |
| 4029 | Y | 0 | | | UPS #4 | | | | | | | LCP-H10 | DI |
| 4030 | Y | 0 | | | UPS #4 | | | | | | | LCP-H10 | DI |
| 4031 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | AI |
| 4032 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | AI |
| 4033 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | AI |
| 4034 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | AI |
| 4035 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | AI |
| 4036 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | AI |
| 4037 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | AI |
| 4038 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | AI |
| 4039 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | AI |
| 4040 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | AI |
| 4041 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | AI |
| 4042 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | AI |
| 4043 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | AI |
| 4044 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | AI |
| 4045 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | AI |
| 4046 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | AI |
| 4047 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | AI |
| 4048 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | AI |
| 4049 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | AI |
| 4050 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | AI |
| 4051 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | AI |
| 4052 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | AI |
| 4053 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | AI |
| 4054 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | AI |
| 4055 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | AI |
| 4056 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | AI |
| 4057 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | AI |
| 4058 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | AI |
| 4059 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | AI |
| 4060 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | AI |
| 4061 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | AI |
| 4062 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | AI |
| 4063 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | AI |
| 4064 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | AI |
| 4065 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | AI |
| 4066 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | AI |
| 4067 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | AI |
| 4068 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | AI |
| 4069 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | AI |
| 4070 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | AI |
| 4071 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | AI |
| 4072 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | AI |
| 4073 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | AI |
| 4074 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | AI |
| 4075 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | AI |
| 4076 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | AI |
| 4077 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | AI |

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| RECORD NO. | PLC Programming reqd | REV. N0. | TAG NAME | FUNCTION | SERVICE | P&ID DRAWING | ENG. UNITS | SCALE LOW | SCALE HIGH | ALARMS LOW | ALARMS HIGH | PLC CABINET | I/O TYPE |
| 4078 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | AI |
| 4079 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | AI |
| 4080 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | AI |
| 4081 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | AI |
| 4082 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | AI |
| 4083 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | AI |
| 4084 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | AI |
| 4085 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | AI |
| 4086 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | AI |
| 4087 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | AI |
| 4088 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | AI |
| 4089 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | AI |
| 4090 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | AI |
| 4091 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | AI |
| 4092 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | AI |
| 4093 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | AI |
| 4094 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | AI |
| 4095 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | AI |
| 4096 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | AI |
| 4097 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | AI |
| 4098 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | AI |
| 4099 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | AI |
| 4100 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | AI |
| 4101 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | AI |
| 4102 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | AI |
| 4103 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | AI |
| 4104 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | AI |
| 4105 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | AI |
| 4106 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | AI |
| 4107 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | AI |
| 4108 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | AI |
| 4109 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | AI |
| 4110 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | AI |
| 4111 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | AI |
| 4112 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | AI |
| 4113 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | AI |
| 4114 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | AI |
| 4115 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | AI |
| 4116 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | AI |
| 4117 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | AI |
| 4118 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | AI |
| 4119 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | AI |
| 4120 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | AI |
| 4121 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | AO |
| 4122 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | AO |
| 4123 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | AO |
| 4124 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | AO |
| 4125 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | AO |
| 4126 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | AO |
| 4127 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | AO |
| 4128 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | AO |
| 4129 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | AO |
| 4130 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | AO |
| 4131 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | AO |
| 4132 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | AO |

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| | | | | DESCRIPTION | | | I/O SPECIFICATION | | | | | | | |
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| RECORD NO. | PLC Programming reqd | REV. N0. | TAG NAME | FUNCTION | SERVICE | P&ID DRAWING | ENG. UNITS | SCALE LOW | SCALE HIGH | ALARMS LOW | ALARMS HIGH | PLC CABINET | I/O TYPE |
| 4133 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | AO |
| 4134 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | AO |
| 4135 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | AO |
| 4136 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | AO |
| 4137 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | AO |
| 4138 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | AO |
| 4139 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | DI |
| 4140 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | DI |
| 4141 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | DI |
| 4142 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | DI |
| 4143 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | DI |
| 4144 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | DI |
| 4145 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | DI |
| 4146 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | DI |
| 4147 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | DI |
| 4148 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | DI |
| 4149 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | DI |
| 4150 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | DI |
| 4151 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | DI |
| 4152 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | DI |
| 4153 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | DI |
| 4154 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | DI |
| 4155 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | DI |
| 4156 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | DI |
| 4157 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | DI |
| 4158 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | DI |
| 4159 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | DI |
| 4160 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | DI |
| 4161 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | DI |
| 4162 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | DI |
| 4163 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | DI |
| 4164 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | DI |
| 4165 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | DI |
| 4166 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | DI |
| 4167 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | DI |
| 4168 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | DI |
| 4169 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | DI |
| 4170 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | DI |
| 4171 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | DI |
| 4172 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | DI |
| 4173 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | DI |
| 4174 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | DI |
| 4175 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | DI |
| 4176 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | DI |
| 4177 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | DI |
| 4178 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | DI |
| 4179 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | DI |
| 4180 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | DI |
| 4181 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | DI |
| 4182 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | DI |
| 4183 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | DI |
| 4184 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | DI |
| 4185 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | DI |
| 4186 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | DI |
| 4187 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | DI |

I/O POINT TYPES: TCP = Modbus/TCP Ethernet, AI = Analog Input, AO = Analog Output, DI = Discrete Input, DO = Discrete Output

## PLC I/O INDEX

| | | | | DESCRIPTION | | | I/O SPECIFICATION | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| RECORD NO. | PLC Programming reqd | REV. N0. | TAG NAME | FUNCTION | SERVICE | P&ID DRAWING | ENG. UNITS | SCALE LOW | SCALE HIGH | ALARMS LOW | ALARMS HIGH | PLC CABINET | I/O TYPE |
| 4188 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | DI |
| 4189 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | DI |
| 4190 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | DI |
| 4191 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | DI |
| 4192 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | DI |
| 4193 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | DI |
| 4194 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | DI |
| 4195 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | DI |
| 4196 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | DI |
| 4197 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | DI |
| 4198 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | DI |
| 4199 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | DI |
| 4200 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | DI |
| 4201 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | DI |
| 4202 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | DI |
| 4203 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | DI |
| 4204 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | DI |
| 4205 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | DI |
| 4206 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | DI |
| 4207 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | DI |
| 4208 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | DI |
| 4209 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | DI |
| 4210 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | DI |
| 4211 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | DI |
| 4212 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | DI |
| 4213 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | DI |
| 4214 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | DI |
| 4215 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | DI |
| 4216 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | DI |
| 4217 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | DI |
| 4218 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | DI |
| 4219 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | DI |
| 4220 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | DI |
| 4221 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | DI |
| 4222 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | DI |
| 4223 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | DI |
| 4224 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | DI |
| 4225 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | DI |
| 4226 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | DI |
| 4227 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | DI |
| 4228 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | DI |
| 4229 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | DI |
| 4230 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | DI |
| 4231 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | DI |
| 4232 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | DI |
| 4233 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | DI |
| 4234 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | DI |
| 4235 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | DI |
| 4236 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | DI |
| 4237 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | DI |
| 4238 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | DI |
| 4239 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | DI |
| 4240 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | DI |
| 4241 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | DI |
| 4242 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | DI |

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## PLC I/O INDEX

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| RECORD NO. | PLC Programming reqd | REV. N0. | TAG NAME | FUNCTION | SERVICE | P&ID DRAWING | ENG. UNITS | SCALE LOW | SCALE HIGH | ALARMS LOW | ALARMS HIGH | PLC CABINET | I/O TYPE |
| 4243 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | DI |
| 4244 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | DI |
| 4245 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | DI |
| 4246 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | DI |
| 4247 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | DI |
| 4248 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | DI |
| 4249 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | DI |
| 4250 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | DI |
| 4251 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | DI |
| 4252 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | DI |
| 4253 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | DI |
| 4254 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | DI |
| 4255 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | DI |
| 4256 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | DI |
| 4257 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | DI |
| 4258 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | DI |
| 4259 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | DI |
| 4260 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | DI |
| 4261 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | DI |
| 4262 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | DI |
| 4263 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | DI |
| 4264 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | DI |
| 4265 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | DI |
| 4266 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | DI |
| 4267 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | DI |
| 4268 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | DI |
| 4269 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | DI |
| 4270 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | DI |
| 4271 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | DI |
| 4272 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | DI |
| 4273 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | DI |
| 4274 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | DI |
| 4275 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | DI |
| 4276 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | DI |
| 4277 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | DI |
| 4278 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | DI |
| 4279 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | DI |
| 4280 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | DI |
| 4281 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | DI |
| 4282 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | DI |
| 4283 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | DI |
| 4284 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | DI |
| 4285 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | DI |
| 4286 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | DI |
| 4287 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | DI |
| 4288 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | DI |
| 4289 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | DI |
| 4290 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | DI |
| 4291 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | DI |
| 4292 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | DI |
| 4293 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | DI |
| 4294 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | DI |
| 4295 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | DI |
| 4296 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | DI |
| 4297 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | DI |

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| RECORD NO. | PLC Programming reqd | REV. N0. | TAG NAME | FUNCTION | SERVICE | P&ID DRAWING | ENG. UNITS | SCALE LOW | SCALE HIGH | ALARMS LOW | ALARMS HIGH | PLC CABINET | I/O TYPE |
| 4298 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | DI |
| 4299 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | DI |
| 4300 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | DI |
| 4301 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | DI |
| 4302 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | DI |
| 4303 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | DI |
| 4304 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | DI |
| 4305 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | DI |
| 4306 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | DI |
| 4307 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | DI |
| 4308 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | DI |
| 4309 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | DI |
| 4310 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | DI |
| 4311 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | DI |
| 4312 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | DI |
| 4313 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | DI |
| 4314 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | DI |
| 4315 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | DI |
| 4316 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | DI |
| 4317 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | DI |
| 4318 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | DI |
| 4319 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | DI |
| 4320 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | DI |
| 4321 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | DI |
| 4322 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | DI |
| 4323 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | DI |
| 4324 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | DI |
| 4325 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | DI |
| 4326 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | DI |
| 4327 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | DI |
| 4328 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | DI |
| 4329 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | DI |
| 4330 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | DI |
| 4331 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | DI |
| 4332 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | DI |
| 4333 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | DI |
| 4334 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | DI |
| 4335 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | DI |
| 4336 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | DI |
| 4337 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | DI |
| 4338 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | DI |
| 4339 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | DI |
| 4340 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | DI |
| 4341 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | DI |
| 4342 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | DI |
| 4343 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | DI |
| 4344 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | DI |
| 4345 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | DI |
| 4346 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | DI |
| 4347 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | DI |
| 4348 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | DI |
| 4349 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | DI |
| 4350 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | DI |
| 4351 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | DI |
| 4352 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | DI |

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| | | | | DESCRIPTION | | | I/O SPECIFICATION | | | | | | | |
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| RECORD NO. | PLC Programming reqd | REV. N0. | TAG NAME | FUNCTION | SERVICE | P&ID DRAWING | ENG. UNITS | SCALE LOW | SCALE HIGH | ALARMS LOW | ALARMS HIGH | PLC CABINET | I/O TYPE |
| 4353 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | DI |
| 4354 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | DI |
| 4355 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | DI |
| 4356 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | DO |
| 4357 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | DO |
| 4358 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | DO |
| 4359 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | DO |
| 4360 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | DO |
| 4361 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | DO |
| 4362 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | DO |
| 4363 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | DO |
| 4364 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | DO |
| 4365 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | DO |
| 4366 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | DO |
| 4367 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | DO |
| 4368 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | DO |
| 4369 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | DO |
| 4370 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | DO |
| 4371 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | DO |
| 4372 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | DO |
| 4373 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | DO |
| 4374 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | DO |
| 4375 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | DO |
| 4376 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | DO |
| 4377 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | DO |
| 4378 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | DO |
| 4379 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | DO |
| 4380 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | DO |
| 4381 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | DO |
| 4382 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | DO |
| 4383 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | DO |
| 4384 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | DO |
| 4385 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | DO |
| 4386 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | DO |
| 4387 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | CP-H30 | DO |
| 4388 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | DO |
| 4389 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | DO |
| 4390 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | DO |
| 4391 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | DO |
| 4392 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | DO |
| 4393 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | DO |
| 4394 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | DO |
| 4395 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | DO |
| 4396 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | DO |
| 4397 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | DO |
| 4398 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | DO |
| 4399 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | DO |
| 4400 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | DO |
| 4401 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | DO |
| 4402 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | DO |
| 4403 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | DO |
| 4404 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | DO |
| 4405 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | DO |
| 4406 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | DO |
| 4407 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | DO |

I/O POINT TYPES: TCP = Modbus/TCP Ethernet, AI = Analog Input, AO = Analog Output, DI = Discrete Input, DO = Discrete Output

## PLC I/O INDEX

| | | | | DESCRIPTION | | | I/O SPECIFICATION | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| RECORD NO. | PLC Programming reqd | REV. N0. | TAG NAME | FUNCTION | SERVICE | P&ID DRAWING | ENG. UNITS | SCALE LOW | SCALE HIGH | ALARMS LOW | ALARMS HIGH | PLC CABINET | I/O TYPE |
| 4408 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | DO |
| 4409 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | DO |
| 4410 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | DO |
| 4411 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | DO |
| 4412 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | DO |
| 4413 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | DO |
| 4414 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | DO |
| 4415 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | DO |
| 4416 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | DO |
| 4417 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | DO |
| 4418 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | DO |
| 4419 | Y | 0 | | Spare | Spares to be included in programming cost estimates | | | | | | | LCP-H10 | DO |
| 4420 | N | 0 | C103EN | Chemical Feed Building I/O | Fluoride Pump 103 Operator Enable | | | | | | | CP-CF01A | DO |
| 4421 | N | 0 | C105EN | Chemical Feed Building I/O | Fluoride Pump 105 Operator Enable | | | | | | | CP-CF01A | DO |
| 4422 | N | 0 | C104EN | Chemical Feed Building I/O | Fluoride Pump 104 Operator Enable | | | | | | | CP-CF01A | DO |
| 4423 | N | 0 | C104BR | Chemical Feed Building I/O | Fluoride Pump 104 Branch 1 Select | | | | | | | CP-CF01A | DO |
| 4424 | N | 0 | C203EN | Chemical Feed Building I/O | Phosphoric Pump 203 Operator Enable | | | | | | | CP-CF01A | DO |
| 4425 | N | 0 | C205EN | Chemical Feed Building I/O | Phosphoric Pump 205 Operator Enable | | | | | | | CP-CF01A | DO |
| 4426 | N | 0 | C204EN | Chemical Feed Building I/O | Phosphoric Pump 204 Operator Enable | | | | | | | CP-CF01A | DO |
| 4427 | N | 0 | C204BR | Chemical Feed Building I/O | Phosphoric Pump 204 Branch 1 Select | | | | | | | CP-CF01A | DO |
| 4428 | N | 0 | C101ALAH | Chemical Feed Building I/O | Fluoride Storage Tank-A Level Hi | | | | | | | CP-CF01A | DI |
| 4429 | N | 0 | C101ALAHH | Chemical Feed Building I/O | Fluoride Storage Tank-A Level Hi Hi | | | | | | | CP-CF01A | DI |
| 4430 | N | 0 | C101ALAL | Chemical Feed Building I/O | Fluoride Storage Tank-A Level Low | | | | | | | CP-CF01A | DI |
| 4431 | N | 0 | C101ALALL | Chemical Feed Building I/O | Fluoride Storage Tank-A Level Low Low | | | | | | | CP-CF01A | DI |
| 4432 | N | 0 | C101AFA | Chemical Feed Building I/O | Fluoride Storage Tank-A Overflow | | | | | | | CP-CF01A | DI |
| 4433 | N | 0 | C101AZIC | Chemical Feed Building I/O | Fluoride Storage Tank-A Fill Valve | | | | | | | CP-CF01A | DI |
| 4434 | N | 0 | C101BLAH | Chemical Feed Building I/O | Fluoride Storage Tank-B Level Hi | | | | | | | CP-CF01A | DI |
| 4435 | N | 0 | C101BLAHH | Chemical Feed Building I/O | Fluoride Storage Tank-B Level Hi Hi | | | | | | | CP-CF01A | DI |
| 4436 | N | 0 | C101BLAL | Chemical Feed Building I/O | Fluoride Storage Tank-B Level Low | | | | | | | CP-CF01A | DI |
| 4437 | N | 0 | C101BLALL | Chemical Feed Building I/O | Fluoride Storage Tank-B Level Low Low | | | | | | | CP-CF01A | DI |
| 4438 | N | 0 | C101BFA | Chemical Feed Building I/O | Fluoride Storage Tank-B Overflow | | | | | | | CP-CF01A | DI |
| 4439 | N | 0 | C101BZIC | Chemical Feed Building I/O | Fluoride Storage Tank-B Fill Valve | | | | | | | CP-CF01A | DI |
| 4440 | N | 0 | C101CLAH | Chemical Feed Building I/O | Fluoride Storage Tank-C Level Hi | | | | | | | CP-CF01A | DI |
| 4441 | N | 0 | C101CLAHH | Chemical Feed Building I/O | Fluoride Storage Tank-C Level Hi Hi | | | | | | | CP-CF01A | DI |
| 4442 | N | 0 | C101CLAL | Chemical Feed Building I/O | Fluoride Storage Tank-C Level Low | | | | | | | CP-CF01A | DI |
| 4443 | N | 0 | C101CLALL | Chemical Feed Building I/O | Fluoride Storage Tank-C Level Low Low | | | | | | | CP-CF01A | DI |
| 4444 | N | 0 | C101CFA | Chemical Feed Building I/O | Fluoride Storage Tank-C Overflow | | | | | | | CP-CF01A | DI |
| 4445 | N | 0 | C101CZIC | Chemical Feed Building I/O | Fluoride Storage Tank-C Fill Valve | | | | | | | CP-CF01A | DI |
| 4446 | N | 0 | C101AYS | Chemical Feed Building I/O | Fluoride Transfer Pump-A Remote Switch | | | | | | | CP-CF01A | DI |
| 4447 | N | 0 | C101AMM | Chemical Feed Building I/O | Fluoride Transfer Pump-A Running | | | | | | | CP-CF01A | DI |
| 4448 | N | 0 | C101BYS | Chemical Feed Building I/O | Fluoride Transfer Pump-B Remote Switch | | | | | | | CP-CF01A | DI |
| 4449 | N | 0 | C101BMM | Chemical Feed Building I/O | Fluoride Transfer Pump-B Running | | | | | | | CP-CF01A | DI |
| 4450 | N | 0 | C101DFA | Chemical Feed Building I/O | Fluoride Storage Tanks Overflow | | | | | | | CP-CF01A | DI |
| 4451 | N | 0 | C102ALAH_A | Chemical Feed Building I/O | Fluoride Day Tank-A Level Hi (future) | | | | | | | CP-CF01A | DI |
| 4452 | N | 0 | C102ALAHH | Chemical Feed Building I/O | Fluoride Day Tank-A Level Hi Hi (future) | | | | | | | CP-CF01A | DI |
| 4453 | N | 0 | C102ALAL_A | Chemical Feed Building I/O | Fluoride Day Tank-A Level Low (future) | | | | | | | CP-CF01A | DI |
| 4454 | N | 0 | C102ALALL | Chemical Feed Building I/O | Fluoride Day Tank-A Level Low Low (future) | | | | | | | CP-CF01A | DI |
| 4455 | N | 0 | C102AYS | Chemical Feed Building I/O | Fluoride Day Tank-A Fill Valve Remote Switch | | | | | | | CP-CF01A | DI |
| 4456 | N | 0 | C102AZS | Chemical Feed Building I/O | Fluoride Day Tank-A Fill Valve | | | | | | | CP-CF01A | DI |
| 4457 | N | 0 | C102AFA | Chemical Feed Building I/O | Fluoride Day Tank-A Overflow | | | | | | | CP-CF01A | DI |
| 4458 | N | 0 | C102ALAH_B | Chemical Feed Building I/O | Fluoride Day Tank-A Level Sensor Hi | | | | | | | CP-CF01A | DI |
| 4459 | N | 0 | C102ALAL_B | Chemical Feed Building I/O | Fluoride Day Tank-A Level Sensor Low | | | | | | | CP-CF01A | DI |
| 4460 | N | 0 | C102AWH | Chemical Feed Building I/O | Fluoride Day Tank-A Weight Hi | | | | | | | CP-CF01A | DI |
| 4461 | N | 0 | C102AWL | Chemical Feed Building I/O | Fluoride Day Tank-A Weight Low | | | | | | | CP-CF01A | DI |
| 4462 | N | 0 | C102BLAH_A | Chemical Feed Building I/O | Fluoride Day Tank-B Level Hi (future) | | | | | | | CP-CF01A | DI |

I/O POINT TYPES: TCP = Modbus/TCP Ethernet, AI = Analog Input, AO = Analog Output, DI = Discrete Input, DO = Discrete Output

## PLC I/O INDEX

| | | | | DESCRIPTION | | | I/O SPECIFICATION | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| RECORD NO. | PLC Programming reqd | REV. N0. | TAG NAME | FUNCTION | SERVICE | P&ID DRAWING | ENG. UNITS | SCALE LOW | SCALE HIGH | ALARMS LOW | ALARMS HIGH | PLC CABINET | I/O TYPE |
| 4463 | N | 0 | C102BLAHH | Chemical Feed Building I/O | Fluoride Day Tank-B Level Hi Hi (future) | | | | | | | CP-CF01A | DI |
| 4464 | N | 0 | C102BLAL_A | Chemical Feed Building I/O | Fluoride Day Tank-B Level Low (future) | | | | | | | CP-CF01A | DI |
| 4465 | N | 0 | C102BLALL | Chemical Feed Building I/O | Fluoride Day Tank-B Level Low Low (future) | | | | | | | CP-CF01A | DI |
| 4466 | N | 0 | C102BYS | Chemical Feed Building I/O | Fluoride Day Tank-B Fill Valve Remote Switch | | | | | | | CP-CF01A | DI |
| 4467 | N | 0 | C102BZS | Chemical Feed Building I/O | Fluoride Day Tank-B Fill Valve | | | | | | | CP-CF01A | DI |
| 4468 | N | 0 | C102BFA | Chemical Feed Building I/O | Fluoride Day Tank-B Overflow | | | | | | | CP-CF01A | DI |
| 4469 | N | 0 | C102BLAH_B | Chemical Feed Building I/O | Fluoride Day Tank-B Level Sensor Hi | | | | | | | CP-CF01A | DI |
| 4470 | N | 0 | C102BLAL_B | Chemical Feed Building I/O | Fluoride Day Tank-B Level Sensor Low | | | | | | | CP-CF01A | DI |
| 4471 | N | 0 | C102BWH | Chemical Feed Building I/O | Fluoride Day Tank-B Weight Hi | | | | | | | CP-CF01A | DI |
| 4472 | N | 0 | C102BWL | Chemical Feed Building I/O | Fluoride Day Tank-B Weight Low | | | | | | | CP-CF01A | DI |
| 4473 | N | 0 | C103YS | Chemical Feed Building I/O | Fluoride Metering Pump-103 Remote Switch | | | | | | | CP-CF01A | DI |
| 4474 | N | 0 | C103MM | Chemical Feed Building I/O | Fluoride Metering Pump-103 Running | | | | | | | CP-CF01A | DI |
| 4475 | N | 0 | C103QF | Chemical Feed Building I/O | Fluoride Metering Pump-103 VFD Fail | | | | | | | CP-CF01A | DI |
| 4476 | N | 0 | C104YS | Chemical Feed Building I/O | Fluoride Metering Pump-104 Remote Switch | | | | | | | CP-CF01A | DI |
| 4477 | N | 0 | C104MM | Chemical Feed Building I/O | Fluoride Metering Pump-104 Running | | | | | | | CP-CF01A | DI |
| 4478 | N | 0 | C104QF | Chemical Feed Building I/O | Fluoride Metering Pump-104 VFD Fail | | | | | | | CP-CF01A | DI |
| 4479 | N | 0 | C105YS | Chemical Feed Building I/O | Fluoride Metering Pump-105 Remote Switch | | | | | | | CP-CF01A | DI |
| 4480 | N | 0 | C105MM | Chemical Feed Building I/O | Fluoride Metering Pump-105 Running | | | | | | | CP-CF01A | DI |
| 4481 | N | 0 | C105QF | Chemical Feed Building I/O | Fluoride Metering Pump-105 VFD Fail | | | | | | | CP-CF01A | DI |
| 4482 | N | 0 | C201ALAH | Chemical Feed Building I/O | Phosphoric Storage Tank-A Level Hi | | | | | | | CP-CF01A | DI |
| 4483 | N | 0 | C201ALAHH | Chemical Feed Building I/O | Phosphoric Storage Tank-A Level Hi Hi | | | | | | | CP-CF01A | DI |
| 4484 | N | 0 | C201ALAL | Chemical Feed Building I/O | Phosphoric Storage Tank-A Level Low | | | | | | | CP-CF01A | DI |
| 4485 | N | 0 | C201ALALL | Chemical Feed Building I/O | Phosphoric Storage Tank-A Level Low Low | | | | | | | CP-CF01A | DI |
| 4486 | N | 0 | C201AFA | Chemical Feed Building I/O | Phosphoric Storage Tank-A Overflow | | | | | | | CP-CF01A | DI |
| 4487 | N | 0 | C201AZIC | Chemical Feed Building I/O | Phosphoric Storage Tank-A Fill Valve | | | | | | | CP-CF01A | DI |
| 4488 | N | 0 | C201BLAH | Chemical Feed Building I/O | Phosphoric Storage Tank-B Level Hi | | | | | | | CP-CF01A | DI |
| 4489 | N | 0 | C201BLAHH | Chemical Feed Building I/O | Phosphoric Storage Tank-B Level Hi Hi | | | | | | | CP-CF01A | DI |
| 4490 | N | 0 | C201BLAL | Chemical Feed Building I/O | Phosphoric Storage Tank-B Level Low | | | | | | | CP-CF01A | DI |
| 4491 | N | 0 | C201BLALL | Chemical Feed Building I/O | Phosphoric Storage Tank-B Level Low Low | | | | | | | CP-CF01A | DI |
| 4492 | N | 0 | C201BFA | Chemical Feed Building I/O | Phosphoric Storage Tank-B Overflow | | | | | | | CP-CF01A | DI |
| 4493 | N | 0 | C201BZIC | Chemical Feed Building I/O | Phosphoric Storage Tank-B Fill Valve | | | | | | | CP-CF01A | DI |
| 4494 | N | 0 | C201AYS | Chemical Feed Building I/O | Phosphoric Transfer Pump-A Remote Switch | | | | | | | CP-CF01A | DI |
| 4495 | N | 0 | C201AMM | Chemical Feed Building I/O | Phosphoric Transfer Pump-A Running | | | | | | | CP-CF01A | DI |
| 4496 | N | 0 | C201BYS | Chemical Feed Building I/O | Phosphoric Transfer Pump-B Remote Switch | | | | | | | CP-CF01A | DI |
| 4497 | N | 0 | C201BMM | Chemical Feed Building I/O | Phosphoric Transfer Pump-B Running | | | | | | | CP-CF01A | DI |
| 4498 | N | 0 | C201CFA | Chemical Feed Building I/O | Phosphoric Storage Tanks Overflow | | | | | | | CP-CF01A | DI |
| 4499 | N | 0 | C202ALAH_A | Chemical Feed Building I/O | Phosphoric Day Tank-A Level Hi (future) | | | | | | | CP-CF01A | DI |
| 4500 | N | 0 | C202ALAHH | Chemical Feed Building I/O | Phosphoric Day Tank-A Level Hi Hi (future) | | | | | | | CP-CF01A | DI |
| 4501 | N | 0 | C202ALAL_A | Chemical Feed Building I/O | Phosphoric Day Tank-A Level Low (future) | | | | | | | CP-CF01A | DI |
| 4502 | N | 0 | C202ALALL | Chemical Feed Building I/O | Phosphoric Day Tank-A Level Low Low (future) | | | | | | | CP-CF01A | DI |
| 4503 | N | 0 | C202AYS | Chemical Feed Building I/O | Phosphoric Day Tank-A Fill Valve Remote Switch | | | | | | | CP-CF01A | DI |
| 4504 | N | 0 | C202AZS | Chemical Feed Building I/O | Phosphoric Day Tank-A Fill Valve | | | | | | | CP-CF01A | DI |
| 4505 | N | 0 | C202AFA | Chemical Feed Building I/O | Phosphoric Day Tank-A Overflow | | | | | | | CP-CF01A | DI |
| 4506 | N | 0 | C202ALAH_B | Chemical Feed Building I/O | Phosphoric Day Tank-A Level Sensor Hi | | | | | | | CP-CF01A | DI |
| 4507 | N | 0 | C202ALAL_B | Chemical Feed Building I/O | Phosphoric Day Tank-A Level Sensor Low | | | | | | | CP-CF01A | DI |
| 4508 | N | 0 | C202AWH | Chemical Feed Building I/O | Phosphoric Day Tank-A Weight Hi | | | | | | | CP-CF01A | DI |
| 4509 | N | 0 | C202AWL | Chemical Feed Building I/O | Phosphoric Day Tank-A Weight Low | | | | | | | CP-CF01A | DI |
| 4510 | N | 0 | C202BLAH_A | Chemical Feed Building I/O | Phosphoric Day Tank-B Level Hi (future) | | | | | | | CP-CF01A | DI |
| 4511 | N | 0 | C202BLAHH | Chemical Feed Building I/O | Phosphoric Day Tank-B Level Hi Hi (future) | | | | | | | CP-CF01A | DI |
| 4512 | N | 0 | C202BLAL_A | Chemical Feed Building I/O | Phosphoric Day Tank-B Level Low (future) | | | | | | | CP-CF01A | DI |
| 4513 | N | 0 | C202BLALL | Chemical Feed Building I/O | Phosphoric Day Tank-B Level Low Low (future) | | | | | | | CP-CF01A | DI |
| 4514 | N | 0 | C202BYS | Chemical Feed Building I/O | Phosphoric Day Tank-B Fill Valve Remote Switch | | | | | | | CP-CF01A | DI |
| 4515 | N | 0 | C202BZS | Chemical Feed Building I/O | Phosphoric Day Tank-B Fill Valve | | | | | | | CP-CF01A | DI |
| 4516 | N | 0 | C202BFA | Chemical Feed Building I/O | Phosphoric Day Tank-B Overflow | | | | | | | CP-CF01A | DI |
| 4517 | N | 0 | C202BLAH_B | Chemical Feed Building I/O | Phosphoric Day Tank-B Level Sensor Hi | | | | | | | CP-CF01A | DI |

I/O POINT TYPES: TCP = Modbus/TCP Ethernet, AI = Analog Input, AO = Analog Output, DI = Discrete Input, DO = Discrete Output

## PLC I/O INDEX

| | | | | DESCRIPTION | | | I/O SPECIFICATION | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| RECORD NO. | PLC Programming reqd | REV. N0. | TAG NAME | FUNCTION | SERVICE | P&ID DRAWING | ENG. UNITS | SCALE LOW | SCALE HIGH | ALARMS LOW | ALARMS HIGH | PLC CABINET | I/O TYPE |
| 4518 | N | 0 | C202BLAL_B | Chemical Feed Building I/O | Phosphoric Day Tank-B Level Sensor Low | | | | | | | CP-CF01A | DI |
| 4519 | N | 0 | C202BWH | Chemical Feed Building I/O | Phosphoric Day Tank-B Weight Hi | | | | | | | CP-CF01A | DI |
| 4520 | N | 0 | C202BWL | Chemical Feed Building I/O | Phosphoric Day Tank-B Weight Low | | | | | | | CP-CF01A | DI |
| 4521 | N | 0 | C203YS | Chemical Feed Building I/O | Phosphoric Metering Pump-203 Remote Switch | | | | | | | CP-CF01A | DI |
| 4522 | N | 0 | C203MM | Chemical Feed Building I/O | Phosphoric Metering Pump-203 Running | | | | | | | CP-CF01A | DI |
| 4523 | N | 0 | C203QF | Chemical Feed Building I/O | Phosphoric Metering Pump-203 VFD Fail | | | | | | | CP-CF01A | DI |
| 4524 | N | 0 | C204YS | Chemical Feed Building I/O | Phosphoric Metering Pump-204 Remote Switch | | | | | | | CP-CF01A | DI |
| 4525 | N | 0 | C204MM | Chemical Feed Building I/O | Phosphoric Metering Pump-204 Running | | | | | | | CP-CF01A | DI |
| 4526 | N | 0 | C204QF | Chemical Feed Building I/O | Phosphoric Metering Pump-204 VFD Fail | | | | | | | CP-CF01A | DI |
| 4527 | N | 0 | C205YS | Chemical Feed Building I/O | Phosphoric Metering Pump-205 Remote Switch | | | | | | | CP-CF01A | DI |
| 4528 | N | 0 | C205MM | Chemical Feed Building I/O | Phosphoric Metering Pump-205 Running | | | | | | | CP-CF01A | DI |
| 4529 | N | 0 | C205QF | Chemical Feed Building I/O | Phosphoric Metering Pump-205 VFD Fail | | | | | | | CP-CF01A | DI |
| 4530 | N | 0 | C301YS | Chemical Feed Building I/O | Service Water Pump-301 Remote Switch | | | | | | | CP-CF01A | DI |
| 4531 | N | 0 | C301MM | Chemical Feed Building I/O | Service Water Pump-301 Running | | | | | | | CP-CF01A | DI |
| 4532 | N | 0 | C301PAL | Chemical Feed Building I/O | Service Water Branch-301 Low Pressure | | | | | | | CP-CF01A | DI |
| 4533 | N | 0 | C302YS | Chemical Feed Building I/O | Service Water Pump-302 Remote Switch | | | | | | | CP-CF01A | DI |
| 4534 | N | 0 | C302MM | Chemical Feed Building I/O | Service Water Pump-302 Running | | | | | | | CP-CF01A | DI |
| 4535 | N | 0 | C302PAL | Chemical Feed Building I/O | Service Water Branch-302 Low Pressure | | | | | | | CP-CF01A | DI |
| 4536 | N | 0 | C303AH | Chemical Feed Building I/O | Fluoride Sample High Analyzer 1 | | | | | | | CP-CF01A | DI |
| 4537 | N | 0 | C303AL | Chemical Feed Building I/O | Fluoride Sample Low Analyzer 1 | | | | | | | CP-CF01A | DI |
| 4538 | N | 0 | C303AF | Chemical Feed Building I/O | Fluoride Analyzer Fail Analyzer 1 | | | | | | | CP-CF01A | DI |
| 4539 | N | 0 | C311TAL | Chemical Feed Building I/O | (DCFF) Office Area Low Temperature | | | | | | | CP-CF01A | DI |
| 4540 | N | 0 | C211TAL | Chemical Feed Building I/O | Phosphoric Area Low Temperature | | | | | | | CP-CF01A | DI |
| 4541 | N | 0 | C111TAL | Chemical Feed Building I/O | Flouride Area Low Temperature | | | | | | | CP-CF01A | DI |
| 4542 | N | 0 | C401QF | Chemical Feed Building I/O | (DCFF) Fire Alarm | | | | | | | CP-CF01A | DI |
| 4543 | N | 0 | C401XA | Chemical Feed Building I/O | (DCFF) Fire Alarm Trouble | | | | | | | CP-CF01A | DI |
| 4544 | N | 0 | C402QF | Chemical Feed Building I/O | (DCFF) Burglar Alarm | | | | | | | CP-CF01A | DI |
| 4545 | N | 0 | C402XA | Chemical Feed Building I/O | (DCFF) Burglar Alarm Lockout | | | | | | | CP-CF01A | DI |
| 4546 | N | 0 | C403XA | Chemical Feed Building I/O | (DCFF) UPS Power Failure | | | | | | | CP-CF01A | DI |
| 4547 | N | 0 | C304LAH | Chemical Feed Building I/O | (DCFF) Septic Tank High Level | | | | | | | CP-CF01A | DI |
| 4548 | N | 0 | C305AH | Chemical Feed Building I/O | Fluoride Sample High Analyzer 2 | | | | | | | CP-CF01A | DI |
| 4549 | N | 0 | C305AL | Chemical Feed Building I/O | Fluoride Sample Low Analyzer 2 | | | | | | | CP-CF01A | DI |
| 4550 | N | 0 | C305AF | Chemical Feed Building I/O | Fluoride Analyzer Fail Analyzer 2 | | | | | | | CP-CF01A | DI |
| 4551 | N | 0 | C404LAH | Chemical Feed Building I/O | Fluoride Sump Pit Flood | | | | | | | CP-CF01A | DI |
| 4552 | N | 0 | C405LAH | Chemical Feed Building I/O | Phosphoric Sump Pit Flood | | | | | | | CP-CF01A | DI |
| 4553 | N | 0 | DU-060-ZB-1 | Closed limit switch | Intermediate header valve DU-061-IHV-1 | P02 | | | | | | UV-M | DI |
| 4554 | N | 0 | DU-060-ZD-1 | Open limit switch | Intermediate header valve DU-061-IHV-1 | P02 | | | | | | UV-M | DI |
| 4555 | N | 0 | DU-060-ZB-2 | Closed limit switch | Intermediate header valve DU-062-IHV-2 | P05 | | | | | | UV-M | DI |
| 4556 | N | 0 | DU-060-ZD-2 | Open limit switch | Intermediate header valve DU-062-IHV-2 | P05 | | | | | | UV-M | DI |
| 4557 | N | 0 | DU-060-ZB-3 | Closed limit switch | Intermediate header valve DU-063-IHV-3 | P05 | | | | | | UV-M | DI |
| 4558 | N | 0 | DU-060-ZD-3 | Open limit switch | Intermediate header valve DU-063-IHV-3 | P05 | | | | | | UV-M | DI |
| 4559 | N | 0 | DU-060-ZB-4 | Closed limit switch | Intermediate header valve DU-064-IHV-4 | P05 | | | | | | UV-M | DI |
| 4560 | N | 0 | DU-060-ZD-4 | Open limit switch | Intermediate header valve DU-064-IHV-4 | P05 | | | | | | UV-M | DI |
| 4561 | N | 0 | DU-060-ZB-5 | Closed limit switch | Intermediate header valve DU-065-IHV-5 | P05 | | | | | | UV-M | DI |
| 4562 | N | 0 | DU-060-ZD-5 | Open limit switch | Intermediate header valve DU-065-IHV-5 | P05 | | | | | | UV-M | DI |
| 4563 | N | 0 | DU-061-ZB | Closed limit switch | U.V. Reactor #1100 valve DU-061-SIV-1 | P03 | | | | | | UV-M | DI |
| 4564 | N | 0 | DU-061-ZD | Open limit switch | U.V. Reactor #1100 valve DU-061-SIV-1 | P03 | | | | | | UV-M | DI |
| 4565 | N | 0 | DU-062-ZB | Closed limit switch | U.V. Reactor #1200 valve DU-062-SIV-2 | P04 | | | | | | UV-M | DI |
| 4566 | N | 0 | DU-062-ZD | Open limit switch | U.V. Reactor #1200 valve DU-062-SIV-2 | P04 | | | | | | UV-M | DI |
| 4567 | N | 0 | DU-063-ZB | Closed limit switch | U.V. Reactor #2100 valve DU-063-SIV-3 | P06 | | | | | | UV-M | DI |
| 4568 | N | 0 | DU-063-ZD | Open limit switch | U.V. Reactor #2100 valve DU-063-SIV-3 | P06 | | | | | | UV-M | DI |
| 4569 | N | 0 | DU-064-ZB | Closed limit switch | U.V. Reactor #2200 valve DU-064-SIV-4 | P07 | | | | | | UV-M | DI |
| 4570 | N | 0 | DU-064-ZD | Open limit switch | U.V. Reactor #2200 valve DU-064-SIV-4 | P07 | | | | | | UV-M | DI |
| 4571 | N | 0 | DU-065-ZB | Closed limit switch | U.V. Reactor #2300 valve DU-065-SIV-5 | P08 | | | | | | UV-M | DI |
| 4572 | N | 0 | DU-065-ZD | Open limit switch | U.V. Reactor #2300 valve DU-065-SIV-5 | P08 | | | | | | UV-M | DI |

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## PLC I/O INDEX

| | | | | DESCRIPTION | | | I/O SPECIFICATION | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| RECORD NO. | PLC Programming reqd | REV. N0. | TAG NAME | FUNCTION | SERVICE | P&ID DRAWING | ENG. UNITS | SCALE LOW | SCALE HIGH | ALARMS LOW | ALARMS HIGH | PLC CABINET | I/O TYPE |
| 4573 | N | 0 | DU-066-ZB | Closed limit switch | U.V. Reactor #2400 valve DU-066-SIV-6 | P09 | | | | | | UV-M | DI |
| 4574 | N | 0 | DU-066-ZD | Open limit switch | U.V. Reactor #2400 valve DU-066-SIV-6 | P09 | | | | | | UV-M | DI |
| 4575 | N | 0 | DU-061-XS-1087 | U.V. Reactor run command | U.V. Reactor #1100 Control Power Panel | P03 | | | | | | UV-M | DO |
| 4576 | N | 0 | DU-061-YS-1084 | U.V. Reactor ready | U.V. Reactor #1100 Control Power Panel | P03 | | | | | | UV-M | DI |
| 4577 | N | 0 | DU-061-YS-1085 | U.V. Reactor run indication | U.V. Reactor #1100 Control Power Panel | P03 | | | | | | UV-M | DI |
| 4578 | N | 0 | DU-061-YS-1086 | U.V. Reactor alarm | U.V. Reactor #1100 Control Power Panel | P03 | | | | | | UV-M | DI |
| 4579 | N | 0 | DU-061-YS-1087 | U.V. Reactor shut down | U.V. Reactor #1100 Control Power Panel | P03 | | | | | | UV-M | DI |
| 4580 | N | 0 | DU-062-XS-1187 | U.V. Reactor run command | U.V. Reactor #1200 Control Power Panel | P04 | | | | | | UV-M | DO |
| 4581 | N | 0 | DU-062-YS-1184 | U.V. Reactor ready | U.V. Reactor #1200 Control Power Panel | P04 | | | | | | UV-M | DI |
| 4582 | N | 0 | DU-062-YS-1185 | U.V. Reactor run indication | U.V. Reactor #1200 Control Power Panel | P04 | | | | | | UV-M | DI |
| 4583 | N | 0 | DU-062-YS-1186 | U.V. Reactor alarm | U.V. Reactor #1200 Control Power Panel | P04 | | | | | | UV-M | DI |
| 4584 | N | 0 | DU-062-YS-1187 | U.V. Reactor shut down | U.V. Reactor #1200 Control Power Panel | P04 | | | | | | UV-M | DI |
| 4585 | N | 0 | DU-063-XS-2087 | U.V. Reactor run command | U.V. Reactor #2100 Control Power Panel | P06 | | | | | | UV-M | DO |
| 4586 | N | 0 | DU-063-YS-2084 | U.V. Reactor ready | U.V. Reactor #2100 Control Power Panel | P06 | | | | | | UV-M | DI |
| 4587 | N | 0 | DU-063-YS-2085 | U.V. Reactor run indication | U.V. Reactor #2100 Control Power Panel | P06 | | | | | | UV-M | DI |
| 4588 | N | 0 | DU-063-YS-2086 | U.V. Reactor alarm | U.V. Reactor #2100 Control Power Panel | P06 | | | | | | UV-M | DI |
| 4589 | N | 0 | DU-063-YS-2087 | U.V. Reactor shut down | U.V. Reactor #2100 Control Power Panel | P06 | | | | | | UV-M | DI |
| 4590 | N | 0 | DU-064-XS-2187 | U.V. Reactor run command | U.V. Reactor #2200 Control Power Panel | P07 | | | | | | UV-M | DO |
| 4591 | N | 0 | DU-064-YS-2184 | U.V. Reactor ready | U.V. Reactor #2200 Control Power Panel | P07 | | | | | | UV-M | DI |
| 4592 | N | 0 | DU-064-YS-2185 | U.V. Reactor run indication | U.V. Reactor #2200 Control Power Panel | P07 | | | | | | UV-M | DI |
| 4593 | N | 0 | DU-064-YS-2186 | U.V. Reactor alarm | U.V. Reactor #2200 Control Power Panel | P07 | | | | | | UV-M | DI |
| 4594 | N | 0 | DU-064-YS-2187 | U.V. Reactor shut down | U.V. Reactor #2200 Control Power Panel | P07 | | | | | | UV-M | DI |
| 4595 | N | 0 | DU-065-XS-2287 | U.V. Reactor run command | U.V. Reactor #2300 Control Power Panel | P08 | | | | | | UV-M | DO |
| 4596 | N | 0 | DU-065-YS-2284 | U.V. Reactor ready | U.V. Reactor #2300 Control Power Panel | P08 | | | | | | UV-M | DI |
| 4597 | N | 0 | DU-065-YS-2285 | U.V. Reactor run indication | U.V. Reactor #2300 Control Power Panel | P08 | | | | | | UV-M | DI |
| 4598 | N | 0 | DU-065-YS-2286 | U.V. Reactor alarm | U.V. Reactor #2300 Control Power Panel | P08 | | | | | | UV-M | DI |
| 4599 | N | 0 | DU-065-YS-2287 | U.V. Reactor shut down | U.V. Reactor #2300 Control Power Panel | P08 | | | | | | UV-M | DI |
| 4600 | N | 0 | DU-066-XS-2387 | U.V. Reactor run command | U.V. Reactor #2400 Control Power Panel | P09 | | | | | | UV-M | DO |
| 4601 | N | 0 | DU-066-YS-2384 | U.V. Reactor ready | U.V. Reactor #2400 Control Power Panel | P09 | | | | | | UV-M | DI |
| 4602 | N | 0 | DU-066-YS-2385 | U.V. Reactor run indication | U.V. Reactor #2400 Control Power Panel | P09 | | | | | | UV-M | DI |
| 4603 | N | 0 | DU-066-YS-2386 | U.V. Reactor alarm | U.V. Reactor #2400 Control Power Panel | P09 | | | | | | UV-M | DI |
| 4604 | N | 0 | DU-066-YS-2387 | U.V. Reactor shut down | U.V. Reactor #2400 Control Power Panel | P09 | | | | | | UV-M | DI |
| 4605 | N | 0 | DD-061-ZB | Closed limit switch | U.V. Reactor #1100 flow control valve | P03 | | | | | | UV-M | DI |
| 4606 | N | 0 | DD-061-ZD | Open limit switch | U.V. Reactor #1100 flow control valve | P03 | | | | | | UV-M | DI |
| 4607 | N | 0 | DD-061-YS | Remote Control Selected | U.V. Reactor #1100 flow control valve | P03 | | | | | | UV-M | DI |
| 4608 | N | 0 | DD-061-ZT | Valve position transmitter | U.V. Reactor #1100 flow control valve | P03 | | | | | | UV-M | AI |
| 4609 | N | 0 | DD-061-ZC | Valve position control | U.V. Reactor #1100 flow control valve | P03 | | | | | | UV-M | AO |
| 4610 | N | 0 | DD-062-ZB | Closed limit switch | U.V. Reactor #1200 flow control valve | P04 | | | | | | UV-M | DI |
| 4611 | N | 0 | DD-062-ZD | Open limit switch | U.V. Reactor #1200 flow control valve | P04 | | | | | | UV-M | DI |
| 4612 | N | 0 | DD-062-YS | Remote Control Selected | U.V. Reactor #1200 flow control valve | P04 | | | | | | UV-M | DI |
| 4613 | N | 0 | DD-062-ZT | Valve position transmitter | U.V. Reactor #1200 flow control valve | P04 | | | | | | UV-M | AI |
| 4614 | N | 0 | DD-062-ZC | Valve position control | U.V. Reactor #1200 flow control valve | P04 | | | | | | UV-M | AO |
| 4615 | N | 0 | DD-063-ZB | Closed limit switch | U.V. Reactor #2100 flow control valve | P06 | | | | | | UV-M | DI |
| 4616 | N | 0 | DD-063-ZD | Open limit switch | U.V. Reactor #2100 flow control valve | P06 | | | | | | UV-M | DI |
| 4617 | N | 0 | DD-063-YS | Remote Control Selected | U.V. Reactor #2100 flow control valve | P06 | | | | | | UV-M | DI |
| 4618 | N | 0 | DD-063-ZT | Valve position transmitter | U.V. Reactor #2100 flow control valve | P06 | | | | | | UV-M | AI |
| 4619 | N | 0 | DD-063-ZC | Valve position control | U.V. Reactor #2100 flow control valve | P06 | | | | | | UV-M | AO |
| 4620 | N | 0 | DD-064-ZB | Closed limit switch | U.V. Reactor #2200 flow control valve | P07 | | | | | | UV-M | DI |
| 4621 | N | 0 | DD-064-ZD | Open limit switch | U.V. Reactor #2200 flow control valve | P07 | | | | | | UV-M | DI |
| 4622 | N | 0 | DD-064-YS | Remote Control Selected | U.V. Reactor #2200 flow control valve | P07 | | | | | | UV-M | DI |
| 4623 | N | 0 | DD-064-ZT | Valve position transmitter | U.V. Reactor #2200 flow control valve | P07 | | | | | | UV-M | AI |
| 4624 | N | 0 | DD-064-ZC | Valve position control | U.V. Reactor #2200 flow control valve | P07 | | | | | | UV-M | AO |
| 4625 | N | 0 | DD-065-ZB | Closed limit switch | U.V. Reactor #2300 flow control valve | P08 | | | | | | UV-M | DI |
| 4626 | N | 0 | DD-065-ZD | Open limit switch | U.V. Reactor #2300 flow control valve | P08 | | | | | | UV-M | DI |
| 4627 | N | 0 | DD-065-YS | Remote Control Selected | U.V. Reactor #2300 flow control valve | P08 | | | | | | UV-M | DI |

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## PLC I/O INDEX

| | | | | DESCRIPTION | | | I/O SPECIFICATION | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| RECORD NO. | PLC Programming reqd | REV. N0. | TAG NAME | FUNCTION | SERVICE | P&ID DRAWING | ENG. UNITS | SCALE LOW | SCALE HIGH | ALARMS LOW | ALARMS HIGH | PLC CABINET | I/O TYPE |
| 4628 | N | 0 | DD-065-ZT | Valve position transmitter | U.V. Reactor #2300 flow control valve | P08 | | | | | | UV-M | AI |
| 4629 | N | 0 | DD-065-ZC | Valve position control | U.V. Reactor #2300 flow control valve | P08 | | | | | | UV-M | AO |
| 4630 | N | 0 | DD-066-ZB | Closed limit switch | U.V. Reactor #2400 flow control valve | P09 | | | | | | UV-M | DI |
| 4631 | N | 0 | DD-066-ZD | Open limit switch | U.V. Reactor #2400 flow control valve | P09 | | | | | | UV-M | DI |
| 4632 | N | 0 | DD-066-YS | Remote Control Selected | U.V. Reactor #2400 flow control valve | P09 | | | | | | UV-M | DI |
| 4633 | N | 0 | DD-066-ZT | Valve position transmitter | U.V. Reactor #2400 flow control valve | P09 | | | | | | UV-M | AI |
| 4634 | N | 0 | DD-066-ZC | Valve position control | U.V. Reactor #2400 flow control valve | P09 | | | | | | UV-M | AO |
| 4635 | N | 0 | DD-050-ZB-1 | Closed limit switch | Dischrge header valve DD-050-DHV-1 | P02 | | | | | | UV-M | DI |
| 4636 | N | 0 | DD-050-ZD-1 | Open limit switch | Dischrge header valve DD-050-DHV-1 | P02 | | | | | | UV-M | DI |
| 4637 | N | 0 | DD-050-ZB-2 | Closed limit switch | Dischrge header valve DD-050-DHV-2 | P02 | | | | | | UV-M | DI |
| 4638 | N | 0 | DD-050-ZD-2 | Open limit switch | Dischrge header valve DD-050-DHV-2 | P02 | | | | | | UV-M | DI |
| 4639 | N | 0 | DD-050-ZB-3 | Closed limit switch | Dischrge header valve DD-050-DHV-3 | P05 | | | | | | UV-M | DI |
| 4640 | N | 0 | DD-050-ZD-3 | Open limit switch | Dischrge header valve DD-050-DHV-3 | P05 | | | | | | UV-M | DI |
| 4641 | N | 0 | DD-050-ZB-4 | Closed limit switch | Dischrge header valve DD-050-DHV-4 | P05 | | | | | | UV-M | DI |
| 4642 | N | 0 | DD-050-ZD-4 | Open limit switch | Dischrge header valve DD-050-DHV-4 | P05 | | | | | | UV-M | DI |
| 4643 | N | 0 | DD-050-ZB-5 | Closed limit switch | Dischrge header valve DD-050-DHV-5 | P05 | | | | | | UV-M | DI |
| 4644 | N | 0 | DD-050-ZD-5 | Open limit switch | Dischrge header valve DD-050-DHV-5 | P05 | | | | | | UV-M | DI |
| 4645 | N | 0 | DUH-610-XM | Air Handler run indication | Air Handling Unit #1 | P10 | | | | | | UV-M | DI |
| 4646 | N | 0 | DUH-610-XA | Air Handler alarn/warning | Air Handling Unit #1 | P10 | | | | | | UV-M | DI |
| 4647 | N | 0 | DUH-610-XF | Air Handler fault | Air Handling Unit #1 | P10 | | | | | | UV-M | DI |
| 4648 | N | 0 | DUH-620-XM | Air Handler run indication | Air Handling Unit #2 | P10 | | | | | | UV-M | DI |
| 4649 | N | 0 | DUH-620-XA | Air Handler alarn/warning | Air Handling Unit #2 | P10 | | | | | | UV-M | DI |
| 4650 | N | 0 | DUH-620-XF | Air Handler fault | Air Handling Unit #2 | P10 | | | | | | UV-M | DI |
| 4651 | N | 0 | DU-916-EA | Voltage Surge Alarm | U.V. Master PLC panel power supply | P02 | | | | | | UV-M | DI |
| 4652 | N | 0 | DUZ-917-TAH | High Temperature Alarm | U.V. System Distribution Transformer | P10 | | | | | | UV-M | DI |
| 4653 | N | 0 | DUZ-917-TAHH | High-High Temperature Alarm | U.V. System Distribution Transformer | P10 | | | | | | UV-M | DI |
| 4654 | N | 0 | DU-061-FI | Flow rate transmitter | U.V. Reactor #1100 | P03 | | | | | | CPP1100 | AI |
| 4655 | N | 0 | DU-062-FI | Flow rate transmitter | U.V. Reactor #1200 | P04 | | | | | | CPP1200 | AI |
| 4656 | N | 0 | DU-063-FI | Flow rate transmitter | U.V. Reactor #2100 | P06 | | | | | | CPP2100 | AI |
| 4657 | N | 0 | DU-064-FI | Flow rate transmitter | U.V. Reactor #2200 | P07 | | | | | | CPP2200 | AI |
| 4658 | N | 0 | DU-065-FI | Flow rate transmitter | U.V. Reactor #2300 | P08 | | | | | | CPP2300 | AI |
| 4659 | N | 0 | DU-066-FI | Flow rate transmitter | U.V. Reactor #2400 | P09 | | | | | | CPP2400 | AI |

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**PROJECTION VIDEO**

## 1. GENERAL

### 1.1 General

.1 Supply and Install a video projection system complete with accessories.

.2 Equipment, Products, and Execution must meet all requirements detailed in Section 17010 – General Requirements and Section 17500 – Plant Control System.

## 2. PRODUCTS

### 2.1 Projector Specifications

.1 Provide a projector with the following features:

.1 Zoom lens type with projection distance range of 1.5 m to 10 m.

.2 Compliant with EMC, EMI and CSA safety approvals.

.3 Adjustable screen size between 0.7 m and 5.5 m

.4 Brightness of 3000 ANSI lumens and the image will not be adversely affected by direct sunlight.

.5 Minimum resolution of 1280 by 1024 true SXGA with a minimum of 8 bit digital color processing.

.6 Dynamic scaling VGA up to UXGA

.7 Frequency range between

.1 Horizontal – 15 to 100 kHz

.2 Vertical – 50 to 100 Hz

.8 Throw ratio will be 1:1

.9 Inputs available on the projector for:

.1 HD15

.2 DVI-D

.3 Composite video (RCA)

.4 S-video (mini-DIN)

**PROJECTION VIDEO**

.5 Component video (RCA)

.6 Audio (inputs for data and video sources)

.7 USB mouse

.8 RS232

.10 Outputs available for:

.1 Video out (HD15)

.2 Audio out (mini-jack)

.11 Automatic source detection for NTSC, NTSC 4.43, PAL, SECAM, PAL-M, PAL-N and be compatible with VGA, SVGA, XGA, SXGA, UXGA. The projector will also accept composite video, S-video (Y/C), Component video (YUV), Y, Pb/Pr.

.12 Projector controlled by infrared remote, direct key controls, mouse and/or laser pointer.

.13 User-selectable image aspect ratios of 5:4 and wide 16:9

.14 Lamp expectancy of 2000 hours with a lamp life warning indicator. The power consumption will typically be 350 W, maximum 400 W.

.15 Lamp manufacturers shall be Phillips, Zenith, 3M, Samsung, Sony.

.16 Operating voltage of 110 VAC.

.17 Normal room ambient temperature range will be 15 to 20°C. The projectors operating range will be 5 to 35°C and be able to withstand humidity levels between 20 and 80%.

.2 Provide the following projector accessories:

.1 Wireless remote unit with laser pointer including batteries

.2 Operating manual

.3 AC power cord

.4 All input and output cables

.3 Projector weight and size shall be no more than 7 kgs and no greater size than 300 mm by 300 mm by 100 mm.

**2.2 Wireless portal**

.1 Provide a wireless projection system portal.

.2 Compliant with requirements of IEEE 802.11g. Security features will include a minimum of 64/128 bit WEP encryption as specified by the 802.11g standard.

.3 Portal and projector will be plug and play

.4 Compatible with Windows 2000, Windows XP, Windows Server 2003 operating systems

.5 Operating temperature between -10°C to + 50°C, normal building ambient temperature will be 15 to 20 °C.

## 3. EXECUTION

**3.1 References**

.1 Install the overhead projector in the training room in the operations, maintenance and administration building in area 30A.

.2 Install projector on a ceiling mount adjustable support in the middle of the room. The base support will be adjustable between zero and - 20° in the horizontal plane.

.3 Refer to Section 17010 – General Requirements, Section 17015 – Scope of Work and requirements of Section 17500 – Plant Control System.

**3.2 Extended Warranty**

.1 Provide a product warranty of two years parts and labour. Lamp warranty will be a minimum of 500 hours.

**END OF SECTION**

| Source Device | Source Address | P-PLC | Bit | UVM PLC | Bit | S-PLC | Bit | SCADA Poll | Bit | S-PLC Internal | Bit | Device/Point Tag Name | Device/Point Tag Name | Desc 1 | Desc 2 | Desc 3 | Desc 4 | Point Description | Alarm (A) Status (S) | "0" State / Units | "1" State / Range | Mdl Adc |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **S-PLC (Primary & Secondary)** | | | | | | | | | | | | | | | | | | | | | | |
| Discrete Controls (Momentary - Reset By S-PLC) | | | | | | | | | | | | | | | | | | | | | | |
| Host | | | | | | 00705 | | 00705 | | | | | | Spare | | | | Spare | | | | 2 & |
| Host | | | | | | 00706 | | 00706 | | | | | | Spare | | | | Spare | | | | 2 & |
| Host | | | | | | 00707 | | 00707 | | | | | | Spare | | | | Spare | | | | 2 & |
| Host | | | | | | 00708 | | 00708 | | | | | | Spare | | | | Spare | | | | 2 & |
| Host | | | | | | 00709 | | 00709 | | | | | | Spare | | | | Spare | | | | 2 & |
| Host | | | | | | 00710 | | 00710 | | | | | | Spare | | | | Spare | | | | 2 & |
| Host | | | | | | 00711 | | 00711 | | | | | | Spare | | | | Spare | | | | 2 & |
| Host | | | | | | 00712 | | 00712 | | | | | | Spare | | | | Spare | | | | 2 & |
| Host | | | | | | 00713 | | 00713 | | | | | | Spare | | | | Spare | | | | 2 & |
| Host | | | | | | 00714 | | 00714 | | | | UFREQRESET | DUFREQRESET | Under | Frequency | Reset | | Under Frequency Reset | | Normal | Reset | 2 & |
| Host | | | | | | 00715 | | 00715 | | | | | | Spare | | | | Spare | | | | 2 & |
| Host | | | | | | 00716 | | 00716 | | | | START1 | DSTART1 | Start | Pump#1 | | | Start Pump#1 | | Normal | Start | 2 & |
| Host | | | | | | 00717 | | 00717 | | | | STOP1 | DSTOP1 | Stop | Pump#1 | | | Stop Pump#1 | | Normal | Stop | 2 & |
| Host | | | | | | 00718 | | 00718 | | | | START2 | DSTART2 | Start | Pump#2 | | | Start Pump#2 | | Normal | Start | 2 & |
| Host | | | | | | 00719 | | 00719 | | | | STOP2 | DSTOP2 | Stop | Pump#2 | | | Stop Pump#2 | | Normal | Stop | 2 & |
| Host | | | | | | 00720 | | 00720 | | | | START3 | DSTART3 | Start | Pump#3 | | | Start Pump#3 | | Normal | Start | 2 & |
| Host | | | | | | 00721 | | 00721 | | | | STOP3 | DSTOP3 | Stop | Pump#3 | | | Stop Pump#3 | | Normal | Stop | 2 & |
| Host | | | | | | 00722 | | 00722 | | | | DV1OPEN | DDV1OPEN | Discharge | Valve DV-1 | Open | | Discharge Valve DV-1 Open | | Normal | Open | 2 & |
| Host | | | | | | 00723 | | 00723 | | | | DV1CLOSE | DDV1CLOSE | Discharge | Valve DV-1 | Close | | Discharge Valve DV-1 Close | | Normal | Close | 2 & |
| Host | | | | | | 00724 | | 00724 | | | | DV2OPEN | DDV2OPEN | Discharge | Valve DV-2 | Open | | Discharge Valve DV-2 Open | | Normal | Open | 2 & |
| Host | | | | | | 00725 | | 00725 | | | | DV2CLOSE | DDV2CLOSE | Discharge | Valve DV-2 | Close | | Discharge Valve DV-2 Close | | Normal | Close | 2 & |
| Host | | | | | | 00726 | | 00726 | | | | DV3OPEN | DDV3OPEN | Discharge | Valve DV-3 | Open | | Discharge Valve DV-3 Open | | Normal | Open | 2 & |
| Host | | | | | | 00727 | | 00727 | | | | DV3CLOSE | DDV3CLOSE | Discharge | Valve DV-3 | Close | | Discharge Valve DV-3 Close | | Normal | Close | 2 & |
| Host | | | | | | 00728 | | 00728 | | | | | DINC_DMC_804 | CL2 #1 | Injection | Increase | | CL2 #1 Injection Increase | | Stop Increase | Increase | 2 & |
| Host | | | | | | 00729 | | 00729 | | | | | DDEC_DMC_804 | CL2 #1 | Injection | Decrease | | CL2 #1 Injection Decrease | | Stop Decrease | Decrease | 2 & |
| Host | | | | | | 00730 | | 00730 | | | | | DINC_DMC_805 | CL2 #2 | Injection | Increase | | CL2 #2 Injection Increase | | Stop Increase | Increase | 2 & |
| Host | | | | | | 00731 | | 00731 | | | | | DDEC_DMC_805 | CL2 #2 | Injection | Decrease | | CL2 #2 Injection Decrease | | Stop Decrease | Decrease | 2 & |
| Host | | | | | | 00732 | | 00732 | | | | CL2PSTART1 | DCL2PSTART1 | CL2 | Injector | Pump 1 | Start | CL2 Injector Pump 1 Start | | Normal | Start | 2 & |
| Host | | | | | | 00733 | | 00733 | | | | CL2PSTOP1 | DCL2PSTOP1 | CL2 | Injector | Pump 1 | Stop | CL2 Injector Pump 1 Stop | | Normal | Stop | 2 & |
| Host | | | | | | 00734 | | 00734 | | | | CL2PSTART2 | DCL2PSTART2 | CL2 | Injector | Pump 2 | Start | CL2 Injector Pump 2 Start | | Normal | Start | 2 & |
| Host | | | | | | 00735 | | 00735 | | | | CL2PSTOP2 | DCL2PSTOP2 | CL2 | Injector | Pump 2 | Stop | CL2 Injector Pump 2 Stop | | Normal | Stop | 2 & |
| Host | | | | | | 00736 | | 00736 | | | | INC_DMC_806 | DINC_DMC_806 | CL2 #3 | Injection | Increase | | CL2 #3 Injection Increase | | Stop Increase | Increase | 2 & |
| Host | | | | | | 00737 | | 00737 | | | | DEC_DMC_806 | DDEC_DMC_806 | CL2 #3 | Injection | Decrease | | CL2 #3 Injection Decrease | | Stop Decrease | Decrease | 2 & |
| Host | | | | | | 00738 | | 00738 | | | | CL_DMR_035 | DCL_DMR_035 | Close | Valve | VC-308 | | Close Valve VC-308 | | Normal | Close | 2 & |
| Host | | | | | | 00739 | | 00739 | | | | OP_DMR_035 | DOP_DMR_035 | Open | Valve | VC-308 | | Open Valve VC-308 | | Normal | Open | 2 & |
| Host | | | | | | 00740 | | 00740 | | | | CL_AM_030 | DCL_AM_030 | Close | Valve | VC-6 | | Close Valve VC-6 | | Normal | Close | 2 & |
| Host | | | | | | 00741 | | 00741 | | | | OP_AM_030 | DOP_AM_030 | Open | Valve | VC-6 | | Open Valve VC-6 | | Normal | Open | 2 & |
| Host | | | | | | 00742 | | 00742 | | | | CL_AM_020 | DCL_AM_020 | Close | Valve | VC-4 | | Close Valve VC-4 | | Normal | Close | 2 & |
| Host | | | | | | 00743 | | 00743 | | | | OP_AM_020 | DOP_AM_020 | Open | Valve | VC-4 | | Open Valve VC-4 | | Normal | Open | 2 & |
| Host | | | | | | 00744 | | 00744 | | | | CL_DMD_101 | | Close | Valve | VC-302 | | Spare | | | | 2 & |
| Host | | | | | | 00745 | | 00745 | | | | OP_DMD_101 | | Open | Valve | VC-302 | | Spare | | | | 2 & |
| Host | | | | | | 00746 | | 00746 | | | | CL_DMR_025 | DCL_DMR_025 | Close | Valve | DRV-301 | | Close Valve DRV-301 | | Normal | Close | 2 & |
| Host | | | | | | 00747 | | 00747 | | | | OP_DMR_025 | DOP_DMR_025 | Open | Valve | DRV-301 | | Open Valve DRV-301 | | Normal | Open | 2 & |
| Host | | | | | | 00748 | | 00748 | | | | | | Spare | | | | Spare | | | | 2 & |
| Host | | | | | | 00749 | | 00749 | | | | | | Spare | | | | Spare | | | | 2 & |
| Host | | | | | | 00750 | | 00750 | | | | | | Spare | | | | Spare | | | | 2 & |
| Host | | | | | | 00751 | | 00751 | | | | | | Spare | | | | Spare | | | | 2 & |
| Host | | | | | | 00752 | | 00752 | | | | | | Spare | | | | Spare | | | | 2 & |
| Host | | | | | | 00753 | | 00753 | | | | | | Spare | | | | Spare | | | | 2 & |
| Host | | | | | | 00754 | | 00754 | | | | RWCOMCHECK | DRWCOMCHECK | RW | to | S-PLC | Com Check | RW to S-PLC Com Check | | Starts Timer | Comm OK | 2 & |
| Host | | | | | | 00755 | | 00755 | | | | SWCOMCHECK | DSWCOMCHECK | SW | to | S-PLC | Com Check | SW to S-PLC Com Check | | Starts Timer | Comm OK | 2 & |
| Host | | | | | | 00756 | | 00756 | | | | IMMEDSD | DIMMEDSD | Immediate | Shut | Down | All Pumps | Immediate Shut Down All Pumps | | Normal | Immed Stop | 2 & |
| Host | | | | | | 00757 | | 00757 | | | | CONTROLSD | DCONTROLSD | Controlled | Quick | Stop | All Pumps | Controlled Quick Stop All Pumps | | Normal | Control Stop | 2 & |
| Host | | | | | | 00758 | | 00758 | | | | | | | | | | | | | | 2 & |
| Host | | | | | | 00759 | | 00759 | | | | | | | | | | | | | | 2 & |
| Host | | | | | | 00760 | | 00760 | | | | | | | | | | | | | | 2 & |
| Host | | | | | | 00761 | | 00761 | | | | | | | | | | | | | | 2 & |
| Host | | | | | | 00762 | | 00762 | | | | | | | | | | | | | | 2 & |
| Host | | | | | | 00763 | | 00763 | | | | | | | | | | | | | | 2 & |
| Host | | | | | | 00764 | | 00764 | | | | | | | | | | | | | | 2 & |
| Discrete Controls (Maintained) | | | | | | | | | | | | | | | | | | | | | | |
| Host | | | | | | 00801 | | 00801 | | | | POWERON | DPOWERON | Internal | Use For | PLC | Redundancy | Internal Use For PLC Redundancy | | Powerfail | Hydro | 2 & |
| Host | | | | | | 00802 | | 00802 | | | | STNHAND | DSTNHAND | Station | Hand | Control | | Station Hand Control | | Normal | Hand | 2 & |
| Host | | | | | | 00803 | | 00803 | | | | STNCOMP | DSTNCOMP | Station | Computer | Control | | Station Computer Control | | Normal | Computer | 2 & |
| Host | | | | | | 00804 | | 00804 | | | | | VLVH302HAND | Spare | | | | Valve VC-302 Computer Control | | Computer | Hand | 2 & |
| Host | | | | | | 00805 | | 00805 | | | | PIDHAND | DPIDHAND | Surge Level | Controller: | PID | Hand | Surge Level Controller: PID Hand | | Normal | Hand | 2 & |
| Host | | | | | | 00806 | | 00806 | | | | PIDCOMP | DPIDCOMP | Surge Level | Controller: | PID | Computer | Surge Level Controller: PID Computer | | Normal | Computer | 2 & |
| Host | | | | | | 00807 | | 00807 | | | | | VLV050HAND | Spare | | | | Valve DHV-1 Computer Control | | Computer | Hand | 2 & |
| Host | | | | | | 00808 | | 00808 | | | | | DCL_DMD_101 | Spare | | | | Close Valve VC-302 | | Normal | Close | 2 & |
| Host | | | | | | 00809 | | 00809 | | | | | DOP_DMD_101 | Spare | | | | Open Valve VC-302 | | Normal | Open | 2 & |
| Host | | | | | | 00810 | | 00810 | | | | | DOP_DMD_050 | Spare | | | | Open Valve DHV-1 | | Normal | Open | 2 & |
| Host | | | | | | 00811 | | 00811 | | | | | DCL_DMD_050 | Spare | | | | Close Valve DHV-1 | | Normal | Close | 2 & |
| Host | | | | | | 00812 | | 00812 | | | | | | Spare | | | | Spare | | | | 2 & |
| Host | | | | | | 00813 | | 00813 | | | | | | Spare | | | | Spare | | | | 2 & |
| Host | | | | | | 00814 | | 00814 | | | | | | Spare | | | | Spare | | | | 2 & |
| Host | | | | | | 00815 | | 00815 | | | | | | Spare | | | | Spare | | | | 2 & |
| Host | | | | | | 00816 | | 00816 | | | | | | Spare | | | | Spare | | | | 2 & |
| Host | | | | | | 00817 | | 00817 | | | | REMSTNCNTL | DREMSTNCNTL | Remote/ | Station | Control | Toggle | Remote/ Station Control Toggle | | SW | RW | 2 & |
| Host | | | | | | 00818 | | 00818 | | | | AUTOSTART | DAUTOSTART | Auto | Re-Start Of | Pumps After | Power Fail | Auto Re-Start of Pumps/Reactors are PowerFail | | Manual | Auto | 2 & |
| Host | | | | | | 00819 | | 00819 | | | | INC_DMC_804 | | CL2 #1 | Injection | Increase | | Spare | | | | 2 & |
| Host | | | | | | 00820 | | 00820 | | | | DEC_DMC_804 | | CL2 #1 | Injection | Decrease | | Spare | | | | 2 & |
| Host | | | | | | 00821 | | 00821 | | | | INC_DMC_805 | | CL2 #2 | Injection | Increase | | Spare | | | | 2 & |
| Host | | | | | | 00822 | | 00822 | | | | DEC_DMC_805 | | CL2 #2 | Injection | Decrease | | Spare | | | | 2 & |

| Source Device | Source Address | P-PLC | Bit | UVM PLC | Bit | S-PLC | Bit | SCADA Poll | Bit | S-PLC Internal | Bit | Device/Point Tag Name | Device/Point Tag Name | Desc 1 | Desc 2 | Desc 3 | Desc 4 | Point Description | Alarm (A) Status (S) | "0" State / Units | "1" State / Range | Mdl Adc |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Host | | | | | | 00823 | | 00823 | | | | | | Spare | | | | | | | | 2 & |
| Host | | | | | | 00824 | | 00824 | | | | | | Spare | | | | | | | | 2 & |
| Host | | | | | | 00825 | | 00825 | | | | | | Spare | | | | | | | | 2 & |
| Host | | | | | | 00826 | | 00826 | | | | | | Spare | | | | | | | | 2 & |
| Host | | | | | | 00827 | | 00827 | | | | | | Spare | | | | | | | | 2 & |
| Host | | | | | | 00828 | | 00828 | | | | | | Spare | | | | | | | | 2 & |
| Host | | | | | | 00829 | | 00829 | | | | CL2INJHAND | DCL2INJHAND | CL2 | Injection | Control | Comp/Hand | CL2 Injection Control Comp/Hand | | Computer | Hand | 2 & |
| Host | | | | | | 00830 | | 00830 | | | | CL2VALVE | DCL2VALVE | Chlorine | Supply Valve | Open/Close | Command | Chlorine Supply Valve Open/Close Command | | Close | Open | 2 & |
| Host | | | | | | 00831 | | 00831 | | | | RWSET_RS | DRWSET_RS | Rem/Stat | Control | Source | Toggle | Rem/Stat Control Source Toggle | | Normal | RW | 2 & |
| Host | | | | | | 00832 | | 00832 | | | | SWSET_RS | DSWSET_RS | Rem/Stat | Control | Source | Toggle | Rem/Stat Control Source Toggle | | Normal | SW | 2 & |
| Host | | | | | | 00833 | | 00833 | | | | EVAP1 | DEVAP1 | Evap #1 | Enable / | Disable | | Evap #1 Enable / Disable | | Disable | Enable | 2 & |
| Host | | | | | | 00834 | | 00834 | | | | EVAP2 | DEVAP2 | Evap #2 | Enable / | Disable | | Evap #2 Enable / Disable | | Disable | Enable | 2 & |
| Host | | | | | | 00835 | | 00835 | | | | | DEVAP3 | | | | | Evap #3 Enable / Disable | | Disable | Enable | 2 & |
| Host | | | | | | 00836 | | 00836 | | | | | | | | | | | | | | 2 & |
| Reserved Coils (SCADA Database) | | | | | | | | | | | | | | | | | | | | | | |
| Host | | | | | | 01201 | | 01201 | | | | | | Reserved | For Valmet | Database | Use | Reserved For Valmet Database Use | | | 2 & 34 | 984 |
| Host | | | | | | 01202 | | 01202 | | | | | | : | | | | : | | | 2 & 34 | 984 |
| Host | | | | | | : | | : | | | | | | : | | | | : | | | 2 & 34 | 984 |
| Host | | | | | | : | | : | | | | | | : | | | | : | | | 2 & 34 | 984 |
| Host | | | | | | 01280 | | 01280 | | | | | | Reserved | For Valmet | Database | Use | Reserved For Valmet Database Use | | | 2 & 34 | 984 |
| **PLC I/O Points (Read Only)** | | | | | | | | | | | | | | | | | | | | | | |
| S-PLC Group 2 Inputs | | | | | | | | | | | | | | | | | | | | | | |
| 11 | 10001 | 40101 | 1 | | | 40081 | 1 | 40081 | 15 | 00321 | | | | PLCGroup2 | Future | | | PLCGroup2 Future | | | | 2 & |
| 11 | 10002 | 40101 | 2 | | | 40081 | 2 | 40081 | 14 | 00322 | | | | PLCGroup2 | Future | | | PLCGroup2 Future | | | | 2 & |
| 11 | 10003 | 40101 | 3 | | | 40081 | 3 | 40081 | 13 | 00323 | | | | PLCGroup2 | Future | | | PLCGroup2 Future | | | | 2 & |
| 11 | 10004 | 40101 | 4 | | | 40081 | 4 | 40081 | 12 | 00324 | | | | PLCGroup2 | Future | | | PLCGroup2 Future | | | | 2 & |
| 11 | 10005 | 40101 | 5 | | | 40081 | 5 | 40081 | 11 | 00325 | | | | PLCGroup2 | Future | | | PLCGroup2 Future | | | | 2 & |
| 11 | 10006 | 40101 | 6 | | | 40081 | 6 | 40081 | 10 | 00326 | | | | PLCGroup2 | Future | | | PLCGroup2 Future | | | | 2 & |
| 11 | 10007 | 40101 | 7 | | | 40081 | 7 | 40081 | 9 | 00327 | | | | PLCGroup2 | Future | | | PLCGroup2 Future | | | | 2 & |
| 11 | 10008 | 40101 | 8 | | | 40081 | 8 | 40081 | 8 | 00328 | | | | PLCGroup2 | Future | | | PLCGroup2 Future | | | | 2 & |
| 11 | 10009 | 40101 | 9 | | | 40081 | 9 | 40081 | 7 | 00329 | | | | PLCGroup2 | Future | | | PLCGroup2 Future | | | | 2 & |
| 11 | 10010 | 40101 | 10 | | | 40081 | 10 | 40081 | 6 | 00330 | | | | PLCGroup2 | Future | | | PLCGroup2 Future | | | | 2 & |
| 11 | 10011 | 40101 | 11 | | | 40081 | 11 | 40081 | 5 | 00331 | | | | PLCGroup2 | Future | | | PLCGroup2 Future | | | | 2 & |
| 11 | 10012 | 40101 | 12 | | | 40081 | 12 | 40081 | 4 | 00332 | | | | PLCGroup2 | Future | | | PLCGroup2 Future | | | | 2 & |
| 11 | 10013 | 40101 | 13 | | | 40081 | 13 | 40081 | 3 | 00333 | | | | PLCGroup2 | Future | | | PLCGroup2 Future | | | | 2 & |
| 11 | 10014 | 40101 | 14 | | | 40081 | 14 | 40081 | 2 | 00334 | | | | PLCGroup2 | Future | | | PLCGroup2 Future | | | | 2 & |
| 11 | 10015 | 40101 | 15 | | | 40081 | 15 | 40081 | 1 | 00335 | | | | PLCGroup2 | Future | | | PLCGroup2 Future | | | | 2 & |
| 11 | 10016 | 40101 | 16 | | | 40081 | 16 | 40081 | 0 | 00336 | | | | PLCGroup2 | Future | | | PLCGroup2 Future | | | | 2 & |
| 11 | 10017 | 40102 | | | | 40082 | | 40082 | | | | | | PLCGroup2 | Future | Packed | Bits | PLCGroup2 Future Packed Bits | | | | 2 & |
| 11 | 10018 | 40103 | | | | 40083 | | 40083 | | | | | | PLCGroup2 | Future | Packed | Bits | PLCGroup2 Future Packed Bits | | | | 2 & |
| 11 | 10019 | 40104 | | | | 40084 | | 40084 | | | | | | PLCGroup2 | Future | Packed | Bits | PLCGroup2 Future Packed Bits | | | | 2 & |
| S-PLC Group 2 Soft Alarms & Statuses | | | | | | | | | | | | | | | | | | | | | | |
| 11 | | 40110 | 1 | | | 40090 | 1 | 40090 | 15 | | | **PLC_RUN_11** | DPLC_RUN_11 | **PLCGroup2** | **Run** | **Light** | **Off** | PLCGroup2 Run Light Off | A | Alarm | Normal | 2 & |
| 11 | | 40110 | 2 | | | 40090 | 2 | 40090 | 14 | | | **PLC_MEM_11** | DPLC_MEM_11 | **PLCGroup2** | **Memory** | **Protection** | **Off** | PLCGroup2 Memory Protection Off | A | Alarm | Normal | 2 & |
| 11 | | 40110 | 3 | | | 40090 | 3 | 40090 | 13 | | | **PLC_BAT_11** | DPLC_BAT_11 | **PLCGroup2** | **Battery** | **Failure** | | PLCGroup2 Battery Failure | A | Alarm | Normal | 2 & |
| 11 | | 40110 | 4 | | | 40090 | 4 | 40090 | 12 | | | **PLC_STAT_11** | DPLC_STAT_11 | **PLCGroup2** | **Status Word5** | **Critical** | **Failure** | PLCGroup2 Status Word5 Critical Failure | A | Alarm | Normal | 2 & |
| 11 | | 40110 | 5 | | | 40090 | 5 | 40090 | 11 | | | **PLC_113F_11** | DPLC_113F_11 | **PLCGroup2** | **Rack1** | **Slot3** | **Failed** | PLCGroup2 Rack1 Slot3 Failed | A | Alarm | Normal | 2 & |
| 11 | | 40110 | 6 | | | 40090 | 6 | 40090 | 10 | | | **PLC_114F_11** | DPLC_114F_11 | **PLCGroup2** | **Rack1** | **Slot4** | **Failed** | PLCGroup2 Rack1 Slot4 Failed | A | Alarm | Normal | 2 & |
| 11 | | 40110 | 7 | | | 40090 | 7 | 40090 | 9 | | | **PLC_115F_11** | DPLC_115F_11 | **PLCGroup2** | **Rack1** | **Slot5** | **Failed** | PLCGroup2 Rack1 Slot5 Failed | A | Alarm | Normal | 2 & |
| 11 | | 40110 | 8 | | | 40090 | 8 | 40090 | 8 | | | **PLC_21F_11** | DPLC_21F_11 | **PLCGroup2** | **Rack2** | **Slot1** | **Failed** | PLCGroup2 Rack2 Slot1 Failed | A | Alarm | Normal | 2 & |
| 11 | | 40110 | 9 | | | 40090 | 9 | 40090 | 7 | | | **PLC_22F_11** | DPLC_22F_11 | **PLCGroup2** | **Rack2** | **Slot2** | **Failed** | PLCGroup2 Rack2 Slot2 Failed | A | Alarm | Normal | 2 & |
| 11 | | 40110 | 10 | | | 40090 | 10 | 40090 | 6 | | | **PLC_23F_11** | DPLC_23F_11 | **PLCGroup2** | **Rack2** | **Slot3** | **Failed** | PLCGroup2 Rack2 Slot3 Failed | A | Alarm | Normal | 2 & |
| 11 | | 40110 | 11 | | | 40090 | 11 | 40090 | 5 | | | **PLC_24F_11** | DPLC_24F_11 | **PLCGroup2** | **Rack2** | **Slot4** | **Failed** | PLCGroup2 Rack2 Slot4 Failed | A | Alarm | Normal | 2 & |
| 11 | | 40110 | 12 | | | 40090 | 12 | 40090 | 4 | | | **PLC_25F_11** | DPLC_25F_11 | **PLCGroup2** | **Rack2** | **Slot5** | **Failed** | PLCGroup2 Rack2 Slot5 Failed | A | Alarm | Normal | 2 & |
| 11 | | 40110 | 13 | | | 40090 | 13 | 40090 | 3 | | | **PLC_31F_11** | DPLC_31F_11 | **PLCGroup2** | **Rack3** | **Slot1** | **Failed** | PLCGroup2 Rack3 Slot1 Failed | A | Alarm | Normal | 2 & |
| 11 | | 40110 | 14 | | | 40090 | 14 | 40090 | 2 | | | **PLC_32F_11** | DPLC_32F_11 | **PLCGroup2** | **Rack3** | **Slot2** | **Failed** | PLCGroup2 Rack3 Slot2 Failed | A | Alarm | Normal | 2 & |
| 11 | | 40110 | 15 | | | 40090 | 15 | 40090 | 1 | | | **PLC_33F_11** | DPLC_33F_11 | **PLCGroup2** | **Rack3** | **Slot3** | **Failed** | PLCGroup2 Rack3 Slot3 Failed | A | Alarm | Normal | 2 & |
| 11 | | 40110 | 16 | | | 40090 | 16 | 40090 | 0 | | | **PLC_34F_11** | DPLC_34F_11 | **PLCGroup2** | **Rack3** | **Slot4** | **Failed** | PLCGroup2 Rack3 Slot4 Failed | A | Alarm | Normal | 2 & |
| 11 | | 40111 | 1 | | | 40091 | 1 | 40091 | 15 | | | **PLC_35F_11** | DPLC_35F_11 | **PLCGroup2** | **Rack3** | **Slot5** | **Failed** | PLCGroup2 Rack3 Slot5 Failed | A | Alarm | Normal | 2 & |
| 11 | | 40111 | 2 | | | 40091 | 2 | 40091 | 14 | | | **PLC_41F_11** | DPLC_41F_11 | **PLCGroup2** | **Rack4** | **Slot1** | **Failed** | PLCGroup2 Rack4 Slot1 Failed | A | Alarm | Normal | 2 & |
| 11 | | 40111 | 3 | | | 40091 | 3 | 40091 | 13 | | | **PLC_42F_11** | DPLC_42F_11 | **PLCGroup2** | **Rack4** | **Slot2** | **Failed** | PLCGroup2 Rack4 Slot2 Failed | A | Alarm | Normal | 2 & |
| 11 | | 40111 | 4 | | | 40091 | 4 | 40091 | 12 | | | **PLC_43F_11** | DPLC_43F_11 | **PLCGroup2** | **Rack4** | **Slot3** | **Failed** | PLCGroup2 Rack4 Slot3 Failed | A | Alarm | Normal | 2 & |
| 11 | | 40111 | 5 | | | 40091 | 5 | 40091 | 11 | | | **PLC_44F_11** | DPLC_44F_11 | **PLCGroup2** | **Rack4** | **Slot4** | **Failed** | PLCGroup2 Rack4 Slot4 Failed | A | Alarm | Normal | 2 & |
| 11 | | 40111 | 6 | | | 40091 | 6 | 40091 | 10 | | | **PLC_45F_11** | DPLC_45F_11 | **PLCGroup2** | **Rack4** | **Slot5** | **Failed** | PLCGroup2 Rack4 Slot5 Failed | A | Alarm | Normal | 2 & |
| 11 | | 40111 | 7 | | | 40091 | 7 | 40091 | 9 | | | **COMRTE1_11** | DCOMRTE1_11 | **Communications** | **Re-route** | **PLC11** | **to S-PLC1** | Communications Re-route PLC11 to S-PLC1 | A | Alarm | Normal | 2 & |
| 11 | | 40111 | 8 | | | 40091 | 8 | 40091 | 8 | | | **COMRTE33_11** | DCOMRTE33_11 | **Communications** | **Re-route** | **PLC11** | **to S-PLC33** | Communications Re-route PLC11 to S-PLC33 | A | Alarm | Normal | 2 & |
| 11 | | 40111 | 9 | | | 40091 | 9 | 40091 | 7 | | | **CMFAIL1_11** | DCMFAIL1_11 | **Communications** | **Failure** | **PLC11** | **to S-PLC1** | Communications Failure PLC11 to S-PLC1 | A | Alarm | Normal | 2 & |
| 11 | | 40111 | 10 | | | 40091 | 10 | 40091 | 6 | | | **CMFAIL33_11** | DCMFAIL33_11 | **Communications** | **Failure** | **PLC11** | **to S-PLC33** | Communications Failure PLC11 to S-PLC33 | A | Alarm | Normal | 2 & |
| 11 | | 40111 | 11 | | | 40091 | 11 | 40091 | 5 | | | **PLCOK11** | DPLCOK11 | **PLC11** | **Health** | **Bit** | **(toggles)** | PLC11 Health Bit (toggles) | | PLC Reset | S-PLC Set | 2 & |
| 11 | | 40111 | 12 | | | 40091 | 12 | 40091 | 4 | | | | | Spare | | | | Spare | | | | 2 & |
| 11 | | 40111 | 13 | | | 40091 | 13 | 40091 | 3 | | | | | Spare | | | | Spare | | | | 2 & |
| 11 | | 40111 | 14 | | | 40091 | 14 | 40091 | 2 | | | | | Spare | | | | Spare | | | | 2 & |
| 11 | | 40111 | 15 | | | 40091 | 15 | 40091 | 1 | | | | | Spare | | | | Spare | | | | 2 & |
| 11 | | 40111 | 16 | | | 40091 | 16 | 40091 | 0 | | | | | Spare | | | | Spare | | | | 2 & |
| 11 | | 40112 | 1 | | | 40092 | 1 | 40092 | 15 | | | | | Spare | | | | Spare | | | | 2 & |
| 11 | | 40112 | 2 | | | 40092 | 2 | 40092 | 14 | | | | | Spare | | | | Spare | | | | 2 & |
| 11 | | 40112 | 3 | | | 40092 | 3 | 40092 | 13 | | | | | Spare | | | | Spare | | | | 2 & |
| 11 | | 40112 | 4 | | | 40092 | 4 | 40092 | 12 | | | | | Spare | | | | Spare | | | | 2 & |
| 11 | | 40112 | 5 | | | 40092 | 5 | 40092 | 11 | | | | | Spare | | | | Spare | | | | 2 & |
| 11 | | 40112 | 6 | | | 40092 | 6 | 40092 | 10 | | | | | Spare | | | | Spare | | | | 2 & |
| 11 | | 40112 | 7 | | | 40092 | 7 | 40092 | 9 | | | | | Spare | | | | Spare | | | | 2 & |
| 11 | | 40112 | 8 | | | 40092 | 8 | 40092 | 8 | | | | | Spare | | | | Spare | | | | 2 & |
| 11 | | 40112 | 9 | | | 40092 | 9 | 40092 | 7 | | | | | Spare | | | | Spare | | | | 2 & |
| 11 | | 40112 | 10 | | | 40092 | 10 | 40092 | 6 | | | | | Spare | | | | Spare | | | | 2 & |

| Source Device | Source Address | P-PLC | Bit | UVM PLC | Bit | S-PLC | Bit | SCADA Poll | Bit | S-PLC Internal | Bit | Device/Point Tag Name | Device/Point Tag Name | Desc 1 | Desc 2 | Desc 3 | Desc 4 | Point Description | Alarm (A) Status (S) | "0" State / Units | "1" State / Range | Mdl Adc |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 11 | | 40112 | 11 | | | 40092 | 11 | 40092 | 5 | | | | | Spare | | | | Spare | | | | 2 & |
| 11 | | 40112 | 12 | | | 40092 | 12 | 40092 | 4 | | | | | Spare | | | | Spare | | | | 2 & |
| 11 | | 40112 | 13 | | | 40092 | 13 | 40092 | 3 | | | | | Spare | | | | Spare | | | | 2 & |
| 11 | | 40112 | 14 | | | 40092 | 14 | 40092 | 2 | | | | | Spare | | | | Spare | | | | 2 & |
| 11 | | 40112 | 15 | | | 40092 | 15 | 40092 | 1 | | | | | Spare | | | | Spare | | | | 2 & |
| 11 | | 40112 | 16 | | | 40092 | 16 | 40092 | 0 | | | | | Spare | | | | Spare | | | | 2 & |
| S-PLC Group 2 Outputs | | | | | | | | | | | | | | | | | | | | | | |
| 11 | 00001 | 40115 | 1 | | | 40095 | 1 | 40095 | 15 | 00081 | | | | Spare | | | | Spare | | | | 2 & |
| 11 | 00002 | 40115 | 2 | | | 40095 | 2 | 40095 | 14 | 00082 | | | | Spare | | | | Spare | | | | 2 & |
| 11 | 00003 | 40115 | 3 | | | 40095 | 3 | 40095 | 13 | 00083 | | | | Spare | | | | Spare | | | | 2 & |
| 11 | 00004 | 40115 | 4 | | | 40095 | 4 | 40095 | 12 | 00084 | | | | Spare | | | | Spare | | | | 2 & |
| 11 | 00005 | 40115 | 5 | | | 40095 | 5 | 40095 | 11 | 00085 | | | | Spare | | | | Spare | | | | 2 & |
| 11 | 00006 | 40115 | 6 | | | 40095 | 6 | 40095 | 10 | 00086 | | | | Spare | | | | Spare | | | | 2 & |
| 11 | 00007 | 40115 | 7 | | | 40095 | 7 | 40095 | 9 | 00087 | | | | Spare | | | | Spare | | | | 2 & |
| 11 | 00008 | 40115 | 8 | | | 40095 | 8 | 40095 | 8 | 00088 | | | | Spare | | | | Spare | | | | 2 & |
| 11 | 00009 | 40115 | 9 | | | 40095 | 9 | 40095 | 7 | 00089 | | | | Spare | | | | Spare | | | | 2 & |
| 11 | 00010 | 40115 | 10 | | | 40095 | 10 | 40095 | 6 | 00090 | | | | Spare | | | | Spare | | | | 2 & |
| 11 | 00011 | 40115 | 11 | | | 40095 | 11 | 40095 | 5 | 00091 | | | | Spare | | | | Spare | | | | 2 & |
| 11 | 00012 | 40115 | 12 | | | 40095 | 12 | 40095 | 4 | 00092 | | | | Spare | | | | Spare | | | | 2 & |
| 11 | 00013 | 40115 | 13 | | | 40095 | 13 | 40095 | 3 | 00093 | | | | Spare | | | | Spare | | | | 2 & |
| 11 | 00014 | 40115 | 14 | | | 40095 | 14 | 40095 | 2 | 00094 | | | | Spare | | | | Spare | | | | 2 & |
| 11 | 00015 | 40115 | 15 | | | 40095 | 15 | 40095 | 1 | 00095 | | | | Spare | | | | Spare | | | | 2 & |
| 11 | 00016 | 40115 | 16 | | | 40095 | 16 | 40095 | 0 | 00096 | | | | Spare | | | | Spare | | | | 2 & |
| 11 | 00017 | 40116 | | | | 40096 | | 40096 | | 00097 | | | | Spare | Packed | Bits | | Spare Packed Bits | | | | 2 & |
| 11 | 00018 | 40117 | | | | 40097 | | 40097 | | 00098 | | | | Spare | Packed | Bits | | Spare Packed Bits | | | | 2 & |
| S-PLC Group 3 Inputs | | | | | | | | | | | | | | | | | | | | | | |
| 12 | 10001 | 40101 | 1 | | | 40101 | 1 | 40101 | 15 | 00161 | | DMR_035_ZB | DMR_035_ZB | VC-308 | Valve | Close | Status | VC-308 Valve Close Status | S | Not Closed | Closed | 2 & |
| 12 | 10002 | 40101 | 2 | | | 40101 | 2 | 40101 | 14 | 00162 | | DMR_035_ZD | DMR_035_ZD | VC-308 | Valve | Open | Status | VC-308 Valve Open Status | S | Not Open | Open | 2 & |
| 12 | 10003 | 40101 | 3 | | | 40101 | 3 | 40101 | 13 | 00163 | | DMR_035_YS_1 | DMR_035_YS_1 | VC-308 | Valve | COH | Status | VC-308 Valve COH Status | S | Hand - Off | Computer | 2 & |
| 12 | 10004 | 40101 | 4 | | | 40101 | 4 | 40101 | 12 | 00164 | | DMR_943_LAH | DMR_943_LAH | VC-308 | Valve | Vault | Flood | VC-308 Valve Vault Flood | A | Alarm | Normal | 2 & |
| 12 | 10005 | 40101 | 5 | | | 40101 | 5 | 40101 | 11 | 00165 | | AM_030_ZB | AM_030_ZB | VC-6 | Valve | Close | Status | VC-6 Valve Close Status | S | Not Closed | Closed | 2 & |
| 12 | 10006 | 40101 | 6 | | | 40101 | 6 | 40101 | 10 | 00166 | | AM_030_ZD | AM_030_ZD | VC-6 | Valve | Open | Status | VC-6 Valve Open Status | S | Not Open | Open | 2 & |
| 12 | 10007 | 40101 | 7 | | | 40101 | 7 | 40101 | 9 | 00167 | | AM_030_YS_2 | AM_030_YS_2 | VC-6 | Valve | COH | Status | VC-6 Valve COH Status | S | Hand - Off | Computer | 2 & |
| 12 | 10008 | 40101 | 8 | | | 40101 | 8 | 40101 | 8 | 00168 | | AM_942_LAH | AM_942_LAH | VC-6 | Valve | Vault | Flood | VC-6 Valve Vault Flood | A | Alarm | Normal | 2 & |
| 12 | 10009 | 40101 | 9 | | | 40101 | 9 | 40101 | 7 | 00169 | | AM_020_ZB | AM_020_ZB | VC-4 | Valve | Close | Status | VC-4 Valve Close Status | S | Not Closed | Closed | 2 & |
| 12 | 10010 | 40101 | 10 | | | 40101 | 10 | 40101 | 6 | 00170 | | AM_020_ZD | AM_020_ZD | VC-4 | Valve | Open | Status | VC-4 Valve Open Status | S | Not Open | Open | 2 & |
| 12 | 10011 | 40101 | 11 | | | 40101 | 11 | 40101 | 5 | 00171 | | AM_020_YS_2 | AM_020_YS_2 | VC-4 | Valve | COH | Status | VC-4 Valve COH Status | S | Hand - Off | Computer | 2 & |
| 12 | 10012 | 40101 | 12 | | | 40101 | 12 | 40101 | 4 | 00172 | | AM_941_LAH | AM_941_LAH | VC-4 | Valve | Vault | Flood | VC-4 Valve Vault Flood | A | Alarm | Normal | 2 & |
| 12 | 10013 | 40101 | 13 | | | 40101 | 13 | 40101 | 3 | 00173 | | DMD_101_ZB | DMD_101_ZB | VC-302 | Valve | Close | Status | VC-302 Valve Close Status | S | Not Closed | Closed | 2 & |
| 12 | 10014 | 40101 | 14 | | | 40101 | 14 | 40101 | 2 | 00174 | | DMD_101_ZD | DMD_101_ZD | VC-302 | Valve | Open | Status | VC-302 Valve Open Status | S | Not Open | Open | 2 & |
| 12 | 10015 | 40101 | 15 | | | 40101 | 15 | 40101 | 1 | 00175 | | DMD_101_YS_1 | DMD_101_YS_1 | VC-302 | Valve | COH | Status | VC-302 Valve COH Status | S | Hand - Off | Computer | 2 & |
| 12 | 10016 | 40101 | 16 | | | 40101 | 16 | 40101 | 0 | 00176 | | DMD_940_LAH | DMD_940_LAH | VC-302 | Valve | Vault | Flood | VC-302 Valve Vault Flood | A | Alarm | Normal | 2 & |
| 12 | 10017 | 40102 | 1 | | | 40102 | 1 | 40102 | 15 | 00177 | | DMC_801_LAL | DMC_801_LAL | Evap #1 | H2O | Level | Low | Evap #1 H2O Level Low | A | Alarm | Normal | 2 & |
| 12 | 10018 | 40102 | 2 | | | 40102 | 2 | 40102 | 14 | 00178 | | DMC_801_PAH | DMC_801_PAH | CL2 #1 | Gas | Pressure | High | CL2 #1 Gas Pressure High | A | Alarm | Normal | 2 & |
| 12 | 10019 | 40102 | 3 | | | 40102 | 3 | 40102 | 13 | 00179 | | DMC_801_TAH | DMC_801_TAH | Evap #1 | H2O | Temp | High | Evap #1 H2O Temp High | A | Alarm | Normal | 2 & |
| 12 | 10020 | 40102 | 4 | | | 40102 | 4 | 40102 | 12 | 00180 | | DMC_801_TAL | DMC_801_TAL | Evap #1 | H2O | Temp | Low | Evap #1 H2O Temp Low | A | Alarm | Normal | 2 & |
| 12 | 10021 | 40102 | 5 | | | 40102 | 5 | 40102 | 11 | 00181 | | DMC_802_LAL | DMC_802_LAL | Evap #2 | H2O | Level | Low | Evap #2 H2O Level Low | A | Alarm | Normal | 2 & |
| 12 | 10022 | 40102 | 6 | | | 40102 | 6 | 40102 | 10 | 00182 | | DMC_802_PAH | DMC_802_PAH | CL2 #2 | Gas | Pressure | High | CL2 #2 Gas Pressure High | A | Alarm | Normal | 2 & |
| 12 | 10023 | 40102 | 7 | | | 40102 | 7 | 40102 | 9 | 00183 | | DMC_802_TAH | DMC_802_TAH | Evap #2 | H2O | Temp | High | Evap #2 H2O Temp High | A | Alarm | Normal | 2 & |
| 12 | 10024 | 40102 | 8 | | | 40102 | 8 | 40102 | 8 | 00184 | | DMC_802_TAL | DMC_802_TAL | Evap #2 | H2O | Temp | Low | Evap #2 H2O Temp Low | A | Alarm | Normal | 2 & |
| 12 | 10025 | 40102 | 9 | | | 40102 | 9 | 40102 | 7 | 00185 | | DMC_800_AAH | DMC_800_AAH | CL2 | Leak | | | CL2 Leak | A | Alarm | Normal | 2 & |
| 12 | 10026 | 40102 | 10 | | | 40102 | 10 | 40102 | 6 | 00186 | | DMC_800_PAH | DMC_800_PAH | CL2 | Liquid | Pressure | High | CL2 Liquid Pressure High | A | Alarm | Normal | 2 & |
| 12 | 10027 | 40102 | 11 | | | 40102 | 11 | 40102 | 5 | 00187 | | DMC_800_PAL | DMC_800_PAL | CL2 | Tank Car | Empty | | CL2 Tank Car Empty | A | Alarm | Normal | 2 & |
| 12 | 10028 | 40102 | 12 | | | 40102 | 12 | 40102 | 4 | 00188 | | DMC_801_HS_1 | DMC_801_HS_1 | Evap #1 | COH | Status | | Evap #1 COH Status | S | Hand-Off | Computer | 2 & |
| 12 | 10029 | 40102 | 13 | | | 40102 | 13 | 40102 | 3 | 00189 | | DMC_804_PAL | DMC_804_PAL | CL2 #1 | Vacuum | Loss | | CL2 #1 Vacuum Loss | A | Alarm | Normal | 2 & |
| 12 | 10030 | 40102 | 14 | | | 40102 | 14 | 40102 | 2 | 00190 | | DMC_804_YS_1 | DMC_804_YS_1 | CL2 #1 | COH | Status | | CL2 #1 COH Status | S | Hand - Off | Computer | 2 & |
| 12 | 10031 | 40102 | 15 | | | 40102 | 15 | 40102 | 1 | 00191 | | DMC_805_PAL | DMC_805_PAL | CL2 #2 | Vacuum | Loss | | CL2 #2 Vacuum Loss | A | Alarm | Normal | 2 & |
| 12 | 10032 | 40102 | 16 | | | 40102 | 16 | 40102 | 0 | 00192 | | DMC_805_YS_1 | DMC_805_YS_1 | CL2 #2 | COH | Status | | CL2 #2 COH Status | S | Hand - Off | Computer | 2 & |
| 12 | 10033 | 40103 | 1 | | | 40103 | 1 | 40103 | 15 | 00193 | | DME_044_MM | DME_044_MM | CL2 #1 | PP #1 | Run | Status | CL2 #1 PP #1 Run Status | S | Not Running | Running | 2 & |
| 12 | 10034 | 40103 | 2 | | | 40103 | 2 | 40103 | 14 | 00194 | | DME_044_YS_3 | DME_044_YS_3 | CL2 #1 | PP #1 | COH | Status | CL2 #1 PP #1 COH Status | S | Hand - Off | Computer | 2 & |
| 12 | 10035 | 40103 | 3 | | | 40103 | 3 | 40103 | 13 | 00195 | | DME_045_MM | DME_045_MM | CL2 #2 | PP #2 | Run | Status | CL2 #2 PP #2 Run Status | S | Not Running | Running | 2 & |
| 12 | 10036 | 40103 | 4 | | | 40103 | 4 | 40103 | 12 | 00196 | | DME_045_YS_3 | DME_045_YS_3 | CL2 #2 | PP #2 | COH | Status | CL2 #2 PP #2 COH Status | S | Hand - Off | Computer | 2 & |
| 12 | 10037 | 40103 | 5 | | | 40103 | 5 | 40103 | 11 | 00197 | | DMH_600_TAH | DMH_600_TAH | Station | Temp | High | | Station Temp High | A | Alarm | Normal | 2 & |
| 12 | 10038 | 40103 | 6 | | | 40103 | 6 | 40103 | 10 | 00198 | | DMH_600_TAL | DMH_600_TAL | Station | Temp | Low | | Station Temp Low | A | Alarm | Normal | 2 & |
| 12 | 10039 | 40103 | 7 | | | 40103 | 7 | 40103 | 9 | 00199 | | DMC_920_TAL | DMC_920_TAL | CL2 | Room | Temp | Low | CL2 Room Temp Low | A | Alarm | Normal | 2 & |
| 12 | 10040 | 40103 | 8 | | | 40103 | 8 | 40103 | 8 | 00200 | | DMH_600_UA | DMH_600_UA | HVAC | General | Alarm | | HVAC General Alarm | A | Alarm | Normal | 2 & |
| 12 | 10041 | 40103 | 9 | | | 40103 | 9 | 40103 | 7 | 00201 | | DMR_001_XA_1 | DMR_001_XA_1 | Cell #1 | Burglar | Alarm A | | Cell #1 Reservoir Gate | A | Alarm | Normal | 2 & |
| 12 | 10042 | 40103 | 10 | | | 40103 | 10 | 40103 | 6 | 00202 | | DMR_001_XA_2 | DMR_001_XA_2 | Cell #1 | Burglar | Alarm B | | Cell #1 Drainage Building Flood | A | Alarm | Normal | 2 & |
| 12 | 10043 | 40103 | 11 | | | 40103 | 11 | 40103 | 5 | 00203 | | DMR_002_XA_1 | DMR_002_XA_1 | Cell #2 | Burglar | Alarm A | | Cell #2 Reservoir Gate | A | Alarm | Normal | 2 & |
| 12 | 10044 | 40103 | 12 | | | 40103 | 12 | 40103 | 4 | 00204 | | DMR_002_XA_2 | DMR_002_XA_2 | Cell #2 | Burglar | Alarm B | | Cell #2 Burglar Alarm B | A | Alarm | Normal | 2 & |
| 12 | 10045 | 40103 | 13 | | | 40103 | 13 | 40103 | 3 | 00205 | | DMR_003_XA_1 | DMR_003_XA_1 | Cell #3 | Burglar | Alarm A | | Cell #3 Reservoir Gate | A | Alarm | Normal | 2 & |
| 12 | 10046 | 40103 | 14 | | | 40103 | 14 | 40103 | 2 | 00206 | | DMR_003_XA_2 | DMR_003_XA_2 | Cell #3 | Burglar | Alarm B | | Low Potable Water | A | Alarm | Normal | 2 & |
| 12 | 10047 | 40103 | 15 | | | 40103 | 15 | 40103 | 1 | 00207 | | DMR_004_XA_1 | DMR_004_XA_1 | Cell #4 | Burglar | Alarm A | | Cell #4 Reservoir Gate | A | Alarm | Normal | 2 & |
| 12 | 10048 | 40103 | 16 | | | 40103 | 16 | 40103 | 0 | 00208 | | DMR_004_XA_2 | DMR_004_XA_2 | Cell #4 | Burglar | Alarm B | | Septage Full | A | Alarm | Normal | 2 & |
| 12 | 10049 | 40104 | 1 | | | 40104 | 1 | 40104 | 15 | 00209 | | DMD_051_ZB | DMD_051_ZB | DV-4 | Valve | Close | Status | DV-4 Valve Close Status | S | Not Closed | Closed | 2 & |
| 12 | 10050 | 40104 | 2 | | | 40104 | 2 | 40104 | 14 | 00210 | | DMD_051_ZD | DMD_051_ZD | DV-4 | Valve | Open | Status | DV-4 Valve Open Status | S | Not Open | Open | 2 & |
| 12 | 10051 | 40104 | 3 | | | 40104 | 3 | 40104 | 13 | 00211 | | DMD_051_YS_1 | DMD_051_YS_1 | DV-4 | Valve | COH | Status | DV-4 Valve COH Status | S | Hand-Off | Computer | 2 & |
| 12 | 10052 | 40104 | 4 | | | 40104 | 4 | 40104 | 12 | 00212 | | DMC_802_HS_1 | DMC_802_HS_1 | Evap #2 | COH | Status | | Evap #2 COH Status | S | Hand-Off | Computer | 2 & |
| 12 | 10053 | 40104 | 5 | | | 40104 | 5 | 40104 | 11 | 00213 | | DMS_040_PAL | DMS_040_PAL | Suction | Header | Pressure | Low | Suction Header Pressure Low | A | Alarm | Normal | 2 & |
| 12 | 10054 | 40104 | 6 | | | 40104 | 6 | 40104 | 10 | 00214 | | DMS_040_PALL | DMS_040_PALL | Suction | Header | Pressure | Low Low | Suction Header Pressure Low Low | A | Alarm | Normal | 2 & |
| 12 | 10055 | 40104 | 7 | | | 40104 | 7 | 40104 | 9 | 00215 | | DMZ_900_PAL | DMZ_900_PAL | Instrument | Air | Pressure | Low | Instrument Air Pressure Low | A | Alarm | Normal | 2 & |
| 12 | 10056 | 40104 | 8 | | | 40104 | 8 | 40104 | 8 | 00216 | | DMZ_901_MF | DMZ_901_MF | RC#1 | Recirc | Fan | Fail | RC#1 Recirc Fan Fail | A | Alarm | Normal | 2 & |
| 12 | 10057 | 40104 | 9 | | | 40104 | 9 | 40104 | 7 | 00217 | | DMZ_901_MM_1 | DMZ_901_MM_1 | RC#1 | Recirc | Fan | Status | RC#1 Recirc Fan Status | S | Not Running | Running | 2 & |
| 12 | 10058 | 40104 | 10 | | | 40104 | 10 | 40104 | 6 | 00218 | | DMZ_901_MM_2 | DMZ_901_MM_2 | RC#2 | Recirc | Fan | Fail | RC#2 Recirc Fan Fail | A | Alarm | Normal | 2 & |
| 12 | 10059 | 40104 | 11 | | | 40104 | 11 | 40104 | 5 | 00219 | | DMZ_901_MM_3 | DMZ_901_MM_3 | RC#2 | Recirc | Fan | Status | RC#2 Recirc Fan Status | S | Not Running | Running | 2 & |
| 12 | 10060 | 40104 | 12 | | | 40104 | 12 | 40104 | 4 | 00220 | | DMZ_910_EAL1 | DMZ_910_EAL1 | SWGR | Lockout | | | SWGR Lockout | S | Normal | Lockout | 2 & |

| Source Device | Source Address | P-PLC | Bit | UVM PLC | Bit | S-PLC | Bit | SCADA Poll | Bit | S-PLC Internal | Bit | Device/Point Tag Name | Device/Point Tag Name | Desc 1 | Desc 2 | Desc 3 | Desc 4 | Point Description | Alarm (A) Status (S) | "0" State / Units | "1" State / Range | Mdl Adc |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 12 | 10061 | 40104 | 13 | | | 40104 | 13 | 40104 | 3 | 00221 | | DMZ_910_EAL2 | DMZ_910_EAL2 | SWGR | Under | Voltage | | SWGR Under Voltage | A | Alarm | Normal | 2 & |
| 12 | 10062 | 40104 | 14 | | | 40104 | 14 | 40104 | 2 | 00222 | | DMZ_910_EAL3 | DMZ_910_EAL3 | SWGR | Under | Frequency | | SWGR Under Frequency | A | Alarm | Normal | 2 & |
| 12 | 10063 | 40104 | 15 | | | 40104 | 15 | 40104 | 1 | 00223 | | DMZ_911_QF | DMZ_911_QF | UPS | Fail | | | UPS Fail | A | Alarm | Normal | 2 & |
| 12 | 10064 | 40104 | 16 | | | 40104 | 16 | 40104 | 0 | 00224 | | DMZ_911_JAL | DMZ_911_JAL | UPS | Depleted | Depleted | | UPS Depleted Depleted | A | Alarm | Normal | 2 & |
| 12 | 10065 | 40105 | 1 | | | 40105 | 1 | 40105 | 15 | 00225 | | DMZ_915_TAH | DMZ_915_TAH | T1 | Transformer | Alarm | | T1 Transformer Alarm | A | Alarm | Normal | 2 & |
| 12 | 10066 | 40105 | 2 | | | 40105 | 2 | 40105 | 14 | 00226 | | DMZ_943_LAH | DMZ_943_LAH | Station | Flood | | | Station Flood | A | Alarm | Normal | 2 & |
| 12 | 10067 | 40105 | 3 | | | 40105 | 3 | 40105 | 13 | 00227 | | DMZ_943_LAHH | DMZ_943_LAHH | Station | Flood | Lockout | | Station Flood Lockout | A | Alarm | Normal | 2 & |
| 12 | 10068 | 40105 | 4 | | | 40105 | 4 | 40105 | 12 | 00228 | | DMZ_944_LAH | DMZ_944_LAH | Storm Drain | Sump | Level | High | Storm Drain Sump Level High | A | Alarm | Normal | 2 & |
| 12 | 10069 | 40105 | 5 | | | 40105 | 5 | 40105 | 11 | 00229 | | DMZ_944_MM | DMZ_944_MM | DP #2 | Run | Status | | DP #2 Run Status | S | Not Running | Running | 2 & |
| 12 | 10070 | 40105 | 6 | | | 40105 | 6 | 40105 | 10 | 00230 | | DMZ_990_XA_1 | DMZ_990_XA_1 | Burglar | Alarm | | | Burglar Alarm | A | Alarm | Normal | 2 & |
| 12 | 10071 | 40105 | 7 | | | 40105 | 7 | 40105 | 9 | 00231 | | DMZ_990_XA_2 | DMZ_990_XA_2 | Intruder | Auto | Override | | Intruder Auto Override | S | Normal | Override | 2 & |
| 12 | 10072 | 40105 | 8 | | | 40105 | 8 | 40105 | 8 | 00232 | | DMZ_991_XA | DMZ_991_XA | Smoke | Alarm | | | Smoke Alarm | A | Alarm | Normal | 2 & |
| 12 | 10073 | 40105 | 9 | | | 40105 | 9 | 40105 | 7 | 00233 | | | | Spare | | | | Spare | | | | 2 & |
| 12 | 10074 | 40105 | 10 | | | 40105 | 10 | 40105 | 6 | 00234 | | | | Spare | | | | Spare | | | | 2 & |
| 12 | 10075 | 40105 | 11 | | | 40105 | 11 | 40105 | 5 | 00235 | | | | Spare | | | | Spare | | | | 2 & |
| 12 | 10076 | 40105 | 12 | | | 40105 | 12 | 40105 | 4 | 00236 | | | | Spare | | | | Spare | | | | 2 & |
| 12 | 10077 | 40105 | 13 | | | 40105 | 13 | 40105 | 3 | 00237 | | | | Spare | | | | Spare | | | | 2 & |
| 12 | 10078 | 40105 | 14 | | | 40105 | 14 | 40105 | 2 | 00238 | | | | Spare | | | | Spare | | | | 2 & |
| 12 | 10079 | 40105 | 15 | | | 40105 | 15 | 40105 | 1 | 00239 | | | | Spare | | | | Spare | | | | 2 & |
| 12 | 10080 | 40105 | 16 | | | 40105 | 16 | 40105 | 0 | 00240 | | | | Spare | | | | Spare | | | | 2 & |
| 12 | 10081 | 40106 | 1 | | | 40106 | 1 | 40106 | 15 | 00241 | | | | Spare | | | | Spare | | | | 2 & |
| 12 | 10082 | 40106 | 2 | | | 40106 | 2 | 40106 | 14 | 00242 | | | | Spare | | | | Spare | | | | 2 & |
| 12 | 10083 | 40106 | 3 | | | 40106 | 3 | 40106 | 13 | 00243 | | | DMC_803_LAL | Spare | | | | Evap #3 H2O Level Low | A | Alarm | Normal | 2 & |
| 12 | 10084 | 40106 | 4 | | | 40106 | 4 | 40106 | 12 | 00244 | | | DMC_803_TAL | Spare | | | | Evap #3 H2O Temp Low | A | Alarm | Normal | 2 & |
| 12 | 10085 | 40106 | 5 | | | 40106 | 5 | 40106 | 11 | 00245 | | | DMC_803_TAH | Spare | | | | Evap #3 H2O Temp High | A | Alarm | Normal | 2 & |
| 12 | 10086 | 40106 | 6 | | | 40106 | 6 | 40106 | 10 | 00246 | | | | Spare | | | | Spare | | | | 2 & |
| 12 | 10087 | 40106 | 7 | | | 40106 | 7 | 40106 | 9 | 00247 | | | | Spare | | | | Spare | | | | 2 & |
| 12 | 10088 | 40106 | 8 | | | 40106 | 8 | 40106 | 8 | 00248 | | | | Spare | | | | Spare | | | | 2 & |
| 12 | 10089 | 40106 | 9 | | | 40106 | 9 | 40106 | 7 | 00249 | | | | Spare | | | | Spare | | | | 2 & |
| 12 | 10090 | 40106 | 10 | | | 40106 | 10 | 40106 | 6 | 00250 | | | | Spare | | | | Spare | | | | 2 & |
| 12 | 10091 | 40106 | 11 | | | 40106 | 11 | 40106 | 5 | 00251 | | | | Spare | | | | Spare | | | | 2 & |
| 12 | 10092 | 40106 | 12 | | | 40106 | 12 | 40106 | 4 | 00252 | | | | Spare | | | | Spare | | | | 2 & |
| 12 | 10093 | 40106 | 13 | | | 40106 | 13 | 40106 | 3 | 00253 | | | DMC_806_PAH | Spare | | | | CL2 #3 Low Vacuum | A | Alarm | Normal | 2 & |
| 12 | 10094 | 40106 | 14 | | | 40106 | 14 | 40106 | 2 | 00254 | | | DMC_806_PAL | Spare | | | | CL2 #3 High Vacuum | A | Alarm | Normal | 2 & |
| 12 | 10095 | 40106 | 15 | | | 40106 | 15 | 40106 | 1 | 00255 | | | DMC_806_YS_1 | Spare | | | | CL2 #3 COH Status | S | Hand-Off | Computer | 2 & |
| 12 | 10096 | 40106 | 16 | | | 40106 | 16 | 40106 | 0 | 00256 | | | DMC_803_PAH | Spare | | | | Evap #3 CL2 Pressre High Rupture Disc Fail | A | Alarm | Normal | 2 & |
| S-PLC Group 3 Soft Alarms & Statuses | | | | | | | | | | | | | | | | | | | | | | |
| 12 | | 40110 | 1 | | | 40110 | 1 | 40110 | 15 | | | **PLC_RUN_12** | DPLC_RUN_12 | **PLCGroup3** | **Run** | **Light** | **Off** | PLCGroup3 Run Light Off | A | Alarm | Normal | 2 & |
| 12 | | 40110 | 2 | | | 40110 | 2 | 40110 | 14 | | | **PLC_MEM_12** | DPLC_MEM_12 | **PLCGroup3** | **Memory** | **Protection** | **Off** | PLCGroup3 Memory Protection Off | A | Alarm | Normal | 2 & |
| 12 | | 40110 | 3 | | | 40110 | 3 | 40110 | 13 | | | **PLC_BAT_12** | DPLC_BAT_12 | **PLCGroup3** | **Battery** | **Failure** | | PLCGroup3 Battery Failure | A | Alarm | Normal | 2 & |
| 12 | | 40110 | 4 | | | 40110 | 4 | 40110 | 12 | | | **PLC_STAT_12** | DPLC_STAT_12 | **PLCGroup3** | **Status Word5** | **Critical** | **Failure** | PLCGroup3 Status Word5 Critical Failure | A | Alarm | Normal | 2 & |
| 12 | | 40110 | 5 | | | 40110 | 5 | 40110 | 11 | | | **PLC_123F_12** | DPLC_123F_12 | **PLCGroup3** | **Rack1** | **Slot3** | **Failed** | PLCGroup3 Rack1 Slot3 Failed | A | Alarm | Normal | 2 & |
| 12 | | 40110 | 6 | | | 40110 | 6 | 40110 | 10 | | | **PLC_124F_12** | DPLC_124F_12 | **PLCGroup3** | **Rack1** | **Slot4** | **Failed** | PLCGroup3 Rack1 Slot4 Failed | A | Alarm | Normal | 2 & |
| 12 | | 40110 | 7 | | | 40110 | 7 | 40110 | 9 | | | **PLC_125F_12** | DPLC_125F_12 | **PLCGroup3** | **Rack1** | **Slot5** | **Failed** | PLCGroup3 Rack1 Slot5 Failed | A | Alarm | Normal | 2 & |
| 12 | | 40110 | 8 | | | 40110 | 8 | 40110 | 8 | | | **PLC_21F_12** | DPLC_21F_12 | **PLCGroup3** | **Rack2** | **Slot1** | **Failed** | PLCGroup3 Rack2 Slot1 Failed | A | Alarm | Normal | 2 & |
| 12 | | 40110 | 9 | | | 40110 | 9 | 40110 | 7 | | | **PLC_22F_12** | DPLC_22F_12 | **PLCGroup3** | **Rack2** | **Slot2** | **Failed** | PLCGroup3 Rack2 Slot2 Failed | A | Alarm | Normal | 2 & |
| 12 | | 40110 | 10 | | | 40110 | 10 | 40110 | 6 | | | **PLC_23F_12** | DPLC_23F_12 | **PLCGroup3** | **Rack2** | **Slot3** | **Failed** | PLCGroup3 Rack2 Slot3 Failed | A | Alarm | Normal | 2 & |
| 12 | | 40110 | 11 | | | 40110 | 11 | 40110 | 5 | | | **PLC_24F_12** | DPLC_24F_12 | **PLCGroup3** | **Rack2** | **Slot4** | **Failed** | PLCGroup3 Rack2 Slot4 Failed | A | Alarm | Normal | 2 & |
| 12 | | 40110 | 12 | | | 40110 | 12 | 40110 | 4 | | | **PLC_25F_12** | DPLC_25F_12 | **PLCGroup3** | **Rack2** | **Slot5** | **Failed** | PLCGroup3 Rack2 Slot5 Failed | A | Alarm | Normal | 2 & |
| 12 | | 40110 | 13 | | | 40110 | 13 | 40110 | 3 | | | **PLC_31F_12** | DPLC_31F_12 | **PLCGroup3** | **Rack3** | **Slot1** | **Failed** | PLCGroup3 Rack3 Slot1 Failed | A | Alarm | Normal | 2 & |
| 12 | | 40110 | 14 | | | 40110 | 14 | 40110 | 2 | | | **PLC_32F_12** | DPLC_32F_12 | **PLCGroup3** | **Rack3** | **Slot2** | **Failed** | PLCGroup3 Rack3 Slot2 Failed | A | Alarm | Normal | 2 & |
| 12 | | 40110 | 15 | | | 40110 | 15 | 40110 | 1 | | | **PLC_33F_12** | DPLC_33F_12 | **PLCGroup3** | **Rack3** | **Slot3** | **Failed** | PLCGroup3 Rack3 Slot3 Failed | A | Alarm | Normal | 2 & |
| 12 | | 40110 | 16 | | | 40110 | 16 | 40110 | 0 | | | **PLC_34F_12** | DPLC_34F_12 | **PLCGroup3** | **Rack3** | **Slot4** | **Failed** | PLCGroup3 Rack3 Slot4 Failed | A | Alarm | Normal | 2 & |
| 12 | | 40111 | 1 | | | 40111 | 1 | 40111 | 15 | | | **PLC_35F_12** | DPLC_35F_12 | **PLCGroup3** | **Rack3** | **Slot5** | **Failed** | PLCGroup3 Rack3 Slot5 Failed | A | Alarm | Normal | 2 & |
| 12 | | 40111 | 2 | | | 40111 | 2 | 40111 | 14 | | | **PLC_41F_12** | DPLC_41F_12 | **PLCGroup3** | **Rack4** | **Slot1** | **Failed** | PLCGroup3 Rack4 Slot1 Failed | A | Alarm | Normal | 2 & |
| 12 | | 40111 | 3 | | | 40111 | 3 | 40111 | 13 | | | **PLC_42F_12** | DPLC_42F_12 | **PLCGroup3** | **Rack4** | **Slot2** | **Failed** | PLCGroup3 Rack4 Slot2 Failed | A | Alarm | Normal | 2 & |
| 12 | | 40111 | 4 | | | 40111 | 4 | 40111 | 12 | | | **PLC_43F_12** | DPLC_43F_12 | **PLCGroup3** | **Rack4** | **Slot3** | **Failed** | PLCGroup3 Rack4 Slot3 Failed | A | Alarm | Normal | 2 & |
| 12 | | 40111 | 5 | | | 40111 | 5 | 40111 | 11 | | | **PLC_44F_12** | DPLC_44F_12 | **PLCGroup3** | **Rack4** | **Slot4** | **Failed** | PLCGroup3 Rack4 Slot4 Failed | A | Alarm | Normal | 2 & |
| 12 | | 40111 | 6 | | | 40111 | 6 | 40111 | 10 | | | **PLC_45F_12** | DPLC_45F_12 | **PLCGroup3** | **Rack4** | **Slot5** | **Failed** | PLCGroup3 Rack4 Slot5 Failed | A | Alarm | Normal | 2 & |
| 12 | | 40111 | 7 | | | 40111 | 7 | 40111 | 9 | | | **COMRTE1_12** | DCOMRTE1_12 | **Communications** | **Re-route** | **PLC12** | **to S-PLC1** | Communications Re-route PLC12 to S-PLC1 | A | Alarm | Normal | 2 & |
| 12 | | 40111 | 8 | | | 40111 | 8 | 40111 | 8 | | | **COMRTE33_12** | DCOMRTE33_12 | **Communications** | **Re-route** | **PLC12** | **to S-PLC33** | Communications Re-route PLC12 to S-PLC33 | A | Alarm | Normal | 2 & |
| 12 | | 40111 | 9 | | | 40111 | 9 | 40111 | 7 | | | **CMFAIL1_12** | DCMFAIL1_12 | **Communications** | **Failure** | **PLC12** | **to S-PLC1** | Communications Failure PLC12 to S-PLC1 | A | Alarm | Normal | 2 & |
| 12 | | 40111 | 10 | | | 40111 | 10 | 40111 | 6 | | | **CMFAIL33_12** | DCMFAIL33_12 | **Communications** | **Failure** | **PLC12** | **to S-PLC33** | Communications Failure PLC12 to S-PLC33 | A | Alarm | Normal | 2 & |
| 12 | | 40111 | 11 | | | 40111 | 11 | 40111 | 5 | | | **PLCOK12** | DPLCOK12 | **PLC12** | **Health** | **Bit** | **(toggles)** | PLC12 Health Bit (toggles) | | PPLC Reset | S-PLC Set | 2 & |
| 12 | | 40111 | 12 | | | 40111 | 12 | 40111 | 4 | | | | | Spare | | | | Spare | | | | 2 & |
| 12 | | 40111 | 13 | | | 40111 | 13 | 40111 | 3 | | | | | Spare | | | | Spare | | | | 2 & |
| 12 | | 40111 | 14 | | | 40111 | 14 | 40111 | 2 | | | | | Spare | | | | Spare | | | | 2 & |
| 12 | | 40111 | 15 | | | 40111 | 15 | 40111 | 1 | | | | | Spare | | | | Spare | | | | 2 & |
| 12 | | 40111 | 16 | | | 40111 | 16 | 40111 | 0 | | | | | Spare | | | | Spare | | | | 2 & |
| 12 | | 40112 | 1 | | | 40112 | 1 | 40112 | 15 | | | | | Spare | | | | Spare | | | | 2 & |
| 12 | | 40112 | 2 | | | 40112 | 2 | 40112 | 14 | | | | | Spare | | | | Spare | | | | 2 & |
| 12 | | 40112 | 3 | | | 40112 | 3 | 40112 | 13 | | | | | Spare | | | | Spare | | | | 2 & |
| 12 | | 40112 | 4 | | | 40112 | 4 | 40112 | 12 | | | | | Spare | | | | Spare | | | | 2 & |
| 12 | | 40112 | 5 | | | 40112 | 5 | 40112 | 11 | | | | | Spare | | | | Spare | | | | 2 & |
| 12 | | 40112 | 6 | | | 40112 | 6 | 40112 | 10 | | | | | Spare | | | | Spare | | | | 2 & |
| 12 | | 40112 | 7 | | | 40112 | 7 | 40112 | 9 | | | | | Spare | | | | Spare | | | | 2 & |
| 12 | | 40112 | 8 | | | 40112 | 8 | 40112 | 8 | | | | | Spare | | | | Spare | | | | 2 & |
| 12 | | 40112 | 9 | | | 40112 | 9 | 40112 | 7 | | | | | Spare | | | | Spare | | | | 2 & |
| 12 | | 40112 | 10 | | | 40112 | 10 | 40112 | 6 | | | | | Spare | | | | Spare | | | | 2 & |
| 12 | | 40112 | 11 | | | 40112 | 11 | 40112 | 5 | | | | | Spare | | | | Spare | | | | 2 & |
| 12 | | 40112 | 12 | | | 40112 | 12 | 40112 | 4 | | | | | Spare | | | | Spare | | | | 2 & |
| 12 | | 40112 | 13 | | | 40112 | 13 | 40112 | 3 | | | | | Spare | | | | Spare | | | | 2 & |
| 12 | | 40112 | 14 | | | 40112 | 14 | 40112 | 2 | | | | | Spare | | | | Spare | | | | 2 & |
| 12 | | 40112 | 15 | | | 40112 | 15 | 40112 | 1 | | | | | Spare | | | | Spare | | | | 2 & |
| 12 | | 40112 | 16 | | | 40112 | 16 | 40112 | 0 | | | | | Spare | | | | Spare | | | | 2 & |
| S-PLC Group 3 Outputs | | | | | | | | | | | | | | | | | | | | | | |

| Source Device | Source Address | P-PLC | Bit | UVM PLC | Bit | S-PLC | Bit | SCADA Poll | Bit | S-PLC Internal | Bit | Device/Point Tag Name | Device/Point Tag Name | Desc 1 | Desc 2 | Desc 3 | Desc 4 | Point Description | Alarm (A) Status (S) | "0" State / Units | "1" State / Range | Mdl Adc |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 12 | 00001 | 40115 | 1 | | | 40115 | 1 | 40115 | 15 | 00001 | | DMR_035_VB_1 | DMR_035_VB_1 | VC-308 | Valve | Close | | VC-308 Valve Close | | | Close | 2 & |
| 12 | 00002 | 40115 | 2 | | | 40115 | 2 | 40115 | 14 | 00002 | | DMR_035_VD | DMR_035_VD | VC-308 | Valve | Open | | VC-308 Valve Open | | | Open | 2 & |
| 12 | 00003 | 40115 | 3 | | | 40115 | 3 | 40115 | 13 | 00003 | | DMR_035_VSB | DMR_035_VSB | VC-308 | Valve | Emergency | Close | VC-308 Valve Emergency Close | | | Close | 2 & |
| 12 | 00004 | 40115 | 4 | | | 40115 | 4 | 40115 | 12 | 00004 | | AM_030_VB_1 | AM_030_VB_1 | VC-6 | Valve | Close | | VC-6 Valve Close | | | Close | 2 & |
| 12 | 00005 | 40115 | 5 | | | 40115 | 5 | 40115 | 11 | 00005 | | AM_030_VD | AM_030_VD | VC-6 | Valve | Open | | VC-6 Valve Open | | | Open | 2 & |
| 12 | 00006 | 40115 | 6 | | | 40115 | 6 | 40115 | 10 | 00006 | | AM_030_VSB | AM_030_VSB | VC-6 | Valve | Emergency | Close | VC-6 Valve Emergency Close | | | Close | 2 & |
| 12 | 00007 | 40115 | 7 | | | 40115 | 7 | 40115 | 9 | 00007 | | DMC_801_VM | DMC_801_VM | Evap #1 | Disable | | | Evap #1 Disable | | | Enable | 2 & |
| 12 | 00008 | 40115 | 8 | | | 40115 | 8 | 40115 | 8 | 00008 | | DMC_802_VM | DMC_802_VM | Evap #2 | Disable | | | Evap #2 Disable | | | Enable | 2 & |
| 12 | 00009 | 40115 | 9 | | | 40115 | 9 | 40115 | 7 | 00009 | | DMC_804_MB | DMC_804_MB | CL2 #1 | Injection | Increase | | CL2 #1 Injection Increase | | | Increase | 2 & |
| 12 | 00010 | 40115 | 10 | | | 40115 | 10 | 40115 | 6 | 00010 | | DMC_804_MD | DMC_804_MD | CL2 #1 | Injection | Decrease | | CL2 #1 Injection Decrease | | | Decrease | 2 & |
| 12 | 00011 | 40115 | 11 | | | 40115 | 11 | 40115 | 5 | 00011 | | DMC_805_MB | DMC_805_MB | CL2 #2 | Injection | Increase | | CL2 #2 Injection Increase | | | Increase | 2 & |
| 12 | 00012 | 40115 | 12 | | | 40115 | 12 | 40115 | 4 | 00012 | | DMC_805_MD | DMC_805_MD | CL2 #2 | Injection | Decrease | | CL2 #2 Injection Decrease | | | Decrease | 2 & |
| 12 | 00013 | 40115 | 13 | | | 40115 | 13 | 40115 | 3 | 00013 | | DME_044_MN | DME_044_MN | CL2 PP#1 | Start/Stop | | | CL2 PP#1 Start/Stop | | Stop | Start | 2 & |
| 12 | 00014 | 40115 | 14 | | | 40115 | 14 | 40115 | 2 | 00014 | | DME_045_MN | DME_045_MN | CL2 PP#2 | Start/Stop | | | CL2 PP#2 Start/Stop | | Stop | Start | 2 & |
| 12 | 00015 | 40115 | 15 | | | 40115 | 15 | 40115 | 1 | 00015 | | DMZ_910_XQ | DMZ_910_XQ | SWGR | Under | Frequency | Reset | SWGR Under Frequency Reset | | | Reset | 2 & |
| 12 | 00016 | 40115 | 16 | | | 40115 | 16 | 40115 | 0 | 00016 | | | | Spare | | | | Spare | | | | 2 & |
| 12 | 00017 | 40116 | 1 | | | 40116 | 1 | 40116 | 15 | 00017 | | AM_020_VB | AM_020_VB | VC-4 | Valve | Close | | VC-4 Valve Close | | | Close | 2 & |
| 12 | 00018 | 40116 | 2 | | | 40116 | 2 | 40116 | 14 | 00018 | | AM_020_VD_1 | AM_020_VD_1 | VC-4 | Valve | Open | | VC-4 Valve Open | | | Open | 2 & |
| 12 | 00019 | 40116 | 3 | | | 40116 | 3 | 40116 | 13 | 00019 | | AM_020_VSD | AM_020_VSD | VC-4 | Valve | Emergency | Open | VC-4 Valve Emergency Open | | | Open | 2 & |
| 12 | 00020 | 40116 | 4 | | | 40116 | 4 | 40116 | 12 | 00020 | | | | Spare | | | | Spare | | | | 2 & |
| 12 | 00021 | 40116 | 5 | | | 40116 | 5 | 40116 | 11 | 00021 | | DMD_101_VB | DMD_101_VB | VC-302 | Valve | Close | | VC-302 Valve Close | | | Close | 2 & |
| 12 | 00022 | 40116 | 6 | | | 40116 | 6 | 40116 | 10 | 00022 | | DMD_101_VD | DMD_101_VD | VC-302 | Valve | Open | | VC-302 Valve Open | | | Open | 2 & |
| 12 | 00023 | 40116 | 7 | | | 40116 | 7 | 40116 | 9 | 00023 | | DMD_101_VSB | DMD_101_VSB | VC-302 | Valve | Emergency | Close | VC-302 Valve Emergency Close | | | Close | 2 & |
| 12 | 00024 | 40116 | 8 | | | 40116 | 8 | 40116 | 8 | 00024 | | | | Spare | | | | Spare | | | | 2 & |
| 12 | 00025 | 40116 | 9 | | | 40116 | 9 | 40116 | 7 | 00025 | | | | Spare | | | | Spare | | | | 2 & |
| 12 | 00026 | 40116 | 10 | | | 40116 | 10 | 40116 | 6 | 00026 | | | | Spare | | | | Spare | | | | 2 & |
| 12 | 00027 | 40116 | 11 | | | 40116 | 11 | 40116 | 5 | 00027 | | | | Spare | | | | Spare | | | | 2 & |
| 12 | 00028 | 40116 | 12 | | | 40116 | 12 | 40116 | 4 | 00028 | | | | Spare | | | | Spare | | | | 2 & |
| 12 | 00029 | 40116 | 13 | | | 40116 | 13 | 40116 | 3 | 00029 | | | | Spare | | | | Spare | | | | 2 & |
| 12 | 00030 | 40116 | 14 | | | 40116 | 14 | 40116 | 2 | 00030 | | | | Spare | | | | Spare | | | | 2 & |
| 12 | 00031 | 40116 | 15 | | | 40116 | 15 | 40116 | 1 | 00031 | | | | Spare | | | | Spare | | | | 2 & |
| 12 | 00032 | 40116 | 16 | | | 40116 | 16 | 40116 | 0 | 00032 | | | | Spare | | | | Spare | | | | 2 & |
| Pump #1 Inputs | | | | | | | | | | | | | | | | | | | | | | |
| 21 | 10001 | 40131 | 1 | | | 40121 | 1 | 40121 | 15 | | | DAE_041_HSO1 | DAE_041_HSO1 | PP#1 | Off | | | PP#1 Off | S | Not Off | Off | 2 & |
| 21 | 10002 | 40131 | 2 | | | 40121 | 2 | 40121 | 14 | | | DAE_041_HSU1 | DAE_041_HSU1 | PP#1 | Computer | | | PP#1 Computer | S | Not Computer | Computer | 2 & |
| 21 | 10003 | 40131 | 3 | | | 40121 | 3 | 40121 | 13 | | | DAE_041_HSU4 | DAE_041_HSU4 | PP#1 | Local | | | PP#1 Local | S | Not Local | Local | 2 & |
| 21 | 10004 | 40131 | 4 | | | 40121 | 4 | 40121 | 12 | | | DAE_041_HSU2 | DAE_041_HSU2 | PP#1 | Hand | | | PP#1 Hand | S | Not Hand | Hand | 2 & |
| 21 | 10005 | 40131 | 5 | | | 40121 | 5 | 40121 | 11 | | | DAE_041_HSU3 | DAE_041_HSU3 | PP#1 | Maintenance | | | PP#1 Maintenance | S | Not Maintenance | Maintenance | 2 & |
| 21 | 10006 | 40131 | 6 | | | 40121 | 6 | 40121 | 10 | | | DAE_041_HSN | DAE_041_HSN | PP#1 | Start | | | PP#1 Start | | Not Start | Start | 2 & |
| 21 | 10007 | 40131 | 7 | | | 40121 | 7 | 40121 | 9 | | | DAE_041_HSO2 | DAE_041_HSO2 | PP#1 | Stop | | | PP#1 Stop | | Not Stop | Stop | 2 & |
| 21 | 10008 | 40131 | 8 | | | 40121 | 8 | 40121 | 8 | | | DAE_041_HS_2 | DAE_041_HS_2 | PP#1 | Alarm | Reset | | PP#1 Alarm Reset | | Not Reset | Reset | 2 & |
| 21 | 10009 | 40131 | 9 | | | 40121 | 9 | 40121 | 7 | | | DAE_041_QF_2 | DAE_041_QF_2 | PP#1 | Temperature | /Vibration | Monitor Fail | PP#1 Temperature /Vibration Monitor Fail | A | Alarm | Normal | 2 & |
| 21 | 10010 | 40131 | 10 | | | 40121 | 10 | 40121 | 6 | | | DAE_041_UAH | DAE_041_UAH | PP#1 | Temperature | /Vibration | Alarm | PP#1 Temperature /Vibration Alarm | A | Alarm | Normal | 2 & |
| 21 | 10011 | 40131 | 11 | | | 40121 | 11 | 40121 | 5 | | | DAE_041_UAHH | DAE_041_UAHH | PP#1 | Temperature | /Vibration | Trip | PP#1 Temperature /Vibration Trip | A | Alarm | Normal | 2 & |
| 21 | 10012 | 40131 | 12 | | | 40121 | 12 | 40121 | 4 | | | DAE_041_HSNH | DAE_041_HSNH | PP#1 | Start | High | | PP#1 Start High | S | Not High | High | 2 & |
| 21 | 10013 | 40131 | 13 | | | 40121 | 13 | 40121 | 3 | | | DAE_041_HSNL | DAE_041_HSNL | PP#1 | Start | Low | | PP#1 Start Low | S | Not Low | Low | 2 & |
| 21 | 10014 | 40131 | 14 | | | 40121 | 14 | 40121 | 2 | | | | | Spare | | | | Spare | | | | 2 & |
| 21 | 10015 | 40131 | 15 | | | 40121 | 15 | 40121 | 1 | | | DAE_041_ML10 | DAE_041_ML10 | PP#1 | Slow | Run | Status | PP#1 Slow Run Status | S | Not Slow | Slow | 2 & |
| 21 | 10016 | 40131 | 16 | | | 40121 | 16 | 40121 | 0 | | | DAE_041_MH10 | DAE_041_MH10 | PP#1 | Fast | Run | Status | PP#1 Fast Run Status | S | Not Fast | Fast | 2 & |
| 21 | 10017 | 40132 | 1 | | | 40122 | 1 | 40122 | 15 | | | DAE_041_HS_3 | DAE_041_HS_3 | PP#1 | Lamptest | | | PP#1 Lamptest | | Not Test | Test | 2 & |
| 21 | 10018 | 40132 | 2 | | | 40122 | 2 | 40122 | 14 | | | DAD_041_ZB1O | DAD_041_ZB1O | PP#1 | Discharge | Valve DV-1 | Close Status | PP#1 Discharge Valve DV-1 Close Status | S | Not Closed | Closed | 2 & |
| 21 | 10019 | 40132 | 3 | | | 40122 | 3 | 40122 | 13 | | | DAD_041_ZD1O | DAD_041_ZD1O | PP#1 | Discharge | Valve DV-1 | Open Status | PP#1 Discharge Valve DV-1 Open Status | S | Not Open | Open | 2 & |
| 21 | 10020 | 40132 | 4 | | | 40122 | 4 | 40122 | 12 | | | DAD_041_ZS | DAD_041_ZS | PP#1 | Discharge | Valve DV-1 | Intermediate | PP#1 Discharge Valve DV-1 Intermediate | S | Not Intermediate | Intermediate | 2 & |
| 21 | 10021 | 40132 | 5 | | | 40122 | 5 | 40122 | 11 | | | DAS_041_ZB | DAS_041_ZB | PP#1 | Valve | SV-1 | Close Status | PP#1 Valve SV-1 Close Status | S | Not Closed | Closed | 2 & |
| 21 | 10022 | 40132 | 6 | | | 40122 | 6 | 40122 | 10 | | | DAS_041_ZD | DAS_041_ZD | PP#1 | Valve | SV-1 | Open Status | PP#1 Valve SV-1 Open Status | S | Not Open | Open | 2 & |
| 21 | 10023 | 40132 | 7 | | | 40122 | 7 | 40122 | 9 | | | DAD_041_HSB | DAD_041_HSB | PP#1 | Discharge | Valve DV-1 | Close | PP#1 Discharge Valve DV-1 Close | | Not Close | Close | 2 & |
| 21 | 10024 | 40132 | 8 | | | 40122 | 8 | 40122 | 8 | | | DAD_041_HSD | DAD_041_HSD | PP#1 | Discharge | Valve DV-1 | Open | PP#1 Discharge Valve DV-1 Open | | Not Open | Open | 2 & |
| 21 | 10025 | 40132 | 7 | | | 40122 | 9 | 40122 | 7 | | | | | Spare | | | | Spare | | | | 2 & |
| 21 | 10026 | 40132 | 8 | | | 40122 | 10 | 40122 | 6 | | | | | Spare | | | | Spare | | | | 2 & |
| 21 | 10027 | 40132 | 7 | | | 40122 | 11 | 40122 | 5 | | | DAD_041_ZD10 | DAD_041_ZD10 | Spare | | | | PP#1 Discharge Valve DV-1 Open Status | S | Not Open | Open | 2 & |
| 21 | 10028 | 40132 | 8 | | | 40122 | 12 | 40122 | 4 | | | DAD_041_FA | DAD_041_FA | Spare | | | | PP#1 UV High Flow Shutdown | A | Alarm | Normal | 2 & |
| 21 | 10029 | 40132 | 7 | | | 40122 | 13 | 40122 | 3 | | | DAD_041_SA | DAD_041_SA | Spare | | | | PP#1 Reverse Spin Alarm | A | Alarm | Normal | 2 & |
| 21 | 10030 | 40132 | 8 | | | 40122 | 14 | 40122 | 2 | | | | | Spare | | | | Spare | | | | 2 & |
| 21 | 10031 | 40132 | 7 | | | 40122 | 15 | 40122 | 1 | | | | | Spare | | | | Spare | | | | 2 & |
| 21 | 10032 | 40132 | 8 | | | 40122 | 16 | 40122 | 0 | | | | | Spare | | | | Spare | | | | 2 & |
| Pump #1 Soft Alarms & Statuses | | | | | | | | | | | | | | | | | | | | | | |
| 21 | | 40140 | 1 | | | 40130 | 1 | 40130 | 15 | | | **PLC_RUN_21** | DPLC_RUN_21 | **PLC21** | **Run** | **Light** | **Off** | PLC21 Run Light Off | A | Alarm | Normal | 2 & |
| 21 | | 40140 | 2 | | | 40130 | 2 | 40130 | 14 | | | **PLC_MEM_21** | DPLC_MEM_21 | **PLC21** | **Memory** | **Protection** | **Off** | PLC21 Memory Protection Off | A | Alarm | Normal | 2 & |
| 21 | | 40140 | 3 | | | 40130 | 3 | 40130 | 13 | | | **PLC_BAT_21** | DPLC_BAT_21 | **PLC21** | **Battery** | **Failure** | | PLC21 Battery Failure | A | Alarm | Normal | 2 & |
| 21 | | 40140 | 4 | | | 40130 | 4 | 40130 | 12 | | | **PLC_STAT_21** | DPLC_STAT_21 | **PLC21** | **Status Word5** | **Critical** | **Failure** | PLC21 Status Word5 Critical Failure | A | Alarm | Normal | 2 & |
| 21 | | 40140 | 5 | | | 40130 | 5 | 40130 | 11 | | | **PLC_13F_21** | DPLC_13F_21 | **PLC21** | **Rack1** | **Slot3** | **Failed** | PLC21 Rack1 Slot3 Failed | A | Alarm | Normal | 2 & |
| 21 | | 40140 | 6 | | | 40130 | 6 | 40130 | 10 | | | **PLC_14F_21** | DPLC_14F_21 | **PLC21** | **Rack1** | **Slot4** | **Failed** | PLC21 Rack1 Slot4 Failed | A | Alarm | Normal | 2 & |
| 21 | | 40140 | 7 | | | 40130 | 7 | 40130 | 9 | | | **PLC_15F_21** | DPLC_15F_21 | **PLC21** | **Rack1** | **Slot5** | **Failed** | PLC21 Rack1 Slot5 Failed | A | Alarm | Normal | 2 & |
| 21 | | 40140 | 8 | | | 40130 | 8 | 40130 | 8 | | | **PLC_21F_21** | DPLC_21F_21 | **PLC21** | **Rack2** | **Slot1** | **Failed** | PLC21 Rack2 Slot1 Failed | A | Alarm | Normal | 2 & |
| 21 | | 40140 | 9 | | | 40130 | 9 | 40130 | 7 | | | **PLC_22F_21** | DPLC_22F_21 | **PLC21** | **Rack2** | **Slot2** | **Failed** | PLC21 Rack2 Slot2 Failed | A | Alarm | Normal | 2 & |
| 21 | | 40140 | 10 | | | 40130 | 10 | 40130 | 6 | | | **PLC_23F_21** | DPLC_23F_21 | **PLC21** | **Rack2** | **Slot3** | **Failed** | PLC21 Rack2 Slot3 Failed | A | Alarm | Normal | 2 & |
| 21 | | 40140 | 11 | | | 40130 | 11 | 40130 | 5 | | | **PLC_24F_21** | DPLC_24F_21 | **PLC21** | **Rack2** | **Slot4** | **Failed** | PLC21 Rack2 Slot4 Failed | A | Alarm | Normal | 2 & |
| 21 | | 40140 | 12 | | | 40130 | 12 | 40130 | 4 | | | **PLC_25F_21** | DPLC_25F_21 | **PLC21** | **Rack2** | **Slot5** | **Failed** | PLC21 Rack2 Slot5 Failed | A | Alarm | Normal | 2 & |
| 21 | | 40140 | 13 | | | 40130 | 13 | 40130 | 3 | | | **PLC_31F_21** | DPLC_31F_21 | **PLC21** | **Rack3** | **Slot1** | **Failed** | PLC21 Rack3 Slot1 Failed | A | Alarm | Normal | 2 & |
| 21 | | 40140 | 14 | | | 40130 | 14 | 40130 | 2 | | | **PLC_32F_21** | DPLC_32F_21 | **PLC21** | **Rack3** | **Slot2** | **Failed** | PLC21 Rack3 Slot2 Failed | A | Alarm | Normal | 2 & |
| 21 | | 40140 | 15 | | | 40130 | 15 | 40130 | 1 | | | **PLC_33F_21** | DPLC_33F_21 | **PLC21** | **Rack3** | **Slot3** | **Failed** | PLC21 Rack3 Slot3 Failed | A | Alarm | Normal | 2 & |
| 21 | | 40140 | 16 | | | 40130 | 16 | 40130 | 0 | | | **PLC_34F_21** | DPLC_34F_21 | **PLC21** | **Rack3** | **Slot4** | **Failed** | PLC21 Rack3 Slot4 Failed | A | Alarm | Normal | 2 & |
| 21 | | 40141 | 1 | | | 40131 | 1 | 40131 | 15 | | | **PLC_35F_21** | DPLC_35F_21 | **PLC21** | **Rack3** | **Slot5** | **Failed** | PLC21 Rack3 Slot5 Failed | A | Alarm | Normal | 2 & |
| 21 | | 40141 | 2 | | | 40131 | 2 | 40131 | 14 | | | **PLC_41F_21** | DPLC_41F_21 | **PLC21** | **Rack4** | **Slot1** | **Failed** | PLC21 Rack4 Slot1 Failed | A | Alarm | Normal | 2 & |
| 21 | | 40141 | 3 | | | 40131 | 3 | 40131 | 13 | | | **PLC_42F_21** | DPLC_42F_21 | **PLC21** | **Rack4** | **Slot2** | **Failed** | PLC21 Rack4 Slot2 Failed | A | Alarm | Normal | 2 & |
| 21 | | 40141 | 4 | | | 40131 | 4 | 40131 | 12 | | | **PLC_43F_21** | DPLC_43F_21 | **PLC21** | **Rack4** | **Slot3** | **Failed** | PLC21 Rack4 Slot3 Failed | A | Alarm | Normal | 2 & |

| Source Device | Source Address | P-PLC | Bit | UVM PLC | Bit | S-PLC | Bit | SCADA Poll | Bit | S-PLC Internal | Bit | Device/Point Tag Name | Device/Point Tag Name | Desc 1 | Desc 2 | Desc 3 | Desc 4 | Point Description | Alarm (A) Status (S) | "0" State / Units | "1" State / Range | Mdl Adc |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 21 | | 40141 | 5 | | | 40131 | 5 | 40131 | 11 | | | **PLC_44F_21** | DPLC_44F_21 | **PLC21** | **Rack4** | **Slot4** | **Failed** | PLC21 Rack4 Slot4 Failed | A | Alarm | Normal | 2 & |
| 21 | | 40141 | 6 | | | 40131 | 6 | 40131 | 10 | | | **PLC_45F_21** | DPLC_45F_21 | **PLC21** | **Rack4** | **Slot5** | **Failed** | PLC21 Rack4 Slot5 Failed | A | Alarm | Normal | 2 & |
| 21 | | 40141 | 7 | | | 40131 | 7 | 40131 | 9 | | | **COMRTE1_21** | DCOMRTE1_21 | **Communications** | **Re-route** | **PLC21** | **to S-PLC1** | Communications Re-route PLC21 to S-PLC1 | A | Alarm | Normal | 2 & |
| 21 | | 40141 | 8 | | | 40131 | 8 | 40131 | 8 | | | **COMRTE33_21** | DCOMRTE33_21 | **Communications** | **Re-route** | **PLC21** | **to S-PLC33** | Communications Re-route PLC21 to S-PLC33 | A | Alarm | Normal | 2 & |
| 21 | | 40141 | 9 | | | 40131 | 9 | 40131 | 7 | | | **CMFAIL1_21** | DCMFAIL1_21 | **Communications** | **Failure** | **PLC21** | **to S-PLC1** | Communications Failure PLC21 to S-PLC1 | A | Alarm | Normal | 2 & |
| 21 | | 40141 | 10 | | | 40131 | 10 | 40131 | 6 | | | **CMFAIL33_21** | DCMFAIL33_21 | **Communications** | **Failure** | **PLC21** | **to S-PLC33** | Communications Failure PLC21 to S-PLC33 | A | Alarm | Normal | 2 & |
| 21 | | 40141 | 11 | | | 40131 | 11 | 40131 | 5 | | | **PLCOK21** | DPLCOK21 | **PLC21** | **Health** | **Bit** | **(toggles)** | PLC21 Health Bit (toggles) | | PPLC Reset | S-PLC Set | 2 & |
| 21 | | 40141 | 12 | | | 40131 | 12 | 40131 | 4 | | | | | **PLC21** | **Spare** | | | PLC21 Spare | | | | 2 & |
| 21 | | 40141 | 13 | | | 40131 | 13 | 40131 | 3 | | | | | **PLC21** | **Spare** | | | PLC21 Spare | | | | 2 & |
| 21 | | 40141 | 14 | | | 40131 | 14 | 40131 | 2 | | | | | **PLC21** | **Spare** | | | PLC21 Spare | | | | 2 & |
| 21 | | 40141 | 15 | | | 40131 | 15 | 40131 | 1 | | | | | **PLC21** | **Spare** | | | PLC21 Spare | | | | 2 & |
| 21 | | 40141 | 16 | | | 40131 | 16 | 40131 | 0 | | | | | **PLC21** | **Spare** | | | PLC21 Spare | | | | 2 & |
| 21 | | 40142 | 1 | | | 40132 | 1 | 40132 | 15 | | | SEQFAIL1 | DSEQFAIL1 | PP#1 | Startup/ | Shutdown | Sequenc Fail | PP#1 Startup/ Shutdown Sequenc Fail | A | Alarm | Normal | 2 & |
| 21 | | 40142 | 2 | | | 40132 | 2 | 40132 | 14 | | | | | PP#1 | Spare | | | PP#1 Spare | | Alarm | Normal | 2 & |
| 21 | | 40142 | 3 | | | 40132 | 3 | 40132 | 13 | | | DISPRESEQ1 | DDISPRESEQ1 | PP#1 | Discharge | Pressure | Switch Fail | PP#1 Discharge Pressure Switch Fail | A | Alarm | Normal | 2 & |
| 21 | | 40142 | 4 | | | 40132 | 4 | 40132 | 12 | | | DSOPNFAIL1 | DDSOPNFAIL1 | PP#1 | Discharge | Valve | Fail Open | PP#1 Discharge Valve Fail Open | A | Alarm | Normal | 2 & |
| 21 | | 40142 | 5 | | | 40132 | 5 | 40132 | 11 | | | DSCLSFAIL1 | DDSCLSFAIL1 | PP#1 | Discharge | Valve | Fail Close | PP#1 Discharge Valve Fail Close | A | Alarm | Normal | 2 & |
| 21 | | 40142 | 6 | | | 40132 | 6 | 40132 | 10 | | | DSINTFAIL1 | | | | | | Spare | | | | 2 & |
| 21 | | 40142 | 7 | | | 40132 | 7 | 40132 | 9 | | | RNSEQFAIL1 | DRNSEQFAIL1 | PP#1 | Motor | Contactor | Fail | PP#1 Motor Contactor Fail | A | Alarm | Normal | 2 & |
| 21 | | 40142 | 8 | | | 40132 | 8 | 40132 | 8 | | | SPEEDHI1 | DSPEEDHI1 | PP#1 | ProcVar | >High | Limit | PP#1 ProcVar >High Limit | A | Alarm | Normal | 2 & |
| 21 | | 40142 | 9 | | | 40132 | 9 | 40132 | 7 | | | SPEEDLO1 | DSPEEDLO1 | PP#1 | ProcVar | <Low | Limit | PP#1 ProcVar <Low Limit | A | Alarm | Normal | 2 & |
| 21 | | 40142 | 10 | | | 40132 | 10 | 40132 | 6 | | | DISPRSLO1 | DDISPRSLO1 | PP#1 | Discharge | Pressure | Lo | PP#1 Discharge Pressure Lo | A | Alarm | Normal | 2 & |
| 21 | | 40142 | 11 | | | 40132 | 11 | 40132 | 5 | | | DISPRSLOLO1 | DDISPRSLOLO1 | PP#1 | Discharge | Pressure | LoLo | PP#1 Discharge Pressure LoLo | A | Alarm | Normal | 2 & |
| 21 | | 40142 | 12 | | | 40132 | 12 | 40132 | 4 | | | | | PP#1 | Spare | | | PP#1 Spare | | | | 2 & |
| 21 | | 40142 | 13 | | | 40132 | 13 | 40132 | 3 | | | | | PP#1 | Spare | | | PP#1 Spare | | | | 2 & |
| 21 | | 40142 | 14 | | | 40132 | 14 | 40132 | 2 | | | | | PP#1 | Spare | | | PP#1 Spare | | | | 2 & |
| 21 | | 40142 | 15 | | | 40132 | 15 | 40132 | 1 | | | | | PP#1 | Spare | | | PP#1 Spare | | | | 2 & |
| 21 | | 40142 | 16 | | | 40132 | 16 | 40132 | 0 | | | | | PP#1 | Spare | | | PP#1 Spare | | | | 2 & |
| 21 | | 40143 | 1 | | | 40133 | 1 | 40133 | 15 | | | SEQSTART1 | DSEQSTART1 | PP#1 | Start | sequence | confirmed | PP#1 Start sequence confirmed | S | Stop | Start Seq | 2 & |
| 21 | | 40143 | 2 | | | 40133 | 2 | 40133 | 14 | | | FAILLKOUT1 | DFAILLKOUT1 | PP#1 | Pump | locked out: | Local Reset | PP#1 Pump locked out: Local Reset | S | Normal | Lockout | 2 & |
| 21 | | 40143 | 3 | | | 40133 | 3 | 40133 | 13 | | | RESTRTLKT1 | DRESTRTLKT1 | PP#1 | Pump | locked out: | Restart Time | PP#1 Pump locked out: Restart Time | S | Normal | Lockout | 2 & |
| 21 | | 40143 | 4 | | | 40133 | 4 | 40133 | 12 | | | LOCALLKT1 | DLOCALLKT1 | PP#1 | Pump | Locked out: | O-C-L Switch | PP#1 Pump Locked out: O-C-L Switch | S | Normal | Lockout | 2 & |
| 21 | | 40143 | 5 | | | 40133 | 5 | 40133 | 11 | | | STOPLKT1 | DSTOPLKT1 | PP#1 | Pump | locked out: | Stop Time | PP#1 Pump locked out: Stop Time | S | Normal | Lockout | 2 & |
| 21 | | 40143 | 6 | | | 40133 | 6 | 40133 | 10 | | | | DPPCOMPUTER1 | | | | | PP#1 Pump Handswitch Computer | S | Normal | Computer | 2 & |
| 21 | | 40143 | 7 | | | 40133 | 7 | 40133 | 9 | | | | DPPOFF1 | | | | | PP#1 Pump Handswitch Off | S | Normal | Off | 2 & |
| 21 | | 40143 | 8 | | | 40133 | 8 | 40133 | 8 | | | | DPPLOCAL1 | | | | | PP#1 Pump Handswitch Local | S | Normal | Local | 2 & |
| 21 | | 40143 | 9 | | | 40133 | 9 | 40133 | 7 | | | | DPPHAND1 | | | | | PP#1 Pump Handswitch Hand | S | Normal | Hand | 2 & |
| 21 | | 40143 | 10 | | | 40133 | 10 | 40133 | 6 | | | | DPPMAIN1 | | | | | PP#1 Pump Handswitch Maintenance | S | Normal | Maintenance | 2 & |
| 21 | | 40143 | 11 | | | 40133 | 11 | 40133 | 5 | | | | DPPRUNSEQ1 | | | | | PP#1 Pump Handswitch Run Sequence (Not Maint) | S | Normal | Run Seq | 2 & |
| 21 | | 40143 | 12 | | | 40133 | 12 | 40133 | 4 | | | | | | | | | | | | | 2 & |
| 21 | | 40143 | 13 | | | 40133 | 13 | 40133 | 3 | | | | | | | | | | | | | 2 & |
| 21 | | 40143 | 14 | | | 40133 | 14 | 40133 | 2 | | | | | | | | | | | | | 2 & |
| 21 | | 40143 | 15 | | | 40133 | 15 | 40133 | 1 | | | | | | | | | | | | | 2 & |
| 21 | | 40143 | 16 | | | 40133 | 16 | 40133 | 0 | | | | | | | | | | | | | 2 & |
| Pump #1 Outputs | | | | | | | | | | | | | | | | | | | | | | |
| 21 | 00001 | 40145 | 1 | | | 40135 | 1 | 40135 | 15 | | | DAE_041_LOS | DAE_041_LOS | PP#1 | Starter | Lockout | | PP#1 Starter Lockout | A | Normal | Alarm | 2 & |
| 21 | 00002 | 40145 | 2 | | | 40135 | 2 | 40135 | 14 | | | DAE_041_MH11 | DAE_041_MH11 | PP#1 | Fast | Run | | PP#1 Fast Run | | Not Fast | Fast | 2 & |
| 21 | 00003 | 40145 | 3 | | | 40135 | 3 | 40135 | 13 | | | DAE_041_QF_1 | DAE_041_QF_1 | PP#1 | PLC | Fail | | PP#1 PLC Fail | A | Alarm | Normal | 2 & |
| 21 | 00004 | 40145 | 4 | | | 40135 | 4 | 40135 | 12 | | | DAE_041_ML11 | DAE_041_ML11 | PP#1 | Slow | Run | | PP#1 Slow Run | | Not Slow | Slow | 2 & |
| 21 | 00005 | 40145 | 5 | | | 40135 | 5 | 40135 | 11 | | | DAD_041_VF | DAD_041_VF | PP#1 | DV-1 | Fail | | PP#1 DV-1 Fail | A | Normal | Alarm | 2 & |
| 21 | 00006 | 40145 | 6 | | | 40135 | 6 | 40135 | 10 | | | DAD_041_ZB11 | DAD_041_ZB11 | PP#1 | Discharge | Valve DV-1 | Close | PP#1 Discharge Valve DV-1 Close | | Not Close | Close | 2 & |
| 21 | 00007 | 40145 | 7 | | | 40135 | 7 | 40135 | 9 | | | DAD_041_ZD11 | DAD_041_ZD11 | PP#1 | Discharge | Valve DV-1 | Open | PP#1 Discharge Valve DV-1 Open | | Not Open | Open | 2 & |
| 21 | 00008 | 40145 | 8 | | | 40135 | 8 | 40135 | 8 | | | DAE_041_QJ | DAE_041_QJ | PP#1 | Ready | To | Start | PP#1 Ready To Start | S | Not Ready | Ready | 2 & |
| 21 | 00009 | 40145 | 9 | | | 40135 | 9 | 40135 | 7 | | | | | Spare | | | | Spare | | | | 2 & |
| 21 | 00010 | 40145 | 10 | | | 40135 | 10 | 40135 | 6 | | | | | Spare | | | | Spare | | | | 2 & |
| 21 | 00011 | 40145 | 11 | | | 40135 | 11 | 40135 | 5 | | | | | Spare | | | | Spare | | | | 2 & |
| 21 | 00012 | 40145 | 12 | | | 40135 | 12 | 40135 | 4 | | | | DAE_041_FA | Spare | | | | PP#1 UV High Flow Shutdown | A | Normal | Alarm | 2 & |
| 21 | 00013 | 40145 | 13 | | | 40135 | 13 | 40135 | 3 | | | | DAD_041_VD1 | Spare | | | | Discharge Valve Normal Open/Close | | Open | Close | 2 & |
| 21 | 00014 | 40145 | 14 | | | 40135 | 14 | 40135 | 2 | | | | DAD_041_VD2 | Spare | | | | Discharge Valve Emergency Close | | Not Close | Fast Close | 2 & |
| 21 | 00015 | 40145 | 15 | | | 40135 | 15 | 40135 | 1 | | | | | Spare | | | | Spare | | | | 2 & |
| 21 | 00016 | 40145 | 16 | | | 40135 | 16 | 40135 | 0 | | | | | Spare | | | | Spare | | | | 2 & |
| 21 | 00017 | 40146 | 1 | | | 40136 | 1 | 40136 | 15 | | | | | Spare | | | | Spare | | | | 2 & |
| 21 | 00018 | 40146 | 2 | | | 40136 | 2 | 40136 | 14 | | | | | Spare | | | | Spare | | | | 2 & |
| 21 | 00019 | 40146 | 3 | | | 40136 | 3 | 40136 | 13 | | | | | Spare | | | | Spare | | | | 2 & |
| 21 | 00020 | 40146 | 4 | | | 40136 | 4 | 40136 | 12 | | | | | Spare | | | | Spare | | | | 2 & |
| 21 | 00021 | 40146 | 5 | | | 40136 | 5 | 40136 | 11 | | | DAE_041_KM | DAE_041_KM | PP#1 | Motor | Run Time | Counter | PP#1 Motor Run Time Counter | | Off | Run | 2 & |
| 21 | 00022 | 40146 | 6 | | | 40136 | 6 | 40136 | 10 | | | DAE_041_MNH | DAE_041_MNH | PP#1 | Start | High | | PP#1 Start High | | Not High | High | 2 & |
| 21 | 00023 | 40146 | 7 | | | 40136 | 7 | 40136 | 9 | | | DAE_041_MNL | DAE_041_MNL | PP#1 | Start | Low | | PP#1 Start Low | | Not Low | Low | 2 & |
| 21 | 00024 | 40146 | 8 | | | 40136 | 8 | 40136 | 8 | | | DAE_041_MO | DAE_041_MO | PP#1 | Stop | | | PP#1 Stop | | Not Stop | Stop | 2 & |
| Pump #2 Inputs | | | | | | | | | | | | | | | | | | | | | | |
| 22 | 10001 | 40131 | 1 | | | 40141 | 1 | 40141 | 15 | | | DBE_042_HSO1 | DBE_042_HSO1 | PP#2 | Off | | | PP#2 Off | S | Not Off | Off | 2 & |
| 22 | 10002 | 40131 | 2 | | | 40141 | 2 | 40141 | 14 | | | DBE_042_HSU1 | DBE_042_HSU1 | PP#2 | Computer | | | PP#2 Computer | S | Not Computer | Computer | 2 & |
| 22 | 10003 | 40131 | 3 | | | 40141 | 3 | 40141 | 13 | | | DBE_042_HSU4 | DBE_042_HSU4 | PP#2 | Local | | | PP#2 Local | S | Not Local | Local | 2 & |
| 22 | 10004 | 40131 | 4 | | | 40141 | 4 | 40141 | 12 | | | DBE_042_HSU2 | DBE_042_HSU2 | PP#2 | Hand | | | PP#2 Hand | S | Not Hand | Hand | 2 & |
| 22 | 10005 | 40131 | 5 | | | 40141 | 5 | 40141 | 11 | | | DBE_042_HSU3 | DBE_042_HSU3 | PP#2 | Maintenance | | | PP#2 Maintenance | S | Not Maintenance | Maintenance | 2 & |
| 22 | 10006 | 40131 | 6 | | | 40141 | 6 | 40141 | 10 | | | DBE_042_HSN | DBE_042_HSN | PP#2 | Start | | | PP#2 Start | | Not Start | Start | 2 & |
| 22 | 10007 | 40131 | 7 | | | 40141 | 7 | 40141 | 9 | | | DBE_042_HSO2 | DBE_042_HSO2 | PP#2 | Stop | | | PP#2 Stop | | Not Stop | Stop | 2 & |
| 22 | 10008 | 40131 | 8 | | | 40141 | 8 | 40141 | 8 | | | DBE_042_HS_2 | DBE_042_HS_2 | PP#2 | Alarm | Reset | | PP#2 Alarm Reset | | Not Reset | Reset | 2 & |
| 22 | 10009 | 40131 | 9 | | | 40141 | 9 | 40141 | 7 | | | DBE_042_QF_2 | DBE_042_QF_2 | PP#2 | Temperature | /Vibration | Monitor Fail | PP#2 Temperature /Vibration Monitor Fail | A | Alarm | Normal | 2 & |
| 22 | 10010 | 40131 | 10 | | | 40141 | 10 | 40141 | 6 | | | DBE_042_UAH | DBE_042_UAH | PP#2 | Temperature | /Vibration | Alarm | PP#2 Temperature /Vibration Alarm | A | Alarm | Normal | 2 & |
| 22 | 10011 | 40131 | 11 | | | 40141 | 11 | 40141 | 5 | | | DBE_042_UAHH | DBE_042_UAHH | PP#2 | Temperature | /Vibration | Trip | PP#2 Temperature /Vibration Trip | A | Alarm | Normal | 2 & |
| 22 | 10012 | 40131 | 12 | | | 40141 | 12 | 40141 | 4 | | | DBE_042_HSNH | DBE_042_HSNH | PP#2 | Start | High | | PP#2 Start High | S | Not High | High | 2 & |
| 22 | 10013 | 40131 | 13 | | | 40141 | 13 | 40141 | 3 | | | DBE_042_HSNL | DBE_042_HSNL | PP#2 | Start | Low | | PP#2 Start Low | S | Not Low | Low | 2 & |
| 22 | 10014 | 40131 | 14 | | | 40141 | 14 | 40141 | 2 | | | | | Spare | | | | Spare | | | | 2 & |
| 22 | 10015 | 40131 | 15 | | | 40141 | 15 | 40141 | 1 | | | DBE_042_ML10 | DBE_042_ML10 | PP#2 | Slow | Run | Status | PP#2 Slow Run Status | S | Not Slow | Slow | 2 & |
| 22 | 10016 | 40131 | 16 | | | 40141 | 16 | 40141 | 0 | | | DBE_042_MH10 | DBE_042_MH10 | PP#2 | Fast | Run | Status | PP#2 Fast Run Status | S | Not Fast | Fast | 2 & |

| Source Device | Source Address | P-PLC | Bit | UVM PLC | Bit | S-PLC | Bit | SCADA Poll | Bit | S-PLC Internal | Bit | Device/Point Tag Name | Device/Point Tag Name | Desc 1 | Desc 2 | Desc 3 | Desc 4 | Point Description | Alarm (A) Status (S) | "0" State / Units | "1" State / Range | Mdl Adc |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 22 | 10017 | 40132 | 1 | | | 40142 | 1 | 40142 | 15 | | | DBE_042_HS_3 | DBE_042_HS_3 | PP#2 | Lamptest | | | PP#2 Lamptest | | Not Test | Test | 2 & |
| 22 | 10018 | 40132 | 2 | | | 40142 | 2 | 40142 | 14 | | | DBD_042_ZB1O | DBD_042_ZB1O | PP#2 | Discharge | Valve DV-2 | Close Status | PP#2 Discharge Valve DV-2 Close Status | S | Not Closed | Closed | 2 & |
| 22 | 10019 | 40132 | 3 | | | 40142 | 3 | 40142 | 13 | | | DBD_042_ZD1O | DBD_042_ZD1 | PP#2 | Discharge | Valve DV-2 | Open Status | PP#2 DV Isolation Valve DV-2 Open Status | S | Not Open | Open | 2 & |
| 22 | 10020 | 40132 | 4 | | | 40142 | 4 | 40142 | 12 | | | DBD_042_ZS | DBD_042_ZB1 | PP#2 | Discharge | Valve DV-2 | Intermediate | PP#2 DV Isolation Valve DV-2 Closed Status | S | Not Closed | Closed | 2 & |
| 22 | 10021 | 40132 | 5 | | | 40142 | 5 | 40142 | 11 | | | DBS_042_ZB | DBS_042_ZB | PP#2 | Valve | SV-2 | Close Status | PP#2 Valve SV-2 Close Status | S | Not Closed | Closed | 2 & |
| 22 | 10022 | 40132 | 6 | | | 40142 | 6 | 40142 | 10 | | | DBS_042_ZD | DBS_042_ZD | PP#2 | Valve | SV-2 | Open Status | PP#2 Valve SV-2 Open Status | S | Not Open | Open | 2 & |
| 22 | 10023 | 40132 | 7 | | | 40142 | 7 | 40142 | 9 | | | DBD_042_HSB | DBD_042_HSB | PP#2 | Discharge | Valve DV-2 | Close | PP#2 Discharge Valve DV-2 Close | | Not Close | Close | 2 & |
| 22 | 10024 | 40132 | 8 | | | 40142 | 8 | 40142 | 8 | | | DBD_042_HSD | DBD_042_HSD | PP#2 | Discharge | Valve DV-2 | Open | PP#2 Discharge Valve DV-2 Open | | Not Open | Open | 2 & |
| 22 | 10025 | 40132 | 9 | | | 40142 | 9 | 40142 | 7 | | | | | Spare | | | | Spare | | | | 2 & |
| 22 | 10026 | 40132 | 10 | | | 40142 | 10 | 40142 | 6 | | | | | Spare | | | | Spare | | | | 2 & |
| 22 | 10027 | 40132 | 11 | | | 40142 | 11 | 40142 | 5 | | | | DBD_042_ZD10 | Spare | | | | PP#2 Discharge Valve DV-2 Open Status | S | Not Open | Open | 2 & |
| 22 | 10028 | 40132 | 12 | | | 40142 | 12 | 40142 | 4 | | | | DBD_042_FA | Spare | | | | PP#2 UV High Flow Shutdown | A | Alarm | Normal | 2 & |
| 22 | 10029 | 40132 | 13 | | | 40142 | 13 | 40142 | 3 | | | | DBD_042_SA | Spare | | | | PP#2 Reverse Spin | A | Alarm | Normal | 2 & |
| 22 | 10030 | 40132 | 14 | | | 40142 | 14 | 40142 | 2 | | | | | Spare | | | | Spare | | | | 2 & |
| 22 | 10031 | 40132 | 15 | | | 40142 | 15 | 40142 | 1 | | | | | Spare | | | | Spare | | | | 2 & |
| 22 | 10032 | 40132 | 16 | | | 40142 | 16 | 40142 | 0 | | | | | Spare | | | | Spare | | | | 2 & |
| Pump #2 Soft Alarms & Statuses | | | | | | | | | | | | | | | | | | | | | | |
| 22 | | 40140 | 1 | | | 40150 | 1 | 40150 | 15 | | | **PLC_RUN_22** | DPLC_RUN_22 | **PLC22** | **Run** | **Light** | **Off** | PLC22 Run Light Off | A | Alarm | Normal | 2 & |
| 22 | | 40140 | 2 | | | 40150 | 2 | 40150 | 14 | | | **PLC_MEM_22** | DPLC_MEM_22 | **PLC22** | **Memory** | **Protection** | **Off** | PLC22 Memory Protection Off | A | Alarm | Normal | 2 & |
| 22 | | 40140 | 3 | | | 40150 | 3 | 40150 | 13 | | | **PLC_BAT_22** | DPLC_BAT_22 | **PLC22** | **Battery** | **Failure** | | PLC22 Battery Failure | A | Alarm | Normal | 2 & |
| 22 | | 40140 | 4 | | | 40150 | 4 | 40150 | 12 | | | **PLC_STAT_22** | DPLC_STAT_22 | **PLC22** | **Status Word5** | **Critical** | **Failure** | PLC22 Status Word5 Critical Failure | A | Alarm | Normal | 2 & |
| 22 | | 40140 | 5 | | | 40150 | 5 | 40150 | 11 | | | **PLC_13F_22** | DPLC_13F_22 | **PLC22** | **Rack1** | **Slot3** | **Failed** | PLC22 Rack1 Slot3 Failed | A | Alarm | Normal | 2 & |
| 22 | | 40140 | 6 | | | 40150 | 6 | 40150 | 10 | | | **PLC_14F_22** | DPLC_14F_22 | **PLC22** | **Rack1** | **Slot4** | **Failed** | PLC22 Rack1 Slot4 Failed | A | Alarm | Normal | 2 & |
| 22 | | 40140 | 7 | | | 40150 | 7 | 40150 | 9 | | | **PLC_15F_22** | DPLC_15F_22 | **PLC22** | **Rack1** | **Slot5** | **Failed** | PLC22 Rack1 Slot5 Failed | A | Alarm | Normal | 2 & |
| 22 | | 40140 | 8 | | | 40150 | 8 | 40150 | 8 | | | **PLC_21F_22** | DPLC_21F_22 | **PLC22** | **Rack2** | **Slot1** | **Failed** | PLC22 Rack2 Slot1 Failed | A | Alarm | Normal | 2 & |
| 22 | | 40140 | 9 | | | 40150 | 9 | 40150 | 7 | | | **PLC_22F_22** | DPLC_22F_22 | **PLC22** | **Rack2** | **Slot2** | **Failed** | PLC22 Rack2 Slot2 Failed | A | Alarm | Normal | 2 & |
| 22 | | 40140 | 10 | | | 40150 | 10 | 40150 | 6 | | | **PLC_23F_22** | DPLC_23F_22 | **PLC22** | **Rack2** | **Slot3** | **Failed** | PLC22 Rack2 Slot3 Failed | A | Alarm | Normal | 2 & |
| 22 | | 40140 | 11 | | | 40150 | 11 | 40150 | 5 | | | **PLC_24F_22** | DPLC_24F_22 | **PLC22** | **Rack2** | **Slot4** | **Failed** | PLC22 Rack2 Slot4 Failed | A | Alarm | Normal | 2 & |
| 22 | | 40140 | 12 | | | 40150 | 12 | 40150 | 4 | | | **PLC_25F_22** | DPLC_25F_22 | **PLC22** | **Rack2** | **Slot5** | **Failed** | PLC22 Rack2 Slot5 Failed | A | Alarm | Normal | 2 & |
| 22 | | 40140 | 13 | | | 40150 | 13 | 40150 | 3 | | | **PLC_31F_22** | DPLC_31F_22 | **PLC22** | **Rack3** | **Slot1** | **Failed** | PLC22 Rack3 Slot1 Failed | A | Alarm | Normal | 2 & |
| 22 | | 40140 | 14 | | | 40150 | 14 | 40150 | 2 | | | **PLC_32F_22** | DPLC_32F_22 | **PLC22** | **Rack3** | **Slot2** | **Failed** | PLC22 Rack3 Slot2 Failed | A | Alarm | Normal | 2 & |
| 22 | | 40140 | 15 | | | 40150 | 15 | 40150 | 1 | | | **PLC_33F_22** | DPLC_33F_22 | **PLC22** | **Rack3** | **Slot3** | **Failed** | PLC22 Rack3 Slot3 Failed | A | Alarm | Normal | 2 & |
| 22 | | 40140 | 16 | | | 40150 | 16 | 40150 | 0 | | | **PLC_34F_22** | DPLC_34F_22 | **PLC22** | **Rack3** | **Slot4** | **Failed** | PLC22 Rack3 Slot4 Failed | A | Alarm | Normal | 2 & |
| 22 | | 40141 | 1 | | | 40151 | 1 | 40151 | 15 | | | **PLC_35F_22** | DPLC_35F_22 | **PLC22** | **Rack3** | **Slot5** | **Failed** | PLC22 Rack3 Slot5 Failed | A | Alarm | Normal | 2 & |
| 22 | | 40141 | 2 | | | 40151 | 2 | 40151 | 14 | | | **PLC_41F_22** | DPLC_41F_22 | **PLC22** | **Rack4** | **Slot1** | **Failed** | PLC22 Rack4 Slot1 Failed | A | Alarm | Normal | 2 & |
| 22 | | 40141 | 3 | | | 40151 | 3 | 40151 | 13 | | | **PLC_42F_22** | DPLC_42F_22 | **PLC22** | **Rack4** | **Slot2** | **Failed** | PLC22 Rack4 Slot2 Failed | A | Alarm | Normal | 2 & |
| 22 | | 40141 | 4 | | | 40151 | 4 | 40151 | 12 | | | **PLC_43F_22** | DPLC_43F_22 | **PLC22** | **Rack4** | **Slot3** | **Failed** | PLC22 Rack4 Slot3 Failed | A | Alarm | Normal | 2 & |
| 22 | | 40141 | 5 | | | 40151 | 5 | 40151 | 11 | | | **PLC_44F_22** | DPLC_44F_22 | **PLC22** | **Rack4** | **Slot4** | **Failed** | PLC22 Rack4 Slot4 Failed | A | Alarm | Normal | 2 & |
| 22 | | 40141 | 6 | | | 40151 | 6 | 40151 | 10 | | | **PLC_45F_22** | DPLC_45F_22 | **PLC22** | **Rack4** | **Slot5** | **Failed** | PLC22 Rack4 Slot5 Failed | A | Alarm | Normal | 2 & |
| 22 | | 40141 | 7 | | | 40151 | 7 | 40151 | 9 | | | **COMRTE1_22** | DCOMRTE1_22 | **Communications** | **Re-route** | **PLC22** | **to S-PLC1** | Communications Re-route PLC22 to S-PLC1 | A | Alarm | Normal | 2 & |
| 22 | | 40141 | 8 | | | 40151 | 8 | 40151 | 8 | | | **COMRTE33_22** | DCOMRTE33_22 | **Communications** | **Re-route** | **PLC22** | **to S-PLC33** | Communications Re-route PLC22 to S-PLC33 | A | Alarm | Normal | 2 & |
| 22 | | 40141 | 9 | | | 40151 | 9 | 40151 | 7 | | | **CMFAIL1_22** | DCMFAIL1_22 | **Communications** | **Failure** | **PLC22** | **to S-PLC1** | Communications Failure PLC22 to S-PLC1 | A | Alarm | Normal | 2 & |
| 22 | | 40141 | 10 | | | 40151 | 10 | 40151 | 6 | | | **CMFAIL33_22** | DCMFAIL33_22 | **Communications** | **Failure** | **PLC22** | **to S-PLC33** | Communications Failure PLC22 to S-PLC33 | A | Alarm | Normal | 2 & |
| 22 | | 40141 | 11 | | | 40151 | 11 | 40151 | 5 | | | **PLCOK22** | DPLCOK22 | **PLC22** | **Health** | **Bit** | **(toggles)** | PLC22 Health Bit (toggles) | | PPLC Reset | S-PLC Set | 2 & |
| 22 | | 40141 | 12 | | | 40151 | 12 | 40151 | 4 | | | | | **PLC22** | **Spare** | | | PLC22 Spare | | | | 2 & |
| 22 | | 40141 | 13 | | | 40151 | 13 | 40151 | 3 | | | | | **PLC22** | **Spare** | | | PLC22 Spare | | | | 2 & |
| 22 | | 40141 | 14 | | | 40151 | 14 | 40151 | 2 | | | | | **PLC22** | **Spare** | | | PLC22 Spare | | | | 2 & |
| 22 | | 40141 | 15 | | | 40151 | 15 | 40151 | 1 | | | | | **PLC22** | **Spare** | | | PLC22 Spare | | | | 2 & |
| 22 | | 40141 | 16 | | | 40151 | 16 | 40151 | 0 | | | | | **PLC22** | **Spare** | | | PLC22 Spare | | | | 2 & |
| 22 | | 40142 | 1 | | | 40152 | 1 | 40152 | 15 | | | SEQFAIL2 | DSEQFAIL2 | PP#2 | Startup/ | Shutdown | Sequenc Fail | PP#2 Startup/ Shutdown Sequenc Fail | A | Alarm | Normal | 2 & |
| 22 | | 40142 | 2 | | | 40152 | 2 | 40152 | 14 | | | | | PP#2 | Spare | | | PP#2 Spare | | Alarm | Normal | 2 & |
| 22 | | 40142 | 3 | | | 40152 | 3 | 40152 | 13 | | | DISPRESEQ2 | DDISPRESEQ2 | PP#2 | Discharge | Pressure | Switch Fail | PP#2 Discharge Pressure Switch Fail | A | Alarm | Normal | 2 & |
| 22 | | 40142 | 4 | | | 40152 | 4 | 40152 | 12 | | | DSOPNFAIL2 | DDSOPNFAIL2 | PP#2 | Discharge | Valve | Fail Open | PP#2 Discharge Valve Fail Open | A | Alarm | Normal | 2 & |
| 22 | | 40142 | 5 | | | 40152 | 5 | 40152 | 11 | | | DSCLSFAIL2 | DDSCLSFAIL2 | PP#2 | Discharge | Valve | Fail Close | PP#2 Discharge Valve Fail Close | A | Alarm | Normal | 2 & |
| 22 | | 40142 | 6 | | | 40152 | 6 | 40152 | 10 | | | DSINTFAIL2 | | | | | | Spare | | | | 2 & |
| 22 | | 40142 | 7 | | | 40152 | 7 | 40152 | 9 | | | RNSEQFAIL2 | DRNSEQFAIL2 | PP#2 | Motor | Contactor | Fail | PP#2 Motor Contactor Fail | A | Alarm | Normal | 2 & |
| 22 | | 40142 | 8 | | | 40152 | 8 | 40152 | 8 | | | SPEEDHI2 | DSPEEDHI2 | PP#2 | ProcVar | >High | Limit | PP#2 ProcVar >High Limit | A | Alarm | Normal | 2 & |
| 22 | | 40142 | 9 | | | 40152 | 9 | 40152 | 7 | | | SPEEDLO2 | DSPEEDLO2 | PP#2 | ProcVar | <Low | Limit | PP#2 ProcVar <Low Limit | A | Alarm | Normal | 2 & |
| 22 | | 40142 | 10 | | | 40152 | 10 | 40152 | 6 | | | DISPRSLO2 | DDISPRSLO2 | PP#2 | Discharge | Pressure | Lo | PP#2 Discharge Pressure Lo | A | Alarm | Normal | 2 & |
| 22 | | 40142 | 11 | | | 40152 | 11 | 40152 | 5 | | | DISPRSLOLO2 | DDISPRSLOLO2 | PP#2 | Discharge | Pressure | LoLo | PP#2 Discharge Pressure LoLo | A | Alarm | Normal | 2 & |
| 22 | | 40142 | 12 | | | 40152 | 12 | 40152 | 4 | | | | | PP#2 | Spare | | | PP#2 Spare | | | | 2 & |
| 22 | | 40142 | 13 | | | 40152 | 13 | 40152 | 3 | | | | | PP#2 | Spare | | | PP#2 Spare | | | | 2 & |
| 22 | | 40142 | 14 | | | 40152 | 14 | 40152 | 2 | | | | | PP#2 | Spare | | | PP#2 Spare | | | | 2 & |
| 22 | | 40142 | 15 | | | 40152 | 15 | 40152 | 1 | | | | | PP#2 | Spare | | | PP#2 Spare | | | | 2 & |
| 22 | | 40142 | 16 | | | 40152 | 16 | 40152 | 0 | | | | | PP#2 | Spare | | | PP#2 Spare | | | | 2 & |
| 22 | | 40143 | 1 | | | 40153 | 1 | 40153 | 15 | | | SEQSTART2 | DSEQSTART2 | PP#2 | Start | sequence | confirmed | PP#2 Start sequence confirmed | S | Stop | Start Seq | 2 & |
| 22 | | 40143 | 2 | | | 40153 | 2 | 40153 | 14 | | | FAILLKOUT2 | DFAILLKOUT2 | PP#2 | Pump | lockedout: | Local Reset | PP#2 Pump lockedout: Local Reset | S | Normal | Lockout | 2 & |
| 22 | | 40143 | 3 | | | 40153 | 3 | 40153 | 13 | | | RESTRTLKT2 | DRESTRTLKT2 | PP#2 | Pump | lockedout: | Restart Time | PP#2 Pump lockedout: Restart Time | S | Normal | Lockout | 2 & |
| 22 | | 40143 | 4 | | | 40153 | 4 | 40153 | 12 | | | LOCALLKT2 | DLOCALLKT2 | PP#2 | Pump | Lockedout: | O-C-L Switch | PP#2 Pump Lockedout: O-C-L Switch | S | Normal | Lockout | 2 & |
| 22 | | 40143 | 5 | | | 40153 | 5 | 40153 | 11 | | | STOPLKT2 | DSTOPLKT2 | PP#2 | Pump | locked out: | Stop Time | PP#2 Pump locked out: Stop Time | S | Normal | Lockout | 2 & |
| 22 | | 40143 | 6 | | | 40153 | 6 | 40153 | 10 | | | | DPPCOMPUTER2 | | | | | PP#2 Pump Handswitch Computer | S | Normal | Computer | 2 & |
| 22 | | 40143 | 7 | | | 40153 | 7 | 40153 | 9 | | | | DPPOFF2 | | | | | PP#2 Pump Handswitch Off | S | Normal | Off | 2 & |
| 22 | | 40143 | 8 | | | 40153 | 8 | 40153 | 8 | | | | DPPLOCAL2 | | | | | PP#2 Pump Handswitch Local | S | Normal | Local | 2 & |
| 22 | | 40143 | 9 | | | 40153 | 9 | 40153 | 7 | | | | DPPHAND2 | | | | | PP#2 Pump Handswitch Hand | S | Normal | Hand | 2 & |
| 22 | | 40143 | 10 | | | 40153 | 10 | 40153 | 6 | | | | DPPMAIN2 | | | | | PP#2 Pump Handswitch Maintenance | S | Normal | Maintenance | 2 & |
| 22 | | 40143 | 11 | | | 40153 | 11 | 40153 | 5 | | | | DPPRUNSEQ2 | | | | | PP#2 Pump Handswitch Run Sequence (Not Maint) | S | Normal | Run Seq | 2 & |
| 22 | | 40143 | 12 | | | 40153 | 12 | 40153 | 4 | | | | | | | | | | | | | 2 & |
| 22 | | 40143 | 13 | | | 40153 | 13 | 40153 | 3 | | | | | | | | | | | | | 2 & |
| 22 | | 40143 | 14 | | | 40153 | 14 | 40153 | 2 | | | | | | | | | | | | | 2 & |
| 22 | | 40143 | 15 | | | 40153 | 15 | 40153 | 1 | | | | | | | | | | | | | 2 & |
| 22 | | 40143 | 16 | | | 40153 | 16 | 40153 | 0 | | | | | | | | | | | | | 2 & |
| Pump #2 Outputs | | | | | | | | | | | | | | | | | | | | | | |
| 22 | 00001 | 40145 | 1 | | | 40155 | 1 | 40155 | 15 | | | DBE_042_LOS | DBE_042_LOS | PP#2 | Starter | Lockout | | PP#2 Starter Lockout | A | Normal | Alarm | 2 & |
| 22 | 00002 | 40145 | 2 | | | 40155 | 2 | 40155 | 14 | | | DBE_042_MH11 | DBE_042_MH11 | PP#2 | Fast | Run | | PP#2 Fast Run | | Not Fast | Fast | 2 & |
| 22 | 00003 | 40145 | 3 | | | 40155 | 3 | 40155 | 13 | | | DBE_042_QF_1 | DBE_042_QF_1 | PP#2 | PLC | Fail | | PP#2 PLC Fail | A | Alarm | Normal | 2 & |
| 22 | 00004 | 40145 | 4 | | | 40155 | 4 | 40155 | 12 | | | DBE_042_ML11 | DBE_042_ML11 | PP#2 | Slow | Run | | PP#2 Slow Run | | Not Slow | Slow | 2 & |

| Source Device | Source Address | P-PLC | Bit | UVM PLC | Bit | S-PLC | Bit | SCADA Poll | Bit | S-PLC Internal | Bit | Device/Point Tag Name | Device/Point Tag Name | Desc 1 | Desc 2 | Desc 3 | Desc 4 | Point Description | Alarm (A) Status (S) | "0" State / Units | "1" State / Range | Mdl Adc |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 22 | 00005 | 40145 | 5 | | | 40155 | 5 | 40155 | 11 | | | DBD_042_VF | DBD_042_VF | PP#2 | DV-2 | Fail | | PP#2 DV-2 Fail | A | Normal | Alarm | 2 & |
| 22 | 00006 | 40145 | 6 | | | 40155 | 6 | 40155 | 10 | | | DBD_042_ZB11 | DBD_042_ZB11 | PP#2 | Discharge | Valve DV-2 | Close | PP#2 Discharge Valve DV-2 Close | | Not Close | Close | 2 & |
| 22 | 00007 | 40145 | 7 | | | 40155 | 7 | 40155 | 9 | | | DBD_042_ZD11 | DBD_042_ZD11 | PP#2 | Discharge | Valve DV-2 | Open | PP#2 Discharge Valve DV-2 Open | | Not Open | Open | 2 & |
| 22 | 00008 | 40145 | 8 | | | 40155 | 8 | 40155 | 8 | | | DBE_042_QJ | DBE_042_QJ | PP#2 | Ready | To | Start | PP#2 Ready To Start | S | Not Ready | Ready | 2 & |
| 22 | 00009 | 40145 | 9 | | | 40155 | 9 | 40155 | 7 | | | | | Spare | | | | Spare | | | | 2 & |
| 22 | 00010 | 40145 | 10 | | | 40155 | 10 | 40155 | 6 | | | | | Spare | | | | Spare | | | | 2 & |
| 22 | 00011 | 40145 | 11 | | | 40155 | 11 | 40155 | 5 | | | | | Spare | | | | Spare | | | | 2 & |
| 22 | 00012 | 40145 | 12 | | | 40155 | 12 | 40155 | 4 | | | | DBE_042_FA | Spare | | | | PP#2 UV High Flow Shutdown | A | Normal | Alarm | 2 & |
| 22 | 00013 | 40145 | 13 | | | 40155 | 13 | 40155 | 3 | | | | DBD_042_VD1 | Spare | | | | Discharge Valve Normal Open/Close | | Open | Close | 2 & |
| 22 | 00014 | 40145 | 14 | | | 40155 | 14 | 40155 | 2 | | | | DBD_042_VD2 | Spare | | | | Discharge Valve Emergency Close | | Not Close | Fast Close | 2 & |
| 22 | 00015 | 40145 | 15 | | | 40155 | 15 | 40155 | 1 | | | | | Spare | | | | Spare | | | | 2 & |
| 22 | 00016 | 40145 | 16 | | | 40155 | 16 | 40155 | 0 | | | | | Spare | | | | Spare | | | | 2 & |
| 22 | 00017 | 40146 | 1 | | | 40156 | 1 | 40156 | 15 | | | | | Spare | | | | Spare | | | | 2 & |
| 22 | 00018 | 40146 | 2 | | | 40156 | 2 | 40156 | 14 | | | | | Spare | | | | Spare | | | | 2 & |
| 22 | 00019 | 40146 | 3 | | | 40156 | 3 | 40156 | 13 | | | | | Spare | | | | Spare | | | | 2 & |
| 22 | 00020 | 40146 | 4 | | | 40156 | 4 | 40156 | 12 | | | | | Spare | | | | Spare | | | | 2 & |
| 22 | 00021 | 40146 | 5 | | | 40156 | 5 | 40156 | 11 | | | DBE_042_KM | DBE_042_KM | PP#2 | Motor | Run Time | Counter | PP#2 Motor Run Time Counter | | Off | Run | 2 & |
| 22 | 00022 | 40146 | 6 | | | 40156 | 6 | 40156 | 10 | | | DBE_042_MNH | DBE_042_MNH | PP#2 | Start | High | | PP#2 Start High | | Not High | High | 2 & |
| 22 | 00023 | 40146 | 7 | | | 40156 | 7 | 40156 | 9 | | | DBE_042_MNL | DBE_042_MNL | PP#2 | Start | Low | | PP#2 Start Low | | Not Low | Low | 2 & |
| 22 | 00024 | 40146 | 8 | | | 40156 | 8 | 40156 | 8 | | | DBE_042_MO | DBE_042_MO | PP#2 | Stop | | | PP#2 Stop | | Not Stop | Stop | 2 & |
| Pump #3 Inputs | | | | | | | | | | | | | | | | | | | | | | |
| 23 | 10001 | 40131 | 1 | | | 40161 | 1 | 40161 | 15 | | | DCE_043_HSO1 | DCE_043_HSO1 | PP#3 | Off | | | PP#3 Off | S | Not Off | Off | 2 & |
| 23 | 10002 | 40131 | 2 | | | 40161 | 2 | 40161 | 14 | | | DCE_043_HSU1 | DCE_043_HSU1 | PP#3 | Computer | | | PP#3 Computer | S | Not Computer | Computer | 2 & |
| 23 | 10003 | 40131 | 3 | | | 40161 | 3 | 40161 | 13 | | | DCE_043_HSU4 | DCE_043_HSU4 | PP#3 | Local | | | PP#3 Local | S | Not Local | Local | 2 & |
| 23 | 10004 | 40131 | 4 | | | 40161 | 4 | 40161 | 12 | | | DCE_043_HSU2 | DCE_043_HSU2 | PP#3 | Hand | | | PP#3 Hand | S | Not Hand | Hand | 2 & |
| 23 | 10005 | 40131 | 5 | | | 40161 | 5 | 40161 | 11 | | | DCE_043_HSU3 | DCE_043_HSU3 | PP#3 | Maintenance | | | PP#3 Maintenance | S | Not Maintenance | Maintenance | 2 & |
| 23 | 10006 | 40131 | 6 | | | 40161 | 6 | 40161 | 10 | | | DCE_043_HSN | DCE_043_HSN | PP#3 | Start | | | PP#3 Start | | Not Start | Start | 2 & |
| 23 | 10007 | 40131 | 7 | | | 40161 | 7 | 40161 | 9 | | | DCE_043_HSO2 | DCE_043_HSO2 | PP#3 | Stop | | | PP#3 Stop | | Not Stop | Stop | 2 & |
| 23 | 10008 | 40131 | 8 | | | 40161 | 8 | 40161 | 8 | | | DCE_043_HS_2 | DCE_043_HS_2 | PP#3 | Alarm | Reset | | PP#3 Alarm Reset | | Not Reset | Reset | 2 & |
| 23 | 10009 | 40131 | 9 | | | 40161 | 9 | 40161 | 7 | | | DCE_043_QF_2 | DCE_043_QF_2 | PP#3 | Temperature | /Vibration | Monitor Fail | PP#3 Temperature /Vibration Monitor Fail | A | Alarm | Normal | 2 & |
| 23 | 10010 | 40131 | 10 | | | 40161 | 10 | 40161 | 6 | | | DCE_043_UAH | DCE_043_UAH | PP#3 | Temperature | /Vibration | Alarm | PP#3 Temperature /Vibration Alarm | A | Alarm | Normal | 2 & |
| 23 | 10011 | 40131 | 11 | | | 40161 | 11 | 40161 | 5 | | | DCE_043_UAHH | DCE_043_UAHH | PP#3 | Temperature | /Vibration | Trip | PP#3 Temperature /Vibration Trip | A | Alarm | Normal | 2 & |
| 23 | 10012 | 40131 | 12 | | | 40161 | 12 | 40161 | 4 | | | DCE_043_HSNH | DCE_043_HSNH | PP#3 | Start | High | | PP#3 Start High | S | Not High | High | 2 & |
| 23 | 10013 | 40131 | 13 | | | 40161 | 13 | 40161 | 3 | | | DCE_043_HSNL | DCE_043_HSNL | PP#3 | Start | Low | | PP#3 Start Low | S | Not Low | Low | 2 & |
| 23 | 10014 | 40131 | 14 | | | 40161 | 14 | 40161 | 2 | | | | | Spare | | | | Spare | | | | 2 & |
| 23 | 10015 | 40131 | 15 | | | 40161 | 15 | 40161 | 1 | | | DCE_043_ML10 | DCE_043_ML10 | PP#3 | Slow | Run | Status | PP#3 Slow Run Status | S | Not Slow | Slow | 2 & |
| 23 | 10016 | 40131 | 16 | | | 40161 | 16 | 40161 | 0 | | | DCE_043_MH10 | DCE_043_MH10 | PP#3 | Fast | Run | Status | PP#3 Fast Run Status | S | Not Fast | Fast | 2 & |
| 23 | 10017 | 40132 | 1 | | | 40162 | 1 | 40162 | 15 | | | DCE_043_HS_3 | DCE_043_HS_3 | PP#3 | Lamptest | | | PP#3 Lamptest | | Not Test | Test | 2 & |
| 23 | 10018 | 40132 | 2 | | | 40162 | 2 | 40162 | 14 | | | DCD_043_ZB1O | DCD_043_ZB1O | PP#3 | Discharge | Valve DV-3 | Close Status | PP#3 Discharge Valve DV-3 Close Status | S | Not Closed | Closed | 2 & |
| 23 | 10019 | 40132 | 3 | | | 40162 | 3 | 40162 | 13 | | | DCD_043_ZD1O | DCD_043_ZD1 | PP#3 | Discharge | Valve DV-3 | Open Status | PP#3 DV Isolation Valve DV-3 Open Status | S | Not Open | Open | 2 & |
| 23 | 10020 | 40132 | 4 | | | 40162 | 4 | 40162 | 12 | | | DCD_043_ZS | DCD_043_ZB1 | PP#3 | Discharge | Valve DV-3 | Intermediate | PP#3 DV Isolation Valve DV-3 Closed Status | S | Not Closed | Closed | 2 & |
| 23 | 10021 | 40132 | 5 | | | 40162 | 5 | 40162 | 11 | | | DCS_043_ZB | DCS_043_ZB | PP#3 | Valve | SV-3 | Close Status | PP#3 Valve SV-3 Close Status | S | Not Closed | Closed | 2 & |
| 23 | 10022 | 40132 | 6 | | | 40162 | 6 | 40162 | 10 | | | DCS_043_ZD | DCS_043_ZD | PP#3 | Valve | SV-3 | Open Status | PP#3 Valve SV-3 Open Status | S | Not Open | Open | 2 & |
| 23 | 10023 | 40132 | 7 | | | 40162 | 7 | 40162 | 9 | | | DCD_043_HSB | DCD_043_HSB | PP#3 | Discharge | Valve DV-3 | Close | PP#3 Discharge Valve DV-3 Close | | Not Close | Close | 2 & |
| 23 | 10024 | 40132 | 8 | | | 40162 | 8 | 40162 | 8 | | | DCD_043_HSD | DCD_043_HSD | PP#3 | Discharge | Valve DV-3 | Open | PP#3 Discharge Valve DV-3 Open | | Not Open | Open | 2 & |
| 22 | 10025 | 40132 | 9 | | | 40162 | 9 | 40162 | 7 | | | | | Spare | | | | Spare | | | | 2 & |
| 22 | 10026 | 40132 | 10 | | | 40162 | 10 | 40162 | 6 | | | | | Spare | | | | Spare | | | | 2 & |
| 22 | 10027 | 40132 | 11 | | | 40142 | 11 | 40162 | 5 | | | | DCD_043_ZD10 | Spare | | | | PP#3 Discharge Valve DV-3 Open Status | S | Not Open | Open | 2 & |
| 22 | 10028 | 40132 | 12 | | | 40142 | 12 | 40162 | 4 | | | | DCD_043_FA | Spare | | | | PP#3 UV High Flow Shutdown | A | Alarm | Normal | 2 & |
| 22 | 10029 | 40132 | 13 | | | 40142 | 13 | 40162 | 3 | | | | DCD_043_SA | Spare | | | | PP#3 Reverse Spin | A | Alarm | Normal | 2 & |
| 22 | 10030 | 40132 | 14 | | | 40142 | 14 | 40162 | 2 | | | | | Spare | | | | Spare | | | | 2 & |
| 22 | 10031 | 40132 | 15 | | | 40142 | 15 | 40162 | 1 | | | | | Spare | | | | Spare | | | | 2 & |
| 22 | 10032 | 40132 | 16 | | | 40142 | 16 | 40162 | 0 | | | | | Spare | | | | Spare | | | | 2 & |
| Pump #3 Soft Alarms & Statuses | | | | | | | | | | | | | | | | | | | | | | |
| 23 | | 40140 | 1 | | | 40170 | 1 | 40170 | 15 | | | **PLC_RUN_23** | DPLC_RUN_23 | **PLC23** | **Run** | **Light** | **Off** | PLC23 Run Light Off | A | Alarm | Normal | 2 & |
| 23 | | 40140 | 2 | | | 40170 | 2 | 40170 | 14 | | | **PLC_MEM_23** | DPLC_MEM_23 | **PLC23** | **Memory** | **Protection** | **Off** | PLC23 Memory Protection Off | A | Alarm | Normal | 2 & |
| 23 | | 40140 | 3 | | | 40170 | 3 | 40170 | 13 | | | **PLC_BAT_23** | DPLC_BAT_23 | **PLC23** | **Battery** | **Failure** | | PLC23 Battery Failure | A | Alarm | Normal | 2 & |
| 23 | | 40140 | 4 | | | 40170 | 4 | 40170 | 12 | | | **PLC_STAT_23** | DPLC_STAT_23 | **PLC23** | **Status Word5** | **Critical** | **Failure** | PLC23 Status Word5 Critical Failure | A | Alarm | Normal | 2 & |
| 23 | | 40140 | 5 | | | 40170 | 5 | 40170 | 11 | | | **PLC_13F_23** | DPLC_13F_23 | **PLC23** | **Rack1** | **Slot3** | **Failed** | PLC23 Rack1 Slot3 Failed | A | Alarm | Normal | 2 & |
| 23 | | 40140 | 6 | | | 40170 | 6 | 40170 | 10 | | | **PLC_14F_23** | DPLC_14F_23 | **PLC23** | **Rack1** | **Slot4** | **Failed** | PLC23 Rack1 Slot4 Failed | A | Alarm | Normal | 2 & |
| 23 | | 40140 | 7 | | | 40170 | 7 | 40170 | 9 | | | **PLC_15F_23** | DPLC_15F_23 | **PLC23** | **Rack1** | **Slot5** | **Failed** | PLC23 Rack1 Slot5 Failed | A | Alarm | Normal | 2 & |
| 23 | | 40140 | 8 | | | 40170 | 8 | 40170 | 8 | | | **PLC_21F_23** | DPLC_21F_23 | **PLC23** | **Rack2** | **Slot1** | **Failed** | PLC23 Rack2 Slot1 Failed | A | Alarm | Normal | 2 & |
| 23 | | 40140 | 9 | | | 40170 | 9 | 40170 | 7 | | | **PLC_22F_23** | DPLC_22F_23 | **PLC23** | **Rack2** | **Slot2** | **Failed** | PLC23 Rack2 Slot2 Failed | A | Alarm | Normal | 2 & |
| 23 | | 40140 | 10 | | | 40170 | 10 | 40170 | 6 | | | **PLC_23F_23** | DPLC_23F_23 | **PLC23** | **Rack2** | **Slot3** | **Failed** | PLC23 Rack2 Slot3 Failed | A | Alarm | Normal | 2 & |
| 23 | | 40140 | 11 | | | 40170 | 11 | 40170 | 5 | | | **PLC_24F_23** | DPLC_24F_23 | **PLC23** | **Rack2** | **Slot4** | **Failed** | PLC23 Rack2 Slot4 Failed | A | Alarm | Normal | 2 & |
| 23 | | 40140 | 12 | | | 40170 | 12 | 40170 | 4 | | | **PLC_25F_23** | DPLC_25F_23 | **PLC23** | **Rack2** | **Slot5** | **Failed** | PLC23 Rack2 Slot5 Failed | A | Alarm | Normal | 2 & |
| 23 | | 40140 | 13 | | | 40170 | 13 | 40170 | 3 | | | **PLC_31F_23** | DPLC_31F_23 | **PLC23** | **Rack3** | **Slot1** | **Failed** | PLC23 Rack3 Slot1 Failed | A | Alarm | Normal | 2 & |
| 23 | | 40140 | 14 | | | 40170 | 14 | 40170 | 2 | | | **PLC_32F_23** | DPLC_32F_23 | **PLC23** | **Rack3** | **Slot2** | **Failed** | PLC23 Rack3 Slot2 Failed | A | Alarm | Normal | 2 & |
| 23 | | 40140 | 15 | | | 40170 | 15 | 40170 | 1 | | | **PLC_33F_23** | DPLC_33F_23 | **PLC23** | **Rack3** | **Slot3** | **Failed** | PLC23 Rack3 Slot3 Failed | A | Alarm | Normal | 2 & |
| 23 | | 40140 | 16 | | | 40170 | 16 | 40170 | 0 | | | **PLC_34F_23** | DPLC_34F_23 | **PLC23** | **Rack3** | **Slot4** | **Failed** | PLC23 Rack3 Slot4 Failed | A | Alarm | Normal | 2 & |
| 23 | | 40141 | 1 | | | 40171 | 1 | 40171 | 15 | | | **PLC_35F_23** | DPLC_35F_23 | **PLC23** | **Rack3** | **Slot5** | **Failed** | PLC23 Rack3 Slot5 Failed | A | Alarm | Normal | 2 & |
| 23 | | 40141 | 2 | | | 40171 | 2 | 40171 | 14 | | | **PLC_41F_23** | DPLC_41F_23 | **PLC23** | **Rack4** | **Slot1** | **Failed** | PLC23 Rack4 Slot1 Failed | A | Alarm | Normal | 2 & |
| 23 | | 40141 | 3 | | | 40171 | 3 | 40171 | 13 | | | **PLC_42F_23** | DPLC_42F_23 | **PLC23** | **Rack4** | **Slot2** | **Failed** | PLC23 Rack4 Slot2 Failed | A | Alarm | Normal | 2 & |
| 23 | | 40141 | 4 | | | 40171 | 4 | 40171 | 12 | | | **PLC_43F_23** | DPLC_43F_23 | **PLC23** | **Rack4** | **Slot3** | **Failed** | PLC23 Rack4 Slot3 Failed | A | Alarm | Normal | 2 & |
| 23 | | 40141 | 5 | | | 40171 | 5 | 40171 | 11 | | | **PLC_44F_23** | DPLC_44F_23 | **PLC23** | **Rack4** | **Slot4** | **Failed** | PLC23 Rack4 Slot4 Failed | A | Alarm | Normal | 2 & |
| 23 | | 40141 | 6 | | | 40171 | 6 | 40171 | 10 | | | **PLC_45F_23** | DPLC_45F_23 | **PLC23** | **Rack4** | **Slot5** | **Failed** | PLC23 Rack4 Slot5 Failed | A | Alarm | Normal | 2 & |
| 23 | | 40141 | 7 | | | 40171 | 7 | 40171 | 9 | | | **COMRTE1_23** | DCOMRTE1_23 | **Communications** | **Re-route** | **PLC23** | **to S-PLC1** | Communications Re-route PLC23 to S-PLC1 | A | Alarm | Normal | 2 & |
| 23 | | 40141 | 8 | | | 40171 | 8 | 40171 | 8 | | | **COMRTE33_23** | DCOMRTE33_23 | **Communications** | **Re-route** | **PLC23** | **to S-PLC33** | Communications Re-route PLC23 to S-PLC33 | A | Alarm | Normal | 2 & |
| 23 | | 40141 | 9 | | | 40171 | 9 | 40171 | 7 | | | **CMFAIL1_23** | DCMFAIL1_23 | **Communications** | **Failure** | **PLC23** | **to S-PLC1** | Communications Failure PLC23 to S-PLC1 | A | Alarm | Normal | 2 & |
| 23 | | 40141 | 10 | | | 40171 | 10 | 40171 | 6 | | | **CMFAIL33_23** | DCMFAIL33_23 | **Communications** | **Failure** | **PLC23** | **to S-PLC33** | Communications Failure PLC23 to S-PLC33 | A | Alarm | Normal | 2 & |
| 23 | | 40141 | 11 | | | 40171 | 11 | 40171 | 5 | | | **PLCOK23** | DPLCOK23 | **PLC23** | **Health** | **Bit** | **(toggles)** | PLC23 Health Bit (toggles) | | PPLC Reset | S-PLC Set | 2 & |
| 23 | | 40141 | 12 | | | 40171 | 12 | 40171 | 4 | | | | | **PLC23** | **Spare** | | | PLC23 Spare | | | | 2 & |
| 23 | | 40141 | 13 | | | 40171 | 13 | 40171 | 3 | | | | | **PLC23** | **Spare** | | | PLC23 Spare | | | | 2 & |
| 23 | | 40141 | 14 | | | 40171 | 14 | 40171 | 2 | | | | | **PLC23** | **Spare** | | | PLC23 Spare | | | | 2 & |
| 23 | | 40141 | 15 | | | 40171 | 15 | 40171 | 1 | | | | | **PLC23** | **Spare** | | | PLC23 Spare | | | | 2 & |
| 23 | | 40141 | 16 | | | 40171 | 16 | 40171 | 0 | | | | | **PLC23** | **Spare** | | | PLC23 Spare | | | | 2 & |

| Source Device | Source Address | P-PLC | Bit | UVM PLC | Bit | S-PLC | Bit | SCADA Poll | Bit | S-PLC Internal | Bit | Device/Point Tag Name | Device/Point Tag Name | Desc 1 | Desc 2 | Desc 3 | Desc 4 | Point Description | Alarm (A) Status (S) | "0" State / Units | "1" State / Range | Mdl Adc |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 23 | | 40142 | 1 | | | 40172 | 1 | 40172 | 15 | | | SEQFAIL3 | DSEQFAIL3 | PP#3 | Startup/ | Shutdown | Sequenc Fail | PP#3 Startup/ Shutdown Sequenc Fail | A | Alarm | Normal | 2 & |
| 23 | | 40142 | 2 | | | 40172 | 2 | 40172 | 14 | | | | | PP#3 | Spare | | | PP#3 Spare | | Alarm | Normal | 2 & |
| 23 | | 40142 | 3 | | | 40172 | 3 | 40172 | 13 | | | DISPRESEQ3 | DDISPRESEQ3 | PP#3 | Discharge | Pressure | Switch Fail | PP#3 Discharge Pressure Switch Fail | A | Alarm | Normal | 2 & |
| 23 | | 40142 | 4 | | | 40172 | 4 | 40172 | 12 | | | DSOPNFAIL3 | DDSOPNFAIL3 | PP#3 | Discharge | Valve | Fail Open | PP#3 Discharge Valve Fail Open | A | Alarm | Normal | 2 & |
| 23 | | 40142 | 5 | | | 40172 | 5 | 40172 | 11 | | | DSCLSFAIL3 | DDSCLSFAIL3 | PP#3 | Discharge | Valve | Fail Close | PP#3 Discharge Valve Fail Close | A | Alarm | Normal | 2 & |
| 23 | | 40142 | 6 | | | 40172 | 6 | 40172 | 10 | | | DSINTFAIL3 | | | | | | Spare | | | | 2 & |
| 23 | | 40142 | 7 | | | 40172 | 7 | 40172 | 9 | | | RNSEQFAIL3 | DRNSEQFAIL3 | PP#3 | Motor | Contactor | Fail | PP#3 Motor Contactor Fail | A | Alarm | Normal | 2 & |
| 23 | | 40142 | 8 | | | 40172 | 8 | 40172 | 8 | | | SPEEDHI3 | DSPEEDHI3 | PP#3 | ProcVar | >High | Limit | PP#3 ProcVar >High Limit | A | Alarm | Normal | 2 & |
| 23 | | 40142 | 9 | | | 40172 | 9 | 40172 | 7 | | | SPEEDLO3 | DSPEEDLO3 | PP#3 | ProcVar | <Low | Limit | PP#3 ProcVar <Low Limit | A | Alarm | Normal | 2 & |
| 23 | | 40142 | 10 | | | 40172 | 10 | 40172 | 6 | | | DISPRSLO3 | DDISPRSLO3 | PP#3 | Discharge | Pressure | Lo | PP#3 Discharge Pressure Lo | A | Alarm | Normal | 2 & |
| 23 | | 40142 | 11 | | | 40172 | 11 | 40172 | 5 | | | DISPRSLOLO3 | DDISPRSLOLO3 | PP#3 | Discharge | Pressure | LoLo | PP#3 Discharge Pressure LoLo | A | Alarm | Normal | 2 & |
| 23 | | 40142 | 12 | | | 40172 | 12 | 40172 | 4 | | | | | PP#3 | Spare | | | PP#3 Spare | | | | 2 & |
| 23 | | 40142 | 13 | | | 40172 | 13 | 40172 | 3 | | | | | PP#3 | Spare | | | PP#3 Spare | | | | 2 & |
| 23 | | 40142 | 14 | | | 40172 | 14 | 40172 | 2 | | | | | PP#3 | Spare | | | PP#3 Spare | | | | 2 & |
| 23 | | 40142 | 15 | | | 40172 | 15 | 40172 | 1 | | | | | PP#3 | Spare | | | PP#3 Spare | | | | 2 & |
| 23 | | 40142 | 16 | | | 40172 | 16 | 40172 | 0 | | | | | PP#3 | Spare | | | PP#3 Spare | | | | 2 & |
| 23 | | 40143 | 1 | | | 40173 | 1 | 40173 | 15 | | | SEQSTART3 | DSEQSTART3 | PP#3 | Start | sequence | confirmed | PP#3 Start sequence confirmed | S | Stop | Start Seq | 2 & |
| 23 | | 40143 | 2 | | | 40173 | 2 | 40173 | 14 | | | FAILLKOUT3 | DFAILLKOUT3 | PP#3 | Pump | lockedout: | Local Reset | PP#3 Pump lockedout: Local Reset | S | Normal | Lockout | 2 & |
| 23 | | 40143 | 3 | | | 40173 | 3 | 40173 | 13 | | | RESTRTLKT3 | DRESTRTLKT3 | PP#3 | Pump | lockedout: | Restart Time | PP#3 Pump lockedout: Restart Time | S | Normal | Lockout | 2 & |
| 23 | | 40143 | 4 | | | 40173 | 4 | 40173 | 12 | | | LOCALLKT3 | DLOCALLKT3 | PP#3 | Pump | Lockedout: | O-C-L Switch | PP#3 Pump Lockedout: O-C-L Switch | S | Normal | Lockout | 2 & |
| 23 | | 40143 | 5 | | | 40173 | 5 | 40173 | 11 | | | STOPLKT3 | DSTOPLKT3 | PP#3 | Pump | locked out: | Stop Time | PP#3 Pump locked out: Stop Time | S | Normal | Lockout | 2 & |
| 23 | | 40143 | 6 | | | 40173 | 6 | 40173 | 10 | | | | DPPCOMPUTER3 | | | | | PP#3 Pump Handswitch Computer | S | Normal | Computer | 2 & |
| 23 | | 40143 | 7 | | | 40173 | 7 | 40173 | 9 | | | | DPPOFF3 | | | | | PP#3 Pump Handswitch Off | S | Normal | Off | 2 & |
| 23 | | 40143 | 8 | | | 40173 | 8 | 40173 | 8 | | | | DPPLOCAL3 | | | | | PP#3 Pump Handswitch Local | S | Normal | Local | 2 & |
| 23 | | 40143 | 9 | | | 40173 | 9 | 40173 | 7 | | | | DPPHAND3 | | | | | PP#3 Pump Handswitch Hand | S | Normal | Hand | 2 & |
| 23 | | 40143 | 10 | | | 40173 | 10 | 40173 | 6 | | | | DPPMAIN3 | | | | | PP#3 Pump Handswitch Maintenance | S | Normal | Maintenance | 2 & |
| 23 | | 40143 | 11 | | | 40173 | 11 | 40173 | 5 | | | | DPPRUNSEQ3 | | | | | PP#3 Pump Handswitch Run Sequence (Not Maint) | S | Normal | Run Seq | 2 & |
| 23 | | 40143 | 12 | | | 40173 | 12 | 40173 | 4 | | | | | | | | | | | | | 2 & |
| 23 | | 40143 | 13 | | | 40173 | 13 | 40173 | 3 | | | | | | | | | | | | | 2 & |
| 23 | | 40143 | 14 | | | 40173 | 14 | 40173 | 2 | | | | | | | | | | | | | 2 & |
| 23 | | 40143 | 15 | | | 40173 | 15 | 40173 | 1 | | | | | | | | | | | | | 2 & |
| 23 | | 40143 | 16 | | | 40173 | 16 | 40173 | 0 | | | | | | | | | | | | | 2 & |
| Pump #3 Outputs | | | | | | | | | | | | | | | | | | | | | | |
| 23 | 00001 | 40145 | 1 | | | 40175 | 1 | 40175 | 15 | | | DCE_043_LOS | DCE_043_LOS | PP#3 | Starter | Lockout | | PP#3 Starter Lockout | A | Normal | Alarm | 2 & |
| 23 | 00002 | 40145 | 2 | | | 40175 | 2 | 40175 | 14 | | | DCE_043_MH11 | DCE_043_MH11 | PP#3 | Fast | Run | | PP#3 Fast Run | | Not Fast | Fast | 2 & |
| 23 | 00003 | 40145 | 3 | | | 40175 | 3 | 40175 | 13 | | | DCE_043_QF_1 | DCE_043_QF_1 | PP#3 | PLC | Fail | | PP#3 PLC Fail | A | Alarm | Normal | 2 & |
| 23 | 00004 | 40145 | 4 | | | 40175 | 4 | 40175 | 12 | | | DCE_043_ML11 | DCE_043_ML11 | PP#3 | Slow | Run | | PP#3 Slow Run | | Not Slow | Slow | 2 & |
| 23 | 00005 | 40145 | 5 | | | 40175 | 5 | 40175 | 11 | | | DCD_043_VF | DCD_043_VF | PP#3 | DV-3 | Fail | | PP#3 DV-3 Fail | A | Normal | Alarm | 2 & |
| 23 | 00006 | 40145 | 6 | | | 40175 | 6 | 40175 | 10 | | | DCD_043_ZB11 | DCD_043_ZB11 | PP#3 | Discharge | Valve DV-3 | Close | PP#3 Discharge Valve DV-3 Close | | Not Close | Close | 2 & |
| 23 | 00007 | 40145 | 7 | | | 40175 | 7 | 40175 | 9 | | | DCD_043_ZD11 | DCD_043_ZD11 | PP#3 | Discharge | Valve DV-3 | Open | PP#3 Discharge Valve DV-3 Open | | Not Open | Open | 2 & |
| 23 | 00008 | 40145 | 8 | | | 40175 | 8 | 40175 | 8 | | | DCE_043_QJ | DCE_043_QJ | PP#3 | Ready | To | Start | PP#3 Ready To Start | S | Not Ready | Ready | 2 & |
| 23 | 00009 | 40145 | 9 | | | 40175 | 9 | 40175 | 7 | | | | | Spare | | | | Spare | | | | 2 & |
| 23 | 00010 | 40145 | 10 | | | 40175 | 10 | 40175 | 6 | | | | | Spare | | | | Spare | | | | 2 & |
| 23 | 00011 | 40145 | 11 | | | 40175 | 11 | 40175 | 5 | | | | | Spare | | | | Spare | | | | 2 & |
| 23 | 00012 | 40145 | 12 | | | 40175 | 12 | 40175 | 4 | | | | DCE_043_FA | Spare | | | | UV High Flow Shutdown | A | Alarm | Normal | 2 & |
| 23 | 00013 | 40145 | 13 | | | 40175 | 13 | 40175 | 3 | | | | DCD_043_VD1 | Spare | | | | Discharge Valve Normal Open/Close | | Open | Close | 2 & |
| 23 | 00014 | 40145 | 14 | | | 40175 | 14 | 40175 | 2 | | | | DCD_043_VD2 | Spare | | | | Discharge Valve Emergency Close | | Not Close | Fast Close | 2 & |
| 23 | 00015 | 40145 | 15 | | | 40175 | 15 | 40175 | 1 | | | | | Spare | | | | Spare | | | | 2 & |
| 23 | 00016 | 40145 | 16 | | | 40175 | 16 | 40175 | 0 | | | | | Spare | | | | Spare | | | | 2 & |
| 23 | 00017 | 40146 | 1 | | | 40176 | 1 | 40176 | 15 | | | | | Spare | | | | Spare | | | | 2 & |
| 23 | 00018 | 40146 | 2 | | | 40176 | 2 | 40176 | 14 | | | | | Spare | | | | Spare | | | | 2 & |
| 23 | 00019 | 40146 | 3 | | | 40176 | 3 | 40176 | 13 | | | | | Spare | | | | Spare | | | | 2 & |
| 23 | 00020 | 40146 | 4 | | | 40176 | 4 | 40176 | 12 | | | | | Spare | | | | Spare | | | | 2 & |
| 23 | 00021 | 40146 | 5 | | | 40176 | 5 | 40176 | 11 | | | DCE_043_KM | DCE_043_KM | PP#3 | Motor | Run Time | Counter | PP#3 Motor Run Time Counter | | Off | Run | 2 & |
| 23 | 00022 | 40146 | 6 | | | 40176 | 6 | 40176 | 10 | | | DCE_043_MNH | DCE_043_MNH | PP#3 | Start | High | | PP#3 Start High | | Not High | High | 2 & |
| 23 | 00023 | 40146 | 7 | | | 40176 | 7 | 40176 | 9 | | | DCE_043_MNL | DCE_043_MNL | PP#3 | Start | Low | | PP#3 Start Low | | Not Low | Low | 2 & |
| 23 | 00024 | 40146 | 8 | | | 40176 | 8 | 40176 | 8 | | | DCE_043_MO | DCE_043_MO | PP#3 | Stop | | | PP#3 Stop | | Not Stop | Stop | 2 & |
| UVM-PLC 51 Alarms & Statuses | | | | | | | | | | | | | | | | | | | | | | |
| 51 | | | | 47026 | 1 | 40181 | 1 | 40181 | 15 | | | DCE_043_MNL | ESDBRANCH1 | PP#3 | Start | Low | | Branch 1 ESD | A | Alarm | Normal | 5 |
| 51 | | | | 47026 | 2 | 40181 | 2 | 40181 | 14 | | | DCE_043_MO | ESDBRANCH2 | PP#3 | Stop | | | Branch 2 ESD | A | Alarm | Normal | 5 |
| 51 | | | | 47026 | 3 | 40181 | 3 | 40181 | 13 | | | DCE_043_MO | DD_050_ZB_1 | PP#3 | Stop | | | Branch 1 Discharge Valve DHV-1 Closed Status | S | Not Closed | Closed | 5 |
| 51 | | | | 47026 | 4 | 40181 | 4 | 40181 | 12 | | | DCE_043_MO | DD_050_ZD_1 | PP#3 | Stop | | | Branch 1 Discharge Valve DHV-1 Open Status | S | Not Open | Open | 5 |
| 51 | | | | 47026 | 5 | 40181 | 5 | 40181 | 11 | | | DCE_043_MO | DD_50_YS | PP#3 | Stop | | | Branch 1 Dishcharge Valve DHV-1 C-O-H Status | S | Hand-Off | Computer | 5 |
| 51 | | | | 47026 | 6 | 40181 | 6 | 40181 | 10 | | | DCE_043_MO | | PP#3 | Stop | | | | | | | 5 |
| 51 | | | | 47026 | 7 | 40181 | 7 | 40181 | 9 | | | DCE_043_MO | | PP#3 | Stop | | | | | | | 5 |
| 51 | | | | 47026 | 8 | 40181 | 8 | 40181 | 8 | | | DCE_043_MO | LFBRANCH1 | PP#3 | Stop | | | Branch 1 Low Flow | A | Alarm | Normal | 5 |
| 51 | | | | 47026 | 9 | 40181 | 9 | 40181 | 7 | | | DCE_043_MO | LFBRANCH2 | PP#3 | Stop | | | Branch 2 Low Flow | A | Alarm | Normal | 5 |
| 51 | | | | 47026 | 10 | 40181 | 10 | 40181 | 6 | | | DCE_043_MO | | PP#3 | Stop | | | | | | | 5 |
| 51 | | | | 47026 | 11 | 40181 | 11 | 40181 | 5 | | | DCE_043_MO | | PP#3 | Stop | | | | | | | 5 |
| 51 | | | | 47026 | 12 | 40181 | 12 | 40181 | 4 | | | DCE_043_MO | | PP#3 | Stop | | | | | | | 5 |
| 51 | | | | 47026 | 13 | 40181 | 13 | 40181 | 3 | | | DCE_043_MO | | PP#3 | Stop | | | | | | | 5 |
| 51 | | | | 47026 | 14 | 40181 | 14 | 40181 | 2 | | | DCE_043_MO | | PP#3 | Stop | | | | | | | 5 |
| 51 | | | | 47026 | 15 | 40181 | 15 | 40181 | 1 | | | DCE_043_MO | | PP#3 | Stop | | | | | | | 5 |
| 51 | | | | 47026 | 16 | 40181 | 16 | 40181 | 0 | | | DCE_043_MO | | PP#3 | Stop | | | | | | | 5 |
| 51 | | | | 47027 | 1 | 40182 | 1 | 40182 | 15 | | | PLC_RUN_UVMP | PLC_RUN_UVMP | UVM Master | PLC Primary | Run Status | | UVM Master PLC Primary Run Status | A | Normal | Alarm | 5 |
| 51 | | | | 47027 | 2 | 40182 | 2 | 40182 | 14 | | | PLC_MEM_UVMP | PLC_MEM_UVMP | UVM Master | PLC Primary | Mem Protect | Status | UVM Master PLC Primary Mem Protect Status | A | Normal | Alarm | 5 |
| 51 | | | | 47027 | 3 | 40182 | 3 | 40182 | 13 | | | PLC_BAT_UVMP | PLC_BAT_UVMP | UVM Master | PLC Primary | Battery | Status | UVM Master PLC Primary Battery Status | A | Normal | Alarm | 5 |
| 51 | | | | 47027 | 4 | 40182 | 4 | 40182 | 12 | | | | | Spare | | | | Spare | | | | 5 |
| 51 | | | | 47027 | 5 | 40182 | 5 | 40182 | 11 | | | PLC_RUN_UVMS | PLC_RUN_UVMS | UVM Master | PLC Standby | Run Status | | UVM Master PLC Standby Run Status | A | Normal | Alarm | 5 |
| 51 | | | | 47027 | 6 | 40182 | 6 | 40182 | 10 | | | PLC_MEM_UVMS | PLC_MEM_UVMS | UVM Master | PLC Standby | Mem Protect | Status | UVM Master PLC Standby Mem Protect Status | A | Normal | Alarm | 5 |
| 51 | | | | 47027 | 7 | 40182 | 7 | 40182 | 9 | | | PLC_BAT_UVMS | PLC_BAT_UVMS | UVM Master | PLC Standby | Battery | Status | UVM Master PLC Standby Battery Status | A | Normal | Alarm | 5 |
| 51 | | | | 47027 | 8 | 40182 | 8 | 40182 | 8 | | | | | Spare | | | | Spare | | | | 5 |
| 51 | | | | 47027 | 9 | 40182 | 9 | 40182 | 7 | | | PLC_UVMS_OK | PLC_UVMS_OK | UVM Master | PLC Standby | Ready | | UVM Master PLC Standby Ready | A | Normal | Alarm | 5 |
| 51 | | | | 47027 | 10 | 40182 | 10 | 40182 | 6 | | | | | Spare | | | | Spare | | | | 5 |
| 51 | | | | 47027 | 11 | 40182 | 11 | 40182 | 5 | | | | | Spare | | | | Spare | | | | 5 |
| 51 | | | | 47027 | 12 | 40182 | 12 | 40182 | 4 | | | | | Spare | | | | Spare | | | | 5 |

| Source Device | Source Address | P-PLC | Bit | UVM PLC | Bit | S-PLC | Bit | SCADA Poll | Bit | S-PLC Internal | Bit | Device/Point Tag Name | Device/Point Tag Name | Desc 1 | Desc 2 | Desc 3 | Desc 4 | Point Description | Alarm (A) Status (S) | "0" State / Units | "1" State / Range | Mdl Adc |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 51 | | | | 47027 | 13 | 40182 | 13 | 40182 | 3 | | | | | Spare | | | | Spare | | | | 5 |
| 51 | | | | 47027 | 14 | 40182 | 14 | 40182 | 2 | | | | | Spare | | | | Spare | | | | 5 |
| 51 | | | | 47027 | 15 | 40182 | 15 | 40182 | 1 | | | | | Spare | | | | Spare | | | | 5 |
| 51 | | | | 47027 | 16 | 40182 | 16 | 40182 | 0 | | | | | Spare | | | | Spare | | | | 5 |
| 51 | | | | 47028 | 1 | 40183 | 1 | 40183 | 15 | | | | | Spare | | | | Spare | | | | 5 |
| 51 | | | | 47028 | 2 | 40183 | 2 | 40183 | 14 | | | | | Spare | | | | Spare | | | | 5 |
| 51 | | | | 47028 | 3 | 40183 | 3 | 40183 | 13 | | | PLC_2103F_UV | PLC_2103F_UV | UVM PLC | Drop 2 Rack 01 | Slot 3 Status | | UVM PLC Drop 2 Rack 01 Slot 3 Status | A | Alarm | Normal | 5 |
| 51 | | | | 47028 | 4 | 40183 | 4 | 40183 | 12 | | | PLC_2104F_UV | PLC_2104F_UV | UVM PLC | Drop 2 Rack 01 | Slot 4 Status | | UVM PLC Drop 2 Rack 01 Slot 4 Status | A | Alarm | Normal | 5 |
| 51 | | | | 47028 | 5 | 40183 | 5 | 40183 | 11 | | | PLC_2105F_UV | PLC_2105F_UV | UVM PLC | Drop 2 Rack 01 | Slot 5 Status | | UVM PLC Drop 2 Rack 01 Slot 5 Status | A | Alarm | Normal | 5 |
| 51 | | | | 47028 | 6 | 40183 | 6 | 40183 | 10 | | | PLC_2106F_UV | PLC_2106F_UV | UVM PLC | Drop 2 Rack 01 | Slot 6 Status | | UVM PLC Drop 2 Rack 01 Slot 6 Status | A | Alarm | Normal | 5 |
| 51 | | | | 47028 | 7 | 40183 | 7 | 40183 | 9 | | | PLC_2107F_UV | PLC_2107F_UV | UVM PLC | Drop 2 Rack 01 | Slot 7 Status | | UVM PLC Drop 2 Rack 01 Slot 7 Status | A | Alarm | Normal | 5 |
| 51 | | | | 47028 | 8 | 40183 | 8 | 40183 | 8 | | | PLC_2108F_UV | PLC_2108F_UV | UVM PLC | Drop 2 Rack 01 | Slot 8 Status | | UVM PLC Drop 2 Rack 01 Slot 8 Status | A | Alarm | Normal | 5 |
| 51 | | | | 47028 | 9 | 40183 | 9 | 40183 | 7 | | | PLC_2109F_UV | PLC_2109F_UV | UVM PLC | Drop 2 Rack 01 | Slot 9 Status | | UVM PLC Drop 2 Rack 01 Slot 9 Status | A | Alarm | Normal | 5 |
| 51 | | | | 47028 | 10 | 40183 | 10 | 40183 | 6 | | | PLC_2110F_UV | PLC_2110F_UV | UVM PLC | Drop 2 Rack 01 | Slot 10 Status | Spare | UVM PLC Drop 2 Rack 01 Slot 10 Status Spare | | | | 5 |
| 51 | | | | 47028 | 11 | 40183 | 11 | 40183 | 5 | | | PLC_2111F_UV | PLC_2111F_UV | UVM PLC | Drop 2 Rack 01 | Slot 11 Status | | UVM PLC Drop 2 Rack 01 Slot 11 Status | A | Alarm | Normal | 5 |
| 51 | | | | 47028 | 12 | 40183 | 12 | 40183 | 4 | | | PLC_2112F_UV | PLC_2112F_UV | UVM PLC | Drop 2 Rack 01 | Slot 12 Status | | UVM PLC Drop 2 Rack 01 Slot 12 Status | A | Alarm | Normal | 5 |
| 51 | | | | 47028 | 13 | 40183 | 13 | 40183 | 3 | | | PLC_2113F_UV | PLC_2113F_UV | UVM PLC | Drop 2 Rack 01 | Slot 13 Status | | UVM PLC Drop 2 Rack 01 Slot 13 Status | A | Alarm | Normal | 5 |
| 51 | | | | 47028 | 14 | 40183 | 14 | 40183 | 2 | | | PLC_2114F_UV | PLC_2114F_UV | UVM PLC | Drop 2 Rack 01 | Slot 14 Status | | UVM PLC Drop 2 Rack 01 Slot 14 Status | A | Alarm | Normal | 5 |
| 51 | | | | 47028 | 15 | 40183 | 15 | 40183 | 1 | | | PLC_2115F_UV | PLC_2115F_UV | UVM PLC | Drop 2 Rack 01 | Slot 15 Status | Spare | UVM PLC Drop 2 Rack 01 Slot 15 Status Spare | | | | 5 |
| 51 | | | | 47028 | 16 | 40183 | 16 | 40183 | 0 | | | PLC_2116F_UV | PLC_2116F_UV | UVM PLC | Drop 2 Rack 01 | Slot 16 Status | Spare | UVM PLC Drop 2 Rack 01 Slot 16 Status Spare | | | | 5 |
| 51 | | | | 47029 | 1 | 40184 | 1 | 40184 | 15 | | | | | Spare | | | | Spare | | | | 5 |
| 51 | | | | 47029 | 2 | 40184 | 2 | 40184 | 14 | | | | | Spare | | | | Spare | | | | 5 |
| 51 | | | | 47029 | 3 | 40184 | 3 | 40184 | 13 | | | PLC_3103F_UV | PLC_3103F_UV | UVM PLC | Drop 3 Rack 01 | Slot 3 Status | | UVM PLC Drop 3 Rack 01 Slot 3 Status | A | Alarm | Normal | 5 |
| 51 | | | | 47029 | 4 | 40184 | 4 | 40184 | 12 | | | PLC_3104F_UV | PLC_3104F_UV | UVM PLC | Drop 3 Rack 01 | Slot 4 Status | | UVM PLC Drop 3 Rack 01 Slot 4 Status | A | Alarm | Normal | 5 |
| 51 | | | | 47029 | 5 | 40184 | 5 | 40184 | 11 | | | PLC_3105F_UV | PLC_3105F_UV | UVM PLC | Drop 3 Rack 01 | Slot 5 Status | Spare | UVM PLC Drop 3 Rack 01 Slot 5 Status Spare | | | | 5 |
| 51 | | | | 47029 | 6 | 40184 | 6 | 40184 | 10 | | | PLC_3106F_UV | PLC_3106F_UV | UVM PLC | Drop 3 Rack 01 | Slot 6 Status | Spare | UVM PLC Drop 3 Rack 01 Slot 6 Status Spare | | | | 5 |
| 51 | | | | 47029 | 7 | 40184 | 7 | 40184 | 9 | | | PLC_3107F_UV | PLC_3107F_UV | UVM PLC | Drop 3 Rack 01 | Slot 7 Status | Spare | UVM PLC Drop 3 Rack 01 Slot 7 Status Spare | | | | 5 |
| 51 | | | | 47029 | 8 | 40184 | 8 | 40184 | 8 | | | PLC_3108F_UV | PLC_3108F_UV | UVM PLC | Drop 3 Rack 01 | Slot 8 Status | Spare | UVM PLC Drop 3 Rack 01 Slot 8 Status Spare | | | | 5 |
| 51 | | | | 47029 | 9 | 40184 | 9 | 40184 | 7 | | | PLC_3109F_UV | PLC_3109F_UV | UVM PLC | Drop 3 Rack 01 | Slot 9 Status | Spare | UVM PLC Drop 3 Rack 01 Slot 9 Status Spare | | | | 5 |
| 51 | | | | 47029 | 10 | 40184 | 10 | 40184 | 6 | | | PLC_3110F_UV | PLC_3110F_UV | UVM PLC | Drop 3 Rack 01 | Slot 10 Status | Spare | UVM PLC Drop 3 Rack 01 Slot 10 Status Spare | | | | 5 |
| 51 | | | | 47029 | 11 | 40184 | 11 | 40184 | 5 | | | PLC_3111F_UV | PLC_3111F_UV | UVM PLC | Drop 3 Rack 01 | Slot 11 Status | Spare | UVM PLC Drop 3 Rack 01 Slot 11 Status Spare | | | | 5 |
| 51 | | | | 47029 | 12 | 40184 | 12 | 40184 | 4 | | | PLC_3112F_UV | PLC_3112F_UV | UVM PLC | Drop 3 Rack 01 | Slot 12 Status | Spare | UVM PLC Drop 3 Rack 01 Slot 12 Status Spare | | | | 5 |
| 51 | | | | 47029 | 13 | 40184 | 13 | 40184 | 3 | | | PLC_3113F_UV | PLC_3113F_UV | UVM PLC | Drop 3 Rack 01 | Slot 13 Status | Spare | UVM PLC Drop 3 Rack 01 Slot 13 Status Spare | | | | 5 |
| 51 | | | | 47029 | 14 | 40184 | 14 | 40184 | 2 | | | PLC_3114F_UV | PLC_3114F_UV | UVM PLC | Drop 3 Rack 01 | Slot 14 Status | Spare | UVM PLC Drop 3 Rack 01 Slot 14 Status Spare | | | | 5 |
| 51 | | | | 47029 | 15 | 40184 | 15 | 40184 | 1 | | | PLC_3115F_UV | PLC_3115F_UV | UVM PLC | Drop 3 Rack 01 | Slot 15 Status | Spare | UVM PLC Drop 3 Rack 01 Slot 15 Status Spare | | | | 5 |
| 51 | | | | 47029 | 16 | 40184 | 16 | 40184 | 0 | | | PLC_3116F_UV | PLC_3116F_UV | UVM PLC | Drop 3 Rack 01 | Slot 16 Status | Spare | UVM PLC Drop 3 Rack 01 Slot 16 Status Spare | | | | 5 |
| 51 | | | | 47030 | 1 | 40185 | 1 | 40185 | 15 | | | CMFAILUV_11 | CMFAILUV_11 | Communication | Failure | UVM to | UVPLC-11 | Communication Failure UVM to UVPLC-11 | A | Normal | Alarm | 5 |
| 51 | | | | 47030 | 2 | 40185 | 2 | 40185 | 14 | | | PLC_BAT_UV11 | PLC_BAT_UV11 | UVPLC-11 | Battery | Status | | UVPLC-11 Battery Status | A | Normal | Alarm | 5 |
| 51 | | | | 47030 | 3 | 40185 | 3 | 40185 | 13 | | | PLC_ERR_UV11 | PLC_ERR_UV11 | UVPLC-11 | Major Error | Status | | UVPLC-11 Major Error Status | A | Normal | Alarm | 5 |
| 51 | | | | 47030 | 4 | 40185 | 4 | 40185 | 12 | | | CMFAILUV_12 | CMFAILUV_12 | Communication | Failure | UVM to | UVPLC-12 | Communication Failure UVM to UVPLC-12 | A | Normal | Alarm | 5 |
| 51 | | | | 47030 | 5 | 40185 | 5 | 40185 | 11 | | | PLC_BAT_UV12 | PLC_BAT_UV12 | UVPLC-12 | Battery | Status | | UVPLC-12 Battery Status | A | Normal | Alarm | 5 |
| 51 | | | | 47030 | 6 | 40185 | 6 | 40185 | 10 | | | PLC_ERR_UV12 | PLC_ERR_UV12 | UVPLC-12 | Major Error | Status | | UVPLC-12 Major Error Status | A | Normal | Alarm | 5 |
| 51 | | | | 47030 | 7 | 40185 | 7 | 40185 | 9 | | | CMFAILUV_21 | CMFAILUV_21 | Communication | Failure | UVM to | UVPLC-21 | Communication Failure UVM to UVPLC-21 | A | Normal | Alarm | 5 |
| 51 | | | | 47030 | 8 | 40185 | 8 | 40185 | 8 | | | PLC_BAT_UV21 | PLC_BAT_UV21 | UVPLC-21 | Battery | Status | | UVPLC-21 Battery Status | A | Normal | Alarm | 5 |
| 51 | | | | 47030 | 9 | 40185 | 9 | 40185 | 7 | | | PLC_ERR_UV21 | PLC_ERR_UV21 | UVPLC-21 | Major Error | Status | | UVPLC-21 Major Error Status | A | Normal | Alarm | 5 |
| 51 | | | | 47030 | 10 | 40185 | 10 | 40185 | 6 | | | CMFAILUV_22 | CMFAILUV_22 | Communication | Failure | UVM to | UVPLC-22 | Communication Failure UVM to UVPLC-22 | A | Normal | Alarm | 5 |
| 51 | | | | 47030 | 11 | 40185 | 11 | 40185 | 5 | | | PLC_BAT_UV22 | PLC_BAT_UV22 | UVPLC-22 | Battery | Status | | UVPLC-22 Battery Status | A | Normal | Alarm | 5 |
| 51 | | | | 47030 | 12 | 40185 | 12 | 40185 | 4 | | | PLC_ERR_UV22 | PLC_ERR_UV22 | UVPLC-22 | Major Error | Status | | UVPLC-22 Major Error Status | A | Normal | Alarm | 5 |
| 51 | | | | 47030 | 13 | 40185 | 13 | 40185 | 3 | | | CMFAILUV_23 | CMFAILUV_23 | Communication | Failure | UVM to | UVPLC-23 | Communication Failure UVM to UVPLC-23 | A | Normal | Alarm | 5 |
| 51 | | | | 47030 | 14 | 40185 | 14 | 40185 | 2 | | | PLC_BAT_UV23 | PLC_BAT_UV23 | UVPLC-23 | Battery | Status | | UVPLC-23 Battery Status | A | Normal | Alarm | 5 |
| 51 | | | | 47030 | 15 | 40185 | 15 | 40185 | 1 | | | PLC_ERR_UV23 | PLC_ERR_UV23 | UVPLC-23 | Major Error | Status | | UVPLC-23 Major Error Status | A | Normal | Alarm | 5 |
| 51 | | | | 47030 | 16 | 40185 | 16 | 40185 | 0 | | | CMFAILUV_24 | CMFAILUV_24 | Communication | Failure | UVM to | UVPLC-24 | Communication Failure UVM to UVPLC-24 | A | Normal | Alarm | 5 |
| 51 | | | | 47031 | 1 | 40186 | 1 | 40186 | 15 | | | PLC_BAT_UV24 | PLC_BAT_UV24 | UVPLC-24 | Battery | Status | | UVPLC-24 Battery Status | A | Normal | Alarm | 5 |
| 51 | | | | 47031 | 2 | 40186 | 2 | 40186 | 14 | | | PLC_ERR_UV24 | PLC_ERR_UV24 | UVPLC-24 | Major Error | Status | | UVPLC-24 Major Error Status | A | Normal | Alarm | 5 |
| 51 | | | | 47031 | 3 | 40186 | 3 | 40186 | 13 | | | | | Spare | | | | Spare | | | | 5 |
| 51 | | | | 47031 | 4 | 40186 | 4 | 40186 | 12 | | | | | Spare | | | | Spare | | | | 5 |
| 51 | | | | 47031 | 5 | 40186 | 5 | 40186 | 11 | | | | | Spare | | | | Spare | | | | 5 |
| 51 | | | | 47031 | 6 | 40186 | 6 | 40186 | 10 | | | | | Spare | | | | Spare | | | | 5 |
| 51 | | | | 47031 | 7 | 40186 | 7 | 40186 | 9 | | | | | Spare | | | | Spare | | | | 5 |
| 51 | | | | 47031 | 8 | 40186 | 8 | 40186 | 8 | | | | | Spare | | | | Spare | | | | 5 |
| 51 | | | | 47031 | 9 | 40186 | 9 | 40186 | 7 | | | | | Spare | | | | Spare | | | | 5 |
| 51 | | | | 47031 | 10 | 40186 | 10 | 40186 | 6 | | | | | Spare | | | | Spare | | | | 5 |
| 51 | | | | 47031 | 11 | 40186 | 11 | 40186 | 5 | | | | | Spare | | | | Spare | | | | 5 |
| 51 | | | | 47031 | 12 | 40186 | 12 | 40186 | 4 | | | | | Spare | | | | Spare | | | | 5 |
| 51 | | | | 47031 | 13 | 40186 | 13 | 40186 | 3 | | | | | Spare | | | | Spare | | | | 5 |
| 51 | | | | 47031 | 14 | 40186 | 14 | 40186 | 2 | | | | | Spare | | | | Spare | | | | 5 |
| 51 | | | | 47031 | 15 | 40186 | 15 | 40186 | 1 | | | | | Spare | | | | Spare | | | | 5 |
| 51 | | | | 47031 | 16 | 40186 | 16 | 40186 | 0 | | | | | Spare | | | | Spare | | | | 5 |

## PLC 2 & 34 Soft Alarms & Statuses

| | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2 | | | | | | 40241 | 1 | 40241 | 15 | | | PLC_RUN | DPLC_RUN | Primary | PLC | Run | Light Off | Primary PLC Run Light Off | A | Alarm | Normal | 2 & |
| 2 | | | | | | 40241 | 2 | 40241 | 14 | | | PLC_MEM | DPLC_MEM | Primary | PLC | Memory | Protect Off | Primary PLC Memory Protect Off | A | Alarm | Normal | 2 & |
| 2 | | | | | | 40241 | 3 | 40241 | 13 | | | PLC_BAT | DPLC_BAT | Primary | PLC | Battery | Failure | Primary PLC Battery Failure | A | Alarm | Normal | 2 & |
| 2 | | | | | | 40241 | 4 | 40241 | 12 | | | PLC_STAT | DPLC_STAT | PrimaryPLC | Status Word5 | Critical | Failure | PrimaryPLC Status Word5 Critical Failure | A | Alarm | Normal | 2 & |
| 34 | | | | | | 40241 | 5 | 40241 | 11 | | | | | Spare | | | | Spare | | | | 2 & |
| 34 | | | | | | 40241 | 6 | 40241 | 10 | | | | | Spare | | | | Spare | | | | 2 & |
| 34 | | | | | | 40241 | 7 | 40241 | 9 | | | | | Spare | | | | Spare | | | | 2 & |
| 34 | | | | | | 40241 | 8 | 40241 | 8 | | | | | Spare | | | | Spare | | | | 2 & |
| | | | | | | 40241 | 9 | 40241 | 7 | | | COMFAIL_11 | DCOMFAIL_11 | PLCGroup2 | Communication | Failed | (Comm11) | PLCGroup2 Communication Failed (Comm11) | A | Alarm | Normal | 2 & |
| | | | | | | 40241 | 10 | 40241 | 6 | | | COMFAIL_12 | DCOMFAIL_12 | PLCGroup3 | Communication | Failed | (Comm12) | PLCGroup3 Communication Failed (Comm12) | A | Alarm | Normal | 2 & |
| | | | | | | 40241 | 11 | 40241 | 5 | | | COMFAIL_21 | DCOMFAIL_21 | SPLC/PPLC21 | Communication | Failed | (Comm21) | SPLC/PPLC21 Communication Failed (Comm21) | A | Alarm | Normal | 2 & |
| | | | | | | 40241 | 12 | 40241 | 4 | | | COMFAIL_22 | DCOMFAIL_22 | SPLC/PPLC22 | Communication | Failed | (Comm22) | SPLC/PPLC22 Communication Failed (Comm22) | A | Alarm | Normal | 2 & |
| | | | | | | 40241 | 13 | 40241 | 3 | | | COMFAIL_23 | DCOMFAIL_23 | SPLC/PPLC23 | Communication | Failed | (Comm23) | SPLC/PPLC23 Communication Failed (Comm23) | A | Alarm | Normal | 2 & |
| | | | | | | 40241 | 14 | 40241 | 2 | | | | | Spare | | | | Spare | | | | 2 & |
| | | | | | | 40241 | 15 | 40241 | 1 | | | | | Spare | | | | Spare | | | | 2 & |
| | | | | | | 40241 | 16 | 40241 | 0 | | | | | Spare | | | | Spare | | | | 2 & |
| | | | | | | 40242 | 1 | 40242 | 15 | | | | | Spare | | | | Spare | | | | 2 & |

| Source Device | Source Address | P-PLC | Bit | UVM PLC | Bit | S-PLC | Bit | SCADA Poll | Bit | S-PLC Internal | Bit | Device/Point Tag Name | Device/Point Tag Name | Desc 1 | Desc 2 | Desc 3 | Desc 4 | Point Description | Alarm (A) Status (S) | "0" State / Units | "1" State / Range | Mdl Adc |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | 40242 | 2 | 40242 | 14 | | | | | Spare | | | | Spare | | | | 2 & |
| | | | | | | 40242 | 3 | 40242 | 13 | | | COMFAILRW | DCOMFAILRW | S-PLC | to RW | Communication | Failed | S-PLC to RW Communication Failed | A | Alarm | Normal | 2 & |
| | | | | | | 40242 | 4 | 40242 | 12 | | | COMFAILSW | DCOMFAILSW | S-PLC | to SW | Communication | Failed | S-PLC to SW Communication Failed | A | Alarm | Normal | 2 & |
| | | | | | | 40242 | 5 | 40242 | 11 | | | | | Spare | | | | | | | | 2 & |
| | | | | | | 40242 | 6 | 40242 | 10 | | | | | Spare | | | | | | | | 2 & |
| | | | | | | 40242 | 7 | 40242 | 9 | | | | | Spare | | | | | | | | 2 & |
| | | | | | | 40242 | 8 | 40242 | 8 | | | | | Spare | | | | | | | | 2 & |
| | | | | | | 40242 | 9 | 40242 | 7 | | | | | | | | | | | | | 2 & |
| | | | | | | 40242 | 10 | 40242 | 6 | | | POWERFAIL | DPOWERFAIL | Station | Operating | In Powerfail | Mode | Station Operating In Powerfail Mode | S | Alarm | Normal | 2 & |
| | | | | | | 40242 | 11 | 40242 | 5 | | | | | Spare | | | | Spare | | | | 2 & |
| | | | | | | 40242 | 12 | 40242 | 4 | | | | | Spare | | | | Spare | | | | 2 & |
| | | | | | | 40242 | 13 | 40242 | 3 | | | PIDERROR | DPIDERROR | Invalid | Parameter/ | Not | Solving PID | Invalid Parameter/ Not Solving PID | A | Alarm | Normal | 2 & |
| | | | | | | 40242 | 14 | 40242 | 2 | | | PIDLO | DPIDLO | ProcVar | Surge Tank | Level | Lo | ProcVar Surge Tank Level Lo | A | Alarm | Normal | 2 & |
| | | | | | | 40242 | 15 | 40242 | 1 | | | PIDHI | DPIDHI | ProcVar | Surge Tank | Level | Hi | ProcVar Surge Tank Level Hi | A | Alarm | Normal | 2 & |
| | | | | | | 40242 | 16 | 40242 | 0 | | | ACTIVEPLC | DACTIVEPLC | Current | Active | Station | PLC | Current Active Station PLC | S | Primary | Secondary | 2 & |
| | | | | | | 40243 | 1 | 40243 | 15 | | | LOCALLKOUT | DLOCALLKOUT | At | least | 1pump | in LOCAL | At least 1pump in LOCAL | S | Alarm | Normal | 2 & |
| | | | | | | 40243 | 2 | 40243 | 14 | | | | | Spare | | | | Spare | | | | 2 & |
| | | | | | | 40243 | 3 | 40243 | 13 | | | | | Spare | | | | Spare | | | | 2 & |
| | | | | | | 40243 | 4 | 40243 | 12 | | | | | Spare | | | | Spare | | | | 2 & |
| | | | | | | 40243 | 5 | 40243 | 11 | | | | | Spare | | | | Spare | | | | 2 & |
| | | | | | | 40243 | 6 | 40243 | 10 | | | | | Spare | | | | Spare | | | | 2 & |
| | | | | | | 40243 | 7 | 40243 | 9 | | | | | Spare | | | | Spare | | | | 2 & |
| | | | | | | 40243 | 8 | 40243 | 8 | | | | | Spare | | | | Spare | | | | 2 & |
| | | | | | | 40243 | 9 | 40243 | 7 | | | PLCFAIL21 | DPLCFAIL21 | P-PLC21 | Health | OK | | P-PLC21 Health OK | | Alarm | Normal | 2 & |
| | | | | | | 40243 | 10 | 40243 | 6 | | | PLCFAIL22 | DPLCFAIL22 | P-PLC22 | Health | OK | | P-PLC22 Health OK | | Alarm | Normal | 2 & |
| | | | | | | 40243 | 11 | 40243 | 5 | | | PLCFAIL23 | DPLCFAIL23 | P-PLC23 | Health | OK | | P-PLC23 Health OK | | Alarm | Normal | 2 & |
| | | | | | | 40243 | 12 | 40243 | 4 | | | | | Spare | | | | Spare | | | | 2 & |
| | | | | | | 40243 | 13 | 40243 | 3 | | | | | Spare | | | | Spare | | | | 2 & |
| | | | | | | 40243 | 14 | 40243 | 2 | | | | | Spare | | | | Spare | | | | 2 & |
| | | | | | | 40243 | 15 | 40243 | 1 | | | PLCFAIL11 | DPLCFAIL11 | PLC11 | Health | OK | | PLC11 Health OK | | Alarm | Normal | 2 & |
| | | | | | | 40243 | 16 | 40243 | 0 | | | PLCFAIL12 | DPLCFAIL12 | PLC12 | Health | OK | | PLC12 Health OK | | Alarm | Normal | 2 & |
| | | | | | | 40244 | 1 | 40244 | 15 | | | PLCFAIL33 | DPLCFAIL33 | S-PLC33 | Health | OK | | S-PLC33 Health OK | | Alarm | Normal | : |
| | | | | | | 40244 | 2 | 40244 | 14 | | | LOCLKOUT11 | DLOCLKOUT11 | PP#11 | Local | Enable/ | Switched Off | PP#11 Local Enable/ Switched Off | S | Lockout | Normal | 2 & |
| | | | | | | 40244 | 3 | 40244 | 13 | | | LOCLKOUT12 | DLOCLKOUT12 | PP#12 | Local | Enable/ | Switched Off | PP#12 Local Enable/ Switched Off | S | Lockout | Normal | 2 & |
| | | | | | | 40244 | 4 | 40244 | 12 | | | LOCLKOUT13 | DLOCLKOUT13 | PP#13 | Local | Enable/ | Switched Off | PP#13 Local Enable/ Switched Off | S | Lockout | Normal | 2 & |
| | | | | | | 40244 | 5 | 40244 | 11 | | | | DCL1DEV | | | | | CL2 #1 Deviation From Setpoint | A | Alarm | Normal | 2 & |
| | | | | | | 40244 | 6 | 40244 | 10 | | | | DCL2DEV | | | | | CL2 #2 Deviation From Setpoint | A | Alarm | Normal | 2 & |
| | | | | | | 40244 | 7 | 40244 | 9 | | | | DCL3DEV | | | | | CL2 #3 Deviation From Setpoint | A | Alarm | Normal | 2 & |
| | | | | | | 40244 | 8 | 40244 | 8 | | | | DNOOPENVALVE | | | | | All Pump Discharge Valves Closed | A | Alarm | Normal | 2 & |
| | | | | | | 40244 | 9 | 40244 | 7 | | | | | | | | | | | | | 2 & |
| | | | | | | 40244 | 10 | 40244 | 6 | | | | | | | | | | | | | 2 & |
| | | | | | | 40244 | 11 | 40244 | 5 | | | | | | | | | | | | | 2 & |
| | | | | | | 40244 | 12 | 40244 | 4 | | | | | | | | | | | | | 2 & |
| | | | | | | 40244 | 13 | 40244 | 3 | | | | | | | | | | | | | 2 & |
| | | | | | | 40244 | 14 | 40244 | 2 | | | | | | | | | | | | | 2 & |
| | | | | | | 40244 | 15 | 40244 | 1 | | | | | | | | | | | | | 2 & |
| | | | | | | 40244 | 16 | 40244 | 0 | | | | | | | | | | | | | 2 & |
| | | | | | | | | | | | | | | | | | | | | | | 2 & |
| | | | | | | | | | | | | | | | | | | | | | | 2 & |
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| | | | | | | | | | | | | | | | | | | | | | | 2 & |
| | | | | | | | | | | | | | | | | | | | | | | 2 & |
| | | | | | | | | | | | | | | | | | | | | | | 2 & |
| Discrete Writes from S-PLC to I/O PLC 11 | | | | | | | | | | | | | | | | | | | | | | |
| S-PLC | | 40141 | 1 | | | 40261 | 1 | 40261 | 15 | | | | | Spare | Discrete | Write | Group2 | Spare Discrete Write Group2 | | | | 1 |
| S-PLC | | 40141 | 2 | | | 40261 | 2 | 40261 | 14 | | | | | Spare | Discrete | Write | Group2 | Spare Discrete Write Group2 | | | | 1 |
| S-PLC | | 40141 | 3 | | | 40261 | 3 | 40261 | 13 | | | | | Spare | Discrete | Write | Group2 | Spare Discrete Write Group2 | | | | 1 |
| S-PLC | | 40141 | 4 | | | 40261 | 4 | 40261 | 12 | | | | | Spare | Discrete | Write | Group2 | Spare Discrete Write Group2 | | | | 1 |
| S-PLC | | 40141 | 5 | | | 40261 | 5 | 40261 | 11 | | | | | Spare | Discrete | Write | Group2 | Spare Discrete Write Group2 | | | | 1 |
| S-PLC | | 40141 | 6 | | | 40261 | 6 | 40261 | 10 | | | | | Spare | Discrete | Write | Group2 | Spare Discrete Write Group2 | | | | 1 |
| S-PLC | | 40141 | 7 | | | 40261 | 7 | 40261 | 9 | | | | | Spare | Discrete | Write | Group2 | Spare Discrete Write Group2 | | | | 1 |
| S-PLC | | 40141 | 8 | | | 40261 | 8 | 40261 | 8 | | | | | Spare | Discrete | Write | Group2 | Spare Discrete Write Group2 | | | | 1 |
| S-PLC | | 40141 | 9 | | | 40261 | 9 | 40261 | 7 | | | | | Spare | Discrete | Write | Group2 | Spare Discrete Write Group2 | | | | 1 |
| S-PLC | | 40141 | 10 | | | 40261 | 10 | 40261 | 6 | | | | | Spare | Discrete | Write | Group2 | Spare Discrete Write Group2 | | | | 1 |
| S-PLC | | 40141 | 11 | | | 40261 | 11 | 40261 | 5 | | | | | Spare | Discrete | Write | Group2 | Spare Discrete Write Group2 | | | | 1 |
| S-PLC | | 40141 | 12 | | | 40261 | 12 | 40261 | 4 | | | | | Spare | Discrete | Write | Group2 | Spare Discrete Write Group2 | | | | 1 |
| S-PLC | | 40141 | 13 | | | 40261 | 13 | 40261 | 3 | | | | | Spare | Discrete | Write | Group2 | Spare Discrete Write Group2 | | | | 1 |
| S-PLC | | 40141 | 14 | | | 40261 | 14 | 40261 | 2 | | | | | Spare | Discrete | Write | Group2 | Spare Discrete Write Group2 | | | | 1 |
| S-PLC | | 40141 | 15 | | | 40261 | 15 | 40261 | 1 | | | | | Spare | Discrete | Write | Group2 | Spare Discrete Write Group2 | | | | 1 |
| S-PLC | | 40141 | 16 | | | 40261 | 16 | 40261 | 0 | | | | | Spare | Discrete | Write | Group2 | Spare Discrete Write Group2 | | | | 1 |
| S-PLC | | 40142 | | | | 40262 | | 40262 | | | | | | Spare | Discrete | Write | Group2 | Spare Discrete Write Group2 | | | | 1 |
| S-PLC | | 40143 | | | | 40263 | | 40263 | | | | | | Spare | Discrete | Write | Group2 | Spare Discrete Write Group2 | | | | 1 |
| S-PLC | | 40144 | | | | 40264 | | 40264 | | | | | | Spare | Discrete | Write | Group2 | Spare Discrete Write Group2 | | | | 1 |
| S-PLC | | 40145 | | | | 40265 | | 40265 | | | | | | Spare | Discrete | Write | Group2 | Spare Discrete Write Group2 | | | | 1 |
| **Analog Writes from S-PLC to I/O PLC 11** | | | | | | | | | | | | | | | | | | | | | | |
| S-PLC | | 40146 | | | | 40266 | | 40266 | | | | DMD051ZC | DMD051ZC | DV-4 | Surge | Valve | Control | DV-4 Surge Valve Control | | | | 1 |
| S-PLC | | 40147 | | | | 40267 | | 40267 | | | | | DMD806FC | Spare | Analog | Output | | Chlorinator #3 Flow Pace Output Control | | | | 1 |
| S-PLC | | 40148 | | | | 40268 | | 40268 | | | | | | Spare | Analog | Output | | Spare Analog Output | | | | 1 |
| S-PLC | | 40149 | | | | 40269 | | 40269 | | | | | | Spare | Analog | Output | | Spare Analog Output | | | | 1 |
| S-PLC | | 40150 | | | | 40270 | | 40270 | | | | | | Spare | Write | Register | | Spare Write Register | | | | 1 |
| S-PLC | | 40151 | | | | 40271 | | 40271 | | | | | | Spare | Write | Register | | Spare Write Register | | | | 1 |
| S-PLC | | 40152 | | | | 40272 | | 40272 | | | | | | Spare | Write | Register | | Spare Write Register | | | | 1 |
| S-PLC | | 40153 | | | | 40273 | | 40273 | | | | | | Spare | Write | Register | | Spare Write Register | | | | 1 |
| S-PLC | | 40154 | | | | 40274 | | 40274 | | | | | | Spare | Write | Register | | Spare Write Register | | | | 1 |
| S-PLC | | 40155 | | | | 40275 | | 40275 | | | | | | Spare | Write | Register | | Spare Write Register | | | | 1 |
| S-PLC | | 40156 | | | | 40276 | | 40276 | | | | | | Spare | Write | Register | | Spare Write Register | | | | 1 |

| Source Device | Source Address | P-PLC | Bit | UVM PLC | Bit | S-PLC | Bit | SCADA Poll | Bit | S-PLC Internal | Bit | Device/Point Tag Name | Device/Point Tag Name | Desc 1 | Desc 2 | Desc 3 | Desc 4 | Point Description | Alarm (A) Status (S) | "0" State / Units | "1" State / Range | Mdl Adc |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| S-PLC | | 40157 | | | | 40277 | | 40277 | | | | | | Spare | Write | Register | | Spare Write Register | | | | 1 |
| S-PLC | | 40158 | | | | 40278 | | 40278 | | | | | | Spare | Write | Register | | Spare Write Register | | | | 1 |
| S-PLC | | 40159 | | | | 40279 | | 40279 | | | | | | Spare | Write | Register | | Spare Write Register | | | | 1 |
| S-PLC | | 40160 | | | | 40280 | | 40280 | | | | | | Spare | Write | Register | | Spare Write Register | | | | 1 |
| S-PLC | | 40161 | | | | 40281 | | 40281 | | | | | | Spare | Write | Register | | Spare Write Register | | | | 1 |
| S-PLC | | 40162 | | | | 40282 | | 40282 | | | | | | Spare | Write | Register | | Spare Write Register | | | | 1 |
| S-PLC | | 40163 | | | | 40283 | | 40283 | | | | | | Spare | Write | Register | | Spare Write Register | | | | 1 |
| S-PLC | | 40164 | | | | 40284 | | 40284 | | | | | | Spare | Write | Register | | Spare Write Register | | | | 1 |
| S-PLC | | 40165 | | | | 40285 | | 40285 | | | | | | Spare | Write | Register | | Spare Write Register | | | | 1 |
| S-PLC | | 40166 | | | | 40286 | | 40286 | | | | | | Spare | Write | Register | | Spare Write Register | | | | 1 |
| S-PLC | | 40167 | | | | 40287 | | 40287 | | | | | | Spare | Write | Register | | Spare Write Register | | | | 1 |
| S-PLC | | 40168 | | | | 40288 | | 40288 | | | | | | Spare | Write | Register | | Spare Write Register | | | | 1 |
| S-PLC | | 40169 | | | | 40289 | | 40289 | | | | | | Spare | Write | Register | | Spare Write Register | | | | 1 |
| S-PLC | | 40170 | | | | 40290 | | 40290 | | | | | | Spare | Write | Register | | Spare Write Register | | | | 1 |
| S-PLC | | 40171 | | | | 40291 | | 40291 | | | | | | Spare | Write | Register | | Spare Write Register | | | | 1 |
| S-PLC | | 40172 | | | | 40292 | | 40292 | | | | | | Spare | Write | Register | | Spare Write Register | | | | 1 |
| S-PLC | | 40173 | | | | 40293 | | 40293 | | | | | | Spare | Write | Register | | Spare Write Register | | | | 1 |
| S-PLC | | 40174 | | | | 40294 | | 40294 | | | | | | Spare | Write | Register | | Spare Write Register | | | | 1 |
| S-PLC | | 40175 | | | | 40295 | | 40295 | | | | | | Spare | Write | Register | | Spare Write Register | | | | 1 |
| S-PLC | | 40176 | | | | 40296 | | 40296 | | | | | | Spare | Write | Register | | Spare Write Register | | | | 1 |
| S-PLC | | 40177 | | | | 40297 | | 40297 | | | | | | Spare | Write | Register | | Spare Write Register | | | | 1 |
| S-PLC | | 40178 | | | | 40298 | | 40298 | | | | | | Spare | Write | Register | | Spare Write Register | | | | 1 |
| S-PLC | | 40179 | | | | 40299 | | 40299 | | | | | | Spare | Write | Register | | Spare Write Register | | | | 1 |
| S-PLC | | 40180 | | | | 40300 | | 40300 | | | | | | Spare | Write | Register | | Spare Write Register | | | | 1 |
| **Discrete Writes from S-PLC to I/O PLC 12** | | | | | | | | | | | | | | | | | | | | | | |
| S-PLC | | 40141 | 1 | | | 40301 | 1 | 40301 | 15 | | | DMR_035_VB_1 | DMR_035_VB_1 | VC-308 | Valve | Close | | VC-308 Valve Close | | | Close | 1 |
| S-PLC | | 40141 | 2 | | | 40301 | 2 | 40301 | 14 | | | DMR_035_VD | DMR_035_VD | VC-308 | Valve | Open | | VC-308 Valve Open | | | Open | 1 |
| S-PLC | | 40141 | 3 | | | 40301 | 3 | 40301 | 13 | | | DMR_035_VSB | DMR_035_VSB | VC-308 | Valve | Emergency | Close | VC-308 Valve Emergency Close | | | Close | 1 |
| S-PLC | | 40141 | 4 | | | 40301 | 4 | 40301 | 12 | | | AM_030_VB_1 | AM_030_VB_1 | VC-6 | Valve | Close | | VC-6 Valve Close | | | Open | 1 |
| S-PLC | | 40141 | 5 | | | 40301 | 5 | 40301 | 11 | | | AM_030_VD | AM_030_VD | VC-6 | Valve | Open | | VC-6 Valve Open | | | Close | 1 |
| S-PLC | | 40141 | 6 | | | 40301 | 6 | 40301 | 10 | | | AM_030_VSB | AM_030_VSB | VC-6 | Valve | Emergency | Close | VC-6 Valve Emergency Close | | | Open | 1 |
| S-PLC | | 40141 | 7 | | | 40301 | 7 | 40301 | 9 | | | DMC_801_VM | DMC_801_VM | Evap #1 | Disable | | | Evap #1 Disable | | | Close | 1 |
| S-PLC | | 40141 | 8 | | | 40301 | 8 | 40301 | 8 | | | DMC_802_VM | DMC_802_VM | Evap #2 | Disable | | | Evap #2 Disable | | | Open | 1 |
| S-PLC | | 40141 | 9 | | | 40301 | 9 | 40301 | 7 | | | DMC_804_MB | DMC_804_MB | CL2 #1 | Injection | Increase | | CL2 #1 Injection Increase | | | Close | 1 |
| S-PLC | | 40141 | 10 | | | 40301 | 10 | 40301 | 6 | | | DMC_804_MD | DMC_804_MD | CL2 #1 | Injection | Decrease | | CL2 #1 Injection Decrease | | | Open | 1 |
| S-PLC | | 40141 | 11 | | | 40301 | 11 | 40301 | 5 | | | DMC_805_MB | DMC_805_MB | CL2 #2 | Injection | Increase | | CL2 #2 Injection Increase | | | Close | 1 |
| S-PLC | | 40141 | 12 | | | 40301 | 12 | 40301 | 4 | | | DMC_805_MD | DMC_805_MD | CL2 #2 | Injection | Decrease | | CL2 #2 Injection Decrease | | | Open | 1 |
| S-PLC | | 40141 | 13 | | | 40301 | 13 | 40301 | 3 | | | DME_044_MN | DME_044_MN | CL2 PP#1 | Start/Stop | | | CL2 PP#1 Start/Stop | | | Close | 1 |
| S-PLC | | 40141 | 14 | | | 40301 | 14 | 40301 | 2 | | | DME_045_MN | DME_045_MN | CL2 PP#2 | Start/Stop | | | CL2 PP#2 Start/Stop | | | Open | 1 |
| S-PLC | | 40141 | 15 | | | 40301 | 15 | 40301 | 1 | | | DMZ_910_XQ | DMZ_910_XQ | SWGR | Under | Frequency | Reset | SWGR Under Frequency Reset | | | Close | 1 |
| S-PLC | | 40141 | 16 | | | 40301 | 16 | 40301 | 0 | | | | | Spare | | | | Spare | | | | 1 |
| S-PLC | | 40142 | 1 | | | 40302 | 1 | 40302 | 15 | | | AM_020_VB | AM_020_VB | VC-4 | Valve | Close | | VC-4 Valve Close | | | Close | 1 |
| S-PLC | | 40142 | 2 | | | 40302 | 2 | 40302 | 14 | | | AM_020_VD_1 | AM_020_VD_1 | VC-4 | Valve | Open | | VC-4 Valve Open | | | Open | 1 |
| S-PLC | | 40142 | 3 | | | 40302 | 3 | 40302 | 13 | | | AM_020_VSD | AM_020_VSD | VC-4 | Valve | Emergency | Open | VC-4 Valve Emergency Open | | | Close | 1 |
| S-PLC | | 40142 | 4 | | | 40302 | 4 | 40302 | 12 | | | | | Spare | | | | Spare | | | | 1 |
| S-PLC | | 40142 | 5 | | | 40302 | 5 | 40302 | 11 | | | DMD_101_VB | DMD_101_VB | VC-302 | Valve | Close | | VC-302 Valve Close | | | Close | 1 |
| S-PLC | | 40142 | 6 | | | 40302 | 6 | 40302 | 10 | | | DMD_101_VD | DMD_101_VD | VC-302 | Valve | Open | | VC-302 Valve Open | | | Open | 1 |
| S-PLC | | 40142 | 7 | | | 40302 | 7 | 40302 | 9 | | | DMD_101_VSB | DMD_101_VSB | VC-302 | Valve | Emergency | Close | VC-302 Valve Emergency Close | | | Close | 1 |
| S-PLC | | 40142 | 8 | | | 40302 | 8 | 40302 | 8 | | | | | Spare | | | | Spare | | | | 1 |
| S-PLC | | 40142 | 9 | | | 40302 | 9 | 40302 | 7 | | | | | Spare | | | | Spare | | | | 1 |
| S-PLC | | 40142 | 10 | | | 40302 | 10 | 40302 | 6 | | | | | Spare | | | | Spare | | | | 1 |
| S-PLC | | 40142 | 11 | | | 40302 | 11 | 40302 | 5 | | | | | Spare | | | | Spare | | | | 1 |
| S-PLC | | 40142 | 12 | | | 40302 | 12 | 40302 | 4 | | | | | Spare | | | | Spare | | | | 1 |
| S-PLC | | 40142 | 13 | | | 40302 | 13 | 40302 | 3 | | | | | Spare | | | | Spare | | | | 1 |
| S-PLC | | 40142 | 14 | | | 40302 | 14 | 40302 | 2 | | | | | Spare | | | | Spare | | | | 1 |
| S-PLC | | 40142 | 15 | | | 40302 | 15 | 40302 | 1 | | | | | Spare | | | | Spare | | | | 1 |
| S-PLC | | 40142 | 16 | | | 40302 | 16 | 40302 | 0 | | | | | Spare | | | | Spare | | | | 1 |
| S-PLC | | 40143 | 1 | | | 40303 | 1 | 40303 | 15 | | | | | Spare | | | | Spare | | | | 1 |
| S-PLC | | 40143 | 2 | | | 40303 | 2 | 40303 | 14 | | | | | Spare | | | | Spare | | | | 1 |
| S-PLC | | 40143 | 3 | | | 40303 | 3 | 40303 | 13 | | | | | Spare | | | | Spare | | | | 1 |
| S-PLC | | 40143 | 4 | | | 40303 | 4 | 40303 | 12 | | | | | Spare | | | | Spare | | | | 1 |
| S-PLC | | 40143 | 5 | | | 40303 | 5 | 40303 | 11 | | | | | Spare | | | | Spare | | | | 1 |
| S-PLC | | 40143 | 6 | | | 40303 | 6 | 40303 | 10 | | | | | Spare | | | | Spare | | | | 1 |
| S-PLC | | 40143 | 7 | | | 40303 | 7 | 40303 | 9 | | | | | Spare | | | | Spare | | | | 1 |
| S-PLC | | 40143 | 8 | | | 40303 | 8 | 40303 | 8 | | | | | Spare | | | | Spare | | | | 1 |
| S-PLC | | 40143 | 9 | | | 40303 | 9 | 40303 | 7 | | | | | Spare | | | | Spare | | | | 1 |
| S-PLC | | 40143 | 10 | | | 40303 | 10 | 40303 | 6 | | | | | Spare | | | | Spare | | | | 1 |
| S-PLC | | 40143 | 11 | | | 40303 | 11 | 40303 | 5 | | | | | Spare | | | | Spare | | | | 1 |
| S-PLC | | 40143 | 12 | | | 40303 | 12 | 40303 | 4 | | | | | Spare | | | | Spare | | | | 1 |
| S-PLC | | 40143 | 13 | | | 40303 | 13 | 40303 | 3 | | | | | Spare | | | | Spare | | | | 1 |
| S-PLC | | 40143 | 14 | | | 40303 | 14 | 40303 | 2 | | | | | Spare | | | | Spare | | | | 1 |
| S-PLC | | 40143 | 15 | | | 40303 | 15 | 40303 | 1 | | | | | Spare | | | | Spare | | | | 1 |
| S-PLC | | 40143 | 16 | | | 40303 | 16 | 40303 | 0 | | | | | Spare | | | | Spare | | | | 1 |
| **Analog Writes from S-PLC to I/O PLC 12** | | | | | | | | | | | | | | | | | | | | | | |
| S-PLC | | 40144 | | | | 40304 | | 40304 | | | | | | Spare | Write | Register | | Spare Write Register | | | | 1 |
| S-PLC | | 40145 | | | | 40305 | | 40305 | | | | | | Spare | Write | Register | | Spare Write Register | | | | 1 |
| S-PLC | | 40146 | | | | 40306 | | 40306 | | | | | | Spare | Write | Register | | Spare Write Register | | | | 1 |
| S-PLC | | 40147 | | | | 40307 | | 40307 | | | | | | Spare | Write | Register | | Spare Write Register | | | | 1 |
| S-PLC | | 40148 | | | | 40308 | | 40308 | | | | | | Spare | Write | Register | | Spare Write Register | | | | 1 |
| S-PLC | | 40149 | | | | 40309 | | 40309 | | | | | | Spare | Write | Register | | Spare Write Register | | | | 1 |
| S-PLC | | 40150 | | | | 40310 | | 40310 | | | | | | Spare | Write | Register | | Spare Write Register | | | | 1 |
| S-PLC | | 40151 | | | | 40311 | | 40311 | | | | | | Spare | Write | Register | | Spare Write Register | | | | 1 |
| S-PLC | | 40152 | | | | 40312 | | 40312 | | | | | | Spare | Write | Register | | Spare Write Register | | | | 1 |
| S-PLC | | 40153 | | | | 40313 | | 40313 | | | | | | Spare | Write | Register | | Spare Write Register | | | | 1 |
| S-PLC | | 40154 | | | | 40314 | | 40314 | | | | | | Spare | Write | Register | | Spare Write Register | | | | 1 |
| S-PLC | | 40155 | | | | 40315 | | 40315 | | | | | | Spare | Write | Register | | Spare Write Register | | | | 1 |

| Source Device | Source Address | P-PLC | Bit | UVM PLC | Bit | S-PLC | Bit | SCADA Poll | Bit | S-PLC Internal | Bit | Device/Point Tag Name | Device/Point Tag Name | Desc 1 | Desc 2 | Desc 3 | Desc 4 | Point Description | Alarm (A) Status (S) | "0" State / Units | "1" State / Range | Mdl Adc |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| S-PLC | | 40156 | | | | 40316 | | 40316 | | | | | | Spare | Write | Register | | Spare Write Register | | | | 1 |
| S-PLC | | 40157 | | | | 40317 | | 40317 | | | | | | Spare | Write | Register | | Spare Write Register | | | | 1 |
| S-PLC | | 40158 | | | | 40318 | | 40318 | | | | | | Spare | Write | Register | | Spare Write Register | | | | 1 |
| S-PLC | | 40159 | | | | 40319 | | 40319 | | | | | | Spare | Write | Register | | Spare Write Register | | | | 1 |
| S-PLC | | 40160 | | | | 40320 | | 40320 | | | | | | Spare | Write | Register | | Spare Write Register | | | | 1 |
| S-PLC | | 40161 | | | | 40321 | | 40321 | | | | | | Spare | Write | Register | | Spare Write Register | | | | 1 |
| S-PLC | | 40162 | | | | 40322 | | 40322 | | | | | | Spare | Write | Register | | Spare Write Register | | | | 1 |
| S-PLC | | 40163 | | | | 40323 | | 40323 | | | | | | Spare | Write | Register | | Spare Write Register | | | | 1 |
| S-PLC | | 40164 | | | | 40324 | | 40324 | | | | | | Spare | Write | Register | | Spare Write Register | | | | 1 |
| S-PLC | | 40165 | | | | 40325 | | 40325 | | | | | | Spare | Write | Register | | Spare Write Register | | | | 1 |
| S-PLC | | 40166 | | | | 40326 | | 40326 | | | | | | Spare | Write | Register | | Spare Write Register | | | | 1 |
| S-PLC | | 40167 | | | | 40327 | | 40327 | | | | | | Spare | Write | Register | | Spare Write Register | | | | 1 |
| S-PLC | | 40168 | | | | 40328 | | 40328 | | | | | | Spare | Write | Register | | Spare Write Register | | | | 1 |
| S-PLC | | 40169 | | | | 40329 | | 40329 | | | | | | Spare | Write | Register | | Spare Write Register | | | | 1 |
| S-PLC | | 40170 | | | | 40330 | | 40330 | | | | | | Spare | Write | Register | | Spare Write Register | | | | 1 |
| S-PLC | | 40171 | | | | 40331 | | 40331 | | | | | | Spare | Write | Register | | Spare Write Register | | | | 1 |
| S-PLC | | 40172 | | | | 40332 | | 40332 | | | | | | Spare | Write | Register | | Spare Write Register | | | | 1 |
| S-PLC | | 40173 | | | | 40333 | | 40333 | | | | | | Spare | Write | Register | | Spare Write Register | | | | 1 |
| S-PLC | | 40174 | | | | 40334 | | 40334 | | | | | | Spare | Write | Register | | Spare Write Register | | | | 1 |
| S-PLC | | 40175 | | | | 40335 | | 40335 | | | | | | Spare | Write | Register | | Spare Write Register | | | | 1 |
| S-PLC | | 40176 | | | | 40336 | | 40336 | | | | | | Spare | Write | Register | | Spare Write Register | | | | 1 |
| S-PLC | | 40177 | | | | 40337 | | 40337 | | | | | | Spare | Write | Register | | Spare Write Register | | | | 1 |
| S-PLC | | 40178 | | | | 40338 | | 40338 | | | | | | Spare | Write | Register | | Spare Write Register | | | | 1 |
| S-PLC | | 40179 | | | | 40339 | | 40339 | | | | | | Spare | Write | Register | | Spare Write Register | | | | 1 |
| S-PLC | | 40180 | | | | 40340 | | 40340 | | | | | | Spare | Write | Register | | Spare Write Register | | | | 1 |
| **Discrete Writes from S-PLC to Pump #1** | | | | | | | | | | | | | | | | | | | | | | |
| S-PLC | | 40150 | 1 | | | 40341 | 1 | 40341 | 15 | | | STNHAND1 | DSTNHAND1 | Station | Hand | Status | | Station Hand Status | | Normal | Hand | 2 |
| S-PLC | | 40150 | 2 | | | 40341 | 2 | 40341 | 14 | | | STNCOMP1 | DSTNCOMP1 | Station | Computer | Status | | Station Computer Status | | Normal | Computer | 2 |
| S-PLC | | 40150 | 3 | | | 40341 | 3 | 40341 | 13 | | | | | Spare | | | | Spare | | | | 2 |
| S-PLC | | 40150 | 4 | | | 40341 | 4 | 40341 | 12 | | | | | Spare | | | | Spare | | | | 2 |
| S-PLC | | 40150 | 5 | | | 40341 | 5 | 40341 | 11 | | | STARTPMP1 | DSTARTPMP1 | PP#1 | Pump | Start | Command | PP#1 Pump Start Command | | Normal | Start Seq | 2 |
| S-PLC | | 40150 | 6 | | | 40341 | 6 | 40341 | 10 | | | STOPPMP1 | DSTOPPMP1 | PP#1 | Pump | Stop | Command | PP#1 Pump Stop Command | | Normal | Stop Seq | 2 |
| S-PLC | | 40150 | 7 | | | 40341 | 7 | 40341 | 9 | | | IMMEDSD1 | DIMMEDSD1 | PP#1 | Immediate | Stop | Command | PP#1 Immediate Stop Command | | Normal | Immed Stop | 2 |
| S-PLC | | 40150 | 8 | | | 40341 | 8 | 40341 | 8 | | | CONTROLSD1 | DCONTROLSD1 | PP#1 | Controlled | Quick Stop | Command | PP#1 Controlled Quick Stop Command | | Normal | Control Stop | 2 |
| S-PLC | | 40150 | 9 | | | 40341 | 9 | 40341 | 7 | | | POWERFAIL | DPOWERFAIL | Power | fail | status | | Power fail status | | Normal | Powerfail | 2 |
| S-PLC | | 40150 | 10 | | | 40341 | 10 | 40341 | 6 | | | SPLCOK | DSPLCOK | S-PLC | Health | Check By | P-PLC21 | S-PLC Health Check By P-PLC21 | | S-PLC Reset | P-PLC Set | 2 |
| S-PLC | | 40150 | 11 | | | 40341 | 11 | 40341 | 5 | | | DVOPEN1 | DDVOPEN1 | Discharge | Valve DV-1 | Open | | Discharge Valve DV-1 Open | | Normal | Open | 2 |
| S-PLC | | 40150 | 12 | | | 40341 | 12 | 40341 | 4 | | | DVCLOSE1 | DDVCLOSE1 | Discharge | Valve DV-1 | Close | | Discharge Valve DV-1 Close | | Normal | Close | 2 |
| S-PLC | | 40150 | 13 | | | 40341 | 13 | 40341 | 3 | | | | | | | | | | | | | 2 |
| S-PLC | | 40150 | 14 | | | 40341 | 14 | 40341 | 2 | | | | DDVQCLOSEOK | Spare | | | | Discharge Valve Quick Close Allowed | | Not Allowed | Allowed | 2 |
| S-PLC | | 40150 | 15 | | | 40341 | 15 | 40341 | 1 | | | | DSTARTOK1 | Spare | | | | OK To Start Pump 1 - Reactor Capacity OK | | Not Allowed | Allowed | 2 |
| S-PLC | | 40150 | 16 | | | 40341 | 16 | 40341 | 0 | | | | | Spare | | | | Spare | | | | 2 |
| S-PLC | | 40151 | 1 | | | 40342 | 1 | 40342 | 15 | | | | | Spare | | | | Spare | | | | 2 |
| S-PLC | | 40151 | 2 | | | 40342 | 2 | 40342 | 14 | | | | | Spare | | | | Spare | | | | 2 |
| S-PLC | | 40151 | 3 | | | 40342 | 3 | 40342 | 13 | | | | | Spare | | | | Spare | | | | 2 |
| S-PLC | | 40151 | 4 | | | 40342 | 4 | 40342 | 12 | | | | | Spare | | | | Spare | | | | 2 |
| S-PLC | | 40151 | 5 | | | 40342 | 5 | 40342 | 11 | | | | | Spare | | | | Spare | | | | 2 |
| S-PLC | | 40151 | 6 | | | 40342 | 6 | 40342 | 10 | | | | | Spare | | | | Spare | | | | 2 |
| S-PLC | | 40151 | 7 | | | 40342 | 7 | 40342 | 9 | | | | | Spare | | | | Spare | | | | 2 |
| S-PLC | | 40151 | 8 | | | 40342 | 8 | 40342 | 8 | | | | | Spare | | | | Spare | | | | 2 |
| S-PLC | | 40151 | 9 | | | 40342 | 9 | 40342 | 7 | | | | | Spare | | | | Spare | | | | 2 |
| S-PLC | | 40151 | 10 | | | 40342 | 10 | 40342 | 6 | | | | | Spare | | | | Spare | | | | 2 |
| S-PLC | | 40151 | 11 | | | 40342 | 11 | 40342 | 5 | | | | | Spare | | | | Spare | | | | 2 |
| S-PLC | | 40151 | 12 | | | 40342 | 12 | 40342 | 4 | | | | | Spare | | | | Spare | | | | 2 |
| S-PLC | | 40151 | 13 | | | 40342 | 13 | 40342 | 3 | | | | | Spare | | | | Spare | | | | 2 |
| S-PLC | | 40151 | 14 | | | 40342 | 14 | 40342 | 2 | | | | | Spare | | | | Spare | | | | 2 |
| S-PLC | | 40151 | 15 | | | 40342 | 15 | 40342 | 1 | | | | | Spare | | | | Spare | | | | 2 |
| S-PLC | | 40151 | 16 | | | 40342 | 16 | 40342 | 0 | | | | | Spare | | | | Spare | | | | 2 |
| **Analog Writes from S-PLC to Pump #1** | | | | | | | | | | | | | | | | | | | | | | |
| S-PLC | | 40152 | | | | 40343 | | 40343 | | | | | | Spare | | | | Spare | | | | 2 |
| S-PLC | | 40153 | | | | 40344 | | 40344 | | | | | | Spare | | | | Spare | | | | 2 |
| S-PLC | | 40154 | | | | 40345 | | 40345 | | | | | | Spare | | | | Spare | | | | 2 |
| **Analog Writes from Host to Pump #1** | | | | | | | | | | | | | | | | | | | | | | |
| Host | | 40155 | | | | 40346 | | 40346 | | | | | | Spare | | | | Spare | | | | 2 & |
| Host | | 40156 | | | | 40347 | | 40347 | | | | | | Spare | | | | Spare | | | | 2 & |
| Host | | 40157 | | | | 40348 | | 40348 | | | | | | Spare | | | | Spare | | | | 2 & |
| Host | | 40158 | | | | 40349 | | 40349 | | | | | | Spare | | | | Spare | | | | 2 & |
| Host | | 40159 | | | | 40350 | | 40350 | | | | | | Spare | | | | Spare | | | | 2 & |
| Host | | 40160 | | | | 40351 | | 40351 | | | | | | Spare | | | | Spare | | | | 2 & |
| Host | | 40161 | | | | 40352 | | 40352 | | | | | | Spare | | | | Spare | | | | 2 & |
| Host | | 40162 | | | | 40353 | | 40353 | | | | | | Spare | | | | Spare | | | | 2 & |
| Host | | 40163 | | | | 40354 | | 40354 | | | | | | Spare | | | | Spare | | | | 2 & |
| Host | | 40164 | | | | 40355 | | 40355 | | | | | | Spare | | | | Spare | | | | 2 & |
| Host | | 40165 | | | | 40356 | | 40356 | | | | | | Spare | | | | Spare | | | | 2 & |
| Host | | 40166 | | | | 40357 | | 40357 | | | | | | Spare | | | | Spare | | | | 2 & |
| Host | | 40167 | | | | 40358 | | 40358 | | | | DPLOLIM1 | DDPLOLIM1 | Disch | Pressure | Lo | Alarm | Disch Pressure Lo Alarm | | psig | 0-100 | 2 & |
| Host | | 40168 | | | | 40359 | | 40359 | | | | DPLOLOLIM1 | DDPLOLOLIM1 | Disch | Pressure | LoLo | Shutdown | Disch Pressure LoLo Shutdown | | psig | 0-100 | 2 & |
| Host | | 40169 | | | | 40360 | | 40360 | | | | DSHPRSTIM1 | DDSHPRSTIM1 | DischPres | SeqFail | Timer | | DischPres SeqFail Timer | | secs | 0-9999 | 2 & |
| Host | | 40170 | | | | 40361 | | 40361 | | | | DSVOPNTIM1 | DDSVOPNTIM1 | Valve | Open | SeqFail | Timer | Valve Open SeqFail Timer | | secs | 0-9999 | 2 & |
| Host | | 40171 | | | | 40362 | | 40362 | | | | DSVCLSTIM1 | DDSVCLSTIM1 | Valve | Close | SeqFail | Timer | Valve Close SeqFail Timer | | secs | 0-9999 | 2 & |
| Host | | 40172 | | | | 40363 | | 40363 | | | | DSVINTTIM1 | DDSVINTTIM1 | Valve | Interm | SeqFail | Timer | Valve Interm SeqFail Timer | | secs | 0-9999 | 2 & |
| Host | | 40173 | | | | 40364 | | 40364 | | | | DSHVRMPTIM1 | DDSHVRMPTIM1 | Valve | Open/Close | Ramp | Time | Valve Open/Close Ramp Time | | secs | 0-9999 | 2 & |
| Host | | 40174 | | | | 40365 | | 40365 | | | | | | Spare | | | | Spare | | | | 2 & |
| Host | | 40175 | | | | 40366 | | 40366 | | | | | | Spare | | | | Spare | | | | 2 & |
| Host | | 40176 | | | | 40367 | | 40367 | | | | STARTIM1 | DSTARTIM1 | Start | SeqFail | Timer | | Start SeqFail Timer | | secs | 0-9999 | 2 & |

| Source Device | Source Address | P-PLC | Bit | UVM PLC | Bit | S-PLC | Bit | SCADA Poll | Bit | S-PLC Internal | Bit | Device/Point Tag Name | Device/Point Tag Name | Desc 1 | Desc 2 | Desc 3 | Desc 4 | Point Description | Alarm (A) Status (S) | "0" State / Units | "1" State / Range | Mdl Adc |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Host | | 40177 | | | | 40368 | | 40368 | | | | RESTARTIM1 | DRESTARTIM1 | Seconds | Between | Motor | Re-starts | Seconds Between Motor Re-starts | | secs | 0-9999 | 2 & |
| Host | | 40178 | | | | 40369 | | 40369 | | | | STOPTIM1 | DSTOPTIM1 | Time After | Stop Before | Allowing | Re-start | Time After Stop Before Allowing Re-start | | secs | 0-9999 | 2 & |
| Host | | 40179 | | | | 40370 | | 40370 | | | | | | Spare | | | | Spare | | | | 2 & |
| S-PLC | | 40180 | | | | 40371 | | 40371 | | | | | | Spare | | | | Spare | | | | 2 |
| S-PLC | | 40181 | | | | 40372 | | 40372 | | | | | | Spare | | | | Spare | | | | 2 |
| S-PLC | | 40182 | | | | 40373 | | 40373 | | | | | | Spare | | | | Spare | | | | 2 |
| S-PLC | | 40183 | | | | 40374 | | 40374 | | | | | | Spare | | | | Spare | | | | 2 |
| S-PLC | | 40184 | | | | 40375 | | 40375 | | | | | | Spare | | | | Spare | | | | 2 |
| S-PLC | | 40185 | | | | 40376 | | 40376 | | | | | | Spare | | | | Spare | | | | 2 |
| S-PLC | | 40186 | | | | 40377 | | 40377 | | | | | | Spare | | | | Spare | | | | 2 |
| S-PLC | | 40187 | | | | 40378 | | 40378 | | | | | | Spare | | | | Spare | | | | 2 |
| S-PLC | | 40188 | | | | 40379 | | 40379 | | | | | | Spare | | | | Spare | | | | 2 |
| S-PLC | | 40189 | | | | 40380 | | 40380 | | | | | | Spare | | | | Spare | | | | 2 |
| Discrete Writes from S-PLC to Pump #2 | | | | | | | | | | | | | | | | | | | | | | |
| S-PLC | | 40150 | 1 | | | 40381 | 1 | 40381 | 15 | | | STNHAND2 | DSTNHAND2 | Station | Hand | Status | | Station Hand Status | | Normal | Hand | 2 |
| S-PLC | | 40150 | 2 | | | 40381 | 2 | 40381 | 14 | | | STNCOMP2 | DSTNCOMP2 | Station | Computer | Status | | Station Computer Status | | Normal | Computer | 2 |
| S-PLC | | 40150 | 3 | | | 40381 | 3 | 40381 | 13 | | | | | Spare | | | | Spare | | | | 2 |
| S-PLC | | 40150 | 4 | | | 40381 | 4 | 40381 | 12 | | | | | Spare | | | | Spare | | | | 2 |
| S-PLC | | 40150 | 5 | | | 40381 | 5 | 40381 | 11 | | | STARTPMP2 | DSTARTPMP2 | PP#2 | Pump | Start | Command | PP#2 Pump Start Command | | Normal | Start Seq | 2 |
| S-PLC | | 40150 | 6 | | | 40381 | 6 | 40381 | 10 | | | STOPPMP2 | DSTOPPMP2 | PP#2 | Pump | Stop | Command | PP#2 Pump Stop Command | | Normal | Stop Seq | 2 |
| S-PLC | | 40150 | 7 | | | 40381 | 7 | 40381 | 9 | | | IMMEDSD2 | DIMMEDSD2 | PP#2 | Immediate | Stop | Command | PP#2 Immediate Stop Command | | Normal | Immed Stop | 2 |
| S-PLC | | 40150 | 8 | | | 40381 | 8 | 40381 | 8 | | | CONTROLSD2 | DCONTROLSD2 | PP#2 | Controlled | Quick Stop | Command | PP#2 Controlled Quick Stop Command | | Normal | Control Stop | 2 |
| S-PLC | | 40150 | 9 | | | 40381 | 9 | 40381 | 7 | | | POWERFAIL | DPOWERFAIL | Power | fail | status | | Power fail status | | Normal | Powerfail | 2 |
| S-PLC | | 40150 | 10 | | | 40381 | 10 | 40381 | 6 | | | SPLCOK | DSPLCOK | S-PLC | Health | Check By | P-PLC22 | S-PLC Health Check By P-PLC22 | | S-PLC Reset | P-PLC Set | 2 |
| S-PLC | | 40150 | 11 | | | 40381 | 11 | 40381 | 5 | | | DVOPEN2 | DDVOPEN2 | Discharge | Valve DV-2 | Open | | Discharge Valve DV-2 Open | | Normal | Open | 2 |
| S-PLC | | 40150 | 12 | | | 40381 | 12 | 40381 | 4 | | | DVCLOSE2 | DDVCLOSE2 | Discharge | Valve DV-2 | Close | | Discharge Valve DV-2 Close | | Normal | Close | 2 |
| S-PLC | | 40150 | 13 | | | 40381 | 13 | 40381 | 3 | | | | | | | | | | | | | 2 |
| S-PLC | | 40150 | 14 | | | 40381 | 14 | 40381 | 2 | | | | DDVQCLOSEOK | Spare | | | | Discharge Valve Quick Close Allowed | | Not Allowed | Allowed | 2 |
| S-PLC | | 40150 | 15 | | | 40381 | 15 | 40381 | 1 | | | | DSTARTOK2 | Spare | | | | OK To Start Pump 2 - Reactor Capacity OK | | Not Allowed | Allowed | 2 |
| S-PLC | | 40150 | 16 | | | 40381 | 16 | 40381 | 0 | | | | | Spare | | | | Spare | | | | 2 |
| S-PLC | | 40151 | 1 | | | 40382 | 1 | 40382 | 15 | | | | | Spare | | | | Spare | | | | 2 |
| S-PLC | | 40151 | 2 | | | 40382 | 2 | 40382 | 14 | | | | | Spare | | | | Spare | | | | 2 |
| S-PLC | | 40151 | 3 | | | 40382 | 3 | 40382 | 13 | | | | | Spare | | | | Spare | | | | 2 |
| S-PLC | | 40151 | 4 | | | 40382 | 4 | 40382 | 12 | | | | | Spare | | | | Spare | | | | 2 |
| S-PLC | | 40151 | 5 | | | 40382 | 5 | 40382 | 11 | | | | | Spare | | | | Spare | | | | 2 |
| S-PLC | | 40151 | 6 | | | 40382 | 6 | 40382 | 10 | | | | | Spare | | | | Spare | | | | 2 |
| S-PLC | | 40151 | 7 | | | 40382 | 7 | 40382 | 9 | | | | | Spare | | | | Spare | | | | 2 |
| S-PLC | | 40151 | 8 | | | 40382 | 8 | 40382 | 8 | | | | | Spare | | | | Spare | | | | 2 |
| S-PLC | | 40151 | 9 | | | 40382 | 9 | 40382 | 7 | | | | | Spare | | | | Spare | | | | 2 |
| S-PLC | | 40151 | 10 | | | 40382 | 10 | 40382 | 6 | | | | | Spare | | | | Spare | | | | 2 |
| S-PLC | | 40151 | 11 | | | 40382 | 11 | 40382 | 5 | | | | | Spare | | | | Spare | | | | 2 |
| S-PLC | | 40151 | 12 | | | 40382 | 12 | 40382 | 4 | | | | | Spare | | | | Spare | | | | 2 |
| S-PLC | | 40151 | 13 | | | 40382 | 13 | 40382 | 3 | | | | | Spare | | | | Spare | | | | 2 |
| S-PLC | | 40151 | 14 | | | 40382 | 14 | 40382 | 2 | | | | | Spare | | | | Spare | | | | 2 |
| S-PLC | | 40151 | 15 | | | 40382 | 15 | 40382 | 1 | | | | | Spare | | | | Spare | | | | 2 |
| S-PLC | | 40151 | 16 | | | 40382 | 16 | 40382 | 0 | | | | | Spare | | | | Spare | | | | 2 |
| Analog Writes from S-PLC to Pump #2 | | | | | | | | | | | | | | | | | | | | | | |
| S-PLC | | 40152 | | | | 40383 | | 40383 | | | | | | Spare | | | | Spare | | | | 2 |
| S-PLC | | 40153 | | | | 40384 | | 40384 | | | | | | Spare | | | | Spare | | | | 2 |
| S-PLC | | 40154 | | | | 40385 | | 40385 | | | | | | Spare | | | | Spare | | | | 2 |
| Analog Writes from Host to Pump #2 | | | | | | | | | | | | | | | | | | | | | | |
| Host | | 40155 | | | | 40386 | | 40386 | | | | | | Spare | | | | Spare | | | | 2 & |
| Host | | 40156 | | | | 40387 | | 40387 | | | | | | Spare | | | | Spare | | | | 2 & |
| Host | | 40157 | | | | 40388 | | 40388 | | | | | | Spare | | | | Spare | | | | 2 & |
| Host | | 40158 | | | | 40389 | | 40389 | | | | | | Spare | | | | Spare | | | | 2 & |
| Host | | 40159 | | | | 40390 | | 40390 | | | | | | Spare | | | | Spare | | | | 2 & |
| Host | | 40160 | | | | 40391 | | 40391 | | | | | | Spare | | | | Spare | | | | 2 & |
| Host | | 40161 | | | | 40392 | | 40392 | | | | | | Spare | | | | Spare | | | | 2 & |
| Host | | 40162 | | | | 40393 | | 40393 | | | | | | Spare | | | | Spare | | | | 2 & |
| Host | | 40163 | | | | 40394 | | 40394 | | | | | | Spare | | | | Spare | | | | 2 & |
| Host | | 40164 | | | | 40395 | | 40395 | | | | | | Spare | | | | Spare | | | | 2 & |
| Host | | 40165 | | | | 40396 | | 40396 | | | | | | Spare | | | | Spare | | | | 2 & |
| Host | | 40166 | | | | 40397 | | 40397 | | | | | | Spare | | | | Spare | | secs | 0-9999 | 2 & |
| Host | | 40167 | | | | 40398 | | 40398 | | | | DPLOLIM2 | DDPLOLIM2 | Disch | Pressure | Lo | Alarm | Disch Pressure Lo Alarm | | psig | 0-100 | 2 & |
| Host | | 40168 | | | | 40399 | | 40399 | | | | DPLOLOLIM2 | DDPLOLOLIM2 | Disch | Pressure | LoLo | Shutdown | Disch Pressure LoLo Shutdown | | psig | 0-100 | 2 & |
| Host | | 40169 | | | | 40400 | | 40400 | | | | DSHPRSTIM2 | DDSHPRSTIM2 | DischPres | SeqFail | Timer | | DischPres SeqFail Timer | | secs | 0-9999 | 2 & |
| Host | | 40170 | | | | 40401 | | 40401 | | | | DSVOPNTIM2 | DDSVOPNTIM2 | Valve | Open | SeqFail | Timer | Valve Open SeqFail Timer | | secs | 0-9999 | 2 & |
| Host | | 40171 | | | | 40402 | | 40402 | | | | DSVCLSTIM2 | DDSVCLSTIM2 | Valve | Close | SeqFail | Timer | Valve Close SeqFail Timer | | secs | 0-9999 | 2 & |
| Host | | 40172 | | | | 40403 | | 40403 | | | | DSVINTTIM2 | DDSVINTTIM2 | Valve | Interm | SeqFail | Timer | Valve Interm SeqFail Timer | | secs | 0-9999 | 2 & |
| Host | | 40173 | | | | 40404 | | 40404 | | | | DSHVRMPTIM2 | DDSHVRMPTIM2 | Valve | Open/Close | Ramp | Time | Valve Open/Close Ramp Time | | secs | 0-9999 | 2 & |
| Host | | 40174 | | | | 40405 | | 40405 | | | | | | Spare | | | | Spare | | | | 2 & |
| Host | | 40175 | | | | 40406 | | 40406 | | | | | | Spare | | | | Spare | | | | 2 & |
| Host | | 40176 | | | | 40407 | | 40407 | | | | STARTIM2 | DSTARTIM2 | Start | SeqFail | Timer | | Start SeqFail Timer | | secs | 0-9999 | 2 & |
| Host | | 40177 | | | | 40408 | | 40408 | | | | RESTARTIM2 | DRESTARTIM2 | Seconds | Between | Motor | Re-starts | Seconds Between Motor Re-starts | | secs | 0-9999 | 2 & |
| Host | | 40178 | | | | 40409 | | 40409 | | | | STOPTIM2 | DSTOPTIM2 | Time After | Stop Before | Allowing | Re-start | Time After Stop Before Allowing Re-start | | secs | 0-9999 | 2 & |
| Host | | 40179 | | | | 40410 | | 40410 | | | | | | Spare | | | | Spare | | | | 2 & |
| S-PLC | | 40180 | | | | 40411 | | 40411 | | | | | | Spare | | | | Spare | | | | 2 |
| S-PLC | | 40181 | | | | 40412 | | 40412 | | | | | | Spare | | | | Spare | | | | 2 |
| S-PLC | | 40182 | | | | 40413 | | 40413 | | | | | | Spare | | | | Spare | | | | 2 |
| S-PLC | | 40183 | | | | 40414 | | 40414 | | | | | | Spare | | | | Spare | | | | 2 |
| S-PLC | | 40184 | | | | 40415 | | 40415 | | | | | | Spare | | | | Spare | | | | 2 |
| S-PLC | | 40185 | | | | 40416 | | 40416 | | | | | | Spare | | | | Spare | | | | 2 |
| S-PLC | | 40186 | | | | 40417 | | 40417 | | | | | | Spare | | | | Spare | | | | 2 |
| S-PLC | | 40187 | | | | 40418 | | 40418 | | | | | | Spare | | | | Spare | | | | 2 |
| S-PLC | | 40188 | | | | 40419 | | 40419 | | | | | | Spare | | | | Spare | | | | 2 |

| Source Device | Source Address | P-PLC | Bit | UVM PLC | Bit | S-PLC | Bit | SCADA Poll | Bit | S-PLC Internal | Bit | Device/Point Tag Name | Device/Point Tag Name | Desc 1 | Desc 2 | Desc 3 | Desc 4 | Point Description | Alarm (A) Status (S) | "0" State / Units | "1" State / Range | Mdl Adc |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| S-PLC | | 40189 | | | | 40420 | | 40420 | | | | | | Spare | | | | Spare | | | | 2 |
| **Discrete Writes from S-PLC to Pump #3** | | | | | | | | | | | | | | | | | | | | | | |
| S-PLC | | 40150 | 1 | | | 40421 | 1 | 40421 | 15 | | | STNHAND3 | DSTNHAND3 | Station | Hand | Status | | Station Hand Status | | Normal | Hand | 2 |
| S-PLC | | 40150 | 2 | | | 40421 | 2 | 40421 | 14 | | | STNCOMP3 | DSTNCOMP3 | Station | Computer | Status | | Station Computer Status | | Normal | Computer | 2 |
| S-PLC | | 40150 | 3 | | | 40421 | 3 | 40421 | 13 | | | | | Spare | | | | Spare | | | | 2 |
| S-PLC | | 40150 | 4 | | | 40421 | 4 | 40421 | 12 | | | | | Spare | | | | Spare | | | | 2 |
| S-PLC | | 40150 | 5 | | | 40421 | 5 | 40421 | 11 | | | STARTPMP3 | DSTARTPMP3 | PP#3 | Pump | Start | Command | PP#3 Pump Start Command | | Normal | Start Seq | 2 |
| S-PLC | | 40150 | 6 | | | 40421 | 6 | 40421 | 10 | | | STOPPMP3 | DSTOPPMP3 | PP#3 | Pump | Stop | Command | PP#3 Pump Stop Command | | Normal | Stop Seq | 2 |
| S-PLC | | 40150 | 7 | | | 40421 | 7 | 40421 | 9 | | | IMMEDSD3 | DIMMEDSD3 | PP#3 | Immediate | Stop | Command | PP#3 Immediate Stop Command | | Normal | Immed Stop | 2 |
| S-PLC | | 40150 | 8 | | | 40421 | 8 | 40421 | 8 | | | CONTROLSD3 | DCONTROLSD3 | PP#3 | Controlled | Quick Stop | Command | PP#3 Controlled Quick Stop Command | | Normal | Control Stop | 2 |
| S-PLC | | 40150 | 9 | | | 40421 | 9 | 40421 | 7 | | | POWERFAIL | DPOWERFAIL | Power | fail | status | | Power fail status | | Normal | Powerfail | 2 |
| S-PLC | | 40150 | 10 | | | 40421 | 10 | 40421 | 6 | | | SPLCOK | DSPLCOK | S-PLC | Health | Check By | P-PLC23 | S-PLC Health Check By P-PLC23 | | S-PLC Reset | P-PLC Set | 2 |
| S-PLC | | 40150 | 11 | | | 40421 | 11 | 40421 | 5 | | | DVOPEN3 | DDVOPEN3 | Discharge | Valve DV-3 | Open | | Discharge Valve DV-3 Open | | Normal | Open | 2 |
| S-PLC | | 40150 | 12 | | | 40421 | 12 | 40421 | 4 | | | DVCLOSE3 | DDVCLOSE3 | Discharge | Valve DV-3 | Close | | Discharge Valve DV-3 Close | | Normal | Close | 2 |
| S-PLC | | 40150 | 13 | | | 40421 | 13 | 40421 | 3 | | | | | | | | | | | | | 2 |
| S-PLC | | 40150 | 14 | | | 40421 | 14 | 40421 | 2 | | | | DDVQCLOSEOK | Spare | | | | Discharge Valve Quick Close Allowed | | Not Allowed | Allowed | 2 |
| S-PLC | | 40150 | 15 | | | 40421 | 15 | 40421 | 1 | | | | DSTARTOK3 | Spare | | | | OK to Start Pump 3 - Reactor Capacity OK | | Not Allowed | Allowed | 2 |
| S-PLC | | 40150 | 16 | | | 40421 | 16 | 40421 | 0 | | | | | Spare | | | | Spare | | | | 2 |
| S-PLC | | 40151 | 1 | | | 40422 | 1 | 40422 | 15 | | | | | Spare | | | | Spare | | | | 2 |
| S-PLC | | 40151 | 2 | | | 40422 | 2 | 40422 | 14 | | | | | Spare | | | | Spare | | | | 2 |
| S-PLC | | 40151 | 3 | | | 40422 | 3 | 40422 | 13 | | | | | Spare | | | | Spare | | | | 2 |
| S-PLC | | 40151 | 4 | | | 40422 | 4 | 40422 | 12 | | | | | Spare | | | | Spare | | | | 2 |
| S-PLC | | 40151 | 5 | | | 40422 | 5 | 40422 | 11 | | | | | Spare | | | | Spare | | | | 2 |
| S-PLC | | 40151 | 6 | | | 40422 | 6 | 40422 | 10 | | | | | Spare | | | | Spare | | | | 2 |
| S-PLC | | 40151 | 7 | | | 40422 | 7 | 40422 | 9 | | | | | Spare | | | | Spare | | | | 2 |
| S-PLC | | 40151 | 8 | | | 40422 | 8 | 40422 | 8 | | | | | Spare | | | | Spare | | | | 2 |
| S-PLC | | 40151 | 9 | | | 40422 | 9 | 40422 | 7 | | | | | Spare | | | | Spare | | | | 2 |
| S-PLC | | 40151 | 10 | | | 40422 | 10 | 40422 | 6 | | | | | Spare | | | | Spare | | | | 2 |
| S-PLC | | 40151 | 11 | | | 40422 | 11 | 40422 | 5 | | | | | Spare | | | | Spare | | | | 2 |
| S-PLC | | 40151 | 12 | | | 40422 | 12 | 40422 | 4 | | | | | Spare | | | | Spare | | | | 2 |
| S-PLC | | 40151 | 13 | | | 40422 | 13 | 40422 | 3 | | | | | Spare | | | | Spare | | | | 2 |
| S-PLC | | 40151 | 14 | | | 40422 | 14 | 40422 | 2 | | | | | Spare | | | | Spare | | | | 2 |
| S-PLC | | 40151 | 15 | | | 40422 | 15 | 40422 | 1 | | | | | Spare | | | | Spare | | | | 2 |
| S-PLC | | 40151 | 16 | | | 40422 | 16 | 40422 | 0 | | | | | Spare | | | | Spare | | | | 2 |
| **Analog Writes from S-PLC to Pump #3** | | | | | | | | | | | | | | | | | | | | | | |
| S-PLC | | 40152 | | | | 40423 | | 40423 | | | | | | Spare | | | | Spare | | | | 2 |
| S-PLC | | 40153 | | | | 40424 | | 40424 | | | | | | Spare | | | | Spare | | | | 2 |
| S-PLC | | 40154 | | | | 40425 | | 40425 | | | | | | Spare | | | | Spare | | | | 2 |
| **Analog Writes from Host to Pump #3** | | | | | | | | | | | | | | | | | | | | | | |
| Host | | 40155 | | | | 40426 | | 40426 | | | | | | Spare | | | | Spare | | | | 2 & |
| Host | | 40156 | | | | 40427 | | 40427 | | | | | | Spare | | | | Spare | | | | 2 & |
| Host | | 40157 | | | | 40428 | | 40428 | | | | | | Spare | | | | Spare | | | | 2 & |
| Host | | 40158 | | | | 40429 | | 40429 | | | | | | Spare | | | | Spare | | | | 2 & |
| Host | | 40159 | | | | 40430 | | 40430 | | | | | | Spare | | | | Spare | | | | 2 & |
| Host | | 40160 | | | | 40431 | | 40431 | | | | | | Spare | | | | Spare | | | | 2 & |
| Host | | 40161 | | | | 40432 | | 40432 | | | | | | Spare | | | | Spare | | | | 2 & |
| Host | | 40162 | | | | 40433 | | 40433 | | | | | | Spare | | | | Spare | | | | 2 & |
| Host | | 40163 | | | | 40434 | | 40434 | | | | | | Spare | | | | Spare | | | | 2 & |
| Host | | 40164 | | | | 40435 | | 40435 | | | | | | Spare | | | | Spare | | | | 2 & |
| Host | | 40165 | | | | 40436 | | 40436 | | | | | | Spare | | | | Spare | | | | 2 & |
| Host | | 40166 | | | | 40437 | | 40437 | | | | | | Spare | | | | Spare | | | | 2 & |
| Host | | 40167 | | | | 40438 | | 40438 | | | | DPLOLIM3 | DDPLOLIM3 | Disch | Pressure | Lo | Alarm | Disch Pressure Lo Alarm | | psig | 0-100 | 2 & |
| Host | | 40168 | | | | 40439 | | 40439 | | | | DPLOLOLIM3 | DDPLOLOLIM3 | Disch | Pressure | LoLo | Shutdown | Disch Pressure LoLo Shutdown | | psig | 0-100 | 2 & |
| Host | | 40169 | | | | 40440 | | 40440 | | | | DSHPRSTIM3 | DDSHPRSTIM3 | DischPres | SeqFail | Timer | | DischPres SeqFail Timer | | secs | 0-9999 | 2 & |
| Host | | 40170 | | | | 40441 | | 40441 | | | | DSVOPNTIM3 | DDSVOPNTIM3 | Valve | Open | SeqFail | Timer | Valve Open SeqFail Timer | | secs | 0-9999 | 2 & |
| Host | | 40171 | | | | 40442 | | 40442 | | | | DSVCLSTIM3 | DDSVCLSTIM3 | Valve | Close | SeqFail | Timer | Valve Close SeqFail Timer | | secs | 0-9999 | 2 & |
| Host | | 40172 | | | | 40443 | | 40443 | | | | DSVINTTIM3 | DDSVINTTIM3 | Valve | Interm | SeqFail | Timer | Valve Interm SeqFail Timer | | secs | 0-9999 | 2 & |
| Host | | 40173 | | | | 40444 | | 40444 | | | | DSHVRMPTIM3 | DDSHVRMPTIM3 | Valve | Open/Close | Ramp | Time | Valve Open/Close Ramp Time | | secs | 0-9999 | 2 & |
| Host | | 40174 | | | | 40445 | | 40445 | | | | | | Spare | | | | Spare | | | | 2 & |
| Host | | 40175 | | | | 40446 | | 40446 | | | | | | Spare | | | | Spare | | | | 2 & |
| Host | | 40176 | | | | 40447 | | 40447 | | | | STARTIM3 | DSTARTIM3 | Start | SeqFail | Timer | | Start SeqFail Timer | | secs | 0-9999 | 2 & |
| Host | | 40177 | | | | 40448 | | 40448 | | | | RESTARTIM3 | DRESTARTIM3 | Seconds | Between | Motor | Re-starts | Seconds Between Motor Re-starts | | secs | 0-9999 | 2 & |
| Host | | 40178 | | | | 40449 | | 40449 | | | | STOPTIM3 | DSTOPTIM3 | Time After | Stop Before | Allowing | Re-start | Time After Stop Before Allowing Re-start | | secs | 0-9999 | 2 & |
| Host | | 40179 | | | | 40450 | | 40450 | | | | | | Spare | | | | Spare | | | | 2 & |
| S-PLC | | 40180 | | | | 40451 | | 40451 | | | | | | Spare | | | | Spare | | | | 2 |
| S-PLC | | 40181 | | | | 40452 | | 40452 | | | | | | Spare | | | | Spare | | | | 2 |
| S-PLC | | 40182 | | | | 40453 | | 40453 | | | | | | Spare | | | | Spare | | | | 2 |
| S-PLC | | 40183 | | | | 40454 | | 40454 | | | | | | Spare | | | | Spare | | | | 2 |
| S-PLC | | 40184 | | | | 40455 | | 40455 | | | | | | Spare | | | | Spare | | | | 2 |
| S-PLC | | 40185 | | | | 40456 | | 40456 | | | | | | Spare | | | | Spare | | | | 2 |
| S-PLC | | 40186 | | | | 40457 | | 40457 | | | | | | Spare | | | | Spare | | | | 2 |
| S-PLC | | 40187 | | | | 40458 | | 40458 | | | | | | Spare | | | | Spare | | | | 2 |
| S-PLC | | 40188 | | | | 40459 | | 40459 | | | | | | Spare | | | | Spare | | | | 2 |
| S-PLC | | 40189 | | | | 40460 | | 40460 | | | | | | Spare | | | | Spare | | | | 2 |
| **Analog Writes from S-PLC to UVM-PLC 51** | | | | | | | | | | | | | | | | | | | | | | |
| S-PLC | | | | 47059 | | 41859 | | 41859 | | | | | | | | | | | | | | |
| **Analog Writes from Host to S-PLC** | | | | | | | | | | | | | | | | | | | | | | |
| Host | | | | | | 40581 | | 40581 | | | | PIDSETP | DPIDSETP | Surge | Tank | Level | Setpoint | Surge Tank Level Setpoint | | 230.43-263.00m | 0.0-9999.0 | 2 & |
| Host | | | | | | 40582 | | 40582 | | | | PIDHIL | DPIDHIL | Surge | Tank | Level | High | Surge Tank Level High | | 230.43-263.00m | 0.0-9999.0 | 2 & |
| Host | | | | | | 40583 | | 40583 | | | | PIDLOL | DPIDLOL | Surge | Tank | Level | Low | Surge Tank Level Low | | 230.43-263.00m | 0.0-9999.0 | 2 & |
| Host | | | | | | 40584 | | 40584 | | | | PIDHIENG | DPIDHIENG | Surge | Tank | Eng Units | High | Surge Tank Eng Units High | | 230.43-263.00m | 0.0-9999.0 | 2 & |
| Host | | | | | | 40585 | | 40585 | | | | PIDLOENG | DPIDLOENG | Surge | Tank | Eng Units | Low | Surge Tank Eng Units Low | | 230.43-263.00m | 0.0-9999.0 | 2 & |
| Host | | | | | | 40586 | | 40586 | | | | PIDPROPB | DPIDPROPB | Surge | Tank | PID Prop | Band | Surge Tank PID Prop Band | | | 5-500 | 2 & |

| Source Device | Source Address | P-PLC | Bit | UVM PLC | Bit | S-PLC | Bit | SCADA Poll | Bit | S-PLC Internal | Bit | Device/Point Tag Name | Device/Point Tag Name | Desc 1 | Desc 2 | Desc 3 | Desc 4 | Point Description | Alarm (A) Status (S) | "0" State / Units | "1" State / Range | Mdl Adc |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Host | | | | | | 40587 | | 40587 | | | | PIDINTG | DPIDINTG | Surge | Tank | PID Integral | Repeats/Min | Surge Tank PID Integral Repeats/Min | | | 0-9999 | 2 & |
| Host | | | | | | 40588 | | 40588 | | | | PIDDER | DPIDDER | Surge | Tank | PID Deriv | Repeats/Min | Surge Tank PID Deriv Repeats/Min | | | 0-9999 | 2 & |
| Host | | | | | | 40589 | | 40589 | | | | PIDMANOUT | DPIDMANOUT | PID | Manual | Output | | PID Manual Output | | 0-100% | 0-4095 | 2 & |
| Host | | | | | | 40590 | | 40590 | | | | AQFLOW1 | DAQFLOW1 | Aquaduct | Branch 1 | Flow | Rate | Aquaduct Branch 1 Flow Rate | | 100's m3/d | 0-12000 | 2 & |
| Host | | | | | | 40591 | | 40591 | | | | AQFLOW2 | DAQFLOW2 | Aquaduct | Branch 2 | Flow | Rate | Aquaduct Branch 2 Flow Rate | | 100's m3/d | 0-12000 | 2 & |
| Host | | | | | | 40592 | | 40592 | | | | CL2SETP1 | DCL2SETP1 | CL2 #1 | Flow Rate | Setpoint | | CL2 #1 Flow Rate Setpoint | | 10^-3 mg/litre | 0-4000 | 2 & |
| Host | | | | | | 40593 | | 40593 | | | | CL2SETP2 | DCL2SETP2 | CL2 #2 | Flow Rate | Setpoint | | CL2 #2 Flow Rate Setpoint | | 10^-3 mg/litre | 0-4000 | 2 & |
| Host | | | | | | 40594 | | 40594 | | | | RVLV302OPSP | DRVLV302OPSP | Valve VC-302 | % Open | Setpoint | | Valve VC-302 % Open Setpoint | | 0-100% | 0-100 | 2 & |
| Host | | | | | | 40595 | | 40595 | | | | RVLV050OPSP | DRVLV050OPSP | Valve 050-DHV-1 | % Open | Setpoint | | Valve 050-DHV-1 % Open Setpoint | | 0-100% | 0-100 | 2 & |
| Host | | | | | | 40596 | | 40596 | | | | | DCL2SETP3 | Spare | | | | CL2 #3 Flow Rate Setpoint | | 10^-3 mg/litre | 0-4000 | 2 & |
| Host | | | | | | 40597 | | 40597 | | | | | | Spare | | | | Spare | | | | 2 & |
| Host | | | | | | 40598 | | 40598 | | | | | | Spare | | | | Spare | | | | 2 & |
| Host | | | | | | 40599 | | 40599 | | | | | | Spare | | | | Spare | | | | 2 & |
| Host | | | | | | 40600 | | 40600 | | | | | | Spare | | | | Spare | | | | 2 & |
| Host | | | | | | 40601 | | 40601 | | | | | | Spare | | | | Spare | | | | 2 & |
| Host | | | | | | 40602 | | 40602 | | | | | | Spare | | | | Spare | | | | 2 & |
| Host | | | | | | 40603 | | 40603 | | | | | | Spare | | | | Spare | | | | 2 & |
| Host | | | | | | 40604 | | 40604 | | | | | | Spare | | | | Spare | | | | 2 & |
| Host | | | | | | 40605 | | 40605 | | | | | | Spare | | | | Spare | | | | 2 & |
| Host | | | | | | 40606 | | 40606 | | | | | | Spare | | | | Spare | | | | 2 & |
| Host | | | | | | 40607 | | 40607 | | | | | | Spare | | | | Spare | | | | 2 & |
| Host | | | | | | 40608 | | 40608 | | | | | | Spare | | | | Spare | | | | 2 & |
| Host | | | | | | 40609 | | 40609 | | | | | | Spare | | | | Spare | | | | 2 & |
| Host | | | | | | 40610 | | 40610 | | | | | | Spare | | | | Spare | | | | 2 & |
| Host | | | | | | 40611 | | 40611 | | | | | | Spare | | | | Spare | | | | 2 & |
| Host | | | | | | 40612 | | 40612 | | | | | | Spare | | | | Spare | | | | 2 & |
| Host | | | | | | 40613 | | 40613 | | | | | | Spare | | | | Spare | | | | 2 & |
| Host | | | | | | 40614 | | 40614 | | | | | | Spare | | | | Spare | | | | 2 & |
| Host | | | | | | 40615 | | 40615 | | | | | | Spare | | | | Spare | | | | 2 & |
| Host | | | | | | 40616 | | 40616 | | | | | | Spare | | | | Spare | | | | 2 & |
| Host | | | | | | 40617 | | 40617 | | | | | | Spare | | | | Spare | | | | 2 & |
| Host | | | | | | 40618 | | 40618 | | | | | | Spare | | | | Spare | | | | 2 & |
| Host | | | | | | 40619 | | 40619 | | | | | | Spare | | | | Spare | | | | 2 & |
| Host | | | | | | 40620 | | 40620 | | | | | | Spare | | | | Spare | | | | 2 & |
| Host | | | | | | 40621 | | 40621 | | | | | | Spare | | | | Spare | | | | 2 & |
| Host | | | | | | 40622 | | 40622 | | | | | | Spare | | | | Spare | | | | 2 & |
| Host | | | | | | 40623 | | 40623 | | | | | | Spare | | | | Spare | | | | 2 & |
| Host | | | | | | 40624 | | 40624 | | | | | | Spare | | | | Spare | | | | 2 & |
| Host | | | | | | 40625 | | 40625 | | | | | | Spare | | | | Spare | | | | 2 & |
| Host | | | | | | 40626 | | 40626 | | | | | | Spare | | | | Spare | | | | 2 & |
| Host | | | | | | 40627 | | 40627 | | | | | | Spare | | | | Spare | | | | 2 & |
| Host | | | | | | 40628 | | 40628 | | | | | | Spare | | | | Spare | | | | 2 & |
| Host | | | | | | 40629 | | 40629 | | | | | | Spare | | | | Spare | | | | 2 & |
| Host | | | | | | 40630 | | 40630 | | | | | | Spare | | | | Spare | | | | 2 & |
| Host | | | | | | 40631 | | 40631 | | | | | | Spare | | | | Spare | | | | 2 & |
| Host | | | | | | 40632 | | 40632 | | | | CL2CONFIG | DCL2CONFIG | Chlorinator | Configuration | | | Chlorinator Configuration | | | 1-7 | 2 & |
| Host | | | | | | 40633 | | 40633 | | | | | | Spare | | | | Spare | | | | 2 & |
| Host | | | | | | 40634 | | 40634 | | | | POWRONDELY | DPOWRONDELY | Delay After | Power On | Before | Re-Start | Delay After Power On Before Re-Start | | mins | 0-9999 | 2 & |
| Host | | | | | | 40635 | | 40635 | | | | COMFAILTIM | DCOMFAILTIM | Loss | Communications | Failure | Timer | Loss Communications Failure Timer | | secs | 0-9999 | 2 & |
| Host | | | | | | 40636 | | 40636 | | | | | | Spare | | | | Spare | | | | 2 & |
| Host | | | | | | 40637 | | 40637 | | | | | | Spare | | | | Spare | | | | 2 & |
| Host | | | | | | 40638 | | 40638 | | | | | | Spare | | | | Spare | | | | 2 & |
| Host | | | | | | 40639 | | 40639 | | | | | | Spare | | | | Spare | | | | 2 & |
| Host | | | | | | 40640 | | 40640 | | | | | | | | | | | | | | 2 & |
| Host | | | | | | 40641 | | 40641 | | | | | | | | | | | | | | 2 & |
| Host | | | | | | 40642 | | 40642 | | | | | | | | | | | | | | 2 & |
| | | | | | | | | | | | | | | | | | | | | | | |
| Reserved Registers | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | 40700 | | 40700 | | | | | | | | | | | | | 1 & 33 | 984 |
| | | | | | | 40701 | | 40701 | | | | | | | | | | | | | 1 & 33 | 984 |
| | | | | | | : | | : | | | | | | | | | | | | | 1 & 33 | 984 |
| | | | | | | : | | : | | | | | | | | | | | | | 1 & 33 | 984 |
| | | | | | | 40750 | | 40750 | | | | | | | | | | | | | 1 & 33 | 984 |
| Analog Read Only Points | | | | | | | | | | | | | | | | | | | | | | |
| 1,33 | | | | | | 41001 | | 41001 | | | | | | Spare | | | | Spare | | kVA | IEEE flt | 2 & |
| 1,33 | | | | | | 41002 | | 41002 | | | | | | Spare | | | | Spare | | kVA | IEEE flt | 2 & |
| 1,33 | | | | | | 41003 | | 41003 | | | | | | Spare | | | | Spare | | | 0-6 | 2 & |
| 1,33 | | | | | | 41004 | | 41004 | | | | | | Spare | | | | Spare | | 0-300 Ml/d | 820-4095 | 2 & |
| 1,33 | | | | | | 41005 | | 41005 | | | | | | Spare | | | | Spare | | | | 2 & |
| 1,33 | | | | | | 41006 | | 41006 | | | | | | Spare | | | | Spare | | | | 2 & |
| 1,33 | | | | | | 41007 | | 41007 | | | | | | Spare | | | | Spare | | 0-300 Ml/d | 820-4095 | 2 & |
| 1,33 | | | | | | 41008 | | 41008 | | | | | | Spare | | | | Spare | | | | 2 & |
| 1,33 | | | | | | 41009 | | 41009 | | | | | | Spare | | | | Spare | | | | 2 & |
| 1,33 | | | | | | 41010 | | 41010 | | | | | | Spare | | | | Spare | | | | 2 & |
| Analog Read Only Points from I/O PLC-11 | | | | | | | | | | | | | | | | | | | | | | |
| 11 | 30001 | 40201 | | | | 41061 | | 41061 | | | | DMC_803_FT | DMC_803_FT | CL2 | Mass | Flow | | CL2 Mass Flow #3 | | 0 - 5000 kg/d | 820-4095 | 2 & |
| 11 | 30002 | 40202 | | | | 41062 | | 41062 | | | | DMD_256_LT | DMD_256_LT | Surge | Tank | Level | | Surge Tank Level | | 237.3-262.4m | 820-4095 | 2 & |
| 11 | 30003 | 40203 | | | | 41063 | | 41063 | | | | DMD_257_LT | DMD_257_LT | Surge | Tank | Level | | Surge Tank Level | | 0 - 35 m | 820-4095 | 2 & |
| 11 | 30004 | 40204 | | | | 41064 | | 41064 | | | | DMR_001_LT | DMR_001_LT | Cell #1 | Level | | | Cell #1 Level | | 0 - 5 m | 820-4095 | 2 & |
| 11 | 30005 | 40205 | | | | 41065 | | 41065 | | | | DMR_002_LT | DMR_002_LT | Cell #2 | Level | | | Cell #2 Level | | 0 - 5 m | 820-4095 | 2 & |
| 11 | 30006 | 40206 | | | | 41066 | | 41066 | | | | DMR_003_LT | DMR_003_LT | Cell #3 | Level | | | Cell #3 Level | | 0 - 5 m | 820-4095 | 2 & |
| 11 | 30007 | 40207 | | | | 41067 | | 41067 | | | | DMR_004_LT | DMR_004_LT | Cell #4 | Level | | | Cell #4 Level | | 0 - 5 m | 820-4095 | 2 & |
| 11 | 30008 | 40208 | | | | 41068 | | 41068 | | | | DMR_005_AT | DMR_005_AT | Cell #1 | Turbidity | | | Cell #1 Turbidity | | | 820-4095 | 2 & |
| 11 | 30009 | 40209 | | | | 41069 | | 41069 | | | | DMR_840_AT | DMR_840_AT | Cell #1 | Flouride | | | Cell #1 Flouride | | | 820-4095 | 2 & |
| 11 | 30010 | 40210 | | | | 41070 | | 41070 | | | | | DMC_806_FT | Spare | | | | CL2 Mass Flow #1,2 | | 0-5000 kg/d | 820-4095 | 2 & |

| Source Device | Source Address | P-PLC | Bit | UVM PLC | Bit | S-PLC | Bit | SCADA Poll | Bit | S-PLC Internal | Bit | Device/Point Tag Name | Device/Point Tag Name | Desc 1 | Desc 2 | Desc 3 | Desc 4 | Point Description | Alarm (A) Status (S) | "0" State / Units | "1" State / Range | Mdl Adc |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 11 | 30011 | 40211 | | | | 41071 | | 41071 | | | | | | Spare | | | | Spare | | | | 2 & |
| 11 | 30012 | 40212 | | | | 41072 | | 41072 | | | | | | Spare | | | | Spare | | | | 2 & |
| 11 | 30013 | 40213 | | | | 41073 | | 41073 | | | | | | Spare | | | | Spare | | | | 2 & |
| 11 | 30014 | 40214 | | | | 41074 | | 41074 | | | | | | Spare | | | | Spare | | | | 2 & |
| 11 | 30015 | 40215 | | | | 41075 | | 41075 | | | | | | Spare | | | | Spare | | | | 2 & |
| 11 | 30016 | 40216 | | | | 41076 | | 41076 | | | | | | Spare | | | | Spare | | | | 2 & |
| 11 | 30019 | 40217 | | | | 41077 | | 41077 | | | | | | Spare | | | | Spare | | | | 2 & |
| 11 | 30020 | 40218 | | | | 41078 | | 41078 | | | | | | Spare | | | | Spare | | | | 2 & |
| 11 | 30021 | 40219 | | | | 41079 | | 41079 | | | | | | Spare | | | | Spare | | | | 2 & |
| 11 | 30022 | 40220 | | | | 41080 | | 41080 | | | | | | Spare | | | | Spare | | | | 2 & |
| 11 | 30023 | 40221 | | | | 41081 | | 41081 | | | | | | Spare | | | | Spare | | | | 2 & |
| 11 | 30024 | 40222 | | | | 41082 | | 41082 | | | | | | Spare | | | | Spare | | | | 2 & |
| 11 | 30025 | 40223 | | | | 41083 | | 41083 | | | | | | Spare | | | | Spare | | | | 2 & |
| 11 | 30026 | 40224 | | | | 41084 | | 41084 | | | | | | Spare | | | | Spare | | | | 2 & |
| 11 | 40001 | 40225 | | | | 41085 | | 41085 | | | | DMD_051_ZC | DMD_051_ZC | DV-4 | Valve | Control | | DV-4 Valve Control | | 0 - 100 % | 2400-4000 | 2 & |
| 11 | 40002 | 40226 | | | | 41086 | | 41086 | | | | | | Spare | | | | Spare | | | | 2 & |
| 11 | 40003 | 40227 | | | | 41087 | | 41087 | | | | | | Spare | | | | Spare | | | | 2 & |
| 11 | 40004 | 40228 | | | | 41088 | | 41088 | | | | | | Spare | | | | Spare | | | | 2 & |
| 11 | 40005 | 40229 | | | | 41089 | | 41089 | | | | | | Spare | | | | Spare | | | | 2 & |
| 11 | 40006 | 40230 | | | | 41090 | | 41090 | | | | | | Spare | | | | Spare | | | | 2 & |
| 11 | | 40231 | | | | 41091 | | 41091 | | | | | | Spare | | | | Spare | | | | 2 & |
| 11 | | 40232 | | | | 41092 | | 41092 | | | | | | Spare | | | | Spare | | | | 2 & |
| 11 | | 40233 | | | | 41093 | | 41093 | | | | | | Spare | | | | Spare | | | | 2 & |
| 11 | | 40234 | | | | 41094 | | 41094 | | | | | | Spare | | | | Spare | | | | 2 & |
| 11 | | 40235 | | | | 41095 | | 41095 | | | | | | Spare | | | | Spare | | | | 2 & |
| 11 | | 40236 | | | | 41096 | | 41096 | | | | | | Spare | | | | Spare | | | | 2 & |
| 11 | | 40237 | | | | 41097 | | 41097 | | | | | | Spare | | | | Spare | | | | 2 & |
| 11 | | 40238 | | | | 41098 | | 41098 | | | | | | Spare | | | | Spare | | | | 2 & |
| 11 | | 40239 | | | | 41099 | | 41099 | | | | | | Spare | | | | Spare | | | | 2 & |
| 11 | | 40240 | | | | 41100 | | 41100 | | | | | | Spare | | | | Spare | | | | 2 & |
| Analog Read Only Points From I/O PLC-12 | | | | | | | | | | | | | | | | | | | | | | 2 & |
| 12 | | 40201 | | | | 41101 | | 41101 | | | | | | Spare | | | | Spare | | | | 2 & |
| 12 | | 40202 | | | | 41102 | | 41102 | | | | | | Spare | | | | Spare | | | | 2 & |
| 12 | | 40203 | | | | 41103 | | 41103 | | | | | | Spare | | | | Spare | | | | 2 & |
| 12 | | 40204 | | | | 41104 | | 41104 | | | | | | Spare | | | | Spare | | | | 2 & |
| 12 | | 40205 | | | | 41105 | | 41105 | | | | | | Spare | | | | Spare | | | | 2 & |
| 12 | | 40206 | | | | 41106 | | 41106 | | | | | | Spare | | | | Spare | | | | 2 & |
| 12 | | 40207 | | | | 41107 | | 41107 | | | | | | Spare | | | | Spare | | | | 2 & |
| 12 | | 40208 | | | | 41108 | | 41108 | | | | | | Spare | | | | Spare | | | | 2 & |
| 12 | | 40209 | | | | 41109 | | 41109 | | | | | | Spare | | | | Spare | | | | 2 & |
| 12 | | 40210 | | | | 41110 | | 41110 | | | | | | Spare | | | | Spare | | | | 2 & |
| 12 | | 40211 | | | | 41111 | | 41111 | | | | | | Spare | | | | Spare | | | | 2 & |
| 12 | | 40212 | | | | 41112 | | 41112 | | | | | | Spare | | | | Spare | | | | 2 & |
| 12 | | 40213 | | | | 41113 | | 41113 | | | | | | Spare | | | | Spare | | | | 2 & |
| 12 | | 40214 | | | | 41114 | | 41114 | | | | | | Spare | | | | Spare | | | | 2 & |
| 12 | | 40215 | | | | 41115 | | 41115 | | | | | | Spare | | | | Spare | | | | 2 & |
| 12 | | 40216 | | | | 41116 | | 41116 | | | | | | Spare | | | | Spare | | | | 2 & |
| 12 | | 40217 | | | | 41117 | | 41117 | | | | | | Spare | | | | Spare | | | | 2 & |
| 12 | | 40218 | | | | 41118 | | 41118 | | | | | | Spare | | | | Spare | | | | 2 & |
| 12 | | 40219 | | | | 41119 | | 41119 | | | | | | Spare | | | | Spare | | | | 2 & |
| 12 | | 40220 | | | | 41120 | | 41120 | | | | | | Spare | | | | Spare | | | | 2 & |
| Analog Read Only Points From Pump #1 | | | | | | | | | | | | | | | | | | | | | | |
| 21 | 30001 | 40201 | | | | 41121 | | 41121 | | | | DAE_041_PT | DAE_041_PT | PP#1 | Diff | Pressure | (A/I) | PP#1 Diff Pressure (A/I) | | 0 - 50 psig | 820-4095 | 2 & |
| 21 | 30002 | 40202 | | | | 41122 | | 41122 | | | | | DAE_041_ST | Spare | | | | PP#1 Speed | | 0 - 600 RPM | 820-4095 | 2 & |
| 21 | 30003 | 40203 | | | | 41123 | | 41123 | | | | | | Spare | | | | Spare | | | | 2 & |
| 21 | 30004 | 40204 | | | | 41124 | | 41124 | | | | | | Spare | | | | Spare | | | | 2 & |
| 21 | | 40205 | | | | 41125 | | 41125 | | | | | | Spare | | | | Spare | | | | 2 & |
| 21 | | 40206 | | | | 41126 | | 41126 | | | | | | Spare | | | | Spare | | | | 2 & |
| 21 | | 40207 | | | | 41127 | | 41127 | | | | | | Spare | | | | Spare | | | | 2 & |
| 21 | | 40208 | | | | 41128 | | 41128 | | | | | | Spare | | | | Spare | | | | 2 & |
| 21 | 40001 | 40209 | | | | 41129 | | 41129 | | | | DAD_041_ZC | DAD_041_ZC | PP#1 | Disch Valve | DV-1 Control | (A/O) | PP#1 Disch Valve DV-1 Control (A/O) | | 0 - 100 % | 2400-4000 | 2 & |
| 21 | 40002 | 40210 | | | | 41130 | | 41130 | | | | | | Spare | | | | Spare | | | | 2 & |
| 21 | 40003 | 40211 | | | | 41131 | | 41131 | | | | | | Spare | | | | Spare | | | | 2 & |
| 21 | 40004 | 40212 | | | | 41132 | | 41132 | | | | | | Spare | | | | Spare | | | | 2 & |
| Analog Read Only Points From Pump #2 | | | | | | | | | | | | | | | | | | | | | | |
| 22 | 30001 | 40201 | | | | 41141 | | 41141 | | | | DBE_042_PT | DBE_042_PT | PP#2 | Diff | Pressure | (A/I) | PP#2 Diff Pressure (A/I) | | 0 - 50 psig | 820-4095 | 2 & |
| 22 | 30002 | 40202 | | | | 41142 | | 41142 | | | | | DBE_042_ST | Spare | | | | PP#2 Speed | | 0 - 600 RPM | 820-4095 | 2 & |
| 22 | 30003 | 40203 | | | | 41143 | | 41143 | | | | | | Spare | | | | Spare | | | | 2 & |
| 22 | 30004 | 40204 | | | | 41144 | | 41144 | | | | | | Spare | | | | Spare | | | | 2 & |
| 22 | | 40205 | | | | 41145 | | 41145 | | | | | | Spare | | | | Spare | | | | 2 & |
| 22 | | 40206 | | | | 41146 | | 41146 | | | | | | Spare | | | | Spare | | | | 2 & |
| 22 | | 40207 | | | | 41147 | | 41147 | | | | | | Spare | | | | Spare | | | | 2 & |
| 22 | | 40208 | | | | 41148 | | 41148 | | | | | | Spare | | | | Spare | | | | 2 & |
| 22 | 40001 | 40209 | | | | 41149 | | 41149 | | | | DBD_042_ZC | DBD_042_ZC | PP#2 | Disch Valve | DV-2 Control | (A/O) | PP#2 Disch Valve DV-2 Control (A/O) | | 0 - 100 % | 2400-4000 | 2 & |
| 22 | 40002 | 40210 | | | | 41150 | | 41150 | | | | | | Spare | | | | Spare | | | | 2 & |
| 22 | 40003 | 40211 | | | | 41151 | | 41151 | | | | | | Spare | | | | Spare | | | | 2 & |
| 22 | 40004 | 40212 | | | | 41152 | | 41152 | | | | | | Spare | | | | Spare | | | | 2 & |
| Analog Read Only Points From Pump #3 | | | | | | | | | | | | | | | | | | | | | | |
| 23 | 30001 | 40201 | | | | 41161 | | 41161 | | | | DCE_043_PT | DCE_043_PT | PP#3 | Diff | Pressure | (A/I) | PP#3 Diff Pressure (A/I) | | 0 - 50 psig | 820-4095 | 2 & |
| 23 | 30002 | 40202 | | | | 41162 | | 41162 | | | | | DCE_043_ST | Spare | | | | PP#3 Speed | | 0 - 600 RPM | 820-4095 | 2 & |
| 23 | 30003 | 40203 | | | | 41163 | | 41163 | | | | | | Spare | | | | Spare | | | | 2 & |
| 23 | 30004 | 40204 | | | | 41164 | | 41164 | | | | | | Spare | | | | Spare | | | | 2 & |
| 23 | | 40205 | | | | 41165 | | 41165 | | | | | | Spare | | | | Spare | | | | 2 & |
| 23 | | 40206 | | | | 41166 | | 41166 | | | | | | Spare | | | | Spare | | | | 2 & |

| Source Device | Source Address | P-PLC | Bit | UVM PLC | Bit | S-PLC | Bit | SCADA Poll | Bit | S-PLC Internal | Bit | Device/Point Tag Name | Device/Point Tag Name | Desc 1 | Desc 2 | Desc 3 | Desc 4 | Point Description | Alarm (A) Status (S) | "0" State / Units | "1" State / Range | Mdl Adc |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 23 | | 40207 | | | | 41167 | | 41167 | | | | | | Spare | | | | Spare | | | | 2 & |
| 23 | | 40208 | | | | 41168 | | 41168 | | | | | | Spare | | | | Spare | | | | 2 & |
| 23 | 40001 | 40209 | | | | 41169 | | 41169 | | | | DCD_043_ZC | DCD_043_ZC | PP#3 | Disch Valve | DV-3 Control | (A/O) | PP#3 Disch Valve DV-3 Control (A/O) | | 0 - 100 % | 2400-4000 | 2 & |
| 23 | 40002 | 40210 | | | | 41170 | | 41170 | | | | | | Spare | | | | Spare | | | | 2 & |
| 23 | 40003 | 40211 | | | | 41171 | | 41171 | | | | | | Spare | | | | Spare | | | | 2 & |
| 23 | 40004 | 40212 | | | | 41172 | | 41172 | | | | | | Spare | | | | Spare | | | | 2 & |
| Analog Read Only Points From UMV-PLC 51 | | | | | | | | | | | | | | | | | | | | | | |
| 51 | 44060 | | | 47006 | | 41181 | | 41181 | | | | DCE_043_PT | DFI_BRNCH_1 | PP#3 | Diff | Pressure | (A/I) | Combined Reactor Flow Branch #1 | | 0 - 500 MLD | 820-4095 | 2 & |
| 51 | 44064 | | | 47007 | | 41182 | | 41182 | | | | | DFI_BRNCH_2 | Spare | | | | Combined Reactor Flow Branch #2 | | 0 - 500 MLD | 820-4095 | 2 & |
| 51 | 30010 | | | 47008 | | 41183 | | 41183 | | | | | DD_050_ZT1 | Spare | | | | DD-050-DHV-1 Valve Position | | 0 - 100% | 820-4095 | 2 & |
| 51 | 40007 | | | 47009 | | 41184 | | 41184 | | | | | DD_050_ZC1 | Spare | | | | DD-050-DHV-1 Valve Control Output | | 0 - 100% | 820-4095 | 2 & |

Note 1: All bit addressing as per Modicon naming convention (ie. MSB = 1, LSB = 16)
Note 2: 'Soft' implies a software point communicated between devices and not coming directly from the field

## UVM Communication Database

| DIGITAL - Reactor to RSView (UVM) | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Item # | Tagname/Symbol | Kepware Address | UVM PLC Address | Type | MB+ Node | Unit PLC Address | Description | Set State (1) | Reset State (0) | Comments |
| 1 | UV1100\DI\On_Off_Status | 45800.15 | 45800.1 | DR | 11 | 46100.1 | To RSView - Reactor On/Off Status | On | Off | |
| 2 | UV1100\DI\Rem_Lcl_Control | 45801.15 | 45801.1 | DR | 11 | 46101.1 | To RSView - Remote/Local [Rem=1] | Remote | Local | |
| 3 | UV1100\DI\Wiper1_Auto_Man | 45801.14 | 45801.2 | DR | 11 | 46101.2 | To RSView - Wiper #1 Auto/Man [Auto=1] | Auto | Manual | |
| 4 | UV1100\DI\Wiper2_Auto_Man | 45801.13 | 45801.3 | DR | 11 | 46101.3 | To RSView - Wiper #2 Auto/Man [Auto=1] | Auto | Manual | |
| 5 | UV1100\DI\Wiper3_Auto_Man | 45801.12 | 45801.4 | DR | 11 | 46101.4 | To RSView - Wiper #3 Auto/Man [Auto=1] | Auto | Manual | |
| 6 | UV1100\DI\Bank1_Auto_Man | 45801.11 | 45801.5 | DR | 11 | 46101.5 | To RSView - Lamp Bank #1 Auto/Man [Auto=1] | Auto | Manual | |
| 7 | UV1100\DI\Bank1_KW_Out | 45801.10 | 45801.6 | DR | 11 | 46101.6 | To RSView - Lamp Bank #1 kW/%Out [kW=1] | kW | % Output | Lamp Manual Mode Only |
| 8 | UV1100\DI\Bank2_Auto_Man | 45801.9 | 45801.7 | DR | 11 | 46101.7 | To RSView - Lamp Bank #2 Auto/Man [Auto=1] | Auto | Manual | |
| 9 | UV1100\DI\Bank2_KW_Out | 45801.8 | 45801.8 | DR | 11 | 46101.8 | To RSView - Lamp Bank #2 kW/%Out [kW=1] | kW | % Output | Lamp Manual Mode Only |
| 10 | UV1100\DI\Bank3_Auto_Man | 45801.7 | 45801.9 | DR | 11 | 46101.9 | To RSView - Lamp Bank #3 Auto/Man [Auto=1] | Auto | Manual | |
| 11 | UV1100\DI\Bank3_KW_Out | 45801.6 | 45801.10 | DR | 11 | 46101.10 | To RSView - Lamp Bank #3 kW/%Out [kW=1] | kW | % Output | Lamp Manual Mode Only |
| 12 | UV1100\DI\Lamp_1_1_ON | 45802.15 | 45802.1 | DR | 11 | 46102.1 | To RSView - Lamp #1-1 On Status [On=1] | On | Off | Lamp Contactor Output Status |
| 13 | UV1100\DI\Lamp_1_2_ON | 45802.14 | 45802.2 | DR | 11 | 46102.2 | To RSView - Lamp #1-2 On Status [On=1] | On | Off | Lamp Contactor Output Status |
| 14 | UV1100\DI\Lamp_1_3_ON | 45802.13 | 45802.3 | DR | 11 | 46102.3 | To RSView - Lamp #1-3 On Status [On=1] | On | Off | Lamp Contactor Output Status |
| 15 | UV1100\DI\Lamp_2_1_ON | 45802.12 | 45802.4 | DR | 11 | 46102.4 | To RSView - Lamp #2-1 On Status [On=1] | On | Off | Lamp Contactor Output Status |
| 16 | UV1100\DI\Lamp_2_2_ON | 45802.11 | 45802.5 | DR | 11 | 46102.5 | To RSView - Lamp #2-2 On Status [On=1] | On | Off | Lamp Contactor Output Status |
| 17 | UV1100\DI\Lamp_2_3_ON | 45802.10 | 45802.6 | DR | 11 | 46102.6 | To RSView - Lamp #2-3 On Status [On=1] | On | Off | Lamp Contactor Output Status |
| 18 | UV1100\DI\Lamp_3_1_ON | 45802.9 | 45802.7 | DR | 11 | 46102.7 | To RSView - Lamp #3-1 On Status [On=1] | On | Off | Lamp Contactor Output Status |
| 19 | UV1100\DI\Lamp_3_2_ON | 45802.8 | 45802.8 | DR | 11 | 46102.8 | To RSView - Lamp #3-2 On Status [On=1] | On | Off | Lamp Contactor Output Status |
| 20 | UV1100\DI\Lamp_3_3_ON | 45802.7 | 45802.9 | DR | 11 | 46102.9 | To RSView - Lamp #3-3 On Status [On=1] | On | Off | Lamp Contactor Output Status |
| 21 | UV1100\DI\UV_Val_Mode | 45803.15 | 45803.1 | DR | 11 | 46103.1 | To RSView - UV Validation Mode | UV | Dose | |
| 22 | UV1100\DI\PLC_Battery | 45803.14 | 45803.2 | DR | 11 | 46103.2 | To RSView - CPU Battery Status | OK | Low | |
| 23 | UV1100\DI\PLC_Major_Error | 45803.13 | 45803.3 | DR | 11 | 46103.3 | To RSView - CPU Major Error Status | OK | Error | |
| 24 | UV1100\DI\PLC_Forces | 45803.12 | 45803.4 | DR | 11 | 46103.4 | To RSView - CPU Forces Status | None | Enabled | |
| 25 | UV1100\DI\PLC\DISCONN | 45803.11 | 45803.5 | DR | 11 | | PLC Communication Failed | Alarm | OK | |
| 26 | UV1100\DI\E_STOP | 45805.15 | 45805.1 | DR | 11 | 46105.1 | EMERGENCY STOP | Alarm | OK | |
| 27 | UV1100\DI\Lamp_1_1_Gnd_Flt | 45805.14 | 45805.2 | DR | 11 | 46105.2 | LAMP #1-1 GROUND FAULT | Alarm | OK | |
| 28 | UV1100\DI\Lamp_1_2_Gnd_Flt | 45805.13 | 45805.3 | DR | 11 | 46105.3 | LAMP #1-2 GROUND FAULT | Alarm | OK | |
| 29 | UV1100\DI\Lamp_1_3_Gnd_Flt | 45805.12 | 45805.4 | DR | 11 | 46105.4 | LAMP #1-3 GROUND FAULT | Alarm | OK | |
| 30 | UV1100\DI\Lamp_2_1_Gnd_Flt | 45805.11 | 45805.5 | DR | 11 | 46105.5 | LAMP #2-1 GROUND FAULT | Alarm | OK | |
| 31 | UV1100\DI\Lamp_2_2_Gnd_Flt | 45805.10 | 45805.6 | DR | 11 | 46105.6 | LAMP #2-2 GROUND FAULT | Alarm | OK | |
| 32 | UV1100\DI\Lamp_2_3_Gnd_Flt | 45805.9 | 45805.7 | DR | 11 | 46105.7 | LAMP #2-3 GROUND FAULT | Alarm | OK | |
| 33 | UV1100\DI\Lamp_3_1_Gnd_Flt | 45805.8 | 45805.8 | DR | 11 | 46105.8 | LAMP #3-1 GROUND FAULT | Alarm | OK | |
| 34 | UV1100\DI\Lamp_3_2_Gnd_Flt | 45805.7 | 45805.9 | DR | 11 | 46105.9 | LAMP #3-2 GROUND FAULT | Alarm | OK | |
| 35 | UV1100\DI\Lamp_3_3_Gnd_Flt | 45805.6 | 45805.10 | DR | 11 | 46105.10 | LAMP #3-3 GROUND FAULT | Alarm | OK | |
| 36 | UV1100\DI\Lamp_Bank1_Moisture | 45805.5 | 45805.11 | DR | 11 | 46105.11 | LAMP BANK #1 MOISTURE DETECTED | Alarm | OK | |
| 37 | UV1100\DI\Lamp_Bank2_Moisture | 45805.4 | 45805.12 | DR | 11 | 46105.12 | LAMP BANK #2 MOISTURE DETECTED | Alarm | OK | |
| 38 | UV1100\DI\Lamp_Bank3_Moisture | 45805.3 | 45805.13 | DR | 11 | 46105.13 | LAMP BANK #3 MOISTURE DETECTED | Alarm | OK | |
| 39 | UV1100\DI\React_Hi_Temp | 45805.2 | 45805.14 | DR | 11 | 46105.14 | REACTOR HIGH TEMPERATURE | Alarm | OK | |
| 40 | UV1100\DI\Lamp_1_1_Xfmr_Hi_Temp | 45805.1 | 45805.15 | DR | 11 | 46105.15 | LAMP #1-1 XFMR/SAT. CORE HIGH TEMP. | Alarm | OK | |
| 41 | UV1100\DI\Lamp_1_2_Xfmr_Hi_Temp | 45805.0 | 45805.16 | DR | 11 | 46105.16 | LAMP #1-2 XFMR/SAT. CORE HIGH TEMP. | Alarm | OK | |
| 42 | UV1100\DI\Lamp_1_3_Xfmr_Hi_Temp | 45806.15 | 45806.1 | DR | 11 | 46106.1 | LAMP #1-3 XFMR/SAT. CORE HIGH TEMP. | Alarm | OK | |
| 43 | UV1100\DI\Lamp_2_1_Xfmr_Hi_Temp | 45806.14 | 45806.2 | DR | 11 | 46106.2 | LAMP #2-1 XFMR/SAT. CORE HIGH TEMP. | Alarm | OK | |
| 44 | UV1100\DI\Lamp_2_2_Xfmr_Hi_Temp | 45806.13 | 45806.3 | DR | 11 | 46106.3 | LAMP #2-2 XFMR/SAT. CORE HIGH TEMP. | Alarm | OK | |
| 45 | UV1100\DI\Lamp_2_3_Xfmr_Hi_Temp | 45806.12 | 45806.4 | DR | 11 | 46106.4 | LAMP #2-3 XFMR/SAT. CORE HIGH TEMP. | Alarm | OK | |
| 46 | UV1100\DI\Lamp_3_1_Xfmr_Hi_Temp | 45806.11 | 45806.5 | DR | 11 | 46106.5 | LAMP #3-1 XFMR/SAT. CORE HIGH TEMP. | Alarm | OK | |
| 47 | UV1100\DI\Lamp_3_2_Xfmr_Hi_Temp | 45806.10 | 45806.6 | DR | 11 | 46106.6 | LAMP #3-2 XFMR/SAT. CORE HIGH TEMP. | Alarm | OK | |
| 48 | UV1100\DI\Lamp_3_3_Xfmr_Hi_Temp | 45806.9 | 45806.7 | DR | 11 | 46106.7 | LAMP #3-3 XFMR/SAT. CORE HIGH TEMP. | Alarm | OK | |
| 49 | UV1100\DI\Power_Cab_Hot | 45806.8 | 45806.8 | DR | 11 | 46106.8 | POWER CABINETS HOT | Alarm | OK | |
| 50 | UV1100\DI\Power_Cab_Door_Open | 45806.7 | 45806.9 | DR | 11 | 46106.9 | POWER CABINETS DOOR OPEN | Alarm | OK | |
| 51 | UV1100\DI\Lmp_Bnk1_React_Cov_OP | 45806.6 | 45806.10 | DR | 11 | 46106.10 | LAMP BANK #1 REACTOR COVER OPEN | Alarm | OK | |
| 52 | UV1100\DI\Lmp_Bnk2_React_Cov_OP | 45806.5 | 45806.11 | DR | 11 | 46106.11 | LAMP BANK #2 REACTOR COVER OPEN | Alarm | OK | |
| 53 | UV1100\DI\Lmp_Bnk3_React_Cov_OP | 45806.4 | 45806.12 | DR | 11 | 46106.12 | LAMP BANK #3 REACTOR COVER OPEN | Alarm | OK | |
| 54 | UV1100\DI\Lamp_1_1_UV_Lo_Flt | 45806.3 | 45806.13 | DR | 11 | 46106.13 | LAMP #1-1 UV SENSOR LOW FAULT | Alarm | OK | |

## UVM Communication Database

| DIGITAL - Reactor to RSView (UVM) | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Item # | Tagname/Symbol | Kepware Address | UVM PLC Address | Type | MB+ Node | Unit PLC Address | Description | Set State (1) | Reset State (0) | Comments |
| 55 | UV1100\DI\Lamp_1_2_UV_Lo_Flt | 45806.2 | 45806.14 | DR | 11 | 46106.14 | LAMP #1-2 UV SENSOR LOW FAULT | Alarm | OK | |
| 56 | UV1100\DI\Lamp_1_3_UV_Lo_Flt | 45806.1 | 45806.15 | DR | 11 | 46106.15 | LAMP #1-3 UV SENSOR LOW FAULT | Alarm | OK | |
| 57 | UV1100\DI\Lamp_2_1_UV_Lo_Flt | 45806.0 | 45806.16 | DR | 11 | 46106.16 | LAMP #2-1 UV SENSOR LOW FAULT | Alarm | OK | |
| 58 | UV1100\DI\Lamp_2_2_UV_Lo_Flt | 45807.15 | 45807.1 | DR | 11 | 46107.1 | LAMP #2-2 UV SENSOR LOW FAULT | Alarm | OK | |
| 59 | UV1100\DI\Lamp_2_3_UV_Lo_Flt | 45807.14 | 45807.2 | DR | 11 | 46107.2 | LAMP #2-3 UV SENSOR LOW FAULT | Alarm | OK | |
| 60 | UV1100\DI\Lamp_3_1_UV_Lo_Flt | 45807.13 | 45807.3 | DR | 11 | 46107.3 | LAMP #3-1 UV SENSOR LOW FAULT | Alarm | OK | |
| 61 | UV1100\DI\Lamp_3_2_UV_Lo_Flt | 45807.12 | 45807.4 | DR | 11 | 46107.4 | LAMP #3-2 UV SENSOR LOW FAULT | Alarm | OK | |
| 62 | UV1100\DI\Lamp_3_3_UV_Lo_Flt | 45807.11 | 45807.5 | DR | 11 | 46107.5 | LAMP #3-3 UV SENSOR LOW FAULT | Alarm | OK | |
| 63 | UV1100\DI\Lamp_1_1_UV_Hi_Flt | 45807.10 | 45807.6 | DR | 11 | 46107.6 | LAMP #1-1 UV SENSOR HIGH FAULT | Alarm | OK | |
| 64 | UV1100\DI\Lamp_1_2_UV_Hi_Flt | 45807.9 | 45807.7 | DR | 11 | 46107.7 | LAMP #1-2 UV SENSOR HIGH FAULT | Alarm | OK | |
| 65 | UV1100\DI\Lamp_1_3_UV_Hi_Flt | 45807.8 | 45807.8 | DR | 11 | 46107.8 | LAMP #1-3 UV SENSOR HIGH FAULT | Alarm | OK | |
| 66 | UV1100\DI\Lamp_2_1_UV_Hi_Flt | 45807.7 | 45807.9 | DR | 11 | 46107.9 | LAMP #2-1 UV SENSOR HIGH FAULT | Alarm | OK | |
| 67 | UV1100\DI\Lamp_2_2_UV_Hi_Flt | 45807.6 | 45807.10 | DR | 11 | 46107.10 | LAMP #2-2 UV SENSOR HIGH FAULT | Alarm | OK | |
| 68 | UV1100\DI\Lamp_2_3_UV_Hi_Flt | 45807.5 | 45807.11 | DR | 11 | 46107.11 | LAMP #2-3 UV SENSOR HIGH FAULT | Alarm | OK | |
| 69 | UV1100\DI\Lamp_3_1_UV_Hi_Flt | 45807.4 | 45807.12 | DR | 11 | 46107.12 | LAMP #3-1 UV SENSOR HIGH FAULT | Alarm | OK | |
| 70 | UV1100\DI\Lamp_3_2_UV_Hi_Flt | 45807.3 | 45807.13 | DR | 11 | 46107.13 | LAMP #3-2 UV SENSOR HIGH FAULT | Alarm | OK | |
| 71 | UV1100\DI\Lamp_3_3_UV_Hi_Flt | 45807.2 | 45807.14 | DR | 11 | 46107.14 | LAMP #3-3 UV SENSOR HIGH FAULT | Alarm | OK | |
| 72 | UV1100\DI\Lamp_1_1_UV_Fail_Flt | 45807.1 | 45807.15 | DR | 11 | 46107.15 | LAMP #1-1 UV SENSOR FAILED FAULT | Alarm | OK | |
| 73 | UV1100\DI\Lamp_1_2_UV_Fail_Flt | 45807.0 | 45807.16 | DR | 11 | 46107.16 | LAMP #1-2 UV SENSOR FAILED FAULT | Alarm | OK | |
| 74 | UV1100\DI\Lamp_1_3_UV_Fail_Flt | 45808.15 | 45808.1 | DR | 11 | 46108.1 | LAMP #1-3 UV SENSOR FAILED FAULT | Alarm | OK | |
| 75 | UV1100\DI\Lamp_2_1_UV_Fail_Flt | 45808.14 | 45808.2 | DR | 11 | 46108.2 | LAMP #2-1 UV SENSOR FAILED FAULT | Alarm | OK | |
| 76 | UV1100\DI\Lamp_2_2_UV_Fail_Flt | 45808.13 | 45808.3 | DR | 11 | 46108.3 | LAMP #2-2 UV SENSOR FAILED FAULT | Alarm | OK | |
| 77 | UV1100\DI\Lamp_2_3_UV_Fail_Flt | 45808.12 | 45808.4 | DR | 11 | 46108.4 | LAMP #2-3 UV SENSOR FAILED FAULT | Alarm | OK | |
| 78 | UV1100\DI\Lamp_3_1_UV_Fail_Flt | 45808.11 | 45808.5 | DR | 11 | 46108.5 | LAMP #3-1 UV SENSOR FAILED FAULT | Alarm | OK | |
| 79 | UV1100\DI\Lamp_3_2_UV_Fail_Flt | 45808.10 | 45808.6 | DR | 11 | 46108.6 | LAMP #3-2 UV SENSOR FAILED FAULT | Alarm | OK | |
| 80 | UV1100\DI\Lamp_3_3_UV_Fail_Flt | 45808.9 | 45808.7 | DR | 11 | 46108.7 | LAMP #3-3 UV SENSOR FAILED FAULT | Alarm | OK | |
| 81 | UV1100\DI\Lamp_1_1_UV_Cal_Flt | 45808.8 | 45808.8 | DR | 11 | 46108.8 | LAMP #1-1 UV SENSOR OUT OF CAL. | Alarm | OK | |
| 82 | UV1100\DI\Lamp_1_2_UV_Cal_Flt | 45808.7 | 45808.9 | DR | 11 | 46108.9 | LAMP #1-2 UV SENSOR OUT OF CAL. | Alarm | OK | |
| 83 | UV1100\DI\Lamp_1_3_UV_Cal_Flt | 45808.6 | 45808.10 | DR | 11 | 46108.10 | LAMP #1-3 UV SENSOR OUT OF CAL. | Alarm | OK | |
| 84 | UV1100\DI\Lamp_2_1_UV_Cal_Flt | 45808.5 | 45808.11 | DR | 11 | 46108.11 | LAMP #2-1 UV SENSOR OUT OF CAL. | Alarm | OK | |
| 85 | UV1100\DI\Lamp_2_2_UV_Cal_Flt | 45808.4 | 45808.12 | DR | 11 | 46108.12 | LAMP #2-2 UV SENSOR OUT OF CAL. | Alarm | OK | |
| 86 | UV1100\DI\Lamp_2_3_UV_Cal_Flt | 45808.3 | 45808.13 | DR | 11 | 46108.13 | LAMP #2-3 UV SENSOR OUT OF CAL. | Alarm | OK | |
| 87 | UV1100\DI\Lamp_3_1_UV_Cal_Flt | 45808.2 | 45808.14 | DR | 11 | 46108.14 | LAMP #3-1 UV SENSOR OUT OF CAL. | Alarm | OK | |
| 88 | UV1100\DI\Lamp_3_2_UV_Cal_Flt | 45808.1 | 45808.15 | DR | 11 | 46108.15 | LAMP #3-2 UV SENSOR OUT OF CAL. | Alarm | OK | |
| 89 | UV1100\DI\Lamp_3_3_UV_Cal_Flt | 45808.0 | 45808.16 | DR | 11 | 46108.16 | LAMP #3-3 UV SENSOR OUT OF CAL. | Alarm | OK | |
| 90 | UV1100\DI\Lamp_1_1_Low_Amps | 45809.15 | 45809.1 | DR | 11 | 46109.1 | LAMP #1-1 LOW AMPS | Alarm | OK | |
| 91 | UV1100\DI\Lamp_1_2_Low_Amps | 45809.14 | 45809.2 | DR | 11 | 46109.2 | LAMP #1-2 LOW AMPS | Alarm | OK | |
| 92 | UV1100\DI\Lamp_1_3_Low_Amps | 45809.13 | 45809.3 | DR | 11 | 46109.3 | LAMP #1-3 LOW AMPS | Alarm | OK | |
| 93 | UV1100\DI\Lamp_2_1_Low_Amps | 45809.12 | 45809.4 | DR | 11 | 46109.4 | LAMP #2-1 LOW AMPS | Alarm | OK | |
| 94 | UV1100\DI\Lamp_2_2_Low_Amps | 45809.11 | 45809.5 | DR | 11 | 46109.5 | LAMP #2-2 LOW AMPS | Alarm | OK | |
| 95 | UV1100\DI\Lamp_2_3_Low_Amps | 45809.10 | 45809.6 | DR | 11 | 46109.6 | LAMP #2-3 LOW AMPS | Alarm | OK | |
| 96 | UV1100\DI\Lamp_3_1_Low_Amps | 45809.9 | 45809.7 | DR | 11 | 46109.7 | LAMP #3-1 LOW AMPS | Alarm | OK | |
| 97 | UV1100\DI\Lamp_3_2_Low_Amps | 45809.8 | 45809.8 | DR | 11 | 46109.8 | LAMP #3-2 LOW AMPS | Alarm | OK | |
| 98 | UV1100\DI\Lamp_3_3_Low_Amps | 45809.7 | 45809.9 | DR | 11 | 46109.9 | LAMP #3-3 LOW AMPS | Alarm | OK | |
| 99 | UV1100\DI\Lamp_1_1_Hi_Amps | 45809.6 | 45809.10 | DR | 11 | 46109.10 | LAMP #1-1 HIGH AMPS | Alarm | OK | |
| 100 | UV1100\DI\Lamp_1_2_Hi_Amps | 45809.5 | 45809.11 | DR | 11 | 46109.11 | LAMP #1-2 HIGH AMPS | Alarm | OK | |
| 101 | UV1100\DI\Lamp_1_3_Hi_Amps | 45809.4 | 45809.12 | DR | 11 | 46109.12 | LAMP #1-3 HIGH AMPS | Alarm | OK | |
| 102 | UV1100\DI\Lamp_2_1_Hi_Amps | 45809.3 | 45809.13 | DR | 11 | 46109.13 | LAMP #2-1 HIGH AMPS | Alarm | OK | |
| 103 | UV1100\DI\Lamp_2_2_Hi_Amps | 45809.2 | 45809.14 | DR | 11 | 46109.14 | LAMP #2-2 HIGH AMPS | Alarm | OK | |
| 104 | UV1100\DI\Lamp_2_3_Hi_Amps | 45809.1 | 45809.15 | DR | 11 | 46109.15 | LAMP #2-3 HIGH AMPS | Alarm | OK | |
| 105 | UV1100\DI\Lamp_3_1_Hi_Amps | 45809.0 | 45809.16 | DR | 11 | 46109.16 | LAMP #3-1 HIGH AMPS | Alarm | OK | |
| 106 | UV1100\DI\Lamp_3_2_Hi_Amps | 45810.15 | 45810.1 | DR | 11 | 46110.1 | LAMP #3-2 HIGH AMPS | Alarm | OK | |
| 107 | UV1100\DI\Lamp_3_3_Hi_Amps | 45810.14 | 45810.2 | DR | 11 | 46110.2 | LAMP #3-3 HIGH AMPS | Alarm | OK | |
| 108 | UV1100\DI\PLC_Error | 45810.13 | 45810.3 | DR | 11 | 46110.3 | PLC ERROR | Alarm | OK | |

## UVM Communication Database

| DIGITAL - Reactor to RSView (UVM) | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Item # | Tagname/Symbol | Kepware Address | UVM PLC Address | Type | MB+ Node | Unit PLC Address | Description | Set State (1) | Reset State (0) | Comments |
| 109 | UV1100\DI\PLC_Low_Battery | 45810.12 | 45810.4 | DR | 11 | 46110.4 | PLC LOW BATTERY | Alarm | OK | |
| 110 | UV1100\DI\PLC_I/O_Fail | 45810.11 | 45810.5 | DR | 11 | 46110.5 | I/O CARD FAILURE | Alarm | OK | |
| 111 | UV1100\DI\Lamp_1_1_Hi_Hours | 45810.10 | 45810.6 | DR | 11 | 46110.6 | LAMP #1-1 HIGH LAMP HOURS | Alarm | OK | |
| 112 | UV1100\DI\Lamp_1_2_Hi_Hours | 45810.9 | 45810.7 | DR | 11 | 46110.7 | LAMP #1-2 HIGH LAMP HOURS | Alarm | OK | |
| 113 | UV1100\DI\Lamp_1_3_Hi_Hours | 45810.8 | 45810.8 | DR | 11 | 46110.8 | LAMP #1-3 HIGH LAMP HOURS | Alarm | OK | |
| 114 | UV1100\DI\Lamp_2_1_Hi_Hours | 45810.7 | 45810.9 | DR | 11 | 46110.9 | LAMP #2-1 HIGH LAMP HOURS | Alarm | OK | |
| 115 | UV1100\DI\Lamp_2_2_Hi_Hours | 45810.6 | 45810.10 | DR | 11 | 46110.10 | LAMP #2-2 HIGH LAMP HOURS | Alarm | OK | |
| 116 | UV1100\DI\Lamp_2_3_Hi_Hours | 45810.5 | 45810.11 | DR | 11 | 46110.11 | LAMP #2-3 HIGH LAMP HOURS | Alarm | OK | |
| 117 | UV1100\DI\Lamp_3_1_Hi_Hours | 45810.4 | 45810.12 | DR | 11 | 46110.12 | LAMP #3-1 HIGH LAMP HOURS | Alarm | OK | |
| 118 | UV1100\DI\Lamp_3_2_Hi_Hours | 45810.3 | 45810.13 | DR | 11 | 46110.13 | LAMP #3-2 HIGH LAMP HOURS | Alarm | OK | |
| 119 | UV1100\DI\Lamp_3_3_Hi_Hours | 45810.2 | 45810.14 | DR | 11 | 46110.14 | LAMP #3-3 HIGH LAMP HOURS | Alarm | OK | |
| 120 | UV1100\DI\Lamp_1_1_Hi_Starts | 45810.1 | 45810.15 | DR | 11 | 46110.15 | LAMP #1-1 HIGH LAMP STARTS | Alarm | OK | |
| 121 | UV1100\DI\Lamp_1_2_Hi_Starts | 45810.0 | 45810.16 | DR | 11 | 46110.16 | LAMP #1-2 HIGH LAMP STARTS | Alarm | OK | |
| 122 | UV1100\DI\Lamp_1_3_Hi_Starts | 45811.15 | 45811.1 | DR | 11 | 46111.1 | LAMP #1-3 HIGH LAMP STARTS | Alarm | OK | |
| 123 | UV1100\DI\Lamp_2_1_Hi_Starts | 45811.14 | 45811.2 | DR | 11 | 46111.2 | LAMP #2-1 HIGH LAMP STARTS | Alarm | OK | |
| 124 | UV1100\DI\Lamp_2_2_Hi_Starts | 45811.13 | 45811.3 | DR | 11 | 46111.3 | LAMP #2-2 HIGH LAMP STARTS | Alarm | OK | |
| 125 | UV1100\DI\Lamp_2_3_Hi_Starts | 45811.12 | 45811.4 | DR | 11 | 46111.4 | LAMP #2-3 HIGH LAMP STARTS | Alarm | OK | |
| 126 | UV1100\DI\Lamp_3_1_Hi_Starts | 45811.11 | 45811.5 | DR | 11 | 46111.5 | LAMP #3-1 HIGH LAMP STARTS | Alarm | OK | |
| 127 | UV1100\DI\Lamp_3_2_Hi_Starts | 45811.10 | 45811.6 | DR | 11 | 46111.6 | LAMP #3-2 HIGH LAMP STARTS | Alarm | OK | |
| 128 | UV1100\DI\Lamp_3_3_Hi_Starts | 45811.9 | 45811.7 | DR | 11 | 46111.7 | LAMP #3-3 HIGH LAMP STARTS | Alarm | OK | |
| 129 | UV1100\DI\Lamp_1_1_Start_Fail | 45811.8 | 45811.8 | DR | 11 | 46111.8 | LAMP #1-1 LAMP START FAILURE | Alarm | OK | |
| 130 | UV1100\DI\Lamp_1_2_Start_Fail | 45811.7 | 45811.9 | DR | 11 | 46111.9 | LAMP #1-2 LAMP START FAILURE | Alarm | OK | |
| 131 | UV1100\DI\Lamp_1_3_Start_Fail | 45811.6 | 45811.10 | DR | 11 | 46111.10 | LAMP #1-3 LAMP START FAILURE | Alarm | OK | |
| 132 | UV1100\DI\Lamp_2_1_Start_Fail | 45811.5 | 45811.11 | DR | 11 | 46111.11 | LAMP #2-1 LAMP START FAILURE | Alarm | OK | |
| 133 | UV1100\DI\Lamp_2_2_Start_Fail | 45811.4 | 45811.12 | DR | 11 | 46111.12 | LAMP #2-2 LAMP START FAILURE | Alarm | OK | |
| 134 | UV1100\DI\Lamp_2_3_Start_Fail | 45811.3 | 45811.13 | DR | 11 | 46111.13 | LAMP #2-3 LAMP START FAILURE | Alarm | OK | |
| 135 | UV1100\DI\Lamp_3_1_Start_Fail | 45811.2 | 45811.14 | DR | 11 | 46111.14 | LAMP #3-1 LAMP START FAILURE | Alarm | OK | |
| 136 | UV1100\DI\Lamp_3_2_Start_Fail | 45811.1 | 45811.15 | DR | 11 | 46111.15 | LAMP #3-2 LAMP START FAILURE | Alarm | OK | |
| 137 | UV1100\DI\Lamp_3_3_Start_Fail | 45811.0 | 45811.16 | DR | 11 | 46111.16 | LAMP #3-3 LAMP START FAILURE | Alarm | OK | |
| 138 | UV1100\DI\Low_UV_Dose | 45812.15 | 45812.1 | DR | 11 | 46112.1 | LOW UV DOSE | Alarm | OK | |
| 139 | UV1100\DI\Low_Low_UV_Dose | 45812.14 | 45812.2 | DR | 11 | 46112.2 | LOW LOW UV DOSE | Alarm | OK | |
| 140 | UV1100\DI\Low_Water_Flow | 45812.13 | 45812.3 | DR | 11 | 46112.3 | LOW WATER FLOW | Alarm | OK | |
| 141 | UV1100\DI\Lmp_Bnk1_Brush_Flt | 45812.12 | 45812.4 | DR | 11 | 46112.4 | LAMP BANK #1 BRUSH CYCLE FAULT | Alarm | OK | |
| 142 | UV1100\DI\Lmp_Bnk2_Brush_Flt | 45812.11 | 45812.5 | DR | 11 | 46112.5 | LAMP BANK #2 BRUSH CYCLE FAULT | Alarm | OK | |
| 143 | UV1100\DI\Lmp_Bnk3_Brush_Flt | 45812.10 | 45812.6 | DR | 11 | 46112.6 | LAMP BANK #3 BRUSH CYCLE FAULT | Alarm | OK | |
| 144 | UV1100\DI\Lmp_Bnk1_Hi_Amps | 45812.9 | 45812.7 | DR | 11 | 46112.7 | LAMP BANK #1 BRUSH DRIVE HIGH AMPS | Alarm | OK | |
| 145 | UV1100\DI\Lmp_Bnk2_Hi_Amps | 45812.8 | 45812.8 | DR | 11 | 46112.8 | LAMP BANK #2 BRUSH DRIVE HIGH AMPS | Alarm | OK | |
| 146 | UV1100\DI\Lmp_Bnk3_Hi_Amps | 45812.7 | 45812.9 | DR | 11 | 46112.9 | LAMP BANK #3 BRUSH DRIVE HIGH AMPS | Alarm | OK | |
| 147 | UV1100\DI\Lamp_1_1_OpenCap_Start | 45812.4 | 45812.12 | DR | 11 | 46112.12 | LAMP 1-1 OPEN CAPACITOR@STARTUP | Alarm | OK | Capacitor failure monitoring |
| 148 | UV1100\DI\Lamp_1_2_OpenCap_Start | 45812.3 | 45812.13 | DR | 11 | 46112.13 | LAMP 1-2 OPEN CAPACITOR@STARTUP | Alarm | OK | Capacitor failure monitoring |
| 149 | UV1100\DI\Lamp_1_3_OpenCap_Start | 45812.2 | 45812.14 | DR | 11 | 46112.14 | LAMP 1-3 OPEN CAPACITOR@STARTUP | Alarm | OK | Capacitor failure monitoring |
| 150 | UV1100\DI\Lamp_2_1_OpenCap_Start | 45812.1 | 45812.15 | DR | 11 | 46112.15 | LAMP 2-1 OPEN CAPACITOR@STARTUP | Alarm | OK | Capacitor failure monitoring |
| 151 | UV1100\DI\Lamp_2_2_OpenCap_Start | 45812.0 | 45812.16 | DR | 11 | 46112.16 | LAMP 2-2 OPEN CAPACITOR@STARTUP | Alarm | OK | Capacitor failure monitoring |
| 152 | UV1100\DI\Lamp_2_3_OpenCap_Start | 45813.15 | 45813.1 | DR | 11 | 46113.1 | LAMP 2-3 OPEN CAPACITOR@STARTUP | Alarm | OK | Capacitor failure monitoring |
| 153 | UV1100\DI\Lamp_3_1_OpenCap_Start | 45813.14 | 45813.2 | DR | 11 | 46113.2 | LAMP 3-1 OPEN CAPACITOR@STARTUP | Alarm | OK | Capacitor failure monitoring |
| 154 | UV1100\DI\Lamp_3_2_OpenCap_Start | 45813.13 | 45813.3 | DR | 11 | 46113.3 | LAMP 3-2 OPEN CAPACITOR@STARTUP | Alarm | OK | Capacitor failure monitoring |
| 155 | UV1100\DI\Lamp_3_3_OpenCap_Start | 45813.12 | 45813.4 | DR | 11 | 46113.4 | LAMP 3-3 OPEN CAPACITOR@STARTUP | Alarm | OK | Capacitor failure monitoring |
| 156 | UV1100\DI\Lamp_1_1_ShortCap_Start | 45813.11 | 45813.5 | DR | 11 | 46113.5 | LAMP 1-1 SHORTED CAPACITOR@STARTUP | Alarm | OK | Capacitor failure monitoring |
| 157 | UV1100\DI\Lamp_1_2_ShortCap_Start | 45813.10 | 45813.6 | DR | 11 | 46113.6 | LAMP 1-2 SHORTED CAPACITOR@STARTUP | Alarm | OK | Capacitor failure monitoring |
| 158 | UV1100\DI\Lamp_1_3_ShortCap_Start | 45813.9 | 45813.7 | DR | 11 | 46113.7 | LAMP 1-3 SHORTED CAPACITOR@STARTUP | Alarm | OK | Capacitor failure monitoring |
| 159 | UV1100\DI\Lamp_2_1_ShortCap_Start | 45813.8 | 45813.8 | DR | 11 | 46113.8 | LAMP 2-1 SHORTED CAPACITOR@STARTUP | Alarm | OK | Capacitor failure monitoring |
| 160 | UV1100\DI\Lamp_2_2_ShortCap_Start | 45813.7 | 45813.9 | DR | 11 | 46113.9 | LAMP 2-2 SHORTED CAPACITOR@STARTUP | Alarm | OK | Capacitor failure monitoring |
| 161 | UV1100\DI\Lamp_2_3_ShortCap_Start | 45813.6 | 45813.10 | DR | 11 | 46113.10 | LAMP 2-3 SHORTED CAPACITOR@STARTUP | Alarm | OK | Capacitor failure monitoring |
| 162 | UV1100\DI\Lamp_3_1_ShortCap_Start | 45813.5 | 45813.11 | DR | 11 | 46113.11 | LAMP 3-1 SHORTED CAPACITOR@STARTUP | Alarm | OK | Capacitor failure monitoring |

## UVM Communication Database

| DIGITAL - Reactor to RSView (UVM) | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Item # | Tagname/Symbol | Kepware Address | UVM PLC Address | Type | MB+ Node | Unit PLC Address | Description | Set State (1) | Reset State (0) | Comments |
| 163 | UV1100\DI\Lamp_3_2_ShortCap_Start | 45813.4 | 45813.12 | DR | 11 | 46113.12 | LAMP 3-2 SHORTED CAPACITOR@STARTUP | Alarm | OK | Capacitor failure monitoring |
| 164 | UV1100\DI\Lamp_3_3_ShortCap_Start | 45813.3 | 45813.13 | DR | 11 | 46113.13 | LAMP 3-3 SHORTED CAPACITOR@STARTUP | Alarm | OK | Capacitor failure monitoring |
| 165 | UV1100\DI\Lamp_1_1_OpenCap_100pct | 45813.2 | 45813.14 | DR | 11 | 46113.14 | LAMP 1-1 OPEN CAPACITOR@100% POWER | Alarm | OK | Capacitor failure monitoring |
| 166 | UV1100\DI\Lamp_1_2_OpenCap_100pct | 45813.1 | 45813.15 | DR | 11 | 46113.15 | LAMP 1-2 OPEN CAPACITOR@100% POWER | Alarm | OK | Capacitor failure monitoring |
| 167 | UV1100\DI\Lamp_1_3_OpenCap_100pct | 45813.0 | 45813.16 | DR | 11 | 46113.16 | LAMP 1-3 OPEN CAPACITOR@100% POWER | Alarm | OK | Capacitor failure monitoring |
| 168 | UV1100\DI\Lamp_2_1_OpenCap_100pct | 45814.15 | 45814.1 | DR | 11 | 46114.1 | LAMP 2-1 OPEN CAPACITOR@100% POWER | Alarm | OK | Capacitor failure monitoring |
| 169 | UV1100\DI\Lamp_2_2_OpenCap_100pct | 45814.14 | 45814.2 | DR | 11 | 46114.2 | LAMP 2-2 OPEN CAPACITOR@100% POWER | Alarm | OK | Capacitor failure monitoring |
| 170 | UV1100\DI\Lamp_2_3_OpenCap_100pct | 45814.13 | 45814.3 | DR | 11 | 46114.3 | LAMP 2-3 OPEN CAPACITOR@100% POWER | Alarm | OK | Capacitor failure monitoring |
| 171 | UV1100\DI\Lamp_3_1_OpenCap_100pct | 45814.12 | 45814.4 | DR | 11 | 46114.4 | LAMP 3-1 OPEN CAPACITOR@100% POWER | Alarm | OK | Capacitor failure monitoring |
| 172 | UV1100\DI\Lamp_3_2_OpenCap_100pct | 45814.11 | 45814.5 | DR | 11 | 46114.5 | LAMP 3-2 OPEN CAPACITOR@100% POWER | Alarm | OK | Capacitor failure monitoring |
| 173 | UV1100\DI\Lamp_3_3_OpenCap_100pct | 45814.10 | 45814.6 | DR | 11 | 46114.6 | LAMP 3-3 OPEN CAPACITOR@100% POWER | Alarm | OK | Capacitor failure monitoring |
| 174 | UV1100\DI\Lamp_1_1_ShortCap_100pct | 45814.9 | 45814.7 | DR | 11 | 46114.7 | LAMP 1-1 SHORTED CAPACITOR@100% POW | Alarm | OK | Capacitor failure monitoring |
| 175 | UV1100\DI\Lamp_1_2_ShortCap_100pct | 45814.8 | 45814.8 | DR | 11 | 46114.8 | LAMP 1-2 SHORTED CAPACITOR@100% POW | Alarm | OK | Capacitor failure monitoring |
| 176 | UV1100\DI\Lamp_1_3_ShortCap_100pct | 45814.7 | 45814.9 | DR | 11 | 46114.9 | LAMP 1-3 SHORTED CAPACITOR@100% POW | Alarm | OK | Capacitor failure monitoring |
| 177 | UV1100\DI\Lamp_2_1_ShortCap_100pct | 45814.6 | 45814.10 | DR | 11 | 46114.10 | LAMP 2-1 SHORTED CAPACITOR@100% POW | Alarm | OK | Capacitor failure monitoring |
| 178 | UV1100\DI\Lamp_2_2_ShortCap_100pct | 45814.5 | 45814.11 | DR | 11 | 46114.11 | LAMP 2-2 SHORTED CAPACITOR@100% POW | Alarm | OK | Capacitor failure monitoring |
| 179 | UV1100\DI\Lamp_2_3_ShortCap_100pct | 45814.4 | 45814.12 | DR | 11 | 46114.12 | LAMP 2-3 SHORTED CAPACITOR@100% POW | Alarm | OK | Capacitor failure monitoring |
| 180 | UV1100\DI\Lamp_3_1_ShortCap_100pct | 45814.3 | 45814.13 | DR | 11 | 46114.13 | LAMP 3-1 SHORTED CAPACITOR@100% POW | Alarm | OK | Capacitor failure monitoring |
| 181 | UV1100\DI\Lamp_3_2_ShortCap_100pct | 45814.2 | 45814.14 | DR | 11 | 46114.14 | LAMP 3-2 SHORTED CAPACITOR@100% POW | Alarm | OK | Capacitor failure monitoring |
| 182 | UV1100\DI\Lamp_3_3_ShortCap_100pct | 45814.1 | 45814.15 | DR | 11 | 46114.15 | LAMP 3-3 SHORTED CAPACITOR@100% POW | Alarm | OK | Capacitor failure monitoring |
| | | | | | | | | | | |
| 183 | UV1200\DI\On_Off_Status | 45925.15 | 45925.1 | DR | 12 | 46100.1 | To RSView - Reactor On/Off Status | On | Off | |
| 184 | UV1200\DI\Rem_Lcl_Control | 45926.15 | 45926.1 | DR | 12 | 46101.1 | To RSView - Remote/Local [Rem=1] | Remote | Local | |
| 185 | UV1200\DI\Wiper1_Auto_Man | 45926.14 | 45926.2 | DR | 12 | 46101.2 | To RSView - Wiper #1 Auto/Man [Auto=1] | Auto | Manual | |
| 186 | UV1200\DI\Wiper2_Auto_Man | 45926.13 | 45926.3 | DR | 12 | 46101.3 | To RSView - Wiper #2 Auto/Man [Auto=1] | Auto | Manual | |
| 187 | UV1200\DI\Wiper3_Auto_Man | 45926.12 | 45926.4 | DR | 12 | 46101.4 | To RSView - Wiper #3 Auto/Man [Auto=1] | Auto | Manual | |
| 188 | UV1200\DI\Bank1_Auto_Man | 45926.11 | 45926.5 | DR | 12 | 46101.5 | To RSView - Lamp Bank #1 Auto/Man [Auto=1] | Auto | Manual | |
| 189 | UV1200\DI\Bank1_KW_Out | 45926.10 | 45926.6 | DR | 12 | 46101.6 | To RSView - Lamp Bank #1 kW/%Out [kW=1] | kW | % Output | Lamp Manual Mode Only |
| 190 | UV1200\DI\Bank2_Auto_Man | 45926.9 | 45926.7 | DR | 12 | 46101.7 | To RSView - Lamp Bank #2 Auto/Man [Auto=1] | Auto | Manual | |
| 191 | UV1200\DI\Bank2_KW_Out | 45926.8 | 45926.8 | DR | 12 | 46101.8 | To RSView - Lamp Bank #2 kW/%Out [kW=1] | kW | % Output | Lamp Manual Mode Only |
| 192 | UV1200\DI\Bank3_Auto_Man | 45926.7 | 45926.9 | DR | 12 | 46101.9 | To RSView - Lamp Bank #3 Auto/Man [Auto=1] | Auto | Manual | |
| 193 | UV1200\DI\Bank3_KW_Out | 45926.6 | 45926.10 | DR | 12 | 46101.10 | To RSView - Lamp Bank #3 kW/%Out [kW=1] | kW | % Output | Lamp Manual Mode Only |
| 194 | UV1200\DI\Lamp_1_1_ON | 45927.15 | 45927.1 | DR | 12 | 46102.1 | To RSView - Lamp #1-1 On Status [On=1] | On | Off | Lamp Contactor Output Status |
| 195 | UV1200\DI\Lamp_1_2_ON | 45927.14 | 45927.2 | DR | 12 | 46102.2 | To RSView - Lamp #1-2 On Status [On=1] | On | Off | Lamp Contactor Output Status |
| 196 | UV1200\DI\Lamp_1_3_ON | 45927.13 | 45927.3 | DR | 12 | 46102.3 | To RSView - Lamp #1-3 On Status [On=1] | On | Off | Lamp Contactor Output Status |
| 197 | UV1200\DI\Lamp_2_1_ON | 45927.12 | 45927.4 | DR | 12 | 46102.4 | To RSView - Lamp #2-1 On Status [On=1] | On | Off | Lamp Contactor Output Status |
| 198 | UV1200\DI\Lamp_2_2_ON | 45927.11 | 45927.5 | DR | 12 | 46102.5 | To RSView - Lamp #2-2 On Status [On=1] | On | Off | Lamp Contactor Output Status |
| 199 | UV1200\DI\Lamp_2_3_ON | 45927.10 | 45927.6 | DR | 12 | 46102.6 | To RSView - Lamp #2-3 On Status [On=1] | On | Off | Lamp Contactor Output Status |
| 200 | UV1200\DI\Lamp_3_1_ON | 45927.9 | 45927.7 | DR | 12 | 46102.7 | To RSView - Lamp #3-1 On Status [On=1] | On | Off | Lamp Contactor Output Status |
| 201 | UV1200\DI\Lamp_3_2_ON | 45927.8 | 45927.8 | DR | 12 | 46102.8 | To RSView - Lamp #3-2 On Status [On=1] | On | Off | Lamp Contactor Output Status |
| 202 | UV1200\DI\Lamp_3_3_ON | 45927.7 | 45927.9 | DR | 12 | 46102.9 | To RSView - Lamp #3-3 On Status [On=1] | On | Off | Lamp Contactor Output Status |
| 203 | UV1200\DI\UV_Val_Mode | 45928.15 | 45928.1 | DR | 12 | 46103.1 | To RSView - UV Validation Mode | UV | Dose | |
| 204 | UV1200\DI\PLC_Battery | 45928.14 | 45928.2 | DR | 12 | 46103.2 | To RSView - CPU Battery Status | OK | Low | |
| 205 | UV1200\DI\PLC_Major_Error | 45928.13 | 45928.3 | DR | 12 | 46103.3 | To RSView - CPU Major Error Status | OK | Error | |
| 206 | UV1200\DI\PLC_Forces | 45928.12 | 45928.4 | DR | 12 | 46103.4 | To RSView - CPU Forces Status | None | Enabled | |
| 207 | UV1200\DI\PLC\DISCONN | 45928.11 | 45928.5 | DR | 12 | | PLC Communication Failed | Alarm | OK | |
| 208 | UV1200\DI\E_STOP | 45930.15 | 45930.1 | DR | 12 | 46105.1 | EMERGENCY STOP | Alarm | OK | |
| 209 | UV1200\DI\Lamp_1_1_Gnd_Flt | 45930.14 | 45930.2 | DR | 12 | 46105.2 | LAMP #1-1 GROUND FAULT | Alarm | OK | |
| 210 | UV1200\DI\Lamp_1_2_Gnd_Flt | 45930.13 | 45930.3 | DR | 12 | 46105.3 | LAMP #1-2 GROUND FAULT | Alarm | OK | |
| 211 | UV1200\DI\Lamp_1_3_Gnd_Flt | 45930.12 | 45930.4 | DR | 12 | 46105.4 | LAMP #1-3 GROUND FAULT | Alarm | OK | |
| 212 | UV1200\DI\Lamp_2_1_Gnd_Flt | 45930.11 | 45930.5 | DR | 12 | 46105.5 | LAMP #2-1 GROUND FAULT | Alarm | OK | |
| 213 | UV1200\DI\Lamp_2_2_Gnd_Flt | 45930.10 | 45930.6 | DR | 12 | 46105.6 | LAMP #2-2 GROUND FAULT | Alarm | OK | |
| 214 | UV1200\DI\Lamp_2_3_Gnd_Flt | 45930.9 | 45930.7 | DR | 12 | 46105.7 | LAMP #2-3 GROUND FAULT | Alarm | OK | |
| 215 | UV1200\DI\Lamp_3_1_Gnd_Flt | 45930.8 | 45930.8 | DR | 12 | 46105.8 | LAMP #3-1 GROUND FAULT | Alarm | OK | |

## UVM Communication Database

| DIGITAL - Reactor to RSView (UVM) | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Item # | Tagname/Symbol | Kepware Address | UVM PLC Address | Type | MB+ Node | Unit PLC Address | Description | Set State (1) | Reset State (0) | Comments |
| 216 | UV1200\DI\Lamp_3_2_Gnd_Flt | 45930.7 | 45930.9 | DR | 12 | 46105.9 | LAMP #3-2 GROUND FAULT | Alarm | OK | |
| 217 | UV1200\DI\Lamp_3_3_Gnd_Flt | 45930.6 | 45930.10 | DR | 12 | 46105.10 | LAMP #3-3 GROUND FAULT | Alarm | OK | |
| 218 | UV1200\DI\Lamp_Bank1_Moisture | 45930.5 | 45930.11 | DR | 12 | 46105.11 | LAMP BANK #1 MOISTURE DETECTED | Alarm | OK | |
| 219 | UV1200\DI\Lamp_Bank2_Moisture | 45930.4 | 45930.12 | DR | 12 | 46105.12 | LAMP BANK #2 MOISTURE DETECTED | Alarm | OK | |
| 220 | UV1200\DI\Lamp_Bank3_Moisture | 45930.3 | 45930.13 | DR | 12 | 46105.13 | LAMP BANK #3 MOISTURE DETECTED | Alarm | OK | |
| 221 | UV1200\DI\React_Hi_Temp | 45930.2 | 45930.14 | DR | 12 | 46105.14 | REACTOR HIGH TEMPERATURE | Alarm | OK | |
| 222 | UV1200\DI\Lamp_1_1_Xfmr_Hi_Temp | 45930.1 | 45930.15 | DR | 12 | 46105.15 | LAMP #1-1 XFMR/SAT. CORE HIGH TEMP. | Alarm | OK | |
| 223 | UV1200\DI\Lamp_1_2_Xfmr_Hi_Temp | 45930.0 | 45930.16 | DR | 12 | 46105.16 | LAMP #1-2 XFMR/SAT. CORE HIGH TEMP. | Alarm | OK | |
| 224 | UV1200\DI\Lamp_1_3_Xfmr_Hi_Temp | 45931.15 | 45931.1 | DR | 12 | 46106.1 | LAMP #1-3 XFMR/SAT. CORE HIGH TEMP. | Alarm | OK | |
| 225 | UV1200\DI\Lamp_2_1_Xfmr_Hi_Temp | 45931.14 | 45931.2 | DR | 12 | 46106.2 | LAMP #2-1 XFMR/SAT. CORE HIGH TEMP. | Alarm | OK | |
| 226 | UV1200\DI\Lamp_2_2_Xfmr_Hi_Temp | 45931.13 | 45931.3 | DR | 12 | 46106.3 | LAMP #2-2 XFMR/SAT. CORE HIGH TEMP. | Alarm | OK | |
| 227 | UV1200\DI\Lamp_2_3_Xfmr_Hi_Temp | 45931.12 | 45931.4 | DR | 12 | 46106.4 | LAMP #2-3 XFMR/SAT. CORE HIGH TEMP. | Alarm | OK | |
| 228 | UV1200\DI\Lamp_3_1_Xfmr_Hi_Temp | 45931.11 | 45931.5 | DR | 12 | 46106.5 | LAMP #3-1 XFMR/SAT. CORE HIGH TEMP. | Alarm | OK | |
| 229 | UV1200\DI\Lamp_3_2_Xfmr_Hi_Temp | 45931.10 | 45931.6 | DR | 12 | 46106.6 | LAMP #3-2 XFMR/SAT. CORE HIGH TEMP. | Alarm | OK | |
| 230 | UV1200\DI\Lamp_3_3_Xfmr_Hi_Temp | 45931.9 | 45931.7 | DR | 12 | 46106.7 | LAMP #3-3 XFMR/SAT. CORE HIGH TEMP. | Alarm | OK | |
| 231 | UV1200\DI\Power_Cab_Hot | 45931.8 | 45931.8 | DR | 12 | 46106.8 | POWER CABINETS HOT | Alarm | OK | |
| 232 | UV1200\DI\Power_Cab_Door_Open | 45931.7 | 45931.9 | DR | 12 | 46106.9 | POWER CABINETS DOOR OPEN | Alarm | OK | |
| 233 | UV1200\DI\Lmp_Bnk1_React_Cov_OP | 45931.6 | 45931.10 | DR | 12 | 46106.10 | LAMP BANK #1 REACTOR COVER OPEN | Alarm | OK | |
| 234 | UV1200\DI\Lmp_Bnk2_React_Cov_OP | 45931.5 | 45931.11 | DR | 12 | 46106.11 | LAMP BANK #2 REACTOR COVER OPEN | Alarm | OK | |
| 235 | UV1200\DI\Lmp_Bnk3_React_Cov_OP | 45931.4 | 45931.12 | DR | 12 | 46106.12 | LAMP BANK #3 REACTOR COVER OPEN | Alarm | OK | |
| 236 | UV1200\DI\Lamp_1_1_UV_Lo_Flt | 45931.3 | 45931.13 | DR | 12 | 46106.13 | LAMP #1-1 UV SENSOR LOW FAULT | Alarm | OK | |
| 237 | UV1200\DI\Lamp_1_2_UV_Lo_Flt | 45931.2 | 45931.14 | DR | 12 | 46106.14 | LAMP #1-2 UV SENSOR LOW FAULT | Alarm | OK | |
| 238 | UV1200\DI\Lamp_1_3_UV_Lo_Flt | 45931.1 | 45931.15 | DR | 12 | 46106.15 | LAMP #1-3 UV SENSOR LOW FAULT | Alarm | OK | |
| 239 | UV1200\DI\Lamp_2_1_UV_Lo_Flt | 45931.0 | 45931.16 | DR | 12 | 46106.16 | LAMP #2-1 UV SENSOR LOW FAULT | Alarm | OK | |
| 240 | UV1200\DI\Lamp_2_2_UV_Lo_Flt | 45932.15 | 45932.1 | DR | 12 | 46107.1 | LAMP #2-2 UV SENSOR LOW FAULT | Alarm | OK | |
| 241 | UV1200\DI\Lamp_2_3_UV_Lo_Flt | 45932.14 | 45932.2 | DR | 12 | 46107.2 | LAMP #2-3 UV SENSOR LOW FAULT | Alarm | OK | |
| 242 | UV1200\DI\Lamp_3_1_UV_Lo_Flt | 45932.13 | 45932.3 | DR | 12 | 46107.3 | LAMP #3-1 UV SENSOR LOW FAULT | Alarm | OK | |
| 243 | UV1200\DI\Lamp_3_2_UV_Lo_Flt | 45932.12 | 45932.4 | DR | 12 | 46107.4 | LAMP #3-2 UV SENSOR LOW FAULT | Alarm | OK | |
| 244 | UV1200\DI\Lamp_3_3_UV_Lo_Flt | 45932.11 | 45932.5 | DR | 12 | 46107.5 | LAMP #3-3 UV SENSOR LOW FAULT | Alarm | OK | |
| 245 | UV1200\DI\Lamp_1_1_UV_Hi_Flt | 45932.10 | 45932.6 | DR | 12 | 46107.6 | LAMP #1-1 UV SENSOR HIGH FAULT | Alarm | OK | |
| 246 | UV1200\DI\Lamp_1_2_UV_Hi_Flt | 45932.9 | 45932.7 | DR | 12 | 46107.7 | LAMP #1-2 UV SENSOR HIGH FAULT | Alarm | OK | |
| 247 | UV1200\DI\Lamp_1_3_UV_Hi_Flt | 45932.8 | 45932.8 | DR | 12 | 46107.8 | LAMP #1-3 UV SENSOR HIGH FAULT | Alarm | OK | |
| 248 | UV1200\DI\Lamp_2_1_UV_Hi_Flt | 45932.7 | 45932.9 | DR | 12 | 46107.9 | LAMP #2-1 UV SENSOR HIGH FAULT | Alarm | OK | |
| 249 | UV1200\DI\Lamp_2_2_UV_Hi_Flt | 45932.6 | 45932.10 | DR | 12 | 46107.10 | LAMP #2-2 UV SENSOR HIGH FAULT | Alarm | OK | |
| 250 | UV1200\DI\Lamp_2_3_UV_Hi_Flt | 45932.5 | 45932.11 | DR | 12 | 46107.11 | LAMP #2-3 UV SENSOR HIGH FAULT | Alarm | OK | |
| 251 | UV1200\DI\Lamp_3_1_UV_Hi_Flt | 45932.4 | 45932.12 | DR | 12 | 46107.12 | LAMP #3-1 UV SENSOR HIGH FAULT | Alarm | OK | |
| 252 | UV1200\DI\Lamp_3_2_UV_Hi_Flt | 45932.3 | 45932.13 | DR | 12 | 46107.13 | LAMP #3-2 UV SENSOR HIGH FAULT | Alarm | OK | |
| 253 | UV1200\DI\Lamp_3_3_UV_Hi_Flt | 45932.2 | 45932.14 | DR | 12 | 46107.14 | LAMP #3-3 UV SENSOR HIGH FAULT | Alarm | OK | |
| 254 | UV1200\DI\Lamp_1_1_UV_Fail_Flt | 45932.1 | 45932.15 | DR | 12 | 46107.15 | LAMP #1-1 UV SENSOR FAILED FAULT | Alarm | OK | |
| 255 | UV1200\DI\Lamp_1_2_UV_Fail_Flt | 45932.0 | 45932.16 | DR | 12 | 46107.16 | LAMP #1-2 UV SENSOR FAILED FAULT | Alarm | OK | |
| 256 | UV1200\DI\Lamp_1_3_UV_Fail_Flt | 45933.15 | 45933.1 | DR | 12 | 46108.1 | LAMP #1-3 UV SENSOR FAILED FAULT | Alarm | OK | |
| 257 | UV1200\DI\Lamp_2_1_UV_Fail_Flt | 45933.14 | 45933.2 | DR | 12 | 46108.2 | LAMP #2-1 UV SENSOR FAILED FAULT | Alarm | OK | |
| 258 | UV1200\DI\Lamp_2_2_UV_Fail_Flt | 45933.13 | 45933.3 | DR | 12 | 46108.3 | LAMP #2-2 UV SENSOR FAILED FAULT | Alarm | OK | |
| 259 | UV1200\DI\Lamp_2_3_UV_Fail_Flt | 45933.12 | 45933.4 | DR | 12 | 46108.4 | LAMP #2-3 UV SENSOR FAILED FAULT | Alarm | OK | |
| 260 | UV1200\DI\Lamp_3_1_UV_Fail_Flt | 45933.11 | 45933.5 | DR | 12 | 46108.5 | LAMP #3-1 UV SENSOR FAILED FAULT | Alarm | OK | |
| 261 | UV1200\DI\Lamp_3_2_UV_Fail_Flt | 45933.10 | 45933.6 | DR | 12 | 46108.6 | LAMP #3-2 UV SENSOR FAILED FAULT | Alarm | OK | |
| 262 | UV1200\DI\Lamp_3_3_UV_Fail_Flt | 45933.9 | 45933.7 | DR | 12 | 46108.7 | LAMP #3-3 UV SENSOR FAILED FAULT | Alarm | OK | |
| 263 | UV1200\DI\Lamp_1_1_UV_Cal_Flt | 45933.8 | 45933.8 | DR | 12 | 46108.8 | LAMP #1-1 UV SENSOR OUT OF CAL. | Alarm | OK | |
| 264 | UV1200\DI\Lamp_1_2_UV_Cal_Flt | 45933.7 | 45933.9 | DR | 12 | 46108.9 | LAMP #1-2 UV SENSOR OUT OF CAL. | Alarm | OK | |
| 265 | UV1200\DI\Lamp_1_3_UV_Cal_Flt | 45933.6 | 45933.10 | DR | 12 | 46108.10 | LAMP #1-3 UV SENSOR OUT OF CAL. | Alarm | OK | |
| 266 | UV1200\DI\Lamp_2_1_UV_Cal_Flt | 45933.5 | 45933.11 | DR | 12 | 46108.11 | LAMP #2-1 UV SENSOR OUT OF CAL. | Alarm | OK | |
| 267 | UV1200\DI\Lamp_2_2_UV_Cal_Flt | 45933.4 | 45933.12 | DR | 12 | 46108.12 | LAMP #2-2 UV SENSOR OUT OF CAL. | Alarm | OK | |
| 268 | UV1200\DI\Lamp_2_3_UV_Cal_Flt | 45933.3 | 45933.13 | DR | 12 | 46108.13 | LAMP #2-3 UV SENSOR OUT OF CAL. | Alarm | OK | |
| 269 | UV1200\DI\Lamp_3_1_UV_Cal_Flt | 45933.2 | 45933.14 | DR | 12 | 46108.14 | LAMP #3-1 UV SENSOR OUT OF CAL. | Alarm | OK | |

## UVM Communication Database

| DIGITAL - Reactor to RSView (UVM) | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Item # | Tagname/Symbol | Kepware Address | UVM PLC Address | Type | MB+ Node | Unit PLC Address | Description | Set State (1) | Reset State (0) | Comments |
| 270 | UV1200\DI\Lamp_3_2_UV_Cal_Flt | 45933.1 | 45933.15 | DR | 12 | 46108.15 | LAMP #3-2 UV SENSOR OUT OF CAL. | Alarm | OK | |
| 271 | UV1200\DI\Lamp_3_3_UV_Cal_Flt | 45933.0 | 45933.16 | DR | 12 | 46108.16 | LAMP #3-3 UV SENSOR OUT OF CAL. | Alarm | OK | |
| 272 | UV1200\DI\Lamp_1_1_Low_Amps | 45934.15 | 45934.1 | DR | 12 | 46109.1 | LAMP #1-1 LOW AMPS | Alarm | OK | |
| 273 | UV1200\DI\Lamp_1_2_Low_Amps | 45934.14 | 45934.2 | DR | 12 | 46109.2 | LAMP #1-2 LOW AMPS | Alarm | OK | |
| 274 | UV1200\DI\Lamp_1_3_Low_Amps | 45934.13 | 45934.3 | DR | 12 | 46109.3 | LAMP #1-3 LOW AMPS | Alarm | OK | |
| 275 | UV1200\DI\Lamp_2_1_Low_Amps | 45934.12 | 45934.4 | DR | 12 | 46109.4 | LAMP #2-1 LOW AMPS | Alarm | OK | |
| 276 | UV1200\DI\Lamp_2_2_Low_Amps | 45934.11 | 45934.5 | DR | 12 | 46109.5 | LAMP #2-2 LOW AMPS | Alarm | OK | |
| 277 | UV1200\DI\Lamp_2_3_Low_Amps | 45934.10 | 45934.6 | DR | 12 | 46109.6 | LAMP #2-3 LOW AMPS | Alarm | OK | |
| 278 | UV1200\DI\Lamp_3_1_Low_Amps | 45934.9 | 45934.7 | DR | 12 | 46109.7 | LAMP #3-1 LOW AMPS | Alarm | OK | |
| 279 | UV1200\DI\Lamp_3_2_Low_Amps | 45934.8 | 45934.8 | DR | 12 | 46109.8 | LAMP #3-2 LOW AMPS | Alarm | OK | |
| 280 | UV1200\DI\Lamp_3_3_Low_Amps | 45934.7 | 45934.9 | DR | 12 | 46109.9 | LAMP #3-3 LOW AMPS | Alarm | OK | |
| 281 | UV1200\DI\Lamp_1_1_Hi_Amps | 45934.6 | 45934.10 | DR | 12 | 46109.10 | LAMP #1-1 HIGH AMPS | Alarm | OK | |
| 282 | UV1200\DI\Lamp_1_2_Hi_Amps | 45934.5 | 45934.11 | DR | 12 | 46109.11 | LAMP #1-2 HIGH AMPS | Alarm | OK | |
| 283 | UV1200\DI\Lamp_1_3_Hi_Amps | 45934.4 | 45934.12 | DR | 12 | 46109.12 | LAMP #1-3 HIGH AMPS | Alarm | OK | |
| 284 | UV1200\DI\Lamp_2_1_Hi_Amps | 45934.3 | 45934.13 | DR | 12 | 46109.13 | LAMP #2-1 HIGH AMPS | Alarm | OK | |
| 285 | UV1200\DI\Lamp_2_2_Hi_Amps | 45934.2 | 45934.14 | DR | 12 | 46109.14 | LAMP #2-2 HIGH AMPS | Alarm | OK | |
| 286 | UV1200\DI\Lamp_2_3_Hi_Amps | 45934.1 | 45934.15 | DR | 12 | 46109.15 | LAMP #2-3 HIGH AMPS | Alarm | OK | |
| 287 | UV1200\DI\Lamp_3_1_Hi_Amps | 45934.0 | 45934.16 | DR | 12 | 46109.16 | LAMP #3-1 HIGH AMPS | Alarm | OK | |
| 288 | UV1200\DI\Lamp_3_2_Hi_Amps | 45935.15 | 45935.1 | DR | 12 | 46110.1 | LAMP #3-2 HIGH AMPS | Alarm | OK | |
| 289 | UV1200\DI\Lamp_3_3_Hi_Amps | 45935.14 | 45935.2 | DR | 12 | 46110.2 | LAMP #3-3 HIGH AMPS | Alarm | OK | |
| 290 | UV1200\DI\PLC_Error | 45935.13 | 45935.3 | DR | 12 | 46110.3 | PLC ERROR | Alarm | OK | |
| 291 | UV1200\DI\PLC_Low_Battery | 45935.12 | 45935.4 | DR | 12 | 46110.4 | PLC LOW BATTERY | Alarm | OK | |
| 292 | UV1200\DI\PLC_I/O_Fail | 45935.11 | 45935.5 | DR | 12 | 46110.5 | I/O CARD FAILURE | Alarm | OK | |
| 293 | UV1200\DI\Lamp_1_1_Hi_Hours | 45935.10 | 45935.6 | DR | 12 | 46110.6 | LAMP #1-1 HIGH LAMP HOURS | Alarm | OK | |
| 294 | UV1200\DI\Lamp_1_2_Hi_Hours | 45935.9 | 45935.7 | DR | 12 | 46110.7 | LAMP #1-2 HIGH LAMP HOURS | Alarm | OK | |
| 295 | UV1200\DI\Lamp_1_3_Hi_Hours | 45935.8 | 45935.8 | DR | 12 | 46110.8 | LAMP #1-3 HIGH LAMP HOURS | Alarm | OK | |
| 296 | UV1200\DI\Lamp_2_1_Hi_Hours | 45935.7 | 45935.9 | DR | 12 | 46110.9 | LAMP #2-1 HIGH LAMP HOURS | Alarm | OK | |
| 297 | UV1200\DI\Lamp_2_2_Hi_Hours | 45935.6 | 45935.10 | DR | 12 | 46110.10 | LAMP #2-2 HIGH LAMP HOURS | Alarm | OK | |
| 298 | UV1200\DI\Lamp_2_3_Hi_Hours | 45935.5 | 45935.11 | DR | 12 | 46110.11 | LAMP #2-3 HIGH LAMP HOURS | Alarm | OK | |
| 299 | UV1200\DI\Lamp_3_1_Hi_Hours | 45935.4 | 45935.12 | DR | 12 | 46110.12 | LAMP #3-1 HIGH LAMP HOURS | Alarm | OK | |
| 300 | UV1200\DI\Lamp_3_2_Hi_Hours | 45935.3 | 45935.13 | DR | 12 | 46110.13 | LAMP #3-2 HIGH LAMP HOURS | Alarm | OK | |
| 301 | UV1200\DI\Lamp_3_3_Hi_Hours | 45935.2 | 45935.14 | DR | 12 | 46110.14 | LAMP #3-3 HIGH LAMP HOURS | Alarm | OK | |
| 302 | UV1200\DI\Lamp_1_1_Hi_Starts | 45935.1 | 45935.15 | DR | 12 | 46110.15 | LAMP #1-1 HIGH LAMP STARTS | Alarm | OK | |
| 303 | UV1200\DI\Lamp_1_2_Hi_Starts | 45935.0 | 45935.16 | DR | 12 | 46110.16 | LAMP #1-2 HIGH LAMP STARTS | Alarm | OK | |
| 304 | UV1200\DI\Lamp_1_3_Hi_Starts | 45936.15 | 45936.1 | DR | 12 | 46111.1 | LAMP #1-3 HIGH LAMP STARTS | Alarm | OK | |
| 305 | UV1200\DI\Lamp_2_1_Hi_Starts | 45936.14 | 45936.2 | DR | 12 | 46111.2 | LAMP #2-1 HIGH LAMP STARTS | Alarm | OK | |
| 306 | UV1200\DI\Lamp_2_2_Hi_Starts | 45936.13 | 45936.3 | DR | 12 | 46111.3 | LAMP #2-2 HIGH LAMP STARTS | Alarm | OK | |
| 307 | UV1200\DI\Lamp_2_3_Hi_Starts | 45936.12 | 45936.4 | DR | 12 | 46111.4 | LAMP #2-3 HIGH LAMP STARTS | Alarm | OK | |
| 308 | UV1200\DI\Lamp_3_1_Hi_Starts | 45936.11 | 45936.5 | DR | 12 | 46111.5 | LAMP #3-1 HIGH LAMP STARTS | Alarm | OK | |
| 309 | UV1200\DI\Lamp_3_2_Hi_Starts | 45936.10 | 45936.6 | DR | 12 | 46111.6 | LAMP #3-2 HIGH LAMP STARTS | Alarm | OK | |
| 310 | UV1200\DI\Lamp_3_3_Hi_Starts | 45936.9 | 45936.7 | DR | 12 | 46111.7 | LAMP #3-3 HIGH LAMP STARTS | Alarm | OK | |
| 311 | UV1200\DI\Lamp_1_1_Start_Fail | 45936.8 | 45936.8 | DR | 12 | 46111.8 | LAMP #1-1 LAMP START FAILURE | Alarm | OK | |
| 312 | UV1200\DI\Lamp_1_2_Start_Fail | 45936.7 | 45936.9 | DR | 12 | 46111.9 | LAMP #1-2 LAMP START FAILURE | Alarm | OK | |
| 313 | UV1200\DI\Lamp_1_3_Start_Fail | 45936.6 | 45936.10 | DR | 12 | 46111.10 | LAMP #1-3 LAMP START FAILURE | Alarm | OK | |
| 314 | UV1200\DI\Lamp_2_1_Start_Fail | 45936.5 | 45936.11 | DR | 12 | 46111.11 | LAMP #2-1 LAMP START FAILURE | Alarm | OK | |
| 315 | UV1200\DI\Lamp_2_2_Start_Fail | 45936.4 | 45936.12 | DR | 12 | 46111.12 | LAMP #2-2 LAMP START FAILURE | Alarm | OK | |
| 316 | UV1200\DI\Lamp_2_3_Start_Fail | 45936.3 | 45936.13 | DR | 12 | 46111.13 | LAMP #2-3 LAMP START FAILURE | Alarm | OK | |
| 317 | UV1200\DI\Lamp_3_1_Start_Fail | 45936.2 | 45936.14 | DR | 12 | 46111.14 | LAMP #3-1 LAMP START FAILURE | Alarm | OK | |
| 318 | UV1200\DI\Lamp_3_2_Start_Fail | 45936.1 | 45936.15 | DR | 12 | 46111.15 | LAMP #3-2 LAMP START FAILURE | Alarm | OK | |
| 319 | UV1200\DI\Lamp_3_3_Start_Fail | 45936.0 | 45936.16 | DR | 12 | 46111.16 | LAMP #3-3 LAMP START FAILURE | Alarm | OK | |
| 320 | UV1200\DI\Low_UV_Dose | 45937.15 | 45937.1 | DR | 12 | 46112.1 | LOW UV DOSE | Alarm | OK | |
| 321 | UV1200\DI\Low_Low_UV_Dose | 45937.14 | 45937.2 | DR | 12 | 46112.2 | LOW LOW UV DOSE | Alarm | OK | |
| 322 | UV1200\DI\Low_Water_Flow | 45937.13 | 45937.3 | DR | 12 | 46112.3 | LOW WATER FLOW | Alarm | OK | |
| 323 | UV1200\DI\Lmp_Bnk1_Brush_Flt | 45937.12 | 45937.4 | DR | 12 | 46112.4 | LAMP BANK #1 BRUSH CYCLE FAULT | Alarm | OK | |

## UVM Communication Database

| DIGITAL - Reactor to RSView (UVM) | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Item # | Tagname/Symbol | Kepware Address | UVM PLC Address | Type | MB+ Node | Unit PLC Address | Description | Set State (1) | Reset State (0) | Comments |
| 324 | UV1200\DI\Lmp_Bnk2_Brush_Flt | 45937.11 | 45937.5 | DR | 12 | 46112.5 | LAMP BANK #2 BRUSH CYCLE FAULT | Alarm | OK | |
| 325 | UV1200\DI\Lmp_Bnk3_Brush_Flt | 45937.10 | 45937.6 | DR | 12 | 46112.6 | LAMP BANK #3 BRUSH CYCLE FAULT | Alarm | OK | |
| 326 | UV1200\DI\Lmp_Bnk1_Hi_Amps | 45937.9 | 45937.7 | DR | 12 | 46112.7 | LAMP BANK #1 BRUSH DRIVE HIGH AMPS | Alarm | OK | |
| 327 | UV1200\DI\Lmp_Bnk2_Hi_Amps | 45937.8 | 45937.8 | DR | 12 | 46112.8 | LAMP BANK #2 BRUSH DRIVE HIGH AMPS | Alarm | OK | |
| 328 | UV1200\DI\Lmp_Bnk3_Hi_Amps | 45937.7 | 45937.9 | DR | 12 | 46112.9 | LAMP BANK #3 BRUSH DRIVE HIGH AMPS | Alarm | OK | |
| 329 | UV1200\DI\Lamp_1_1_OpenCap_Start | 45937.4 | 45937.12 | DR | 12 | 46112.12 | LAMP 1-1 OPEN CAPACITOR@STARTUP | Alarm | OK | Capacitor failure monitoring |
| 330 | UV1200\DI\Lamp_1_2_OpenCap_Start | 45937.3 | 45937.13 | DR | 12 | 46112.13 | LAMP 1-2 OPEN CAPACITOR@STARTUP | Alarm | OK | Capacitor failure monitoring |
| 331 | UV1200\DI\Lamp_1_3_OpenCap_Start | 45937.2 | 45937.14 | DR | 12 | 46112.14 | LAMP 1-3 OPEN CAPACITOR@STARTUP | Alarm | OK | Capacitor failure monitoring |
| 332 | UV1200\DI\Lamp_2_1_OpenCap_Start | 45937.1 | 45937.15 | DR | 12 | 46112.15 | LAMP 2-1 OPEN CAPACITOR@STARTUP | Alarm | OK | Capacitor failure monitoring |
| 333 | UV1200\DI\Lamp_2_2_OpenCap_Start | 45937.0 | 45937.16 | DR | 12 | 46112.16 | LAMP 2-2 OPEN CAPACITOR@STARTUP | Alarm | OK | Capacitor failure monitoring |
| 334 | UV1200\DI\Lamp_2_3_OpenCap_Start | 45938.15 | 45938.1 | DR | 12 | 46113.1 | LAMP 2-3 OPEN CAPACITOR@STARTUP | Alarm | OK | Capacitor failure monitoring |
| 335 | UV1200\DI\Lamp_3_1_OpenCap_Start | 45938.14 | 45938.2 | DR | 12 | 46113.2 | LAMP 3-1 OPEN CAPACITOR@STARTUP | Alarm | OK | Capacitor failure monitoring |
| 336 | UV1200\DI\Lamp_3_2_OpenCap_Start | 45938.13 | 45938.3 | DR | 12 | 46113.3 | LAMP 3-2 OPEN CAPACITOR@STARTUP | Alarm | OK | Capacitor failure monitoring |
| 337 | UV1200\DI\Lamp_3_3_OpenCap_Start | 45938.12 | 45938.4 | DR | 12 | 46113.4 | LAMP 3-3 OPEN CAPACITOR@STARTUP | Alarm | OK | Capacitor failure monitoring |
| 338 | UV1200\DI\Lamp_1_1_ShortCap_Start | 45938.11 | 45938.5 | DR | 12 | 46113.5 | LAMP 1-1 SHORTED CAPACITOR@STARTUP | Alarm | OK | Capacitor failure monitoring |
| 339 | UV1200\DI\Lamp_1_2_ShortCap_Start | 45938.10 | 45938.6 | DR | 12 | 46113.6 | LAMP 1-2 SHORTED CAPACITOR@STARTUP | Alarm | OK | Capacitor failure monitoring |
| 340 | UV1200\DI\Lamp_1_3_ShortCap_Start | 45938.9 | 45938.7 | DR | 12 | 46113.7 | LAMP 1-3 SHORTED CAPACITOR@STARTUP | Alarm | OK | Capacitor failure monitoring |
| 341 | UV1200\DI\Lamp_2_1_ShortCap_Start | 45938.8 | 45938.8 | DR | 12 | 46113.8 | LAMP 2-1 SHORTED CAPACITOR@STARTUP | Alarm | OK | Capacitor failure monitoring |
| 342 | UV1200\DI\Lamp_2_2_ShortCap_Start | 45938.7 | 45938.9 | DR | 12 | 46113.9 | LAMP 2-2 SHORTED CAPACITOR@STARTUP | Alarm | OK | Capacitor failure monitoring |
| 343 | UV1200\DI\Lamp_2_3_ShortCap_Start | 45938.6 | 45938.10 | DR | 12 | 46113.10 | LAMP 2-3 SHORTED CAPACITOR@STARTUP | Alarm | OK | Capacitor failure monitoring |
| 344 | UV1200\DI\Lamp_3_1_ShortCap_Start | 45938.5 | 45938.11 | DR | 12 | 46113.11 | LAMP 3-1 SHORTED CAPACITOR@STARTUP | Alarm | OK | Capacitor failure monitoring |
| 345 | UV1200\DI\Lamp_3_2_ShortCap_Start | 45938.4 | 45938.12 | DR | 12 | 46113.12 | LAMP 3-2 SHORTED CAPACITOR@STARTUP | Alarm | OK | Capacitor failure monitoring |
| 346 | UV1200\DI\Lamp_3_3_ShortCap_Start | 45938.3 | 45938.13 | DR | 12 | 46113.13 | LAMP 3-3 SHORTED CAPACITOR@STARTUP | Alarm | OK | Capacitor failure monitoring |
| 347 | UV1200\DI\Lamp_1_1_OpenCap_100pct | 45938.2 | 45938.14 | DR | 12 | 46113.14 | LAMP 1-1 OPEN CAPACITOR@100% POWER | Alarm | OK | Capacitor failure monitoring |
| 348 | UV1200\DI\Lamp_1_2_OpenCap_100pct | 45938.1 | 45938.15 | DR | 12 | 46113.15 | LAMP 1-2 OPEN CAPACITOR@100% POWER | Alarm | OK | Capacitor failure monitoring |
| 349 | UV1200\DI\Lamp_1_3_OpenCap_100pct | 45938.0 | 45938.16 | DR | 12 | 46113.16 | LAMP 1-3 OPEN CAPACITOR@100% POWER | Alarm | OK | Capacitor failure monitoring |
| 350 | UV1200\DI\Lamp_2_1_OpenCap_100pct | 45939.15 | 45939.1 | DR | 12 | 46114.1 | LAMP 2-1 OPEN CAPACITOR@100% POWER | Alarm | OK | Capacitor failure monitoring |
| 351 | UV1200\DI\Lamp_2_2_OpenCap_100pct | 45939.14 | 45939.2 | DR | 12 | 46114.2 | LAMP 2-2 OPEN CAPACITOR@100% POWER | Alarm | OK | Capacitor failure monitoring |
| 352 | UV1200\DI\Lamp_2_3_OpenCap_100pct | 45939.13 | 45939.3 | DR | 12 | 46114.3 | LAMP 2-3 OPEN CAPACITOR@100% POWER | Alarm | OK | Capacitor failure monitoring |
| 353 | UV1200\DI\Lamp_3_1_OpenCap_100pct | 45939.12 | 45939.4 | DR | 12 | 46114.4 | LAMP 3-1 OPEN CAPACITOR@100% POWER | Alarm | OK | Capacitor failure monitoring |
| 354 | UV1200\DI\Lamp_3_2_OpenCap_100pct | 45939.11 | 45939.5 | DR | 12 | 46114.5 | LAMP 3-2 OPEN CAPACITOR@100% POWER | Alarm | OK | Capacitor failure monitoring |
| 355 | UV1200\DI\Lamp_3_3_OpenCap_100pct | 45939.10 | 45939.6 | DR | 12 | 46114.6 | LAMP 3-3 OPEN CAPACITOR@100% POWER | Alarm | OK | Capacitor failure monitoring |
| 356 | UV1200\DI\Lamp_1_1_ShortCap_100pct | 45939.9 | 45939.7 | DR | 12 | 46114.7 | LAMP 1-1 SHORTED CAPACITOR@100% POW | Alarm | OK | Capacitor failure monitoring |
| 357 | UV1200\DI\Lamp_1_2_ShortCap_100pct | 45939.8 | 45939.8 | DR | 12 | 46114.8 | LAMP 1-2 SHORTED CAPACITOR@100% POW | Alarm | OK | Capacitor failure monitoring |
| 358 | UV1200\DI\Lamp_1_3_ShortCap_100pct | 45939.7 | 45939.9 | DR | 12 | 46114.9 | LAMP 1-3 SHORTED CAPACITOR@100% POW | Alarm | OK | Capacitor failure monitoring |
| 359 | UV1200\DI\Lamp_2_1_ShortCap_100pct | 45939.6 | 45939.10 | DR | 12 | 46114.10 | LAMP 2-1 SHORTED CAPACITOR@100% POW | Alarm | OK | Capacitor failure monitoring |
| 360 | UV1200\DI\Lamp_2_2_ShortCap_100pct | 45939.5 | 45939.11 | DR | 12 | 46114.11 | LAMP 2-2 SHORTED CAPACITOR@100% POW | Alarm | OK | Capacitor failure monitoring |
| 361 | UV1200\DI\Lamp_2_3_ShortCap_100pct | 45939.4 | 45939.12 | DR | 12 | 46114.12 | LAMP 2-3 SHORTED CAPACITOR@100% POW | Alarm | OK | Capacitor failure monitoring |
| 362 | UV1200\DI\Lamp_3_1_ShortCap_100pct | 45939.3 | 45939.13 | DR | 12 | 46114.13 | LAMP 3-1 SHORTED CAPACITOR@100% POW | Alarm | OK | Capacitor failure monitoring |
| 363 | UV1200\DI\Lamp_3_2_ShortCap_100pct | 45939.2 | 45939.14 | DR | 12 | 46114.14 | LAMP 3-2 SHORTED CAPACITOR@100% POW | Alarm | OK | Capacitor failure monitoring |
| 364 | UV1200\DI\Lamp_3_3_ShortCap_100pct | 45939.1 | 45939.15 | DR | 12 | 46114.15 | LAMP 3-3 SHORTED CAPACITOR@100% POW | Alarm | OK | Capacitor failure monitoring |
| | | | | | | | | | | |
| 365 | UV2100\DI\On_Off_Status | 46050.15 | 46050.1 | DR | 21 | 46100.1 | To RSView - Reactor On/Off Status | On | Off | |
| 366 | UV2100\DI\Rem_Lcl_Control | 46051.15 | 46051.1 | DR | 21 | 46101.1 | To RSView - Remote/Local [Rem=1] | Remote | Local | |
| 367 | UV2100\DI\Wiper1_Auto_Man | 46051.14 | 46051.2 | DR | 21 | 46101.2 | To RSView - Wiper #1 Auto/Man [Auto=1] | Auto | Manual | |
| 368 | UV2100\DI\Wiper2_Auto_Man | 46051.13 | 46051.3 | DR | 21 | 46101.3 | To RSView - Wiper #2 Auto/Man [Auto=1] | Auto | Manual | |
| 369 | UV2100\DI\Wiper3_Auto_Man | 46051.12 | 46051.4 | DR | 21 | 46101.4 | To RSView - Wiper #3 Auto/Man [Auto=1] | Auto | Manual | |
| 370 | UV2100\DI\Bank1_Auto_Man | 46051.11 | 46051.5 | DR | 21 | 46101.5 | To RSView - Lamp Bank #1 Auto/Man [Auto=1] | Auto | Manual | |
| 371 | UV2100\DI\Bank1_KW_Out | 46051.10 | 46051.6 | DR | 21 | 46101.6 | To RSView - Lamp Bank #1 kW/%Out [kW=1] | kW | % Output | Lamp Manual Mode Only |
| 372 | UV2100\DI\Bank2_Auto_Man | 46051.9 | 46051.7 | DR | 21 | 46101.7 | To RSView - Lamp Bank #2 Auto/Man [Auto=1] | Auto | Manual | |
| 373 | UV2100\DI\Bank2_KW_Out | 46051.8 | 46051.8 | DR | 21 | 46101.8 | To RSView - Lamp Bank #2 kW/%Out [kW=1] | kW | % Output | Lamp Manual Mode Only |
| 374 | UV2100\DI\Bank3_Auto_Man | 46051.7 | 46051.9 | DR | 21 | 46101.9 | To RSView - Lamp Bank #3 Auto/Man [Auto=1] | Auto | Manual | |
| 375 | UV2100\DI\Bank3_KW_Out | 46051.6 | 46051.10 | DR | 21 | 46101.10 | To RSView - Lamp Bank #3 kW/%Out [kW=1] | kW | % Output | Lamp Manual Mode Only |
| 376 | UV2100\DI\Lamp_1_1_ON | 46052.15 | 46052.1 | DR | 21 | 46102.1 | To RSView - Lamp #1-1 On Status [On=1] | On | Off | Lamp Contactor Output Status |

## UVM Communication Database

| DIGITAL - Reactor to RSView (UVM) | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Item # | Tagname/Symbol | Kepware Address | UVM PLC Address | Type | MB+ Node | Unit PLC Address | Description | Set State (1) | Reset State (0) | Comments |
| 377 | UV2100\DI\Lamp_1_2_ON | 46052.14 | 46052.2 | DR | 21 | 46102.2 | To RSView - Lamp #1-2 On Status [On=1] | On | Off | Lamp Contactor Output Status |
| 378 | UV2100\DI\Lamp_1_3_ON | 46052.13 | 46052.3 | DR | 21 | 46102.3 | To RSView - Lamp #1-3 On Status [On=1] | On | Off | Lamp Contactor Output Status |
| 379 | UV2100\DI\Lamp_2_1_ON | 46052.12 | 46052.4 | DR | 21 | 46102.4 | To RSView - Lamp #2-1 On Status [On=1] | On | Off | Lamp Contactor Output Status |
| 380 | UV2100\DI\Lamp_2_2_ON | 46052.11 | 46052.5 | DR | 21 | 46102.5 | To RSView - Lamp #2-2 On Status [On=1] | On | Off | Lamp Contactor Output Status |
| 381 | UV2100\DI\Lamp_2_3_ON | 46052.10 | 46052.6 | DR | 21 | 46102.6 | To RSView - Lamp #2-3 On Status [On=1] | On | Off | Lamp Contactor Output Status |
| 382 | UV2100\DI\Lamp_3_1_ON | 46052.9 | 46052.7 | DR | 21 | 46102.7 | To RSView - Lamp #3-1 On Status [On=1] | On | Off | Lamp Contactor Output Status |
| 383 | UV2100\DI\Lamp_3_2_ON | 46052.8 | 46052.8 | DR | 21 | 46102.8 | To RSView - Lamp #3-2 On Status [On=1] | On | Off | Lamp Contactor Output Status |
| 384 | UV2100\DI\Lamp_3_3_ON | 46052.7 | 46052.9 | DR | 21 | 46102.9 | To RSView - Lamp #3-3 On Status [On=1] | On | Off | Lamp Contactor Output Status |
| 385 | UV2100\DI\UV_Val_Mode | 46053.15 | 46053.1 | DR | 21 | 46103.1 | To RSView - UV Validation Mode | UV | Dose | |
| 386 | UV2100\DI\PLC_Battery | 46053.14 | 46053.2 | DR | 21 | 46103.2 | To RSView - CPU Battery Status | OK | Low | |
| 387 | UV2100\DI\PLC_Major_Error | 46053.13 | 46053.3 | DR | 21 | 46103.3 | To RSView - CPU Major Error Status | OK | Error | |
| 388 | UV2100\DI\PLC_Forces | 46053.12 | 46053.4 | DR | 21 | 46103.4 | To RSView - CPU Forces Status | None | Enabled | |
| 389 | UV2100\DI\PLC\DISCONN | 46053.11 | 46053.5 | DR | 21 | | PLC Communication Failed | Alarm | OK | |
| 390 | UV2100\DI\E_STOP | 46055.15 | 46055.1 | DR | 21 | 46105.1 | EMERGENCY STOP | Alarm | OK | |
| 391 | UV2100\DI\Lamp_1_1_Gnd_Flt | 46055.14 | 46055.2 | DR | 21 | 46105.2 | LAMP #1-1 GROUND FAULT | Alarm | OK | |
| 392 | UV2100\DI\Lamp_1_2_Gnd_Flt | 46055.13 | 46055.3 | DR | 21 | 46105.3 | LAMP #1-2 GROUND FAULT | Alarm | OK | |
| 393 | UV2100\DI\Lamp_1_3_Gnd_Flt | 46055.12 | 46055.4 | DR | 21 | 46105.4 | LAMP #1-3 GROUND FAULT | Alarm | OK | |
| 394 | UV2100\DI\Lamp_2_1_Gnd_Flt | 46055.11 | 46055.5 | DR | 21 | 46105.5 | LAMP #2-1 GROUND FAULT | Alarm | OK | |
| 395 | UV2100\DI\Lamp_2_2_Gnd_Flt | 46055.10 | 46055.6 | DR | 21 | 46105.6 | LAMP #2-2 GROUND FAULT | Alarm | OK | |
| 396 | UV2100\DI\Lamp_2_3_Gnd_Flt | 46055.9 | 46055.7 | DR | 21 | 46105.7 | LAMP #2-3 GROUND FAULT | Alarm | OK | |
| 397 | UV2100\DI\Lamp_3_1_Gnd_Flt | 46055.8 | 46055.8 | DR | 21 | 46105.8 | LAMP #3-1 GROUND FAULT | Alarm | OK | |
| 398 | UV2100\DI\Lamp_3_2_Gnd_Flt | 46055.7 | 46055.9 | DR | 21 | 46105.9 | LAMP #3-2 GROUND FAULT | Alarm | OK | |
| 399 | UV2100\DI\Lamp_3_3_Gnd_Flt | 46055.6 | 46055.10 | DR | 21 | 46105.10 | LAMP #3-3 GROUND FAULT | Alarm | OK | |
| 400 | UV2100\DI\Lamp_Bank1_Moisture | 46055.5 | 46055.11 | DR | 21 | 46105.11 | LAMP BANK #1 MOISTURE DETECTED | Alarm | OK | |
| 401 | UV2100\DI\Lamp_Bank2_Moisture | 46055.4 | 46055.12 | DR | 21 | 46105.12 | LAMP BANK #2 MOISTURE DETECTED | Alarm | OK | |
| 402 | UV2100\DI\Lamp_Bank3_Moisture | 46055.3 | 46055.13 | DR | 21 | 46105.13 | LAMP BANK #3 MOISTURE DETECTED | Alarm | OK | |
| 403 | UV2100\DI\React_Hi_Temp | 46055.2 | 46055.14 | DR | 21 | 46105.14 | REACTOR HIGH TEMPERATURE | Alarm | OK | |
| 404 | UV2100\DI\Lamp_1_1_Xfmr_Hi_Temp | 46055.1 | 46055.15 | DR | 21 | 46105.15 | LAMP #1-1 XFMR/SAT. CORE HIGH TEMP. | Alarm | OK | |
| 405 | UV2100\DI\Lamp_1_2_Xfmr_Hi_Temp | 46055.0 | 46055.16 | DR | 21 | 46105.16 | LAMP #1-2 XFMR/SAT. CORE HIGH TEMP. | Alarm | OK | |
| 406 | UV2100\DI\Lamp_1_3_Xfmr_Hi_Temp | 46056.15 | 46056.1 | DR | 21 | 46106.1 | LAMP #1-3 XFMR/SAT. CORE HIGH TEMP. | Alarm | OK | |
| 407 | UV2100\DI\Lamp_2_1_Xfmr_Hi_Temp | 46056.14 | 46056.2 | DR | 21 | 46106.2 | LAMP #2-1 XFMR/SAT. CORE HIGH TEMP. | Alarm | OK | |
| 408 | UV2100\DI\Lamp_2_2_Xfmr_Hi_Temp | 46056.13 | 46056.3 | DR | 21 | 46106.3 | LAMP #2-2 XFMR/SAT. CORE HIGH TEMP. | Alarm | OK | |
| 409 | UV2100\DI\Lamp_2_3_Xfmr_Hi_Temp | 46056.12 | 46056.4 | DR | 21 | 46106.4 | LAMP #2-3 XFMR/SAT. CORE HIGH TEMP. | Alarm | OK | |
| 410 | UV2100\DI\Lamp_3_1_Xfmr_Hi_Temp | 46056.11 | 46056.5 | DR | 21 | 46106.5 | LAMP #3-1 XFMR/SAT. CORE HIGH TEMP. | Alarm | OK | |
| 411 | UV2100\DI\Lamp_3_2_Xfmr_Hi_Temp | 46056.10 | 46056.6 | DR | 21 | 46106.6 | LAMP #3-2 XFMR/SAT. CORE HIGH TEMP. | Alarm | OK | |
| 412 | UV2100\DI\Lamp_3_3_Xfmr_Hi_Temp | 46056.9 | 46056.7 | DR | 21 | 46106.7 | LAMP #3-3 XFMR/SAT. CORE HIGH TEMP. | Alarm | OK | |
| 413 | UV2100\DI\Power_Cab_Hot | 46056.8 | 46056.8 | DR | 21 | 46106.8 | POWER CABINETS HOT | Alarm | OK | |
| 414 | UV2100\DI\Power_Cab_Door_Open | 46056.7 | 46056.9 | DR | 21 | 46106.9 | POWER CABINETS DOOR OPEN | Alarm | OK | |
| 415 | UV2100\DI\Lmp_Bnk1_React_Cov_OP | 46056.6 | 46056.10 | DR | 21 | 46106.10 | LAMP BANK #1 REACTOR COVER OPEN | Alarm | OK | |
| 416 | UV2100\DI\Lmp_Bnk2_React_Cov_OP | 46056.5 | 46056.11 | DR | 21 | 46106.11 | LAMP BANK #2 REACTOR COVER OPEN | Alarm | OK | |
| 417 | UV2100\DI\Lmp_Bnk3_React_Cov_OP | 46056.4 | 46056.12 | DR | 21 | 46106.12 | LAMP BANK #3 REACTOR COVER OPEN | Alarm | OK | |
| 418 | UV2100\DI\Lamp_1_1_UV_Lo_Flt | 46056.3 | 46056.13 | DR | 21 | 46106.13 | LAMP #1-1 UV SENSOR LOW FAULT | Alarm | OK | |
| 419 | UV2100\DI\Lamp_1_2_UV_Lo_Flt | 46056.2 | 46056.14 | DR | 21 | 46106.14 | LAMP #1-2 UV SENSOR LOW FAULT | Alarm | OK | |
| 420 | UV2100\DI\Lamp_1_3_UV_Lo_Flt | 46056.1 | 46056.15 | DR | 21 | 46106.15 | LAMP #1-3 UV SENSOR LOW FAULT | Alarm | OK | |
| 421 | UV2100\DI\Lamp_2_1_UV_Lo_Flt | 46056.0 | 46056.16 | DR | 21 | 46106.16 | LAMP #2-1 UV SENSOR LOW FAULT | Alarm | OK | |
| 422 | UV2100\DI\Lamp_2_2_UV_Lo_Flt | 46057.15 | 46057.1 | DR | 21 | 46107.1 | LAMP #2-2 UV SENSOR LOW FAULT | Alarm | OK | |
| 423 | UV2100\DI\Lamp_2_3_UV_Lo_Flt | 46057.14 | 46057.2 | DR | 21 | 46107.2 | LAMP #2-3 UV SENSOR LOW FAULT | Alarm | OK | |
| 424 | UV2100\DI\Lamp_3_1_UV_Lo_Flt | 46057.13 | 46057.3 | DR | 21 | 46107.3 | LAMP #3-1 UV SENSOR LOW FAULT | Alarm | OK | |
| 425 | UV2100\DI\Lamp_3_2_UV_Lo_Flt | 46057.12 | 46057.4 | DR | 21 | 46107.4 | LAMP #3-2 UV SENSOR LOW FAULT | Alarm | OK | |
| 426 | UV2100\DI\Lamp_3_3_UV_Lo_Flt | 46057.11 | 46057.5 | DR | 21 | 46107.5 | LAMP #3-3 UV SENSOR LOW FAULT | Alarm | OK | |
| 427 | UV2100\DI\Lamp_1_1_UV_Hi_Flt | 46057.10 | 46057.6 | DR | 21 | 46107.6 | LAMP #1-1 UV SENSOR HIGH FAULT | Alarm | OK | |
| 428 | UV2100\DI\Lamp_1_2_UV_Hi_Flt | 46057.9 | 46057.7 | DR | 21 | 46107.7 | LAMP #1-2 UV SENSOR HIGH FAULT | Alarm | OK | |
| 429 | UV2100\DI\Lamp_1_3_UV_Hi_Flt | 46057.8 | 46057.8 | DR | 21 | 46107.8 | LAMP #1-3 UV SENSOR HIGH FAULT | Alarm | OK | |
| 430 | UV2100\DI\Lamp_2_1_UV_Hi_Flt | 46057.7 | 46057.9 | DR | 21 | 46107.9 | LAMP #2-1 UV SENSOR HIGH FAULT | Alarm | OK | |

## UVM Communication Database

| DIGITAL - Reactor to RSView (UVM) | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Item # | Tagname/Symbol | Kepware Address | UVM PLC Address | Type | MB+ Node | Unit PLC Address | Description | Set State (1) | Reset State (0) | Comments |
| 431 | UV2100\DI\Lamp_2_2_UV_Hi_Flt | 46057.6 | 46057.10 | DR | 21 | 46107.10 | LAMP #2-2 UV SENSOR HIGH FAULT | Alarm | OK | |
| 432 | UV2100\DI\Lamp_2_3_UV_Hi_Flt | 46057.5 | 46057.11 | DR | 21 | 46107.11 | LAMP #2-3 UV SENSOR HIGH FAULT | Alarm | OK | |
| 433 | UV2100\DI\Lamp_3_1_UV_Hi_Flt | 46057.4 | 46057.12 | DR | 21 | 46107.12 | LAMP #3-1 UV SENSOR HIGH FAULT | Alarm | OK | |
| 434 | UV2100\DI\Lamp_3_2_UV_Hi_Flt | 46057.3 | 46057.13 | DR | 21 | 46107.13 | LAMP #3-2 UV SENSOR HIGH FAULT | Alarm | OK | |
| 435 | UV2100\DI\Lamp_3_3_UV_Hi_Flt | 46057.2 | 46057.14 | DR | 21 | 46107.14 | LAMP #3-3 UV SENSOR HIGH FAULT | Alarm | OK | |
| 436 | UV2100\DI\Lamp_1_1_UV_Fail_Flt | 46057.1 | 46057.15 | DR | 21 | 46107.15 | LAMP #1-1 UV SENSOR FAILED FAULT | Alarm | OK | |
| 437 | UV2100\DI\Lamp_1_2_UV_Fail_Flt | 46057.0 | 46057.16 | DR | 21 | 46107.16 | LAMP #1-2 UV SENSOR FAILED FAULT | Alarm | OK | |
| 438 | UV2100\DI\Lamp_1_3_UV_Fail_Flt | 46058.15 | 46058.1 | DR | 21 | 46108.1 | LAMP #1-3 UV SENSOR FAILED FAULT | Alarm | OK | |
| 439 | UV2100\DI\Lamp_2_1_UV_Fail_Flt | 46058.14 | 46058.2 | DR | 21 | 46108.2 | LAMP #2-1 UV SENSOR FAILED FAULT | Alarm | OK | |
| 440 | UV2100\DI\Lamp_2_2_UV_Fail_Flt | 46058.13 | 46058.3 | DR | 21 | 46108.3 | LAMP #2-2 UV SENSOR FAILED FAULT | Alarm | OK | |
| 441 | UV2100\DI\Lamp_2_3_UV_Fail_Flt | 46058.12 | 46058.4 | DR | 21 | 46108.4 | LAMP #2-3 UV SENSOR FAILED FAULT | Alarm | OK | |
| 442 | UV2100\DI\Lamp_3_1_UV_Fail_Flt | 46058.11 | 46058.5 | DR | 21 | 46108.5 | LAMP #3-1 UV SENSOR FAILED FAULT | Alarm | OK | |
| 443 | UV2100\DI\Lamp_3_2_UV_Fail_Flt | 46058.10 | 46058.6 | DR | 21 | 46108.6 | LAMP #3-2 UV SENSOR FAILED FAULT | Alarm | OK | |
| 444 | UV2100\DI\Lamp_3_3_UV_Fail_Flt | 46058.9 | 46058.7 | DR | 21 | 46108.7 | LAMP #3-3 UV SENSOR FAILED FAULT | Alarm | OK | |
| 445 | UV2100\DI\Lamp_1_1_UV_Cal_Flt | 46058.8 | 46058.8 | DR | 21 | 46108.8 | LAMP #1-1 UV SENSOR OUT OF CAL. | Alarm | OK | |
| 446 | UV2100\DI\Lamp_1_2_UV_Cal_Flt | 46058.7 | 46058.9 | DR | 21 | 46108.9 | LAMP #1-2 UV SENSOR OUT OF CAL. | Alarm | OK | |
| 447 | UV2100\DI\Lamp_1_3_UV_Cal_Flt | 46058.6 | 46058.10 | DR | 21 | 46108.10 | LAMP #1-3 UV SENSOR OUT OF CAL. | Alarm | OK | |
| 448 | UV2100\DI\Lamp_2_1_UV_Cal_Flt | 46058.5 | 46058.11 | DR | 21 | 46108.11 | LAMP #2-1 UV SENSOR OUT OF CAL. | Alarm | OK | |
| 449 | UV2100\DI\Lamp_2_2_UV_Cal_Flt | 46058.4 | 46058.12 | DR | 21 | 46108.12 | LAMP #2-2 UV SENSOR OUT OF CAL. | Alarm | OK | |
| 450 | UV2100\DI\Lamp_2_3_UV_Cal_Flt | 46058.3 | 46058.13 | DR | 21 | 46108.13 | LAMP #2-3 UV SENSOR OUT OF CAL. | Alarm | OK | |
| 451 | UV2100\DI\Lamp_3_1_UV_Cal_Flt | 46058.2 | 46058.14 | DR | 21 | 46108.14 | LAMP #3-1 UV SENSOR OUT OF CAL. | Alarm | OK | |
| 452 | UV2100\DI\Lamp_3_2_UV_Cal_Flt | 46058.1 | 46058.15 | DR | 21 | 46108.15 | LAMP #3-2 UV SENSOR OUT OF CAL. | Alarm | OK | |
| 453 | UV2100\DI\Lamp_3_3_UV_Cal_Flt | 46058.0 | 46058.16 | DR | 21 | 46108.16 | LAMP #3-3 UV SENSOR OUT OF CAL. | Alarm | OK | |
| 454 | UV2100\DI\Lamp_1_1_Low_Amps | 46059.15 | 46059.1 | DR | 21 | 46109.1 | LAMP #1-1 LOW AMPS | Alarm | OK | |
| 455 | UV2100\DI\Lamp_1_2_Low_Amps | 46059.14 | 46059.2 | DR | 21 | 46109.2 | LAMP #1-2 LOW AMPS | Alarm | OK | |
| 456 | UV2100\DI\Lamp_1_3_Low_Amps | 46059.13 | 46059.3 | DR | 21 | 46109.3 | LAMP #1-3 LOW AMPS | Alarm | OK | |
| 457 | UV2100\DI\Lamp_2_1_Low_Amps | 46059.12 | 46059.4 | DR | 21 | 46109.4 | LAMP #2-1 LOW AMPS | Alarm | OK | |
| 458 | UV2100\DI\Lamp_2_2_Low_Amps | 46059.11 | 46059.5 | DR | 21 | 46109.5 | LAMP #2-2 LOW AMPS | Alarm | OK | |
| 459 | UV2100\DI\Lamp_2_3_Low_Amps | 46059.10 | 46059.6 | DR | 21 | 46109.6 | LAMP #2-3 LOW AMPS | Alarm | OK | |
| 460 | UV2100\DI\Lamp_3_1_Low_Amps | 46059.9 | 46059.7 | DR | 21 | 46109.7 | LAMP #3-1 LOW AMPS | Alarm | OK | |
| 461 | UV2100\DI\Lamp_3_2_Low_Amps | 46059.8 | 46059.8 | DR | 21 | 46109.8 | LAMP #3-2 LOW AMPS | Alarm | OK | |
| 462 | UV2100\DI\Lamp_3_3_Low_Amps | 46059.7 | 46059.9 | DR | 21 | 46109.9 | LAMP #3-3 LOW AMPS | Alarm | OK | |
| 463 | UV2100\DI\Lamp_1_1_Hi_Amps | 46059.6 | 46059.10 | DR | 21 | 46109.10 | LAMP #1-1 HIGH AMPS | Alarm | OK | |
| 464 | UV2100\DI\Lamp_1_2_Hi_Amps | 46059.5 | 46059.11 | DR | 21 | 46109.11 | LAMP #1-2 HIGH AMPS | Alarm | OK | |
| 465 | UV2100\DI\Lamp_1_3_Hi_Amps | 46059.4 | 46059.12 | DR | 21 | 46109.12 | LAMP #1-3 HIGH AMPS | Alarm | OK | |
| 466 | UV2100\DI\Lamp_2_1_Hi_Amps | 46059.3 | 46059.13 | DR | 21 | 46109.13 | LAMP #2-1 HIGH AMPS | Alarm | OK | |
| 467 | UV2100\DI\Lamp_2_2_Hi_Amps | 46059.2 | 46059.14 | DR | 21 | 46109.14 | LAMP #2-2 HIGH AMPS | Alarm | OK | |
| 468 | UV2100\DI\Lamp_2_3_Hi_Amps | 46059.1 | 46059.15 | DR | 21 | 46109.15 | LAMP #2-3 HIGH AMPS | Alarm | OK | |
| 469 | UV2100\DI\Lamp_3_1_Hi_Amps | 46059.0 | 46059.16 | DR | 21 | 46109.16 | LAMP #3-1 HIGH AMPS | Alarm | OK | |
| 470 | UV2100\DI\Lamp_3_2_Hi_Amps | 46060.15 | 46060.1 | DR | 21 | 46110.1 | LAMP #3-2 HIGH AMPS | Alarm | OK | |
| 471 | UV2100\DI\Lamp_3_3_Hi_Amps | 46060.14 | 46060.2 | DR | 21 | 46110.2 | LAMP #3-3 HIGH AMPS | Alarm | OK | |
| 472 | UV2100\DI\PLC_Error | 46060.13 | 46060.3 | DR | 21 | 46110.3 | PLC ERROR | Alarm | OK | |
| 473 | UV2100\DI\PLC_Low_Battery | 46060.12 | 46060.4 | DR | 21 | 46110.4 | PLC LOW BATTERY | Alarm | OK | |
| 474 | UV2100\DI\PLC_I/O_Fail | 46060.11 | 46060.5 | DR | 21 | 46110.5 | I/O CARD FAILURE | Alarm | OK | |
| 475 | UV2100\DI\Lamp_1_1_Hi_Hours | 46060.10 | 46060.6 | DR | 21 | 46110.6 | LAMP #1-1 HIGH LAMP HOURS | Alarm | OK | |
| 476 | UV2100\DI\Lamp_1_2_Hi_Hours | 46060.9 | 46060.7 | DR | 21 | 46110.7 | LAMP #1-2 HIGH LAMP HOURS | Alarm | OK | |
| 477 | UV2100\DI\Lamp_1_3_Hi_Hours | 46060.8 | 46060.8 | DR | 21 | 46110.8 | LAMP #1-3 HIGH LAMP HOURS | Alarm | OK | |
| 478 | UV2100\DI\Lamp_2_1_Hi_Hours | 46060.7 | 46060.9 | DR | 21 | 46110.9 | LAMP #2-1 HIGH LAMP HOURS | Alarm | OK | |
| 479 | UV2100\DI\Lamp_2_2_Hi_Hours | 46060.6 | 46060.10 | DR | 21 | 46110.10 | LAMP #2-2 HIGH LAMP HOURS | Alarm | OK | |
| 480 | UV2100\DI\Lamp_2_3_Hi_Hours | 46060.5 | 46060.11 | DR | 21 | 46110.11 | LAMP #2-3 HIGH LAMP HOURS | Alarm | OK | |
| 481 | UV2100\DI\Lamp_3_1_Hi_Hours | 46060.4 | 46060.12 | DR | 21 | 46110.12 | LAMP #3-1 HIGH LAMP HOURS | Alarm | OK | |
| 482 | UV2100\DI\Lamp_3_2_Hi_Hours | 46060.3 | 46060.13 | DR | 21 | 46110.13 | LAMP #3-2 HIGH LAMP HOURS | Alarm | OK | |
| 483 | UV2100\DI\Lamp_3_3_Hi_Hours | 46060.2 | 46060.14 | DR | 21 | 46110.14 | LAMP #3-3 HIGH LAMP HOURS | Alarm | OK | |
| 484 | UV2100\DI\Lamp_1_1_Hi_Starts | 46060.1 | 46060.15 | DR | 21 | 46110.15 | LAMP #1-1 HIGH LAMP STARTS | Alarm | OK | |

## UVM Communication Database

| DIGITAL - Reactor to RSView (UVM) | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Item # | Tagname/Symbol | Kepware Address | UVM PLC Address | Type | MB+ Node | Unit PLC Address | Description | Set State (1) | Reset State (0) | Comments |
| 485 | UV2100\DI\Lamp_1_2_Hi_Starts | 46060.0 | 46060.16 | DR | 21 | 46110.16 | LAMP #1-2 HIGH LAMP STARTS | Alarm | OK | |
| 486 | UV2100\DI\Lamp_1_3_Hi_Starts | 46061.15 | 46061.1 | DR | 21 | 46111.1 | LAMP #1-3 HIGH LAMP STARTS | Alarm | OK | |
| 487 | UV2100\DI\Lamp_2_1_Hi_Starts | 46061.14 | 46061.2 | DR | 21 | 46111.2 | LAMP #2-1 HIGH LAMP STARTS | Alarm | OK | |
| 488 | UV2100\DI\Lamp_2_2_Hi_Starts | 46061.13 | 46061.3 | DR | 21 | 46111.3 | LAMP #2-2 HIGH LAMP STARTS | Alarm | OK | |
| 489 | UV2100\DI\Lamp_2_3_Hi_Starts | 46061.12 | 46061.4 | DR | 21 | 46111.4 | LAMP #2-3 HIGH LAMP STARTS | Alarm | OK | |
| 490 | UV2100\DI\Lamp_3_1_Hi_Starts | 46061.11 | 46061.5 | DR | 21 | 46111.5 | LAMP #3-1 HIGH LAMP STARTS | Alarm | OK | |
| 491 | UV2100\DI\Lamp_3_2_Hi_Starts | 46061.10 | 46061.6 | DR | 21 | 46111.6 | LAMP #3-2 HIGH LAMP STARTS | Alarm | OK | |
| 492 | UV2100\DI\Lamp_3_3_Hi_Starts | 46061.9 | 46061.7 | DR | 21 | 46111.7 | LAMP #3-3 HIGH LAMP STARTS | Alarm | OK | |
| 493 | UV2100\DI\Lamp_1_1_Start_Fail | 46061.8 | 46061.8 | DR | 21 | 46111.8 | LAMP #1-1 LAMP START FAILURE | Alarm | OK | |
| 494 | UV2100\DI\Lamp_1_2_Start_Fail | 46061.7 | 46061.9 | DR | 21 | 46111.9 | LAMP #1-2 LAMP START FAILURE | Alarm | OK | |
| 495 | UV2100\DI\Lamp_1_3_Start_Fail | 46061.6 | 46061.10 | DR | 21 | 46111.10 | LAMP #1-3 LAMP START FAILURE | Alarm | OK | |
| 496 | UV2100\DI\Lamp_2_1_Start_Fail | 46061.5 | 46061.11 | DR | 21 | 46111.11 | LAMP #2-1 LAMP START FAILURE | Alarm | OK | |
| 497 | UV2100\DI\Lamp_2_2_Start_Fail | 46061.4 | 46061.12 | DR | 21 | 46111.12 | LAMP #2-2 LAMP START FAILURE | Alarm | OK | |
| 498 | UV2100\DI\Lamp_2_3_Start_Fail | 46061.3 | 46061.13 | DR | 21 | 46111.13 | LAMP #2-3 LAMP START FAILURE | Alarm | OK | |
| 499 | UV2100\DI\Lamp_3_1_Start_Fail | 46061.2 | 46061.14 | DR | 21 | 46111.14 | LAMP #3-1 LAMP START FAILURE | Alarm | OK | |
| 500 | UV2100\DI\Lamp_3_2_Start_Fail | 46061.1 | 46061.15 | DR | 21 | 46111.15 | LAMP #3-2 LAMP START FAILURE | Alarm | OK | |
| 501 | UV2100\DI\Lamp_3_3_Start_Fail | 46061.0 | 46061.16 | DR | 21 | 46111.16 | LAMP #3-3 LAMP START FAILURE | Alarm | OK | |
| 502 | UV2100\DI\Low_UV_Dose | 46062.15 | 46062.1 | DR | 21 | 46112.1 | LOW UV DOSE | Alarm | OK | |
| 503 | UV2100\DI\Low_Low_UV_Dose | 46062.14 | 46062.2 | DR | 21 | 46112.2 | LOW LOW UV DOSE | Alarm | OK | |
| 504 | UV2100\DI\Low_Water_Flow | 46062.13 | 46062.3 | DR | 21 | 46112.3 | LOW WATER FLOW | Alarm | OK | |
| 505 | UV2100\DI\Lmp_Bnk1_Brush_Flt | 46062.12 | 46062.4 | DR | 21 | 46112.4 | LAMP BANK #1 BRUSH CYCLE FAULT | Alarm | OK | |
| 506 | UV2100\DI\Lmp_Bnk2_Brush_Flt | 46062.11 | 46062.5 | DR | 21 | 46112.5 | LAMP BANK #2 BRUSH CYCLE FAULT | Alarm | OK | |
| 507 | UV2100\DI\Lmp_Bnk3_Brush_Flt | 46062.10 | 46062.6 | DR | 21 | 46112.6 | LAMP BANK #3 BRUSH CYCLE FAULT | Alarm | OK | |
| 508 | UV2100\DI\Lmp_Bnk1_Hi_Amps | 46062.9 | 46062.7 | DR | 21 | 46112.7 | LAMP BANK #1 BRUSH DRIVE HIGH AMPS | Alarm | OK | |
| 509 | UV2100\DI\Lmp_Bnk2_Hi_Amps | 46062.8 | 46062.8 | DR | 21 | 46112.8 | LAMP BANK #2 BRUSH DRIVE HIGH AMPS | Alarm | OK | |
| 510 | UV2100\DI\Lmp_Bnk3_Hi_Amps | 46062.7 | 46062.9 | DR | 21 | 46112.9 | LAMP BANK #3 BRUSH DRIVE HIGH AMPS | Alarm | OK | |
| 511 | UV2100\DI\Lamp_1_1_OpenCap_Start | 46062.4 | 46062.12 | DR | 21 | 46112.12 | LAMP 1-1 OPEN CAPACITOR@STARTUP | Alarm | OK | Capacitor failure monitoring |
| 512 | UV2100\DI\Lamp_1_2_OpenCap_Start | 46062.3 | 46062.13 | DR | 21 | 46112.13 | LAMP 1-2 OPEN CAPACITOR@STARTUP | Alarm | OK | Capacitor failure monitoring |
| 513 | UV2100\DI\Lamp_1_3_OpenCap_Start | 46062.2 | 46062.14 | DR | 21 | 46112.14 | LAMP 1-3 OPEN CAPACITOR@STARTUP | Alarm | OK | Capacitor failure monitoring |
| 514 | UV2100\DI\Lamp_2_1_OpenCap_Start | 46062.1 | 46062.15 | DR | 21 | 46112.15 | LAMP 2-1 OPEN CAPACITOR@STARTUP | Alarm | OK | Capacitor failure monitoring |
| 515 | UV2100\DI\Lamp_2_2_OpenCap_Start | 46062.0 | 46062.16 | DR | 21 | 46112.16 | LAMP 2-2 OPEN CAPACITOR@STARTUP | Alarm | OK | Capacitor failure monitoring |
| 516 | UV2100\DI\Lamp_2_3_OpenCap_Start | 46063.15 | 46063.1 | DR | 21 | 46113.1 | LAMP 2-3 OPEN CAPACITOR@STARTUP | Alarm | OK | Capacitor failure monitoring |
| 517 | UV2100\DI\Lamp_3_1_OpenCap_Start | 46063.14 | 46063.2 | DR | 21 | 46113.2 | LAMP 3-1 OPEN CAPACITOR@STARTUP | Alarm | OK | Capacitor failure monitoring |
| 518 | UV2100\DI\Lamp_3_2_OpenCap_Start | 46063.13 | 46063.3 | DR | 21 | 46113.3 | LAMP 3-2 OPEN CAPACITOR@STARTUP | Alarm | OK | Capacitor failure monitoring |
| 519 | UV2100\DI\Lamp_3_3_OpenCap_Start | 46063.12 | 46063.4 | DR | 21 | 46113.4 | LAMP 3-3 OPEN CAPACITOR@STARTUP | Alarm | OK | Capacitor failure monitoring |
| 520 | UV2100\DI\Lamp_1_1_ShortCap_Start | 46063.11 | 46063.5 | DR | 21 | 46113.5 | LAMP 1-1 SHORTED CAPACITOR@STARTUP | Alarm | OK | Capacitor failure monitoring |
| 521 | UV2100\DI\Lamp_1_2_ShortCap_Start | 46063.10 | 46063.6 | DR | 21 | 46113.6 | LAMP 1-2 SHORTED CAPACITOR@STARTUP | Alarm | OK | Capacitor failure monitoring |
| 522 | UV2100\DI\Lamp_1_3_ShortCap_Start | 46063.9 | 46063.7 | DR | 21 | 46113.7 | LAMP 1-3 SHORTED CAPACITOR@STARTUP | Alarm | OK | Capacitor failure monitoring |
| 523 | UV2100\DI\Lamp_2_1_ShortCap_Start | 46063.8 | 46063.8 | DR | 21 | 46113.8 | LAMP 2-1 SHORTED CAPACITOR@STARTUP | Alarm | OK | Capacitor failure monitoring |
| 524 | UV2100\DI\Lamp_2_2_ShortCap_Start | 46063.7 | 46063.9 | DR | 21 | 46113.9 | LAMP 2-2 SHORTED CAPACITOR@STARTUP | Alarm | OK | Capacitor failure monitoring |
| 525 | UV2100\DI\Lamp_2_3_ShortCap_Start | 46063.6 | 46063.10 | DR | 21 | 46113.10 | LAMP 2-3 SHORTED CAPACITOR@STARTUP | Alarm | OK | Capacitor failure monitoring |
| 526 | UV2100\DI\Lamp_3_1_ShortCap_Start | 46063.5 | 46063.11 | DR | 21 | 46113.11 | LAMP 3-1 SHORTED CAPACITOR@STARTUP | Alarm | OK | Capacitor failure monitoring |
| 527 | UV2100\DI\Lamp_3_2_ShortCap_Start | 46063.4 | 46063.12 | DR | 21 | 46113.12 | LAMP 3-2 SHORTED CAPACITOR@STARTUP | Alarm | OK | Capacitor failure monitoring |
| 528 | UV2100\DI\Lamp_3_3_ShortCap_Start | 46063.3 | 46063.13 | DR | 21 | 46113.13 | LAMP 3-3 SHORTED CAPACITOR@STARTUP | Alarm | OK | Capacitor failure monitoring |
| 529 | UV2100\DI\Lamp_1_1_OpenCap_100pct | 46063.2 | 46063.14 | DR | 21 | 46113.14 | LAMP 1-1 OPEN CAPACITOR@100% POWER | Alarm | OK | Capacitor failure monitoring |
| 530 | UV2100\DI\Lamp_1_2_OpenCap_100pct | 46063.1 | 46063.15 | DR | 21 | 46113.15 | LAMP 1-2 OPEN CAPACITOR@100% POWER | Alarm | OK | Capacitor failure monitoring |
| 531 | UV2100\DI\Lamp_1_3_OpenCap_100pct | 46063.0 | 46063.16 | DR | 21 | 46113.16 | LAMP 1-3 OPEN CAPACITOR@100% POWER | Alarm | OK | Capacitor failure monitoring |
| 532 | UV2100\DI\Lamp_2_1_OpenCap_100pct | 46064.15 | 46064.1 | DR | 21 | 46114.1 | LAMP 2-1 OPEN CAPACITOR@100% POWER | Alarm | OK | Capacitor failure monitoring |
| 533 | UV2100\DI\Lamp_2_2_OpenCap_100pct | 46064.14 | 46064.2 | DR | 21 | 46114.2 | LAMP 2-2 OPEN CAPACITOR@100% POWER | Alarm | OK | Capacitor failure monitoring |
| 534 | UV2100\DI\Lamp_2_3_OpenCap_100pct | 46064.13 | 46064.3 | DR | 21 | 46114.3 | LAMP 2-3 OPEN CAPACITOR@100% POWER | Alarm | OK | Capacitor failure monitoring |
| 535 | UV2100\DI\Lamp_3_1_OpenCap_100pct | 46064.12 | 46064.4 | DR | 21 | 46114.4 | LAMP 3-1 OPEN CAPACITOR@100% POWER | Alarm | OK | Capacitor failure monitoring |
| 536 | UV2100\DI\Lamp_3_2_OpenCap_100pct | 46064.11 | 46064.5 | DR | 21 | 46114.5 | LAMP 3-2 OPEN CAPACITOR@100% POWER | Alarm | OK | Capacitor failure monitoring |
| 537 | UV2100\DI\Lamp_3_3_OpenCap_100pct | 46064.10 | 46064.6 | DR | 21 | 46114.6 | LAMP 3-3 OPEN CAPACITOR@100% POWER | Alarm | OK | Capacitor failure monitoring |
| 538 | UV2100\DI\Lamp_1_1_ShortCap_100pct | 46064.9 | 46064.7 | DR | 21 | 46114.7 | LAMP 1-1 SHORTED CAPACITOR@100% POW | Alarm | OK | Capacitor failure monitoring |

## UVM Communication Database

| DIGITAL - Reactor to RSView (UVM) | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Item # | Tagname/Symbol | Kepware Address | UVM PLC Address | Type | MB+ Node | Unit PLC Address | Description | Set State (1) | Reset State (0) | Comments |
| 539 | UV2100\DI\Lamp_1_2_ShortCap_100pct | 46064.8 | 46064.8 | DR | 21 | 46114.8 | LAMP 1-2 SHORTED CAPACITOR@100% POW | Alarm | OK | Capacitor failure monitoring |
| 540 | UV2100\DI\Lamp_1_3_ShortCap_100pct | 46064.7 | 46064.9 | DR | 21 | 46114.9 | LAMP 1-3 SHORTED CAPACITOR@100% POW | Alarm | OK | Capacitor failure monitoring |
| 541 | UV2100\DI\Lamp_2_1_ShortCap_100pct | 46064.6 | 46064.10 | DR | 21 | 46114.10 | LAMP 2-1 SHORTED CAPACITOR@100% POW | Alarm | OK | Capacitor failure monitoring |
| 542 | UV2100\DI\Lamp_2_2_ShortCap_100pct | 46064.5 | 46064.11 | DR | 21 | 46114.11 | LAMP 2-2 SHORTED CAPACITOR@100% POW | Alarm | OK | Capacitor failure monitoring |
| 543 | UV2100\DI\Lamp_2_3_ShortCap_100pct | 46064.4 | 46064.12 | DR | 21 | 46114.12 | LAMP 2-3 SHORTED CAPACITOR@100% POW | Alarm | OK | Capacitor failure monitoring |
| 544 | UV2100\DI\Lamp_3_1_ShortCap_100pct | 46064.3 | 46064.13 | DR | 21 | 46114.13 | LAMP 3-1 SHORTED CAPACITOR@100% POW | Alarm | OK | Capacitor failure monitoring |
| 545 | UV2100\DI\Lamp_3_2_ShortCap_100pct | 46064.2 | 46064.14 | DR | 21 | 46114.14 | LAMP 3-2 SHORTED CAPACITOR@100% POW | Alarm | OK | Capacitor failure monitoring |
| 546 | UV2100\DI\Lamp_3_3_ShortCap_100pct | 46064.1 | 46064.15 | DR | 21 | 46114.15 | LAMP 3-3 SHORTED CAPACITOR@100% POW | Alarm | OK | Capacitor failure monitoring |
| | | | | | | | | | | |
| 547 | UV2200\DI\On_Off_Status | 46175.15 | 46175.1 | DR | 22 | 46100.1 | To RSView - Reactor On/Off Status | On | Off | |
| 548 | UV2200\DI\Rem_Lcl_Control | 46176.15 | 46176.1 | DR | 22 | 46101.1 | To RSView - Remote/Local [Rem=1] | Remote | Local | |
| 549 | UV2200\DI\Wiper1_Auto_Man | 46176.14 | 46176.2 | DR | 22 | 46101.2 | To RSView - Wiper #1 Auto/Man [Auto=1] | Auto | Manual | |
| 550 | UV2200\DI\Wiper2_Auto_Man | 46176.13 | 46176.3 | DR | 22 | 46101.3 | To RSView - Wiper #2 Auto/Man [Auto=1] | Auto | Manual | |
| 551 | UV2200\DI\Wiper3_Auto_Man | 46176.12 | 46176.4 | DR | 22 | 46101.4 | To RSView - Wiper #3 Auto/Man [Auto=1] | Auto | Manual | |
| 552 | UV2200\DI\Bank1_Auto_Man | 46176.11 | 46176.5 | DR | 22 | 46101.5 | To RSView - Lamp Bank #1 Auto/Man [Auto=1] | Auto | Manual | |
| 553 | UV2200\DI\Bank1_KW_Out | 46176.10 | 46176.6 | DR | 22 | 46101.6 | To RSView - Lamp Bank #1 kW/%Out [kW=1] | kW | % Output | Lamp Manual Mode Only |
| 554 | UV2200\DI\Bank2_Auto_Man | 46176.9 | 46176.7 | DR | 22 | 46101.7 | To RSView - Lamp Bank #2 Auto/Man [Auto=1] | Auto | Manual | |
| 555 | UV2200\DI\Bank2_KW_Out | 46176.8 | 46176.8 | DR | 22 | 46101.8 | To RSView - Lamp Bank #2 kW/%Out [kW=1] | kW | % Output | Lamp Manual Mode Only |
| 556 | UV2200\DI\Bank3_Auto_Man | 46176.7 | 46176.9 | DR | 22 | 46101.9 | To RSView - Lamp Bank #3 Auto/Man [Auto=1] | Auto | Manual | |
| 557 | UV2200\DI\Bank3_KW_Out | 46176.6 | 46176.10 | DR | 22 | 46101.10 | To RSView - Lamp Bank #3 kW/%Out [kW=1] | kW | % Output | Lamp Manual Mode Only |
| 558 | UV2200\DI\Lamp_1_1_ON | 46177.15 | 46177.1 | DR | 22 | 46102.1 | To RSView - Lamp #1-1 On Status [On=1] | On | Off | Lamp Contactor Output Status |
| 559 | UV2200\DI\Lamp_1_2_ON | 46177.14 | 46177.2 | DR | 22 | 46102.2 | To RSView - Lamp #1-2 On Status [On=1] | On | Off | Lamp Contactor Output Status |
| 560 | UV2200\DI\Lamp_1_3_ON | 46177.13 | 46177.3 | DR | 22 | 46102.3 | To RSView - Lamp #1-3 On Status [On=1] | On | Off | Lamp Contactor Output Status |
| 561 | UV2200\DI\Lamp_2_1_ON | 46177.12 | 46177.4 | DR | 22 | 46102.4 | To RSView - Lamp #2-1 On Status [On=1] | On | Off | Lamp Contactor Output Status |
| 562 | UV2200\DI\Lamp_2_2_ON | 46177.11 | 46177.5 | DR | 22 | 46102.5 | To RSView - Lamp #2-2 On Status [On=1] | On | Off | Lamp Contactor Output Status |
| 563 | UV2200\DI\Lamp_2_3_ON | 46177.10 | 46177.6 | DR | 22 | 46102.6 | To RSView - Lamp #2-3 On Status [On=1] | On | Off | Lamp Contactor Output Status |
| 564 | UV2200\DI\Lamp_3_1_ON | 46177.9 | 46177.7 | DR | 22 | 46102.7 | To RSView - Lamp #3-1 On Status [On=1] | On | Off | Lamp Contactor Output Status |
| 565 | UV2200\DI\Lamp_3_2_ON | 46177.8 | 46177.8 | DR | 22 | 46102.8 | To RSView - Lamp #3-2 On Status [On=1] | On | Off | Lamp Contactor Output Status |
| 566 | UV2200\DI\Lamp_3_3_ON | 46177.7 | 46177.9 | DR | 22 | 46102.9 | To RSView - Lamp #3-3 On Status [On=1] | On | Off | Lamp Contactor Output Status |
| 567 | UV2200\DI\UV_Val_Mode | 46178.15 | 46178.1 | DR | 22 | 46103.1 | To RSView - UV Validation Mode | UV | Dose | |
| 568 | UV2200\DI\PLC_Battery | 46178.14 | 46178.2 | DR | 22 | 46103.2 | To RSView - CPU Battery Status | OK | Low | |
| 569 | UV2200\DI\PLC_Major_Error | 46178.13 | 46178.3 | DR | 22 | 46103.3 | To RSView - CPU Major Error Status | OK | Error | |
| 570 | UV2200\DI\PLC_Forces | 46178.12 | 46178.4 | DR | 22 | 46103.4 | To RSView - CPU Forces Status | None | Enabled | |
| 571 | UV2200\DI\PLC\DISCONN | 46178.11 | 46178.5 | DR | 22 | | PLC Communication Failed | Alarm | OK | |
| 572 | UV2200\DI\E_STOP | 46180.15 | 46180.1 | DR | 22 | 46105.1 | EMERGENCY STOP | Alarm | OK | |
| 573 | UV2200\DI\Lamp_1_1_Gnd_Flt | 46180.14 | 46180.2 | DR | 22 | 46105.2 | LAMP #1-1 GROUND FAULT | Alarm | OK | |
| 574 | UV2200\DI\Lamp_1_2_Gnd_Flt | 46180.13 | 46180.3 | DR | 22 | 46105.3 | LAMP #1-2 GROUND FAULT | Alarm | OK | |
| 575 | UV2200\DI\Lamp_1_3_Gnd_Flt | 46180.12 | 46180.4 | DR | 22 | 46105.4 | LAMP #1-3 GROUND FAULT | Alarm | OK | |
| 576 | UV2200\DI\Lamp_2_1_Gnd_Flt | 46180.11 | 46180.5 | DR | 22 | 46105.5 | LAMP #2-1 GROUND FAULT | Alarm | OK | |
| 577 | UV2200\DI\Lamp_2_2_Gnd_Flt | 46180.10 | 46180.6 | DR | 22 | 46105.6 | LAMP #2-2 GROUND FAULT | Alarm | OK | |
| 578 | UV2200\DI\Lamp_2_3_Gnd_Flt | 46180.9 | 46180.7 | DR | 22 | 46105.7 | LAMP #2-3 GROUND FAULT | Alarm | OK | |
| 579 | UV2200\DI\Lamp_3_1_Gnd_Flt | 46180.8 | 46180.8 | DR | 22 | 46105.8 | LAMP #3-1 GROUND FAULT | Alarm | OK | |
| 580 | UV2200\DI\Lamp_3_2_Gnd_Flt | 46180.7 | 46180.9 | DR | 22 | 46105.9 | LAMP #3-2 GROUND FAULT | Alarm | OK | |
| 581 | UV2200\DI\Lamp_3_3_Gnd_Flt | 46180.6 | 46180.10 | DR | 22 | 46105.10 | LAMP #3-3 GROUND FAULT | Alarm | OK | |
| 582 | UV2200\DI\Lamp_Bank1_Moisture | 46180.5 | 46180.11 | DR | 22 | 46105.11 | LAMP BANK #1 MOISTURE DETECTED | Alarm | OK | |
| 583 | UV2200\DI\Lamp_Bank2_Moisture | 46180.4 | 46180.12 | DR | 22 | 46105.12 | LAMP BANK #2 MOISTURE DETECTED | Alarm | OK | |
| 584 | UV2200\DI\Lamp_Bank3_Moisture | 46180.3 | 46180.13 | DR | 22 | 46105.13 | LAMP BANK #3 MOISTURE DETECTED | Alarm | OK | |
| 585 | UV2200\DI\React_Hi_Temp | 46180.2 | 46180.14 | DR | 22 | 46105.14 | REACTOR HIGH TEMPERATURE | Alarm | OK | |
| 586 | UV2200\DI\Lamp_1_1_Xfmr_Hi_Temp | 46180.1 | 46180.15 | DR | 22 | 46105.15 | LAMP #1-1 XFMR/SAT. CORE HIGH TEMP. | Alarm | OK | |
| 587 | UV2200\DI\Lamp_1_2_Xfmr_Hi_Temp | 46180.0 | 46180.16 | DR | 22 | 46105.16 | LAMP #1-2 XFMR/SAT. CORE HIGH TEMP. | Alarm | OK | |
| 588 | UV2200\DI\Lamp_1_3_Xfmr_Hi_Temp | 46181.15 | 46181.1 | DR | 22 | 46106.1 | LAMP #1-3 XFMR/SAT. CORE HIGH TEMP. | Alarm | OK | |
| 589 | UV2200\DI\Lamp_2_1_Xfmr_Hi_Temp | 46181.14 | 46181.2 | DR | 22 | 46106.2 | LAMP #2-1 XFMR/SAT. CORE HIGH TEMP. | Alarm | OK | |
| 590 | UV2200\DI\Lamp_2_2_Xfmr_Hi_Temp | 46181.13 | 46181.3 | DR | 22 | 46106.3 | LAMP #2-2 XFMR/SAT. CORE HIGH TEMP. | Alarm | OK | |
| 591 | UV2200\DI\Lamp_2_3_Xfmr_Hi_Temp | 46181.12 | 46181.4 | DR | 22 | 46106.4 | LAMP #2-3 XFMR/SAT. CORE HIGH TEMP. | Alarm | OK | |

## UVM Communication Database

| DIGITAL - Reactor to RSView (UVM) | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Item # | Tagname/Symbol | Kepware Address | UVM PLC Address | Type | MB+ Node | Unit PLC Address | Description | Set State (1) | Reset State (0) | Comments |
| 592 | UV2200\DI\Lamp_3_1_Xfmr_Hi_Temp | 46181.11 | 46181.5 | DR | 22 | 46106.5 | LAMP #3-1 XFMR/SAT. CORE HIGH TEMP. | Alarm | OK | |
| 593 | UV2200\DI\Lamp_3_2_Xfmr_Hi_Temp | 46181.10 | 46181.6 | DR | 22 | 46106.6 | LAMP #3-2 XFMR/SAT. CORE HIGH TEMP. | Alarm | OK | |
| 594 | UV2200\DI\Lamp_3_3_Xfmr_Hi_Temp | 46181.9 | 46181.7 | DR | 22 | 46106.7 | LAMP #3-3 XFMR/SAT. CORE HIGH TEMP. | Alarm | OK | |
| 595 | UV2200\DI\Power_Cab_Hot | 46181.8 | 46181.8 | DR | 22 | 46106.8 | POWER CABINETS HOT | Alarm | OK | |
| 596 | UV2200\DI\Power_Cab_Door_Open | 46181.7 | 46181.9 | DR | 22 | 46106.9 | POWER CABINETS DOOR OPEN | Alarm | OK | |
| 597 | UV2200\DI\Lmp_Bnk1_React_Cov_OP | 46181.6 | 46181.10 | DR | 22 | 46106.10 | LAMP BANK #1 REACTOR COVER OPEN | Alarm | OK | |
| 598 | UV2200\DI\Lmp_Bnk2_React_Cov_OP | 46181.5 | 46181.11 | DR | 22 | 46106.11 | LAMP BANK #2 REACTOR COVER OPEN | Alarm | OK | |
| 599 | UV2200\DI\Lmp_Bnk3_React_Cov_OP | 46181.4 | 46181.12 | DR | 22 | 46106.12 | LAMP BANK #3 REACTOR COVER OPEN | Alarm | OK | |
| 600 | UV2200\DI\Lamp_1_1_UV_Lo_Flt | 46181.3 | 46181.13 | DR | 22 | 46106.13 | LAMP #1-1 UV SENSOR LOW FAULT | Alarm | OK | |
| 601 | UV2200\DI\Lamp_1_2_UV_Lo_Flt | 46181.2 | 46181.14 | DR | 22 | 46106.14 | LAMP #1-2 UV SENSOR LOW FAULT | Alarm | OK | |
| 602 | UV2200\DI\Lamp_1_3_UV_Lo_Flt | 46181.1 | 46181.15 | DR | 22 | 46106.15 | LAMP #1-3 UV SENSOR LOW FAULT | Alarm | OK | |
| 603 | UV2200\DI\Lamp_2_1_UV_Lo_Flt | 46181.0 | 46181.16 | DR | 22 | 46106.16 | LAMP #2-1 UV SENSOR LOW FAULT | Alarm | OK | |
| 604 | UV2200\DI\Lamp_2_2_UV_Lo_Flt | 46182.15 | 46182.1 | DR | 22 | 46107.1 | LAMP #2-2 UV SENSOR LOW FAULT | Alarm | OK | |
| 605 | UV2200\DI\Lamp_2_3_UV_Lo_Flt | 46182.14 | 46182.2 | DR | 22 | 46107.2 | LAMP #2-3 UV SENSOR LOW FAULT | Alarm | OK | |
| 606 | UV2200\DI\Lamp_3_1_UV_Lo_Flt | 46182.13 | 46182.3 | DR | 22 | 46107.3 | LAMP #3-1 UV SENSOR LOW FAULT | Alarm | OK | |
| 607 | UV2200\DI\Lamp_3_2_UV_Lo_Flt | 46182.12 | 46182.4 | DR | 22 | 46107.4 | LAMP #3-2 UV SENSOR LOW FAULT | Alarm | OK | |
| 608 | UV2200\DI\Lamp_3_3_UV_Lo_Flt | 46182.11 | 46182.5 | DR | 22 | 46107.5 | LAMP #3-3 UV SENSOR LOW FAULT | Alarm | OK | |
| 609 | UV2200\DI\Lamp_1_1_UV_Hi_Flt | 46182.10 | 46182.6 | DR | 22 | 46107.6 | LAMP #1-1 UV SENSOR HIGH FAULT | Alarm | OK | |
| 610 | UV2200\DI\Lamp_1_2_UV_Hi_Flt | 46182.9 | 46182.7 | DR | 22 | 46107.7 | LAMP #1-2 UV SENSOR HIGH FAULT | Alarm | OK | |
| 611 | UV2200\DI\Lamp_1_3_UV_Hi_Flt | 46182.8 | 46182.8 | DR | 22 | 46107.8 | LAMP #1-3 UV SENSOR HIGH FAULT | Alarm | OK | |
| 612 | UV2200\DI\Lamp_2_1_UV_Hi_Flt | 46182.7 | 46182.9 | DR | 22 | 46107.9 | LAMP #2-1 UV SENSOR HIGH FAULT | Alarm | OK | |
| 613 | UV2200\DI\Lamp_2_2_UV_Hi_Flt | 46182.6 | 46182.10 | DR | 22 | 46107.10 | LAMP #2-2 UV SENSOR HIGH FAULT | Alarm | OK | |
| 614 | UV2200\DI\Lamp_2_3_UV_Hi_Flt | 46182.5 | 46182.11 | DR | 22 | 46107.11 | LAMP #2-3 UV SENSOR HIGH FAULT | Alarm | OK | |
| 615 | UV2200\DI\Lamp_3_1_UV_Hi_Flt | 46182.4 | 46182.12 | DR | 22 | 46107.12 | LAMP #3-1 UV SENSOR HIGH FAULT | Alarm | OK | |
| 616 | UV2200\DI\Lamp_3_2_UV_Hi_Flt | 46182.3 | 46182.13 | DR | 22 | 46107.13 | LAMP #3-2 UV SENSOR HIGH FAULT | Alarm | OK | |
| 617 | UV2200\DI\Lamp_3_3_UV_Hi_Flt | 46182.2 | 46182.14 | DR | 22 | 46107.14 | LAMP #3-3 UV SENSOR HIGH FAULT | Alarm | OK | |
| 618 | UV2200\DI\Lamp_1_1_UV_Fail_Flt | 46182.1 | 46182.15 | DR | 22 | 46107.15 | LAMP #1-1 UV SENSOR FAILED FAULT | Alarm | OK | |
| 619 | UV2200\DI\Lamp_1_2_UV_Fail_Flt | 46182.0 | 46182.16 | DR | 22 | 46107.16 | LAMP #1-2 UV SENSOR FAILED FAULT | Alarm | OK | |
| 620 | UV2200\DI\Lamp_1_3_UV_Fail_Flt | 46183.15 | 46183.1 | DR | 22 | 46108.1 | LAMP #1-3 UV SENSOR FAILED FAULT | Alarm | OK | |
| 621 | UV2200\DI\Lamp_2_1_UV_Fail_Flt | 46183.14 | 46183.2 | DR | 22 | 46108.2 | LAMP #2-1 UV SENSOR FAILED FAULT | Alarm | OK | |
| 622 | UV2200\DI\Lamp_2_2_UV_Fail_Flt | 46183.13 | 46183.3 | DR | 22 | 46108.3 | LAMP #2-2 UV SENSOR FAILED FAULT | Alarm | OK | |
| 623 | UV2200\DI\Lamp_2_3_UV_Fail_Flt | 46183.12 | 46183.4 | DR | 22 | 46108.4 | LAMP #2-3 UV SENSOR FAILED FAULT | Alarm | OK | |
| 624 | UV2200\DI\Lamp_3_1_UV_Fail_Flt | 46183.11 | 46183.5 | DR | 22 | 46108.5 | LAMP #3-1 UV SENSOR FAILED FAULT | Alarm | OK | |
| 625 | UV2200\DI\Lamp_3_2_UV_Fail_Flt | 46183.10 | 46183.6 | DR | 22 | 46108.6 | LAMP #3-2 UV SENSOR FAILED FAULT | Alarm | OK | |
| 626 | UV2200\DI\Lamp_3_3_UV_Fail_Flt | 46183.9 | 46183.7 | DR | 22 | 46108.7 | LAMP #3-3 UV SENSOR FAILED FAULT | Alarm | OK | |
| 627 | UV2200\DI\Lamp_1_1_UV_Cal_Flt | 46183.8 | 46183.8 | DR | 22 | 46108.8 | LAMP #1-1 UV SENSOR OUT OF CAL. | Alarm | OK | |
| 628 | UV2200\DI\Lamp_1_2_UV_Cal_Flt | 46183.7 | 46183.9 | DR | 22 | 46108.9 | LAMP #1-2 UV SENSOR OUT OF CAL. | Alarm | OK | |
| 629 | UV2200\DI\Lamp_1_3_UV_Cal_Flt | 46183.6 | 46183.10 | DR | 22 | 46108.10 | LAMP #1-3 UV SENSOR OUT OF CAL. | Alarm | OK | |
| 630 | UV2200\DI\Lamp_2_1_UV_Cal_Flt | 46183.5 | 46183.11 | DR | 22 | 46108.11 | LAMP #2-1 UV SENSOR OUT OF CAL. | Alarm | OK | |
| 631 | UV2200\DI\Lamp_2_2_UV_Cal_Flt | 46183.4 | 46183.12 | DR | 22 | 46108.12 | LAMP #2-2 UV SENSOR OUT OF CAL. | Alarm | OK | |
| 632 | UV2200\DI\Lamp_2_3_UV_Cal_Flt | 46183.3 | 46183.13 | DR | 22 | 46108.13 | LAMP #2-3 UV SENSOR OUT OF CAL. | Alarm | OK | |
| 633 | UV2200\DI\Lamp_3_1_UV_Cal_Flt | 46183.2 | 46183.14 | DR | 22 | 46108.14 | LAMP #3-1 UV SENSOR OUT OF CAL. | Alarm | OK | |
| 634 | UV2200\DI\Lamp_3_2_UV_Cal_Flt | 46183.1 | 46183.15 | DR | 22 | 46108.15 | LAMP #3-2 UV SENSOR OUT OF CAL. | Alarm | OK | |
| 635 | UV2200\DI\Lamp_3_3_UV_Cal_Flt | 46183.0 | 46183.16 | DR | 22 | 46108.16 | LAMP #3-3 UV SENSOR OUT OF CAL. | Alarm | OK | |
| 636 | UV2200\DI\Lamp_1_1_Low_Amps | 46184.15 | 46184.1 | DR | 22 | 46109.1 | LAMP #1-1 LOW AMPS | Alarm | OK | |
| 637 | UV2200\DI\Lamp_1_2_Low_Amps | 46184.14 | 46184.2 | DR | 22 | 46109.2 | LAMP #1-2 LOW AMPS | Alarm | OK | |
| 638 | UV2200\DI\Lamp_1_3_Low_Amps | 46184.13 | 46184.3 | DR | 22 | 46109.3 | LAMP #1-3 LOW AMPS | Alarm | OK | |
| 639 | UV2200\DI\Lamp_2_1_Low_Amps | 46184.12 | 46184.4 | DR | 22 | 46109.4 | LAMP #2-1 LOW AMPS | Alarm | OK | |
| 640 | UV2200\DI\Lamp_2_2_Low_Amps | 46184.11 | 46184.5 | DR | 22 | 46109.5 | LAMP #2-2 LOW AMPS | Alarm | OK | |
| 641 | UV2200\DI\Lamp_2_3_Low_Amps | 46184.10 | 46184.6 | DR | 22 | 46109.6 | LAMP #2-3 LOW AMPS | Alarm | OK | |
| 642 | UV2200\DI\Lamp_3_1_Low_Amps | 46184.9 | 46184.7 | DR | 22 | 46109.7 | LAMP #3-1 LOW AMPS | Alarm | OK | |
| 643 | UV2200\DI\Lamp_3_2_Low_Amps | 46184.8 | 46184.8 | DR | 22 | 46109.8 | LAMP #3-2 LOW AMPS | Alarm | OK | |
| 644 | UV2200\DI\Lamp_3_3_Low_Amps | 46184.7 | 46184.9 | DR | 22 | 46109.9 | LAMP #3-3 LOW AMPS | Alarm | OK | |
| 645 | UV2200\DI\Lamp_1_1_Hi_Amps | 46184.6 | 46184.10 | DR | 22 | 46109.10 | LAMP #1-1 HIGH AMPS | Alarm | OK | |

## UVM Communication Database

| DIGITAL - Reactor to RSView (UVM) | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Item # | Tagname/Symbol | Kepware Address | UVM PLC Address | Type | MB+ Node | Unit PLC Address | Description | Set State (1) | Reset State (0) | Comments |
| 646 | UV2200\DI\Lamp_1_2_Hi_Amps | 46184.5 | 46184.11 | DR | 22 | 46109.11 | LAMP #1-2 HIGH AMPS | Alarm | OK | |
| 647 | UV2200\DI\Lamp_1_3_Hi_Amps | 46184.4 | 46184.12 | DR | 22 | 46109.12 | LAMP #1-3 HIGH AMPS | Alarm | OK | |
| 648 | UV2200\DI\Lamp_2_1_Hi_Amps | 46184.3 | 46184.13 | DR | 22 | 46109.13 | LAMP #2-1 HIGH AMPS | Alarm | OK | |
| 649 | UV2200\DI\Lamp_2_2_Hi_Amps | 46184.2 | 46184.14 | DR | 22 | 46109.14 | LAMP #2-2 HIGH AMPS | Alarm | OK | |
| 650 | UV2200\DI\Lamp_2_3_Hi_Amps | 46184.1 | 46184.15 | DR | 22 | 46109.15 | LAMP #2-3 HIGH AMPS | Alarm | OK | |
| 651 | UV2200\DI\Lamp_3_1_Hi_Amps | 46184.0 | 46184.16 | DR | 22 | 46109.16 | LAMP #3-1 HIGH AMPS | Alarm | OK | |
| 652 | UV2200\DI\Lamp_3_2_Hi_Amps | 46185.15 | 46185.1 | DR | 22 | 46110.1 | LAMP #3-2 HIGH AMPS | Alarm | OK | |
| 653 | UV2200\DI\Lamp_3_3_Hi_Amps | 46185.14 | 46185.2 | DR | 22 | 46110.2 | LAMP #3-3 HIGH AMPS | Alarm | OK | |
| 654 | UV2200\DI\PLC_Error | 46185.13 | 46185.3 | DR | 22 | 46110.3 | PLC ERROR | Alarm | OK | |
| 655 | UV2200\DI\PLC_Low_Battery | 46185.12 | 46185.4 | DR | 22 | 46110.4 | PLC LOW BATTERY | Alarm | OK | |
| 656 | UV2200\DI\PLC_I/O_Fail | 46185.11 | 46185.5 | DR | 22 | 46110.5 | I/O CARD FAILURE | Alarm | OK | |
| 657 | UV2200\DI\Lamp_1_1_Hi_Hours | 46185.10 | 46185.6 | DR | 22 | 46110.6 | LAMP #1-1 HIGH LAMP HOURS | Alarm | OK | |
| 658 | UV2200\DI\Lamp_1_2_Hi_Hours | 46185.9 | 46185.7 | DR | 22 | 46110.7 | LAMP #1-2 HIGH LAMP HOURS | Alarm | OK | |
| 659 | UV2200\DI\Lamp_1_3_Hi_Hours | 46185.8 | 46185.8 | DR | 22 | 46110.8 | LAMP #1-3 HIGH LAMP HOURS | Alarm | OK | |
| 660 | UV2200\DI\Lamp_2_1_Hi_Hours | 46185.7 | 46185.9 | DR | 22 | 46110.9 | LAMP #2-1 HIGH LAMP HOURS | Alarm | OK | |
| 661 | UV2200\DI\Lamp_2_2_Hi_Hours | 46185.6 | 46185.10 | DR | 22 | 46110.10 | LAMP #2-2 HIGH LAMP HOURS | Alarm | OK | |
| 662 | UV2200\DI\Lamp_2_3_Hi_Hours | 46185.5 | 46185.11 | DR | 22 | 46110.11 | LAMP #2-3 HIGH LAMP HOURS | Alarm | OK | |
| 663 | UV2200\DI\Lamp_3_1_Hi_Hours | 46185.4 | 46185.12 | DR | 22 | 46110.12 | LAMP #3-1 HIGH LAMP HOURS | Alarm | OK | |
| 664 | UV2200\DI\Lamp_3_2_Hi_Hours | 46185.3 | 46185.13 | DR | 22 | 46110.13 | LAMP #3-2 HIGH LAMP HOURS | Alarm | OK | |
| 665 | UV2200\DI\Lamp_3_3_Hi_Hours | 46185.2 | 46185.14 | DR | 22 | 46110.14 | LAMP #3-3 HIGH LAMP HOURS | Alarm | OK | |
| 666 | UV2200\DI\Lamp_1_1_Hi_Starts | 46185.1 | 46185.15 | DR | 22 | 46110.15 | LAMP #1-1 HIGH LAMP STARTS | Alarm | OK | |
| 667 | UV2200\DI\Lamp_1_2_Hi_Starts | 46185.0 | 46185.16 | DR | 22 | 46110.16 | LAMP #1-2 HIGH LAMP STARTS | Alarm | OK | |
| 668 | UV2200\DI\Lamp_1_3_Hi_Starts | 46186.15 | 46186.1 | DR | 22 | 46111.1 | LAMP #1-3 HIGH LAMP STARTS | Alarm | OK | |
| 669 | UV2200\DI\Lamp_2_1_Hi_Starts | 46186.14 | 46186.2 | DR | 22 | 46111.2 | LAMP #2-1 HIGH LAMP STARTS | Alarm | OK | |
| 670 | UV2200\DI\Lamp_2_2_Hi_Starts | 46186.13 | 46186.3 | DR | 22 | 46111.3 | LAMP #2-2 HIGH LAMP STARTS | Alarm | OK | |
| 671 | UV2200\DI\Lamp_2_3_Hi_Starts | 46186.12 | 46186.4 | DR | 22 | 46111.4 | LAMP #2-3 HIGH LAMP STARTS | Alarm | OK | |
| 672 | UV2200\DI\Lamp_3_1_Hi_Starts | 46186.11 | 46186.5 | DR | 22 | 46111.5 | LAMP #3-1 HIGH LAMP STARTS | Alarm | OK | |
| 673 | UV2200\DI\Lamp_3_2_Hi_Starts | 46186.10 | 46186.6 | DR | 22 | 46111.6 | LAMP #3-2 HIGH LAMP STARTS | Alarm | OK | |
| 674 | UV2200\DI\Lamp_3_3_Hi_Starts | 46186.9 | 46186.7 | DR | 22 | 46111.7 | LAMP #3-3 HIGH LAMP STARTS | Alarm | OK | |
| 675 | UV2200\DI\Lamp_1_1_Start_Fail | 46186.8 | 46186.8 | DR | 22 | 46111.8 | LAMP #1-1 LAMP START FAILURE | Alarm | OK | |
| 676 | UV2200\DI\Lamp_1_2_Start_Fail | 46186.7 | 46186.9 | DR | 22 | 46111.9 | LAMP #1-2 LAMP START FAILURE | Alarm | OK | |
| 677 | UV2200\DI\Lamp_1_3_Start_Fail | 46186.6 | 46186.10 | DR | 22 | 46111.10 | LAMP #1-3 LAMP START FAILURE | Alarm | OK | |
| 678 | UV2200\DI\Lamp_2_1_Start_Fail | 46186.5 | 46186.11 | DR | 22 | 46111.11 | LAMP #2-1 LAMP START FAILURE | Alarm | OK | |
| 679 | UV2200\DI\Lamp_2_2_Start_Fail | 46186.4 | 46186.12 | DR | 22 | 46111.12 | LAMP #2-2 LAMP START FAILURE | Alarm | OK | |
| 680 | UV2200\DI\Lamp_2_3_Start_Fail | 46186.3 | 46186.13 | DR | 22 | 46111.13 | LAMP #2-3 LAMP START FAILURE | Alarm | OK | |
| 681 | UV2200\DI\Lamp_3_1_Start_Fail | 46186.2 | 46186.14 | DR | 22 | 46111.14 | LAMP #3-1 LAMP START FAILURE | Alarm | OK | |
| 682 | UV2200\DI\Lamp_3_2_Start_Fail | 46186.1 | 46186.15 | DR | 22 | 46111.15 | LAMP #3-2 LAMP START FAILURE | Alarm | OK | |
| 683 | UV2200\DI\Lamp_3_3_Start_Fail | 46186.0 | 46186.16 | DR | 22 | 46111.16 | LAMP #3-3 LAMP START FAILURE | Alarm | OK | |
| 684 | UV2200\DI\Low_UV_Dose | 46187.15 | 46187.1 | DR | 22 | 46112.1 | LOW UV DOSE | Alarm | OK | |
| 685 | UV2200\DI\Low_Low_UV_Dose | 46187.14 | 46187.2 | DR | 22 | 46112.2 | LOW LOW UV DOSE | Alarm | OK | |
| 686 | UV2200\DI\Low_Water_Flow | 46187.13 | 46187.3 | DR | 22 | 46112.3 | LOW WATER FLOW | Alarm | OK | |
| 687 | UV2200\DI\Lmp_Bnk1_Brush_Flt | 46187.12 | 46187.4 | DR | 22 | 46112.4 | LAMP BANK #1 BRUSH CYCLE FAULT | Alarm | OK | |
| 688 | UV2200\DI\Lmp_Bnk2_Brush_Flt | 46187.11 | 46187.5 | DR | 22 | 46112.5 | LAMP BANK #2 BRUSH CYCLE FAULT | Alarm | OK | |
| 689 | UV2200\DI\Lmp_Bnk3_Brush_Flt | 46187.10 | 46187.6 | DR | 22 | 46112.6 | LAMP BANK #3 BRUSH CYCLE FAULT | Alarm | OK | |
| 690 | UV2200\DI\Lmp_Bnk1_Hi_Amps | 46187.9 | 46187.7 | DR | 22 | 46112.7 | LAMP BANK #1 BRUSH DRIVE HIGH AMPS | Alarm | OK | |
| 691 | UV2200\DI\Lmp_Bnk2_Hi_Amps | 46187.8 | 46187.8 | DR | 22 | 46112.8 | LAMP BANK #2 BRUSH DRIVE HIGH AMPS | Alarm | OK | |
| 692 | UV2200\DI\Lmp_Bnk3_Hi_Amps | 46187.7 | 46187.9 | DR | 22 | 46112.9 | LAMP BANK #3 BRUSH DRIVE HIGH AMPS | Alarm | OK | |
| 693 | UV2200\DI\Lamp_1_1_OpenCap_Start | 46187.4 | 46187.12 | DR | 22 | 46112.12 | LAMP 1-1 OPEN CAPACITOR@STARTUP | Alarm | OK | Capacitor failure monitoring |
| 694 | UV2200\DI\Lamp_1_2_OpenCap_Start | 46187.3 | 46187.13 | DR | 22 | 46112.13 | LAMP 1-2 OPEN CAPACITOR@STARTUP | Alarm | OK | Capacitor failure monitoring |
| 695 | UV2200\DI\Lamp_1_3_OpenCap_Start | 46187.2 | 46187.14 | DR | 22 | 46112.14 | LAMP 1-3 OPEN CAPACITOR@STARTUP | Alarm | OK | Capacitor failure monitoring |
| 696 | UV2200\DI\Lamp_2_1_OpenCap_Start | 46187.1 | 46187.15 | DR | 22 | 46112.15 | LAMP 2-1 OPEN CAPACITOR@STARTUP | Alarm | OK | Capacitor failure monitoring |
| 697 | UV2200\DI\Lamp_2_2_OpenCap_Start | 46187.0 | 46187.16 | DR | 22 | 46112.16 | LAMP 2-2 OPEN CAPACITOR@STARTUP | Alarm | OK | Capacitor failure monitoring |
| 698 | UV2200\DI\Lamp_2_3_OpenCap_Start | 46188.15 | 46188.1 | DR | 22 | 46113.1 | LAMP 2-3 OPEN CAPACITOR@STARTUP | Alarm | OK | Capacitor failure monitoring |
| 699 | UV2200\DI\Lamp_3_1_OpenCap_Start | 46188.14 | 46188.2 | DR | 22 | 46113.2 | LAMP 3-1 OPEN CAPACITOR@STARTUP | Alarm | OK | Capacitor failure monitoring |

## UVM Communication Database

| DIGITAL - Reactor to RSView (UVM) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Item # | Tagname/Symbol | Kepware Address | UVM PLC Address | Type | MB+ Node | Unit PLC Address | Description | Set State (1) | Reset State (0) | Comments |
| 700 | UV2200\DI\Lamp_3_2_OpenCap_Start | 46188.13 | 46188.3 | DR | 22 | 46113.3 | LAMP 3-2 OPEN CAPACITOR@STARTUP | Alarm | OK | Capacitor failure monitoring |
| 701 | UV2200\DI\Lamp_3_3_OpenCap_Start | 46188.12 | 46188.4 | DR | 22 | 46113.4 | LAMP 3-3 OPEN CAPACITOR@STARTUP | Alarm | OK | Capacitor failure monitoring |
| 702 | UV2200\DI\Lamp_1_1_ShortCap_Start | 46188.11 | 46188.5 | DR | 22 | 46113.5 | LAMP 1-1 SHORTED CAPACITOR@STARTUP | Alarm | OK | Capacitor failure monitoring |
| 703 | UV2200\DI\Lamp_1_2_ShortCap_Start | 46188.10 | 46188.6 | DR | 22 | 46113.6 | LAMP 1-2 SHORTED CAPACITOR@STARTUP | Alarm | OK | Capacitor failure monitoring |
| 704 | UV2200\DI\Lamp_1_3_ShortCap_Start | 46188.9 | 46188.7 | DR | 22 | 46113.7 | LAMP 1-3 SHORTED CAPACITOR@STARTUP | Alarm | OK | Capacitor failure monitoring |
| 705 | UV2200\DI\Lamp_2_1_ShortCap_Start | 46188.8 | 46188.8 | DR | 22 | 46113.8 | LAMP 2-1 SHORTED CAPACITOR@STARTUP | Alarm | OK | Capacitor failure monitoring |
| 706 | UV2200\DI\Lamp_2_2_ShortCap_Start | 46188.7 | 46188.9 | DR | 22 | 46113.9 | LAMP 2-2 SHORTED CAPACITOR@STARTUP | Alarm | OK | Capacitor failure monitoring |
| 707 | UV2200\DI\Lamp_2_3_ShortCap_Start | 46188.6 | 46188.10 | DR | 22 | 46113.10 | LAMP 2-3 SHORTED CAPACITOR@STARTUP | Alarm | OK | Capacitor failure monitoring |
| 708 | UV2200\DI\Lamp_3_1_ShortCap_Start | 46188.5 | 46188.11 | DR | 22 | 46113.11 | LAMP 3-1 SHORTED CAPACITOR@STARTUP | Alarm | OK | Capacitor failure monitoring |
| 709 | UV2200\DI\Lamp_3_2_ShortCap_Start | 46188.4 | 46188.12 | DR | 22 | 46113.12 | LAMP 3-2 SHORTED CAPACITOR@STARTUP | Alarm | OK | Capacitor failure monitoring |
| 710 | UV2200\DI\Lamp_3_3_ShortCap_Start | 46188.3 | 46188.13 | DR | 22 | 46113.13 | LAMP 3-3 SHORTED CAPACITOR@STARTUP | Alarm | OK | Capacitor failure monitoring |
| 711 | UV2200\DI\Lamp_1_1_OpenCap_100pct | 46188.2 | 46188.14 | DR | 22 | 46113.14 | LAMP 1-1 OPEN CAPACITOR@100% POWER | Alarm | OK | Capacitor failure monitoring |
| 712 | UV2200\DI\Lamp_1_2_OpenCap_100pct | 46188.1 | 46188.15 | DR | 22 | 46113.15 | LAMP 1-2 OPEN CAPACITOR@100% POWER | Alarm | OK | Capacitor failure monitoring |
| 713 | UV2200\DI\Lamp_1_3_OpenCap_100pct | 46188.0 | 46188.16 | DR | 22 | 46113.16 | LAMP 1-3 OPEN CAPACITOR@100% POWER | Alarm | OK | Capacitor failure monitoring |
| 714 | UV2200\DI\Lamp_2_1_OpenCap_100pct | 46189.15 | 46189.1 | DR | 22 | 46114.1 | LAMP 2-1 OPEN CAPACITOR@100% POWER | Alarm | OK | Capacitor failure monitoring |
| 715 | UV2200\DI\Lamp_2_2_OpenCap_100pct | 46189.14 | 46189.2 | DR | 22 | 46114.2 | LAMP 2-2 OPEN CAPACITOR@100% POWER | Alarm | OK | Capacitor failure monitoring |
| 716 | UV2200\DI\Lamp_2_3_OpenCap_100pct | 46189.13 | 46189.3 | DR | 22 | 46114.3 | LAMP 2-3 OPEN CAPACITOR@100% POWER | Alarm | OK | Capacitor failure monitoring |
| 717 | UV2200\DI\Lamp_3_1_OpenCap_100pct | 46189.12 | 46189.4 | DR | 22 | 46114.4 | LAMP 3-1 OPEN CAPACITOR@100% POWER | Alarm | OK | Capacitor failure monitoring |
| 718 | UV2200\DI\Lamp_3_2_OpenCap_100pct | 46189.11 | 46189.5 | DR | 22 | 46114.5 | LAMP 3-2 OPEN CAPACITOR@100% POWER | Alarm | OK | Capacitor failure monitoring |
| 719 | UV2200\DI\Lamp_3_3_OpenCap_100pct | 46189.10 | 46189.6 | DR | 22 | 46114.6 | LAMP 3-3 OPEN CAPACITOR@100% POWER | Alarm | OK | Capacitor failure monitoring |
| 720 | UV2200\DI\Lamp_1_1_ShortCap_100pct | 46189.9 | 46189.7 | DR | 22 | 46114.7 | LAMP 1-1 SHORTED CAPACITOR@100% POW | Alarm | OK | Capacitor failure monitoring |
| 721 | UV2200\DI\Lamp_1_2_ShortCap_100pct | 46189.8 | 46189.8 | DR | 22 | 46114.8 | LAMP 1-2 SHORTED CAPACITOR@100% POW | Alarm | OK | Capacitor failure monitoring |
| 722 | UV2200\DI\Lamp_1_3_ShortCap_100pct | 46189.7 | 46189.9 | DR | 22 | 46114.9 | LAMP 1-3 SHORTED CAPACITOR@100% POW | Alarm | OK | Capacitor failure monitoring |
| 723 | UV2200\DI\Lamp_2_1_ShortCap_100pct | 46189.6 | 46189.10 | DR | 22 | 46114.10 | LAMP 2-1 SHORTED CAPACITOR@100% POW | Alarm | OK | Capacitor failure monitoring |
| 724 | UV2200\DI\Lamp_2_2_ShortCap_100pct | 46189.5 | 46189.11 | DR | 22 | 46114.11 | LAMP 2-2 SHORTED CAPACITOR@100% POW | Alarm | OK | Capacitor failure monitoring |
| 725 | UV2200\DI\Lamp_2_3_ShortCap_100pct | 46189.4 | 46189.12 | DR | 22 | 46114.12 | LAMP 2-3 SHORTED CAPACITOR@100% POW | Alarm | OK | Capacitor failure monitoring |
| 726 | UV2200\DI\Lamp_3_1_ShortCap_100pct | 46189.3 | 46189.13 | DR | 22 | 46114.13 | LAMP 3-1 SHORTED CAPACITOR@100% POW | Alarm | OK | Capacitor failure monitoring |
| 727 | UV2200\DI\Lamp_3_2_ShortCap_100pct | 46189.2 | 46189.14 | DR | 22 | 46114.14 | LAMP 3-2 SHORTED CAPACITOR@100% POW | Alarm | OK | Capacitor failure monitoring |
| 728 | UV2200\DI\Lamp_3_3_ShortCap_100pct | 46189.1 | 46189.15 | DR | 22 | 46114.15 | LAMP 3-3 SHORTED CAPACITOR@100% POW | Alarm | OK | Capacitor failure monitoring |
| | | | | | | | | | | |
| 729 | UV2300\DI\On_Off_Status | 46300.15 | 46300.1 | DR | 23 | 46100.1 | To RSView - Reactor On/Off Status | On | Off | |
| 730 | UV2300\DI\Rem_Lcl_Control | 46301.15 | 46301.1 | DR | 23 | 46101.1 | To RSView - Remote/Local [Rem=1] | Remote | Local | |
| 731 | UV2300\DI\Wiper1_Auto_Man | 46301.14 | 46301.2 | DR | 23 | 46101.2 | To RSView - Wiper #1 Auto/Man [Auto=1] | Auto | Manual | |
| 732 | UV2300\DI\Wiper2_Auto_Man | 46301.13 | 46301.3 | DR | 23 | 46101.3 | To RSView - Wiper #2 Auto/Man [Auto=1] | Auto | Manual | |
| 733 | UV2300\DI\Wiper3_Auto_Man | 46301.12 | 46301.4 | DR | 23 | 46101.4 | To RSView - Wiper #3 Auto/Man [Auto=1] | Auto | Manual | |
| 734 | UV2300\DI\Bank1_Auto_Man | 46301.11 | 46301.5 | DR | 23 | 46101.5 | To RSView - Lamp Bank #1 Auto/Man [Auto=1] | Auto | Manual | |
| 735 | UV2300\DI\Bank1_KW_Out | 46301.10 | 46301.6 | DR | 23 | 46101.6 | To RSView - Lamp Bank #1 kW/%Out [kW=1] | kW | % Output | Lamp Manual Mode Only |
| 736 | UV2300\DI\Bank2_Auto_Man | 46301.9 | 46301.7 | DR | 23 | 46101.7 | To RSView - Lamp Bank #2 Auto/Man [Auto=1] | Auto | Manual | |
| 737 | UV2300\DI\Bank2_KW_Out | 46301.8 | 46301.8 | DR | 23 | 46101.8 | To RSView - Lamp Bank #2 kW/%Out [kW=1] | kW | % Output | Lamp Manual Mode Only |
| 738 | UV2300\DI\Bank3_Auto_Man | 46301.7 | 46301.9 | DR | 23 | 46101.9 | To RSView - Lamp Bank #3 Auto/Man [Auto=1] | Auto | Manual | |
| 739 | UV2300\DI\Bank3_KW_Out | 46301.6 | 46301.10 | DR | 23 | 46101.10 | To RSView - Lamp Bank #3 kW/%Out [kW=1] | kW | % Output | Lamp Manual Mode Only |
| 740 | UV2300\DI\Lamp_1_1_ON | 46302.15 | 46302.1 | DR | 23 | 46102.1 | To RSView - Lamp #1-1 On Status [On=1] | On | Off | Lamp Contactor Output Status |
| 741 | UV2300\DI\Lamp_1_2_ON | 46302.14 | 46302.2 | DR | 23 | 46102.2 | To RSView - Lamp #1-2 On Status [On=1] | On | Off | Lamp Contactor Output Status |
| 742 | UV2300\DI\Lamp_1_3_ON | 46302.13 | 46302.3 | DR | 23 | 46102.3 | To RSView - Lamp #1-3 On Status [On=1] | On | Off | Lamp Contactor Output Status |
| 743 | UV2300\DI\Lamp_2_1_ON | 46302.12 | 46302.4 | DR | 23 | 46102.4 | To RSView - Lamp #2-1 On Status [On=1] | On | Off | Lamp Contactor Output Status |
| 744 | UV2300\DI\Lamp_2_2_ON | 46302.11 | 46302.5 | DR | 23 | 46102.5 | To RSView - Lamp #2-2 On Status [On=1] | On | Off | Lamp Contactor Output Status |
| 745 | UV2300\DI\Lamp_2_3_ON | 46302.10 | 46302.6 | DR | 23 | 46102.6 | To RSView - Lamp #2-3 On Status [On=1] | On | Off | Lamp Contactor Output Status |
| 746 | UV2300\DI\Lamp_3_1_ON | 46302.9 | 46302.7 | DR | 23 | 46102.7 | To RSView - Lamp #3-1 On Status [On=1] | On | Off | Lamp Contactor Output Status |
| 747 | UV2300\DI\Lamp_3_2_ON | 46302.8 | 46302.8 | DR | 23 | 46102.8 | To RSView - Lamp #3-2 On Status [On=1] | On | Off | Lamp Contactor Output Status |
| 748 | UV2300\DI\Lamp_3_3_ON | 46302.7 | 46302.9 | DR | 23 | 46102.9 | To RSView - Lamp #3-3 On Status [On=1] | On | Off | Lamp Contactor Output Status |
| 749 | UV2300\DI\UV_Val_Mode | 46303.15 | 46303.1 | DR | 23 | 46103.1 | To RSView - UV Validation Mode | UV | Dose | |
| 750 | UV2300\DI\PLC_Battery | 46303.14 | 46303.2 | DR | 23 | 46103.2 | To RSView - CPU Battery Status | OK | Low | |
| 751 | UV2300\DI\PLC_Major_Error | 46303.13 | 46303.3 | DR | 23 | 46103.3 | To RSView - CPU Major Error Status | OK | Error | |
| 752 | UV2300\DI\PLC_Forces | 46303.12 | 46303.4 | DR | 23 | 46103.4 | To RSView - CPU Forces Status | None | Enabled | |

## UVM Communication Database

| DIGITAL - Reactor to RSView (UVM) | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Item # | Tagname/Symbol | Kepware Address | UVM PLC Address | Type | MB+ Node | Unit PLC Address | Description | Set State (1) | Reset State (0) | Comments |
| 753 | UV2300\DI\PLC\DISCONN | 46303.11 | 46303.5 | DR | 23 | | PLC Communication Failed | Alarm | OK | |
| 754 | UV2300\DI\E_STOP | 46305.15 | 46305.1 | DR | 23 | 46105.1 | EMERGENCY STOP | Alarm | OK | |
| 755 | UV2300\DI\Lamp_1_1_Gnd_Flt | 46305.14 | 46305.2 | DR | 23 | 46105.2 | LAMP #1-1 GROUND FAULT | Alarm | OK | |
| 756 | UV2300\DI\Lamp_1_2_Gnd_Flt | 46305.13 | 46305.3 | DR | 23 | 46105.3 | LAMP #1-2 GROUND FAULT | Alarm | OK | |
| 757 | UV2300\DI\Lamp_1_3_Gnd_Flt | 46305.12 | 46305.4 | DR | 23 | 46105.4 | LAMP #1-3 GROUND FAULT | Alarm | OK | |
| 758 | UV2300\DI\Lamp_2_1_Gnd_Flt | 46305.11 | 46305.5 | DR | 23 | 46105.5 | LAMP #2-1 GROUND FAULT | Alarm | OK | |
| 759 | UV2300\DI\Lamp_2_2_Gnd_Flt | 46305.10 | 46305.6 | DR | 23 | 46105.6 | LAMP #2-2 GROUND FAULT | Alarm | OK | |
| 760 | UV2300\DI\Lamp_2_3_Gnd_Flt | 46305.9 | 46305.7 | DR | 23 | 46105.7 | LAMP #2-3 GROUND FAULT | Alarm | OK | |
| 761 | UV2300\DI\Lamp_3_1_Gnd_Flt | 46305.8 | 46305.8 | DR | 23 | 46105.8 | LAMP #3-1 GROUND FAULT | Alarm | OK | |
| 762 | UV2300\DI\Lamp_3_2_Gnd_Flt | 46305.7 | 46305.9 | DR | 23 | 46105.9 | LAMP #3-2 GROUND FAULT | Alarm | OK | |
| 763 | UV2300\DI\Lamp_3_3_Gnd_Flt | 46305.6 | 46305.10 | DR | 23 | 46105.10 | LAMP #3-3 GROUND FAULT | Alarm | OK | |
| 764 | UV2300\DI\Lamp_Bank1_Moisture | 46305.5 | 46305.11 | DR | 23 | 46105.11 | LAMP BANK #1 MOISTURE DETECTED | Alarm | OK | |
| 765 | UV2300\DI\Lamp_Bank2_Moisture | 46305.4 | 46305.12 | DR | 23 | 46105.12 | LAMP BANK #2 MOISTURE DETECTED | Alarm | OK | |
| 766 | UV2300\DI\Lamp_Bank3_Moisture | 46305.3 | 46305.13 | DR | 23 | 46105.13 | LAMP BANK #3 MOISTURE DETECTED | Alarm | OK | |
| 767 | UV2300\DI\React_Hi_Temp | 46305.2 | 46305.14 | DR | 23 | 46105.14 | REACTOR HIGH TEMPERATURE | Alarm | OK | |
| 768 | UV2300\DI\Lamp_1_1_Xfmr_Hi_Temp | 46305.1 | 46305.15 | DR | 23 | 46105.15 | LAMP #1-1 XFMR/SAT. CORE HIGH TEMP. | Alarm | OK | |
| 769 | UV2300\DI\Lamp_1_2_Xfmr_Hi_Temp | 46305.0 | 46305.16 | DR | 23 | 46105.16 | LAMP #1-2 XFMR/SAT. CORE HIGH TEMP. | Alarm | OK | |
| 770 | UV2300\DI\Lamp_1_3_Xfmr_Hi_Temp | 46306.15 | 46306.1 | DR | 23 | 46106.1 | LAMP #1-3 XFMR/SAT. CORE HIGH TEMP. | Alarm | OK | |
| 771 | UV2300\DI\Lamp_2_1_Xfmr_Hi_Temp | 46306.14 | 46306.2 | DR | 23 | 46106.2 | LAMP #2-1 XFMR/SAT. CORE HIGH TEMP. | Alarm | OK | |
| 772 | UV2300\DI\Lamp_2_2_Xfmr_Hi_Temp | 46306.13 | 46306.3 | DR | 23 | 46106.3 | LAMP #2-2 XFMR/SAT. CORE HIGH TEMP. | Alarm | OK | |
| 773 | UV2300\DI\Lamp_2_3_Xfmr_Hi_Temp | 46306.12 | 46306.4 | DR | 23 | 46106.4 | LAMP #2-3 XFMR/SAT. CORE HIGH TEMP. | Alarm | OK | |
| 774 | UV2300\DI\Lamp_3_1_Xfmr_Hi_Temp | 46306.11 | 46306.5 | DR | 23 | 46106.5 | LAMP #3-1 XFMR/SAT. CORE HIGH TEMP. | Alarm | OK | |
| 775 | UV2300\DI\Lamp_3_2_Xfmr_Hi_Temp | 46306.10 | 46306.6 | DR | 23 | 46106.6 | LAMP #3-2 XFMR/SAT. CORE HIGH TEMP. | Alarm | OK | |
| 776 | UV2300\DI\Lamp_3_3_Xfmr_Hi_Temp | 46306.9 | 46306.7 | DR | 23 | 46106.7 | LAMP #3-3 XFMR/SAT. CORE HIGH TEMP. | Alarm | OK | |
| 777 | UV2300\DI\Power_Cab_Hot | 46306.8 | 46306.8 | DR | 23 | 46106.8 | POWER CABINETS HOT | Alarm | OK | |
| 778 | UV2300\DI\Power_Cab_Door_Open | 46306.7 | 46306.9 | DR | 23 | 46106.9 | POWER CABINETS DOOR OPEN | Alarm | OK | |
| 779 | UV2300\DI\Lmp_Bnk1_React_Cov_OP | 46306.6 | 46306.10 | DR | 23 | 46106.10 | LAMP BANK #1 REACTOR COVER OPEN | Alarm | OK | |
| 780 | UV2300\DI\Lmp_Bnk2_React_Cov_OP | 46306.5 | 46306.11 | DR | 23 | 46106.11 | LAMP BANK #2 REACTOR COVER OPEN | Alarm | OK | |
| 781 | UV2300\DI\Lmp_Bnk3_React_Cov_OP | 46306.4 | 46306.12 | DR | 23 | 46106.12 | LAMP BANK #3 REACTOR COVER OPEN | Alarm | OK | |
| 782 | UV2300\DI\Lamp_1_1_UV_Lo_Flt | 46306.3 | 46306.13 | DR | 23 | 46106.13 | LAMP #1-1 UV SENSOR LOW FAULT | Alarm | OK | |
| 783 | UV2300\DI\Lamp_1_2_UV_Lo_Flt | 46306.2 | 46306.14 | DR | 23 | 46106.14 | LAMP #1-2 UV SENSOR LOW FAULT | Alarm | OK | |
| 784 | UV2300\DI\Lamp_1_3_UV_Lo_Flt | 46306.1 | 46306.15 | DR | 23 | 46106.15 | LAMP #1-3 UV SENSOR LOW FAULT | Alarm | OK | |
| 785 | UV2300\DI\Lamp_2_1_UV_Lo_Flt | 46306.0 | 46306.16 | DR | 23 | 46106.16 | LAMP #2-1 UV SENSOR LOW FAULT | Alarm | OK | |
| 786 | UV2300\DI\Lamp_2_2_UV_Lo_Flt | 46307.15 | 46307.1 | DR | 23 | 46107.1 | LAMP #2-2 UV SENSOR LOW FAULT | Alarm | OK | |
| 787 | UV2300\DI\Lamp_2_3_UV_Lo_Flt | 46307.14 | 46307.2 | DR | 23 | 46107.2 | LAMP #2-3 UV SENSOR LOW FAULT | Alarm | OK | |
| 788 | UV2300\DI\Lamp_3_1_UV_Lo_Flt | 46307.13 | 46307.3 | DR | 23 | 46107.3 | LAMP #3-1 UV SENSOR LOW FAULT | Alarm | OK | |
| 789 | UV2300\DI\Lamp_3_2_UV_Lo_Flt | 46307.12 | 46307.4 | DR | 23 | 46107.4 | LAMP #3-2 UV SENSOR LOW FAULT | Alarm | OK | |
| 790 | UV2300\DI\Lamp_3_3_UV_Lo_Flt | 46307.11 | 46307.5 | DR | 23 | 46107.5 | LAMP #3-3 UV SENSOR LOW FAULT | Alarm | OK | |
| 791 | UV2300\DI\Lamp_1_1_UV_Hi_Flt | 46307.10 | 46307.6 | DR | 23 | 46107.6 | LAMP #1-1 UV SENSOR HIGH FAULT | Alarm | OK | |
| 792 | UV2300\DI\Lamp_1_2_UV_Hi_Flt | 46307.9 | 46307.7 | DR | 23 | 46107.7 | LAMP #1-2 UV SENSOR HIGH FAULT | Alarm | OK | |
| 793 | UV2300\DI\Lamp_1_3_UV_Hi_Flt | 46307.8 | 46307.8 | DR | 23 | 46107.8 | LAMP #1-3 UV SENSOR HIGH FAULT | Alarm | OK | |
| 794 | UV2300\DI\Lamp_2_1_UV_Hi_Flt | 46307.7 | 46307.9 | DR | 23 | 46107.9 | LAMP #2-1 UV SENSOR HIGH FAULT | Alarm | OK | |
| 795 | UV2300\DI\Lamp_2_2_UV_Hi_Flt | 46307.6 | 46307.10 | DR | 23 | 46107.10 | LAMP #2-2 UV SENSOR HIGH FAULT | Alarm | OK | |
| 796 | UV2300\DI\Lamp_2_3_UV_Hi_Flt | 46307.5 | 46307.11 | DR | 23 | 46107.11 | LAMP #2-3 UV SENSOR HIGH FAULT | Alarm | OK | |
| 797 | UV2300\DI\Lamp_3_1_UV_Hi_Flt | 46307.4 | 46307.12 | DR | 23 | 46107.12 | LAMP #3-1 UV SENSOR HIGH FAULT | Alarm | OK | |
| 798 | UV2300\DI\Lamp_3_2_UV_Hi_Flt | 46307.3 | 46307.13 | DR | 23 | 46107.13 | LAMP #3-2 UV SENSOR HIGH FAULT | Alarm | OK | |
| 799 | UV2300\DI\Lamp_3_3_UV_Hi_Flt | 46307.2 | 46307.14 | DR | 23 | 46107.14 | LAMP #3-3 UV SENSOR HIGH FAULT | Alarm | OK | |
| 800 | UV2300\DI\Lamp_1_1_UV_Fail_Flt | 46307.1 | 46307.15 | DR | 23 | 46107.15 | LAMP #1-1 UV SENSOR FAILED FAULT | Alarm | OK | |
| 801 | UV2300\DI\Lamp_1_2_UV_Fail_Flt | 46307.0 | 46307.16 | DR | 23 | 46107.16 | LAMP #1-2 UV SENSOR FAILED FAULT | Alarm | OK | |
| 802 | UV2300\DI\Lamp_1_3_UV_Fail_Flt | 46308.15 | 46308.1 | DR | 23 | 46108.1 | LAMP #1-3 UV SENSOR FAILED FAULT | Alarm | OK | |
| 803 | UV2300\DI\Lamp_2_1_UV_Fail_Flt | 46308.14 | 46308.2 | DR | 23 | 46108.2 | LAMP #2-1 UV SENSOR FAILED FAULT | Alarm | OK | |
| 804 | UV2300\DI\Lamp_2_2_UV_Fail_Flt | 46308.13 | 46308.3 | DR | 23 | 46108.3 | LAMP #2-2 UV SENSOR FAILED FAULT | Alarm | OK | |
| 805 | UV2300\DI\Lamp_2_3_UV_Fail_Flt | 46308.12 | 46308.4 | DR | 23 | 46108.4 | LAMP #2-3 UV SENSOR FAILED FAULT | Alarm | OK | |
| 806 | UV2300\DI\Lamp_3_1_UV_Fail_Flt | 46308.11 | 46308.5 | DR | 23 | 46108.5 | LAMP #3-1 UV SENSOR FAILED FAULT | Alarm | OK | |

## UVM Communication Database

| DIGITAL - Reactor to RSView (UVM) | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Item # | Tagname/Symbol | Kepware Address | UVM PLC Address | Type | MB+ Node | Unit PLC Address | Description | Set State (1) | Reset State (0) | Comments |
| 807 | UV2300\DI\Lamp_3_2_UV_Fail_Flt | 46308.10 | 46308.6 | DR | 23 | 46108.6 | LAMP #3-2 UV SENSOR FAILED FAULT | Alarm | OK | |
| 808 | UV2300\DI\Lamp_3_3_UV_Fail_Flt | 46308.9 | 46308.7 | DR | 23 | 46108.7 | LAMP #3-3 UV SENSOR FAILED FAULT | Alarm | OK | |
| 809 | UV2300\DI\Lamp_1_1_UV_Cal_Flt | 46308.8 | 46308.8 | DR | 23 | 46108.8 | LAMP #1-1 UV SENSOR OUT OF CAL. | Alarm | OK | |
| 810 | UV2300\DI\Lamp_1_2_UV_Cal_Flt | 46308.7 | 46308.9 | DR | 23 | 46108.9 | LAMP #1-2 UV SENSOR OUT OF CAL. | Alarm | OK | |
| 811 | UV2300\DI\Lamp_1_3_UV_Cal_Flt | 46308.6 | 46308.10 | DR | 23 | 46108.10 | LAMP #1-3 UV SENSOR OUT OF CAL. | Alarm | OK | |
| 812 | UV2300\DI\Lamp_2_1_UV_Cal_Flt | 46308.5 | 46308.11 | DR | 23 | 46108.11 | LAMP #2-1 UV SENSOR OUT OF CAL. | Alarm | OK | |
| 813 | UV2300\DI\Lamp_2_2_UV_Cal_Flt | 46308.4 | 46308.12 | DR | 23 | 46108.12 | LAMP #2-2 UV SENSOR OUT OF CAL. | Alarm | OK | |
| 814 | UV2300\DI\Lamp_2_3_UV_Cal_Flt | 46308.3 | 46308.13 | DR | 23 | 46108.13 | LAMP #2-3 UV SENSOR OUT OF CAL. | Alarm | OK | |
| 815 | UV2300\DI\Lamp_3_1_UV_Cal_Flt | 46308.2 | 46308.14 | DR | 23 | 46108.14 | LAMP #3-1 UV SENSOR OUT OF CAL. | Alarm | OK | |
| 816 | UV2300\DI\Lamp_3_2_UV_Cal_Flt | 46308.1 | 46308.15 | DR | 23 | 46108.15 | LAMP #3-2 UV SENSOR OUT OF CAL. | Alarm | OK | |
| 817 | UV2300\DI\Lamp_3_3_UV_Cal_Flt | 46308.0 | 46308.16 | DR | 23 | 46108.16 | LAMP #3-3 UV SENSOR OUT OF CAL. | Alarm | OK | |
| 818 | UV2300\DI\Lamp_1_1_Low_Amps | 46309.15 | 46309.1 | DR | 23 | 46109.1 | LAMP #1-1 LOW AMPS | Alarm | OK | |
| 819 | UV2300\DI\Lamp_1_2_Low_Amps | 46309.14 | 46309.2 | DR | 23 | 46109.2 | LAMP #1-2 LOW AMPS | Alarm | OK | |
| 820 | UV2300\DI\Lamp_1_3_Low_Amps | 46309.13 | 46309.3 | DR | 23 | 46109.3 | LAMP #1-3 LOW AMPS | Alarm | OK | |
| 821 | UV2300\DI\Lamp_2_1_Low_Amps | 46309.12 | 46309.4 | DR | 23 | 46109.4 | LAMP #2-1 LOW AMPS | Alarm | OK | |
| 822 | UV2300\DI\Lamp_2_2_Low_Amps | 46309.11 | 46309.5 | DR | 23 | 46109.5 | LAMP #2-2 LOW AMPS | Alarm | OK | |
| 823 | UV2300\DI\Lamp_2_3_Low_Amps | 46309.10 | 46309.6 | DR | 23 | 46109.6 | LAMP #2-3 LOW AMPS | Alarm | OK | |
| 824 | UV2300\DI\Lamp_3_1_Low_Amps | 46309.9 | 46309.7 | DR | 23 | 46109.7 | LAMP #3-1 LOW AMPS | Alarm | OK | |
| 825 | UV2300\DI\Lamp_3_2_Low_Amps | 46309.8 | 46309.8 | DR | 23 | 46109.8 | LAMP #3-2 LOW AMPS | Alarm | OK | |
| 826 | UV2300\DI\Lamp_3_3_Low_Amps | 46309.7 | 46309.9 | DR | 23 | 46109.9 | LAMP #3-3 LOW AMPS | Alarm | OK | |
| 827 | UV2300\DI\Lamp_1_1_Hi_Amps | 46309.6 | 46309.10 | DR | 23 | 46109.10 | LAMP #1-1 HIGH AMPS | Alarm | OK | |
| 828 | UV2300\DI\Lamp_1_2_Hi_Amps | 46309.5 | 46309.11 | DR | 23 | 46109.11 | LAMP #1-2 HIGH AMPS | Alarm | OK | |
| 829 | UV2300\DI\Lamp_1_3_Hi_Amps | 46309.4 | 46309.12 | DR | 23 | 46109.12 | LAMP #1-3 HIGH AMPS | Alarm | OK | |
| 830 | UV2300\DI\Lamp_2_1_Hi_Amps | 46309.3 | 46309.13 | DR | 23 | 46109.13 | LAMP #2-1 HIGH AMPS | Alarm | OK | |
| 831 | UV2300\DI\Lamp_2_2_Hi_Amps | 46309.2 | 46309.14 | DR | 23 | 46109.14 | LAMP #2-2 HIGH AMPS | Alarm | OK | |
| 832 | UV2300\DI\Lamp_2_3_Hi_Amps | 46309.1 | 46309.15 | DR | 23 | 46109.15 | LAMP #2-3 HIGH AMPS | Alarm | OK | |
| 833 | UV2300\DI\Lamp_3_1_Hi_Amps | 46309.0 | 46309.16 | DR | 23 | 46109.16 | LAMP #3-1 HIGH AMPS | Alarm | OK | |
| 834 | UV2300\DI\Lamp_3_2_Hi_Amps | 46310.15 | 46310.1 | DR | 23 | 46110.1 | LAMP #3-2 HIGH AMPS | Alarm | OK | |
| 835 | UV2300\DI\Lamp_3_3_Hi_Amps | 46310.14 | 46310.2 | DR | 23 | 46110.2 | LAMP #3-3 HIGH AMPS | Alarm | OK | |
| 836 | UV2300\DI\PLC_Error | 46310.13 | 46310.3 | DR | 23 | 46110.3 | PLC ERROR | Alarm | OK | |
| 837 | UV2300\DI\PLC_Low_Battery | 46310.12 | 46310.4 | DR | 23 | 46110.4 | PLC LOW BATTERY | Alarm | OK | |
| 838 | UV2300\DI\PLC_I/O_Fail | 46310.11 | 46310.5 | DR | 23 | 46110.5 | I/O CARD FAILURE | Alarm | OK | |
| 839 | UV2300\DI\Lamp_1_1_Hi_Hours | 46310.10 | 46310.6 | DR | 23 | 46110.6 | LAMP #1-1 HIGH LAMP HOURS | Alarm | OK | |
| 840 | UV2300\DI\Lamp_1_2_Hi_Hours | 46310.9 | 46310.7 | DR | 23 | 46110.7 | LAMP #1-2 HIGH LAMP HOURS | Alarm | OK | |
| 841 | UV2300\DI\Lamp_1_3_Hi_Hours | 46310.8 | 46310.8 | DR | 23 | 46110.8 | LAMP #1-3 HIGH LAMP HOURS | Alarm | OK | |
| 842 | UV2300\DI\Lamp_2_1_Hi_Hours | 46310.7 | 46310.9 | DR | 23 | 46110.9 | LAMP #2-1 HIGH LAMP HOURS | Alarm | OK | |
| 843 | UV2300\DI\Lamp_2_2_Hi_Hours | 46310.6 | 46310.10 | DR | 23 | 46110.10 | LAMP #2-2 HIGH LAMP HOURS | Alarm | OK | |
| 844 | UV2300\DI\Lamp_2_3_Hi_Hours | 46310.5 | 46310.11 | DR | 23 | 46110.11 | LAMP #2-3 HIGH LAMP HOURS | Alarm | OK | |
| 845 | UV2300\DI\Lamp_3_1_Hi_Hours | 46310.4 | 46310.12 | DR | 23 | 46110.12 | LAMP #3-1 HIGH LAMP HOURS | Alarm | OK | |
| 846 | UV2300\DI\Lamp_3_2_Hi_Hours | 46310.3 | 46310.13 | DR | 23 | 46110.13 | LAMP #3-2 HIGH LAMP HOURS | Alarm | OK | |
| 847 | UV2300\DI\Lamp_3_3_Hi_Hours | 46310.2 | 46310.14 | DR | 23 | 46110.14 | LAMP #3-3 HIGH LAMP HOURS | Alarm | OK | |
| 848 | UV2300\DI\Lamp_1_1_Hi_Starts | 46310.1 | 46310.15 | DR | 23 | 46110.15 | LAMP #1-1 HIGH LAMP STARTS | Alarm | OK | |
| 849 | UV2300\DI\Lamp_1_2_Hi_Starts | 46310.0 | 46310.16 | DR | 23 | 46110.16 | LAMP #1-2 HIGH LAMP STARTS | Alarm | OK | |
| 850 | UV2300\DI\Lamp_1_3_Hi_Starts | 46311.15 | 46311.1 | DR | 23 | 46111.1 | LAMP #1-3 HIGH LAMP STARTS | Alarm | OK | |
| 851 | UV2300\DI\Lamp_2_1_Hi_Starts | 46311.14 | 46311.2 | DR | 23 | 46111.2 | LAMP #2-1 HIGH LAMP STARTS | Alarm | OK | |
| 852 | UV2300\DI\Lamp_2_2_Hi_Starts | 46311.13 | 46311.3 | DR | 23 | 46111.3 | LAMP #2-2 HIGH LAMP STARTS | Alarm | OK | |
| 853 | UV2300\DI\Lamp_2_3_Hi_Starts | 46311.12 | 46311.4 | DR | 23 | 46111.4 | LAMP #2-3 HIGH LAMP STARTS | Alarm | OK | |
| 854 | UV2300\DI\Lamp_3_1_Hi_Starts | 46311.11 | 46311.5 | DR | 23 | 46111.5 | LAMP #3-1 HIGH LAMP STARTS | Alarm | OK | |
| 855 | UV2300\DI\Lamp_3_2_Hi_Starts | 46311.10 | 46311.6 | DR | 23 | 46111.6 | LAMP #3-2 HIGH LAMP STARTS | Alarm | OK | |
| 856 | UV2300\DI\Lamp_3_3_Hi_Starts | 46311.9 | 46311.7 | DR | 23 | 46111.7 | LAMP #3-3 HIGH LAMP STARTS | Alarm | OK | |
| 857 | UV2300\DI\Lamp_1_1_Start_Fail | 46311.8 | 46311.8 | DR | 23 | 46111.8 | LAMP #1-1 LAMP START FAILURE | Alarm | OK | |
| 858 | UV2300\DI\Lamp_1_2_Start_Fail | 46311.7 | 46311.9 | DR | 23 | 46111.9 | LAMP #1-2 LAMP START FAILURE | Alarm | OK | |
| 859 | UV2300\DI\Lamp_1_3_Start_Fail | 46311.6 | 46311.10 | DR | 23 | 46111.10 | LAMP #1-3 LAMP START FAILURE | Alarm | OK | |
| 860 | UV2300\DI\Lamp_2_1_Start_Fail | 46311.5 | 46311.11 | DR | 23 | 46111.11 | LAMP #2-1 LAMP START FAILURE | Alarm | OK | |

## UVM Communication Database

| DIGITAL - Reactor to RSView (UVM) | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Item # | Tagname/Symbol | Kepware Address | UVM PLC Address | Type | MB+ Node | Unit PLC Address | Description | Set State (1) | Reset State (0) | Comments |
| 861 | UV2300\DI\Lamp_2_2_Start_Fail | 46311.4 | 46311.12 | DR | 23 | 46111.12 | LAMP #2-2 LAMP START FAILURE | Alarm | OK | |
| 862 | UV2300\DI\Lamp_2_3_Start_Fail | 46311.3 | 46311.13 | DR | 23 | 46111.13 | LAMP #2-3 LAMP START FAILURE | Alarm | OK | |
| 863 | UV2300\DI\Lamp_3_1_Start_Fail | 46311.2 | 46311.14 | DR | 23 | 46111.14 | LAMP #3-1 LAMP START FAILURE | Alarm | OK | |
| 864 | UV2300\DI\Lamp_3_2_Start_Fail | 46311.1 | 46311.15 | DR | 23 | 46111.15 | LAMP #3-2 LAMP START FAILURE | Alarm | OK | |
| 865 | UV2300\DI\Lamp_3_3_Start_Fail | 46311.0 | 46311.16 | DR | 23 | 46111.16 | LAMP #3-3 LAMP START FAILURE | Alarm | OK | |
| 866 | UV2300\DI\Low_UV_Dose | 46312.15 | 46312.1 | DR | 23 | 46112.1 | LOW UV DOSE | Alarm | OK | |
| 867 | UV2300\DI\Low_Low_UV_Dose | 46312.14 | 46312.2 | DR | 23 | 46112.2 | LOW LOW UV DOSE | Alarm | OK | |
| 868 | UV2300\DI\Low_Water_Flow | 46312.13 | 46312.3 | DR | 23 | 46112.3 | LOW WATER FLOW | Alarm | OK | |
| 869 | UV2300\DI\Lmp_Bnk1_Brush_Flt | 46312.12 | 46312.4 | DR | 23 | 46112.4 | LAMP BANK #1 BRUSH CYCLE FAULT | Alarm | OK | |
| 870 | UV2300\DI\Lmp_Bnk2_Brush_Flt | 46312.11 | 46312.5 | DR | 23 | 46112.5 | LAMP BANK #2 BRUSH CYCLE FAULT | Alarm | OK | |
| 871 | UV2300\DI\Lmp_Bnk3_Brush_Flt | 46312.10 | 46312.6 | DR | 23 | 46112.6 | LAMP BANK #3 BRUSH CYCLE FAULT | Alarm | OK | |
| 872 | UV2300\DI\Lmp_Bnk1_Hi_Amps | 46312.9 | 46312.7 | DR | 23 | 46112.7 | LAMP BANK #1 BRUSH DRIVE HIGH AMPS | Alarm | OK | |
| 873 | UV2300\DI\Lmp_Bnk2_Hi_Amps | 46312.8 | 46312.8 | DR | 23 | 46112.8 | LAMP BANK #2 BRUSH DRIVE HIGH AMPS | Alarm | OK | |
| 874 | UV2300\DI\Lmp_Bnk3_Hi_Amps | 46312.7 | 46312.9 | DR | 23 | 46112.9 | LAMP BANK #3 BRUSH DRIVE HIGH AMPS | Alarm | OK | |
| 875 | UV2300\DI\Lamp_1_1_OpenCap_Start | 46312.4 | 46312.12 | DR | 23 | 46112.12 | LAMP 1-1 OPEN CAPACITOR@STARTUP | Alarm | OK | Capacitor failure monitoring |
| 876 | UV2300\DI\Lamp_1_2_OpenCap_Start | 46312.3 | 46312.13 | DR | 23 | 46112.13 | LAMP 1-2 OPEN CAPACITOR@STARTUP | Alarm | OK | Capacitor failure monitoring |
| 877 | UV2300\DI\Lamp_1_3_OpenCap_Start | 46312.2 | 46312.14 | DR | 23 | 46112.14 | LAMP 1-3 OPEN CAPACITOR@STARTUP | Alarm | OK | Capacitor failure monitoring |
| 878 | UV2300\DI\Lamp_2_1_OpenCap_Start | 46312.1 | 46312.15 | DR | 23 | 46112.15 | LAMP 2-1 OPEN CAPACITOR@STARTUP | Alarm | OK | Capacitor failure monitoring |
| 879 | UV2300\DI\Lamp_2_2_OpenCap_Start | 46312.0 | 46312.16 | DR | 23 | 46112.16 | LAMP 2-2 OPEN CAPACITOR@STARTUP | Alarm | OK | Capacitor failure monitoring |
| 880 | UV2300\DI\Lamp_2_3_OpenCap_Start | 46313.15 | 46313.1 | DR | 23 | 46113.1 | LAMP 2-3 OPEN CAPACITOR@STARTUP | Alarm | OK | Capacitor failure monitoring |
| 881 | UV2300\DI\Lamp_3_1_OpenCap_Start | 46313.14 | 46313.2 | DR | 23 | 46113.2 | LAMP 3-1 OPEN CAPACITOR@STARTUP | Alarm | OK | Capacitor failure monitoring |
| 882 | UV2300\DI\Lamp_3_2_OpenCap_Start | 46313.13 | 46313.3 | DR | 23 | 46113.3 | LAMP 3-2 OPEN CAPACITOR@STARTUP | Alarm | OK | Capacitor failure monitoring |
| 883 | UV2300\DI\Lamp_3_3_OpenCap_Start | 46313.12 | 46313.4 | DR | 23 | 46113.4 | LAMP 3-3 OPEN CAPACITOR@STARTUP | Alarm | OK | Capacitor failure monitoring |
| 884 | UV2300\DI\Lamp_1_1_ShortCap_Start | 46313.11 | 46313.5 | DR | 23 | 46113.5 | LAMP 1-1 SHORTED CAPACITOR@STARTUP | Alarm | OK | Capacitor failure monitoring |
| 885 | UV2300\DI\Lamp_1_2_ShortCap_Start | 46313.10 | 46313.6 | DR | 23 | 46113.6 | LAMP 1-2 SHORTED CAPACITOR@STARTUP | Alarm | OK | Capacitor failure monitoring |
| 886 | UV2300\DI\Lamp_1_3_ShortCap_Start | 46313.9 | 46313.7 | DR | 23 | 46113.7 | LAMP 1-3 SHORTED CAPACITOR@STARTUP | Alarm | OK | Capacitor failure monitoring |
| 887 | UV2300\DI\Lamp_2_1_ShortCap_Start | 46313.8 | 46313.8 | DR | 23 | 46113.8 | LAMP 2-1 SHORTED CAPACITOR@STARTUP | Alarm | OK | Capacitor failure monitoring |
| 888 | UV2300\DI\Lamp_2_2_ShortCap_Start | 46313.7 | 46313.9 | DR | 23 | 46113.9 | LAMP 2-2 SHORTED CAPACITOR@STARTUP | Alarm | OK | Capacitor failure monitoring |
| 889 | UV2300\DI\Lamp_2_3_ShortCap_Start | 46313.6 | 46313.10 | DR | 23 | 46113.10 | LAMP 2-3 SHORTED CAPACITOR@STARTUP | Alarm | OK | Capacitor failure monitoring |
| 890 | UV2300\DI\Lamp_3_1_ShortCap_Start | 46313.5 | 46313.11 | DR | 23 | 46113.11 | LAMP 3-1 SHORTED CAPACITOR@STARTUP | Alarm | OK | Capacitor failure monitoring |
| 891 | UV2300\DI\Lamp_3_2_ShortCap_Start | 46313.4 | 46313.12 | DR | 23 | 46113.12 | LAMP 3-2 SHORTED CAPACITOR@STARTUP | Alarm | OK | Capacitor failure monitoring |
| 892 | UV2300\DI\Lamp_3_3_ShortCap_Start | 46313.3 | 46313.13 | DR | 23 | 46113.13 | LAMP 3-3 SHORTED CAPACITOR@STARTUP | Alarm | OK | Capacitor failure monitoring |
| 893 | UV2300\DI\Lamp_1_1_OpenCap_100pct | 46313.2 | 46313.14 | DR | 23 | 46113.14 | LAMP 1-1 OPEN CAPACITOR@100% POWER | Alarm | OK | Capacitor failure monitoring |
| 894 | UV2300\DI\Lamp_1_2_OpenCap_100pct | 46313.1 | 46313.15 | DR | 23 | 46113.15 | LAMP 1-2 OPEN CAPACITOR@100% POWER | Alarm | OK | Capacitor failure monitoring |
| 895 | UV2300\DI\Lamp_1_3_OpenCap_100pct | 46313.0 | 46313.16 | DR | 23 | 46113.16 | LAMP 1-3 OPEN CAPACITOR@100% POWER | Alarm | OK | Capacitor failure monitoring |
| 896 | UV2300\DI\Lamp_2_1_OpenCap_100pct | 46314.15 | 46314.1 | DR | 23 | 46114.1 | LAMP 2-1 OPEN CAPACITOR@100% POWER | Alarm | OK | Capacitor failure monitoring |
| 897 | UV2300\DI\Lamp_2_2_OpenCap_100pct | 46314.14 | 46314.2 | DR | 23 | 46114.2 | LAMP 2-2 OPEN CAPACITOR@100% POWER | Alarm | OK | Capacitor failure monitoring |
| 898 | UV2300\DI\Lamp_2_3_OpenCap_100pct | 46314.13 | 46314.3 | DR | 23 | 46114.3 | LAMP 2-3 OPEN CAPACITOR@100% POWER | Alarm | OK | Capacitor failure monitoring |
| 899 | UV2300\DI\Lamp_3_1_OpenCap_100pct | 46314.12 | 46314.4 | DR | 23 | 46114.4 | LAMP 3-1 OPEN CAPACITOR@100% POWER | Alarm | OK | Capacitor failure monitoring |
| 900 | UV2300\DI\Lamp_3_2_OpenCap_100pct | 46314.11 | 46314.5 | DR | 23 | 46114.5 | LAMP 3-2 OPEN CAPACITOR@100% POWER | Alarm | OK | Capacitor failure monitoring |
| 901 | UV2300\DI\Lamp_3_3_OpenCap_100pct | 46314.10 | 46314.6 | DR | 23 | 46114.6 | LAMP 3-3 OPEN CAPACITOR@100% POWER | Alarm | OK | Capacitor failure monitoring |
| 902 | UV2300\DI\Lamp_1_1_ShortCap_100pct | 46314.9 | 46314.7 | DR | 23 | 46114.7 | LAMP 1-1 SHORTED CAPACITOR@100% POW | Alarm | OK | Capacitor failure monitoring |
| 903 | UV2300\DI\Lamp_1_2_ShortCap_100pct | 46314.8 | 46314.8 | DR | 23 | 46114.8 | LAMP 1-2 SHORTED CAPACITOR@100% POW | Alarm | OK | Capacitor failure monitoring |
| 904 | UV2300\DI\Lamp_1_3_ShortCap_100pct | 46314.7 | 46314.9 | DR | 23 | 46114.9 | LAMP 1-3 SHORTED CAPACITOR@100% POW | Alarm | OK | Capacitor failure monitoring |
| 905 | UV2300\DI\Lamp_2_1_ShortCap_100pct | 46314.6 | 46314.10 | DR | 23 | 46114.10 | LAMP 2-1 SHORTED CAPACITOR@100% POW | Alarm | OK | Capacitor failure monitoring |
| 906 | UV2300\DI\Lamp_2_2_ShortCap_100pct | 46314.5 | 46314.11 | DR | 23 | 46114.11 | LAMP 2-2 SHORTED CAPACITOR@100% POW | Alarm | OK | Capacitor failure monitoring |
| 907 | UV2300\DI\Lamp_2_3_ShortCap_100pct | 46314.4 | 46314.12 | DR | 23 | 46114.12 | LAMP 2-3 SHORTED CAPACITOR@100% POW | Alarm | OK | Capacitor failure monitoring |
| 908 | UV2300\DI\Lamp_3_1_ShortCap_100pct | 46314.3 | 46314.13 | DR | 23 | 46114.13 | LAMP 3-1 SHORTED CAPACITOR@100% POW | Alarm | OK | Capacitor failure monitoring |
| 909 | UV2300\DI\Lamp_3_2_ShortCap_100pct | 46314.2 | 46314.14 | DR | 23 | 46114.14 | LAMP 3-2 SHORTED CAPACITOR@100% POW | Alarm | OK | Capacitor failure monitoring |
| 910 | UV2300\DI\Lamp_3_3_ShortCap_100pct | 46314.1 | 46314.15 | DR | 23 | 46114.15 | LAMP 3-3 SHORTED CAPACITOR@100% POW | Alarm | OK | Capacitor failure monitoring |
| | | | | | | | | | | |
| 911 | UV2400\DI\On_Off_Status | 46425.15 | 46425.1 | DR | 24 | 46100.1 | To RSView - Reactor On/Off Status | On | Off | |
| 912 | UV2400\DI\Rem_Lcl_Control | 46426.15 | 46426.1 | DR | 24 | 46101.1 | To RSView - Remote/Local [Rem=1] | Remote | Local | |
| 913 | UV2400\DI\Wiper1_Auto_Man | 46426.14 | 46426.2 | DR | 24 | 46101.2 | To RSView - Wiper #1 Auto/Man [Auto=1] | Auto | Manual | |

## UVM Communication Database

| DIGITAL - Reactor to RSView (UVM) | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Item # | Tagname/Symbol | Kepware Address | UVM PLC Address | Type | MB+ Node | Unit PLC Address | Description | Set State (1) | Reset State (0) | Comments |
| 914 | UV2400\DI\Wiper2_Auto_Man | 46426.13 | 46426.3 | DR | 24 | 46101.3 | To RSView - Wiper #2 Auto/Man [Auto=1] | Auto | Manual | |
| 915 | UV2400\DI\Wiper3_Auto_Man | 46426.12 | 46426.4 | DR | 24 | 46101.4 | To RSView - Wiper #3 Auto/Man [Auto=1] | Auto | Manual | |
| 916 | UV2400\DI\Bank1_Auto_Man | 46426.11 | 46426.5 | DR | 24 | 46101.5 | To RSView - Lamp Bank #1 Auto/Man [Auto=1] | Auto | Manual | |
| 917 | UV2400\DI\Bank1_KW_Out | 46426.10 | 46426.6 | DR | 24 | 46101.6 | To RSView - Lamp Bank #1 kW/%Out [kW=1] | kW | % Output | Lamp Manual Mode Only |
| 918 | UV2400\DI\Bank2_Auto_Man | 46426.9 | 46426.7 | DR | 24 | 46101.7 | To RSView - Lamp Bank #2 Auto/Man [Auto=1] | Auto | Manual | |
| 919 | UV2400\DI\Bank2_KW_Out | 46426.8 | 46426.8 | DR | 24 | 46101.8 | To RSView - Lamp Bank #2 kW/%Out [kW=1] | kW | % Output | Lamp Manual Mode Only |
| 920 | UV2400\DI\Bank3_Auto_Man | 46426.7 | 46426.9 | DR | 24 | 46101.9 | To RSView - Lamp Bank #3 Auto/Man [Auto=1] | Auto | Manual | |
| 921 | UV2400\DI\Bank3_KW_Out | 46426.6 | 46426.10 | DR | 24 | 46101.10 | To RSView - Lamp Bank #3 kW/%Out [kW=1] | kW | % Output | Lamp Manual Mode Only |
| 922 | UV2400\DI\Lamp_1_1_ON | 46427.15 | 46427.1 | DR | 24 | 46102.1 | To RSView - Lamp #1-1 On Status [On=1] | On | Off | Lamp Contactor Output Status |
| 923 | UV2400\DI\Lamp_1_2_ON | 46427.14 | 46427.2 | DR | 24 | 46102.2 | To RSView - Lamp #1-2 On Status [On=1] | On | Off | Lamp Contactor Output Status |
| 924 | UV2400\DI\Lamp_1_3_ON | 46427.13 | 46427.3 | DR | 24 | 46102.3 | To RSView - Lamp #1-3 On Status [On=1] | On | Off | Lamp Contactor Output Status |
| 925 | UV2400\DI\Lamp_2_1_ON | 46427.12 | 46427.4 | DR | 24 | 46102.4 | To RSView - Lamp #2-1 On Status [On=1] | On | Off | Lamp Contactor Output Status |
| 926 | UV2400\DI\Lamp_2_2_ON | 46427.11 | 46427.5 | DR | 24 | 46102.5 | To RSView - Lamp #2-2 On Status [On=1] | On | Off | Lamp Contactor Output Status |
| 927 | UV2400\DI\Lamp_2_3_ON | 46427.10 | 46427.6 | DR | 24 | 46102.6 | To RSView - Lamp #2-3 On Status [On=1] | On | Off | Lamp Contactor Output Status |
| 928 | UV2400\DI\Lamp_3_1_ON | 46427.9 | 46427.7 | DR | 24 | 46102.7 | To RSView - Lamp #3-1 On Status [On=1] | On | Off | Lamp Contactor Output Status |
| 929 | UV2400\DI\Lamp_3_2_ON | 46427.8 | 46427.8 | DR | 24 | 46102.8 | To RSView - Lamp #3-2 On Status [On=1] | On | Off | Lamp Contactor Output Status |
| 930 | UV2400\DI\Lamp_3_3_ON | 46427.7 | 46427.9 | DR | 24 | 46102.9 | To RSView - Lamp #3-3 On Status [On=1] | On | Off | Lamp Contactor Output Status |
| 931 | UV2400\DI\UV_Val_Mode | 46428.15 | 46428.1 | DR | 24 | 46103.1 | To RSView - UV Validation Mode | UV | Dose | |
| 932 | UV2400\DI\PLC_Battery | 46428.14 | 46428.2 | DR | 24 | 46103.2 | To RSView - CPU Battery Status | OK | Low | |
| 933 | UV2400\DI\PLC_Major_Error | 46428.13 | 46428.3 | DR | 24 | 46103.3 | To RSView - CPU Major Error Status | OK | Error | |
| 934 | UV2400\DI\PLC_Forces | 46428.12 | 46428.4 | DR | 24 | 46103.4 | To RSView - CPU Forces Status | None | Enabled | |
| 935 | UV2400\DI\PLC\DISCONN | 46428.11 | 46428.5 | DR | 24 | | PLC Communication Failed | Alarm | OK | |
| 936 | UV2400\DI\E_STOP | 46430.15 | 46430.1 | DR | 24 | 46105.1 | EMERGENCY STOP | Alarm | OK | |
| 937 | UV2400\DI\Lamp_1_1_Gnd_Flt | 46430.14 | 46430.2 | DR | 24 | 46105.2 | LAMP #1-1 GROUND FAULT | Alarm | OK | |
| 938 | UV2400\DI\Lamp_1_2_Gnd_Flt | 46430.13 | 46430.3 | DR | 24 | 46105.3 | LAMP #1-2 GROUND FAULT | Alarm | OK | |
| 939 | UV2400\DI\Lamp_1_3_Gnd_Flt | 46430.12 | 46430.4 | DR | 24 | 46105.4 | LAMP #1-3 GROUND FAULT | Alarm | OK | |
| 940 | UV2400\DI\Lamp_2_1_Gnd_Flt | 46430.11 | 46430.5 | DR | 24 | 46105.5 | LAMP #2-1 GROUND FAULT | Alarm | OK | |
| 941 | UV2400\DI\Lamp_2_2_Gnd_Flt | 46430.10 | 46430.6 | DR | 24 | 46105.6 | LAMP #2-2 GROUND FAULT | Alarm | OK | |
| 942 | UV2400\DI\Lamp_2_3_Gnd_Flt | 46430.9 | 46430.7 | DR | 24 | 46105.7 | LAMP #2-3 GROUND FAULT | Alarm | OK | |
| 943 | UV2400\DI\Lamp_3_1_Gnd_Flt | 46430.8 | 46430.8 | DR | 24 | 46105.8 | LAMP #3-1 GROUND FAULT | Alarm | OK | |
| 944 | UV2400\DI\Lamp_3_2_Gnd_Flt | 46430.7 | 46430.9 | DR | 24 | 46105.9 | LAMP #3-2 GROUND FAULT | Alarm | OK | |
| 945 | UV2400\DI\Lamp_3_3_Gnd_Flt | 46430.6 | 46430.10 | DR | 24 | 46105.10 | LAMP #3-3 GROUND FAULT | Alarm | OK | |
| 946 | UV2400\DI\Lamp_Bank1_Moisture | 46430.5 | 46430.11 | DR | 24 | 46105.11 | LAMP BANK #1 MOISTURE DETECTED | Alarm | OK | |
| 947 | UV2400\DI\Lamp_Bank2_Moisture | 46430.4 | 46430.12 | DR | 24 | 46105.12 | LAMP BANK #2 MOISTURE DETECTED | Alarm | OK | |
| 948 | UV2400\DI\Lamp_Bank3_Moisture | 46430.3 | 46430.13 | DR | 24 | 46105.13 | LAMP BANK #3 MOISTURE DETECTED | Alarm | OK | |
| 949 | UV2400\DI\React_Hi_Temp | 46430.2 | 46430.14 | DR | 24 | 46105.14 | REACTOR HIGH TEMPERATURE | Alarm | OK | |
| 950 | UV2400\DI\Lamp_1_1_Xfmr_Hi_Temp | 46430.1 | 46430.15 | DR | 24 | 46105.15 | LAMP #1-1 XFMR/SAT. CORE HIGH TEMP. | Alarm | OK | |
| 951 | UV2400\DI\Lamp_1_2_Xfmr_Hi_Temp | 46430.0 | 46430.16 | DR | 24 | 46105.16 | LAMP #1-2 XFMR/SAT. CORE HIGH TEMP. | Alarm | OK | |
| 952 | UV2400\DI\Lamp_1_3_Xfmr_Hi_Temp | 46431.15 | 46431.1 | DR | 24 | 46106.1 | LAMP #1-3 XFMR/SAT. CORE HIGH TEMP. | Alarm | OK | |
| 953 | UV2400\DI\Lamp_2_1_Xfmr_Hi_Temp | 46431.14 | 46431.2 | DR | 24 | 46106.2 | LAMP #2-1 XFMR/SAT. CORE HIGH TEMP. | Alarm | OK | |
| 954 | UV2400\DI\Lamp_2_2_Xfmr_Hi_Temp | 46431.13 | 46431.3 | DR | 24 | 46106.3 | LAMP #2-2 XFMR/SAT. CORE HIGH TEMP. | Alarm | OK | |
| 955 | UV2400\DI\Lamp_2_3_Xfmr_Hi_Temp | 46431.12 | 46431.4 | DR | 24 | 46106.4 | LAMP #2-3 XFMR/SAT. CORE HIGH TEMP. | Alarm | OK | |
| 956 | UV2400\DI\Lamp_3_1_Xfmr_Hi_Temp | 46431.11 | 46431.5 | DR | 24 | 46106.5 | LAMP #3-1 XFMR/SAT. CORE HIGH TEMP. | Alarm | OK | |
| 957 | UV2400\DI\Lamp_3_2_Xfmr_Hi_Temp | 46431.10 | 46431.6 | DR | 24 | 46106.6 | LAMP #3-2 XFMR/SAT. CORE HIGH TEMP. | Alarm | OK | |
| 958 | UV2400\DI\Lamp_3_3_Xfmr_Hi_Temp | 46431.9 | 46431.7 | DR | 24 | 46106.7 | LAMP #3-3 XFMR/SAT. CORE HIGH TEMP. | Alarm | OK | |
| 959 | UV2400\DI\Power_Cab_Hot | 46431.8 | 46431.8 | DR | 24 | 46106.8 | POWER CABINETS HOT | Alarm | OK | |
| 960 | UV2400\DI\Power_Cab_Door_Open | 46431.7 | 46431.9 | DR | 24 | 46106.9 | POWER CABINETS DOOR OPEN | Alarm | OK | |
| 961 | UV2400\DI\Lmp_Bnk1_React_Cov_OP | 46431.6 | 46431.10 | DR | 24 | 46106.10 | LAMP BANK #1 REACTOR COVER OPEN | Alarm | OK | |
| 962 | UV2400\DI\Lmp_Bnk2_React_Cov_OP | 46431.5 | 46431.11 | DR | 24 | 46106.11 | LAMP BANK #2 REACTOR COVER OPEN | Alarm | OK | |
| 963 | UV2400\DI\Lmp_Bnk3_React_Cov_OP | 46431.4 | 46431.12 | DR | 24 | 46106.12 | LAMP BANK #3 REACTOR COVER OPEN | Alarm | OK | |
| 964 | UV2400\DI\Lamp_1_1_UV_Lo_Flt | 46431.3 | 46431.13 | DR | 24 | 46106.13 | LAMP #1-1 UV SENSOR LOW FAULT | Alarm | OK | |
| 965 | UV2400\DI\Lamp_1_2_UV_Lo_Flt | 46431.2 | 46431.14 | DR | 24 | 46106.14 | LAMP #1-2 UV SENSOR LOW FAULT | Alarm | OK | |
| 966 | UV2400\DI\Lamp_1_3_UV_Lo_Flt | 46431.1 | 46431.15 | DR | 24 | 46106.15 | LAMP #1-3 UV SENSOR LOW FAULT | Alarm | OK | |
| 967 | UV2400\DI\Lamp_2_1_UV_Lo_Flt | 46431.0 | 46431.16 | DR | 24 | 46106.16 | LAMP #2-1 UV SENSOR LOW FAULT | Alarm | OK | |

## UVM Communication Database

| DIGITAL - Reactor to RSView (UVM) | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Item # | Tagname/Symbol | Kepware Address | UVM PLC Address | Type | MB+ Node | Unit PLC Address | Description | Set State (1) | Reset State (0) | Comments |
| 968 | UV2400\DI\Lamp_2_2_UV_Lo_Flt | 46432.15 | 46432.1 | DR | 24 | 46107.1 | LAMP #2-2 UV SENSOR LOW FAULT | Alarm | OK | |
| 969 | UV2400\DI\Lamp_2_3_UV_Lo_Flt | 46432.14 | 46432.2 | DR | 24 | 46107.2 | LAMP #2-3 UV SENSOR LOW FAULT | Alarm | OK | |
| 970 | UV2400\DI\Lamp_3_1_UV_Lo_Flt | 46432.13 | 46432.3 | DR | 24 | 46107.3 | LAMP #3-1 UV SENSOR LOW FAULT | Alarm | OK | |
| 971 | UV2400\DI\Lamp_3_2_UV_Lo_Flt | 46432.12 | 46432.4 | DR | 24 | 46107.4 | LAMP #3-2 UV SENSOR LOW FAULT | Alarm | OK | |
| 972 | UV2400\DI\Lamp_3_3_UV_Lo_Flt | 46432.11 | 46432.5 | DR | 24 | 46107.5 | LAMP #3-3 UV SENSOR LOW FAULT | Alarm | OK | |
| 973 | UV2400\DI\Lamp_1_1_UV_Hi_Flt | 46432.10 | 46432.6 | DR | 24 | 46107.6 | LAMP #1-1 UV SENSOR HIGH FAULT | Alarm | OK | |
| 974 | UV2400\DI\Lamp_1_2_UV_Hi_Flt | 46432.9 | 46432.7 | DR | 24 | 46107.7 | LAMP #1-2 UV SENSOR HIGH FAULT | Alarm | OK | |
| 975 | UV2400\DI\Lamp_1_3_UV_Hi_Flt | 46432.8 | 46432.8 | DR | 24 | 46107.8 | LAMP #1-3 UV SENSOR HIGH FAULT | Alarm | OK | |
| 976 | UV2400\DI\Lamp_2_1_UV_Hi_Flt | 46432.7 | 46432.9 | DR | 24 | 46107.9 | LAMP #2-1 UV SENSOR HIGH FAULT | Alarm | OK | |
| 977 | UV2400\DI\Lamp_2_2_UV_Hi_Flt | 46432.6 | 46432.10 | DR | 24 | 46107.10 | LAMP #2-2 UV SENSOR HIGH FAULT | Alarm | OK | |
| 978 | UV2400\DI\Lamp_2_3_UV_Hi_Flt | 46432.5 | 46432.11 | DR | 24 | 46107.11 | LAMP #2-3 UV SENSOR HIGH FAULT | Alarm | OK | |
| 979 | UV2400\DI\Lamp_3_1_UV_Hi_Flt | 46432.4 | 46432.12 | DR | 24 | 46107.12 | LAMP #3-1 UV SENSOR HIGH FAULT | Alarm | OK | |
| 980 | UV2400\DI\Lamp_3_2_UV_Hi_Flt | 46432.3 | 46432.13 | DR | 24 | 46107.13 | LAMP #3-2 UV SENSOR HIGH FAULT | Alarm | OK | |
| 981 | UV2400\DI\Lamp_3_3_UV_Hi_Flt | 46432.2 | 46432.14 | DR | 24 | 46107.14 | LAMP #3-3 UV SENSOR HIGH FAULT | Alarm | OK | |
| 982 | UV2400\DI\Lamp_1_1_UV_Fail_Flt | 46432.1 | 46432.15 | DR | 24 | 46107.15 | LAMP #1-1 UV SENSOR FAILED FAULT | Alarm | OK | |
| 983 | UV2400\DI\Lamp_1_2_UV_Fail_Flt | 46432.0 | 46432.16 | DR | 24 | 46107.16 | LAMP #1-2 UV SENSOR FAILED FAULT | Alarm | OK | |
| 984 | UV2400\DI\Lamp_1_3_UV_Fail_Flt | 46433.15 | 46433.1 | DR | 24 | 46108.1 | LAMP #1-3 UV SENSOR FAILED FAULT | Alarm | OK | |
| 985 | UV2400\DI\Lamp_2_1_UV_Fail_Flt | 46433.14 | 46433.2 | DR | 24 | 46108.2 | LAMP #2-1 UV SENSOR FAILED FAULT | Alarm | OK | |
| 986 | UV2400\DI\Lamp_2_2_UV_Fail_Flt | 46433.13 | 46433.3 | DR | 24 | 46108.3 | LAMP #2-2 UV SENSOR FAILED FAULT | Alarm | OK | |
| 987 | UV2400\DI\Lamp_2_3_UV_Fail_Flt | 46433.12 | 46433.4 | DR | 24 | 46108.4 | LAMP #2-3 UV SENSOR FAILED FAULT | Alarm | OK | |
| 988 | UV2400\DI\Lamp_3_1_UV_Fail_Flt | 46433.11 | 46433.5 | DR | 24 | 46108.5 | LAMP #3-1 UV SENSOR FAILED FAULT | Alarm | OK | |
| 989 | UV2400\DI\Lamp_3_2_UV_Fail_Flt | 46433.10 | 46433.6 | DR | 24 | 46108.6 | LAMP #3-2 UV SENSOR FAILED FAULT | Alarm | OK | |
| 990 | UV2400\DI\Lamp_3_3_UV_Fail_Flt | 46433.9 | 46433.7 | DR | 24 | 46108.7 | LAMP #3-3 UV SENSOR FAILED FAULT | Alarm | OK | |
| 991 | UV2400\DI\Lamp_1_1_UV_Cal_Flt | 46433.8 | 46433.8 | DR | 24 | 46108.8 | LAMP #1-1 UV SENSOR OUT OF CAL. | Alarm | OK | |
| 992 | UV2400\DI\Lamp_1_2_UV_Cal_Flt | 46433.7 | 46433.9 | DR | 24 | 46108.9 | LAMP #1-2 UV SENSOR OUT OF CAL. | Alarm | OK | |
| 993 | UV2400\DI\Lamp_1_3_UV_Cal_Flt | 46433.6 | 46433.10 | DR | 24 | 46108.10 | LAMP #1-3 UV SENSOR OUT OF CAL. | Alarm | OK | |
| 994 | UV2400\DI\Lamp_2_1_UV_Cal_Flt | 46433.5 | 46433.11 | DR | 24 | 46108.11 | LAMP #2-1 UV SENSOR OUT OF CAL. | Alarm | OK | |
| 995 | UV2400\DI\Lamp_2_2_UV_Cal_Flt | 46433.4 | 46433.12 | DR | 24 | 46108.12 | LAMP #2-2 UV SENSOR OUT OF CAL. | Alarm | OK | |
| 996 | UV2400\DI\Lamp_2_3_UV_Cal_Flt | 46433.3 | 46433.13 | DR | 24 | 46108.13 | LAMP #2-3 UV SENSOR OUT OF CAL. | Alarm | OK | |
| 997 | UV2400\DI\Lamp_3_1_UV_Cal_Flt | 46433.2 | 46433.14 | DR | 24 | 46108.14 | LAMP #3-1 UV SENSOR OUT OF CAL. | Alarm | OK | |
| 998 | UV2400\DI\Lamp_3_2_UV_Cal_Flt | 46433.1 | 46433.15 | DR | 24 | 46108.15 | LAMP #3-2 UV SENSOR OUT OF CAL. | Alarm | OK | |
| 999 | UV2400\DI\Lamp_3_3_UV_Cal_Flt | 46433.0 | 46433.16 | DR | 24 | 46108.16 | LAMP #3-3 UV SENSOR OUT OF CAL. | Alarm | OK | |
| 1000 | UV2400\DI\Lamp_1_1_Low_Amps | 46434.15 | 46434.1 | DR | 24 | 46109.1 | LAMP #1-1 LOW AMPS | Alarm | OK | |
| 1001 | UV2400\DI\Lamp_1_2_Low_Amps | 46434.14 | 46434.2 | DR | 24 | 46109.2 | LAMP #1-2 LOW AMPS | Alarm | OK | |
| 1002 | UV2400\DI\Lamp_1_3_Low_Amps | 46434.13 | 46434.3 | DR | 24 | 46109.3 | LAMP #1-3 LOW AMPS | Alarm | OK | |
| 1003 | UV2400\DI\Lamp_2_1_Low_Amps | 46434.12 | 46434.4 | DR | 24 | 46109.4 | LAMP #2-1 LOW AMPS | Alarm | OK | |
| 1004 | UV2400\DI\Lamp_2_2_Low_Amps | 46434.11 | 46434.5 | DR | 24 | 46109.5 | LAMP #2-2 LOW AMPS | Alarm | OK | |
| 1005 | UV2400\DI\Lamp_2_3_Low_Amps | 46434.10 | 46434.6 | DR | 24 | 46109.6 | LAMP #2-3 LOW AMPS | Alarm | OK | |
| 1006 | UV2400\DI\Lamp_3_1_Low_Amps | 46434.9 | 46434.7 | DR | 24 | 46109.7 | LAMP #3-1 LOW AMPS | Alarm | OK | |
| 1007 | UV2400\DI\Lamp_3_2_Low_Amps | 46434.8 | 46434.8 | DR | 24 | 46109.8 | LAMP #3-2 LOW AMPS | Alarm | OK | |
| 1008 | UV2400\DI\Lamp_3_3_Low_Amps | 46434.7 | 46434.9 | DR | 24 | 46109.9 | LAMP #3-3 LOW AMPS | Alarm | OK | |
| 1009 | UV2400\DI\Lamp_1_1_Hi_Amps | 46434.6 | 46434.10 | DR | 24 | 46109.10 | LAMP #1-1 HIGH AMPS | Alarm | OK | |
| 1010 | UV2400\DI\Lamp_1_2_Hi_Amps | 46434.5 | 46434.11 | DR | 24 | 46109.11 | LAMP #1-2 HIGH AMPS | Alarm | OK | |
| 1011 | UV2400\DI\Lamp_1_3_Hi_Amps | 46434.4 | 46434.12 | DR | 24 | 46109.12 | LAMP #1-3 HIGH AMPS | Alarm | OK | |
| 1012 | UV2400\DI\Lamp_2_1_Hi_Amps | 46434.3 | 46434.13 | DR | 24 | 46109.13 | LAMP #2-1 HIGH AMPS | Alarm | OK | |
| 1013 | UV2400\DI\Lamp_2_2_Hi_Amps | 46434.2 | 46434.14 | DR | 24 | 46109.14 | LAMP #2-2 HIGH AMPS | Alarm | OK | |
| 1014 | UV2400\DI\Lamp_2_3_Hi_Amps | 46434.1 | 46434.15 | DR | 24 | 46109.15 | LAMP #2-3 HIGH AMPS | Alarm | OK | |
| 1015 | UV2400\DI\Lamp_3_1_Hi_Amps | 46434.0 | 46434.16 | DR | 24 | 46109.16 | LAMP #3-1 HIGH AMPS | Alarm | OK | |
| 1016 | UV2400\DI\Lamp_3_2_Hi_Amps | 46435.15 | 46435.1 | DR | 24 | 46110.1 | LAMP #3-2 HIGH AMPS | Alarm | OK | |
| 1017 | UV2400\DI\Lamp_3_3_Hi_Amps | 46435.14 | 46435.2 | DR | 24 | 46110.2 | LAMP #3-3 HIGH AMPS | Alarm | OK | |
| 1018 | UV2400\DI\PLC_Error | 46435.13 | 46435.3 | DR | 24 | 46110.3 | PLC ERROR | Alarm | OK | |
| 1019 | UV2400\DI\PLC_Low_Battery | 46435.12 | 46435.4 | DR | 24 | 46110.4 | PLC LOW BATTERY | Alarm | OK | |
| 1020 | UV2400\DI\PLC_I/O_Fail | 46435.11 | 46435.5 | DR | 24 | 46110.5 | I/O CARD FAILURE | Alarm | OK | |
| 1021 | UV2400\DI\Lamp_1_1_Hi_Hours | 46435.10 | 46435.6 | DR | 24 | 46110.6 | LAMP #1-1 HIGH LAMP HOURS | Alarm | OK | |

## UVM Communication Database

| DIGITAL - Reactor to RSView (UVM) | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Item # | Tagname/Symbol | Kepware Address | UVM PLC Address | Type | MB+ Node | Unit PLC Address | Description | Set State (1) | Reset State (0) | Comments |
| 1022 | UV2400\DI\Lamp_1_2_Hi_Hours | 46435.9 | 46435.7 | DR | 24 | 46110.7 | LAMP #1-2 HIGH LAMP HOURS | Alarm | OK | |
| 1023 | UV2400\DI\Lamp_1_3_Hi_Hours | 46435.8 | 46435.8 | DR | 24 | 46110.8 | LAMP #1-3 HIGH LAMP HOURS | Alarm | OK | |
| 1024 | UV2400\DI\Lamp_2_1_Hi_Hours | 46435.7 | 46435.9 | DR | 24 | 46110.9 | LAMP #2-1 HIGH LAMP HOURS | Alarm | OK | |
| 1025 | UV2400\DI\Lamp_2_2_Hi_Hours | 46435.6 | 46435.10 | DR | 24 | 46110.10 | LAMP #2-2 HIGH LAMP HOURS | Alarm | OK | |
| 1026 | UV2400\DI\Lamp_2_3_Hi_Hours | 46435.5 | 46435.11 | DR | 24 | 46110.11 | LAMP #2-3 HIGH LAMP HOURS | Alarm | OK | |
| 1027 | UV2400\DI\Lamp_3_1_Hi_Hours | 46435.4 | 46435.12 | DR | 24 | 46110.12 | LAMP #3-1 HIGH LAMP HOURS | Alarm | OK | |
| 1028 | UV2400\DI\Lamp_3_2_Hi_Hours | 46435.3 | 46435.13 | DR | 24 | 46110.13 | LAMP #3-2 HIGH LAMP HOURS | Alarm | OK | |
| 1029 | UV2400\DI\Lamp_3_3_Hi_Hours | 46435.2 | 46435.14 | DR | 24 | 46110.14 | LAMP #3-3 HIGH LAMP HOURS | Alarm | OK | |
| 1030 | UV2400\DI\Lamp_1_1_Hi_Starts | 46435.1 | 46435.15 | DR | 24 | 46110.15 | LAMP #1-1 HIGH LAMP STARTS | Alarm | OK | |
| 1031 | UV2400\DI\Lamp_1_2_Hi_Starts | 46435.0 | 46435.16 | DR | 24 | 46110.16 | LAMP #1-2 HIGH LAMP STARTS | Alarm | OK | |
| 1032 | UV2400\DI\Lamp_1_3_Hi_Starts | 46436.15 | 46436.1 | DR | 24 | 46111.1 | LAMP #1-3 HIGH LAMP STARTS | Alarm | OK | |
| 1033 | UV2400\DI\Lamp_2_1_Hi_Starts | 46436.14 | 46436.2 | DR | 24 | 46111.2 | LAMP #2-1 HIGH LAMP STARTS | Alarm | OK | |
| 1034 | UV2400\DI\Lamp_2_2_Hi_Starts | 46436.13 | 46436.3 | DR | 24 | 46111.3 | LAMP #2-2 HIGH LAMP STARTS | Alarm | OK | |
| 1035 | UV2400\DI\Lamp_2_3_Hi_Starts | 46436.12 | 46436.4 | DR | 24 | 46111.4 | LAMP #2-3 HIGH LAMP STARTS | Alarm | OK | |
| 1036 | UV2400\DI\Lamp_3_1_Hi_Starts | 46436.11 | 46436.5 | DR | 24 | 46111.5 | LAMP #3-1 HIGH LAMP STARTS | Alarm | OK | |
| 1037 | UV2400\DI\Lamp_3_2_Hi_Starts | 46436.10 | 46436.6 | DR | 24 | 46111.6 | LAMP #3-2 HIGH LAMP STARTS | Alarm | OK | |
| 1038 | UV2400\DI\Lamp_3_3_Hi_Starts | 46436.9 | 46436.7 | DR | 24 | 46111.7 | LAMP #3-3 HIGH LAMP STARTS | Alarm | OK | |
| 1039 | UV2400\DI\Lamp_1_1_Start_Fail | 46436.8 | 46436.8 | DR | 24 | 46111.8 | LAMP #1-1 LAMP START FAILURE | Alarm | OK | |
| 1040 | UV2400\DI\Lamp_1_2_Start_Fail | 46436.7 | 46436.9 | DR | 24 | 46111.9 | LAMP #1-2 LAMP START FAILURE | Alarm | OK | |
| 1041 | UV2400\DI\Lamp_1_3_Start_Fail | 46436.6 | 46436.10 | DR | 24 | 46111.10 | LAMP #1-3 LAMP START FAILURE | Alarm | OK | |
| 1042 | UV2400\DI\Lamp_2_1_Start_Fail | 46436.5 | 46436.11 | DR | 24 | 46111.11 | LAMP #2-1 LAMP START FAILURE | Alarm | OK | |
| 1043 | UV2400\DI\Lamp_2_2_Start_Fail | 46436.4 | 46436.12 | DR | 24 | 46111.12 | LAMP #2-2 LAMP START FAILURE | Alarm | OK | |
| 1044 | UV2400\DI\Lamp_2_3_Start_Fail | 46436.3 | 46436.13 | DR | 24 | 46111.13 | LAMP #2-3 LAMP START FAILURE | Alarm | OK | |
| 1045 | UV2400\DI\Lamp_3_1_Start_Fail | 46436.2 | 46436.14 | DR | 24 | 46111.14 | LAMP #3-1 LAMP START FAILURE | Alarm | OK | |
| 1046 | UV2400\DI\Lamp_3_2_Start_Fail | 46436.1 | 46436.15 | DR | 24 | 46111.15 | LAMP #3-2 LAMP START FAILURE | Alarm | OK | |
| 1047 | UV2400\DI\Lamp_3_3_Start_Fail | 46436.0 | 46436.16 | DR | 24 | 46111.16 | LAMP #3-3 LAMP START FAILURE | Alarm | OK | |
| 1048 | UV2400\DI\Low_UV_Dose | 46437.15 | 46437.1 | DR | 24 | 46112.1 | LOW UV DOSE | Alarm | OK | |
| 1049 | UV2400\DI\Low_Low_UV_Dose | 46437.14 | 46437.2 | DR | 24 | 46112.2 | LOW LOW UV DOSE | Alarm | OK | |
| 1050 | UV2400\DI\Low_Water_Flow | 46437.13 | 46437.3 | DR | 24 | 46112.3 | LOW WATER FLOW | Alarm | OK | |
| 1051 | UV2400\DI\Lmp_Bnk1_Brush_Flt | 46437.12 | 46437.4 | DR | 24 | 46112.4 | LAMP BANK #1 BRUSH CYCLE FAULT | Alarm | OK | |
| 1052 | UV2400\DI\Lmp_Bnk2_Brush_Flt | 46437.11 | 46437.5 | DR | 24 | 46112.5 | LAMP BANK #2 BRUSH CYCLE FAULT | Alarm | OK | |
| 1053 | UV2400\DI\Lmp_Bnk3_Brush_Flt | 46437.10 | 46437.6 | DR | 24 | 46112.6 | LAMP BANK #3 BRUSH CYCLE FAULT | Alarm | OK | |
| 1054 | UV2400\DI\Lmp_Bnk1_Hi_Amps | 46437.9 | 46437.7 | DR | 24 | 46112.7 | LAMP BANK #1 BRUSH DRIVE HIGH AMPS | Alarm | OK | |
| 1055 | UV2400\DI\Lmp_Bnk2_Hi_Amps | 46437.8 | 46437.8 | DR | 24 | 46112.8 | LAMP BANK #2 BRUSH DRIVE HIGH AMPS | Alarm | OK | |
| 1056 | UV2400\DI\Lmp_Bnk3_Hi_Amps | 46437.7 | 46437.9 | DR | 24 | 46112.9 | LAMP BANK #3 BRUSH DRIVE HIGH AMPS | Alarm | OK | |
| 1057 | UV2400\DI\Lamp_1_1_OpenCap_Start | 46437.4 | 46437.12 | DR | 24 | 46112.12 | LAMP 1-1 OPEN CAPACITOR@STARTUP | Alarm | OK | Capacitor failure monitoring |
| 1058 | UV2400\DI\Lamp_1_2_OpenCap_Start | 46437.3 | 46437.13 | DR | 24 | 46112.13 | LAMP 1-2 OPEN CAPACITOR@STARTUP | Alarm | OK | Capacitor failure monitoring |
| 1059 | UV2400\DI\Lamp_1_3_OpenCap_Start | 46437.2 | 46437.14 | DR | 24 | 46112.14 | LAMP 1-3 OPEN CAPACITOR@STARTUP | Alarm | OK | Capacitor failure monitoring |
| 1060 | UV2400\DI\Lamp_2_1_OpenCap_Start | 46437.1 | 46437.15 | DR | 24 | 46112.15 | LAMP 2-1 OPEN CAPACITOR@STARTUP | Alarm | OK | Capacitor failure monitoring |
| 1061 | UV2400\DI\Lamp_2_2_OpenCap_Start | 46437.0 | 46437.16 | DR | 24 | 46112.16 | LAMP 2-2 OPEN CAPACITOR@STARTUP | Alarm | OK | Capacitor failure monitoring |
| 1062 | UV2400\DI\Lamp_2_3_OpenCap_Start | 46438.15 | 46438.1 | DR | 24 | 46113.1 | LAMP 2-3 OPEN CAPACITOR@STARTUP | Alarm | OK | Capacitor failure monitoring |
| 1063 | UV2400\DI\Lamp_3_1_OpenCap_Start | 46438.14 | 46438.2 | DR | 24 | 46113.2 | LAMP 3-1 OPEN CAPACITOR@STARTUP | Alarm | OK | Capacitor failure monitoring |
| 1064 | UV2400\DI\Lamp_3_2_OpenCap_Start | 46438.13 | 46438.3 | DR | 24 | 46113.3 | LAMP 3-2 OPEN CAPACITOR@STARTUP | Alarm | OK | Capacitor failure monitoring |
| 1065 | UV2400\DI\Lamp_3_3_OpenCap_Start | 46438.12 | 46438.4 | DR | 24 | 46113.4 | LAMP 3-3 OPEN CAPACITOR@STARTUP | Alarm | OK | Capacitor failure monitoring |
| 1066 | UV2400\DI\Lamp_1_1_ShortCap_Start | 46438.11 | 46438.5 | DR | 24 | 46113.5 | LAMP 1-1 SHORTED CAPACITOR@STARTUP | Alarm | OK | Capacitor failure monitoring |
| 1067 | UV2400\DI\Lamp_1_2_ShortCap_Start | 46438.10 | 46438.6 | DR | 24 | 46113.6 | LAMP 1-2 SHORTED CAPACITOR@STARTUP | Alarm | OK | Capacitor failure monitoring |
| 1068 | UV2400\DI\Lamp_1_3_ShortCap_Start | 46438.9 | 46438.7 | DR | 24 | 46113.7 | LAMP 1-3 SHORTED CAPACITOR@STARTUP | Alarm | OK | Capacitor failure monitoring |
| 1069 | UV2400\DI\Lamp_2_1_ShortCap_Start | 46438.8 | 46438.8 | DR | 24 | 46113.8 | LAMP 2-1 SHORTED CAPACITOR@STARTUP | Alarm | OK | Capacitor failure monitoring |
| 1070 | UV2400\DI\Lamp_2_2_ShortCap_Start | 46438.7 | 46438.9 | DR | 24 | 46113.9 | LAMP 2-2 SHORTED CAPACITOR@STARTUP | Alarm | OK | Capacitor failure monitoring |
| 1071 | UV2400\DI\Lamp_2_3_ShortCap_Start | 46438.6 | 46438.10 | DR | 24 | 46113.10 | LAMP 2-3 SHORTED CAPACITOR@STARTUP | Alarm | OK | Capacitor failure monitoring |
| 1072 | UV2400\DI\Lamp_3_1_ShortCap_Start | 46438.5 | 46438.11 | DR | 24 | 46113.11 | LAMP 3-1 SHORTED CAPACITOR@STARTUP | Alarm | OK | Capacitor failure monitoring |
| 1073 | UV2400\DI\Lamp_3_2_ShortCap_Start | 46438.4 | 46438.12 | DR | 24 | 46113.12 | LAMP 3-2 SHORTED CAPACITOR@STARTUP | Alarm | OK | Capacitor failure monitoring |
| 1074 | UV2400\DI\Lamp_3_3_ShortCap_Start | 46438.3 | 46438.13 | DR | 24 | 46113.13 | LAMP 3-3 SHORTED CAPACITOR@STARTUP | Alarm | OK | Capacitor failure monitoring |
| 1075 | UV2400\DI\Lamp_1_1_OpenCap_100pct | 46438.2 | 46438.14 | DR | 24 | 46113.14 | LAMP 1-1 OPEN CAPACITOR@100% POWER | Alarm | OK | Capacitor failure monitoring |

## UVM Communication Database

| DIGITAL - Reactor to RSView (UVM) | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Item # | Tagname/Symbol | Kepware Address | UVM PLC Address | Type | MB+ Node | Unit PLC Address | Description | Set State (1) | Reset State (0) | Comments |
| 1076 | UV2400\DI\Lamp_1_2_OpenCap_100pct | 46438.1 | 46438.15 | DR | 24 | 46113.15 | LAMP 1-2 OPEN CAPACITOR@100% POWER | Alarm | OK | Capacitor failure monitoring |
| 1077 | UV2400\DI\Lamp_1_3_OpenCap_100pct | 46438.0 | 46438.16 | DR | 24 | 46113.16 | LAMP 1-3 OPEN CAPACITOR@100% POWER | Alarm | OK | Capacitor failure monitoring |
| 1078 | UV2400\DI\Lamp_2_1_OpenCap_100pct | 46439.15 | 46439.1 | DR | 24 | 46114.1 | LAMP 2-1 OPEN CAPACITOR@100% POWER | Alarm | OK | Capacitor failure monitoring |
| 1079 | UV2400\DI\Lamp_2_2_OpenCap_100pct | 46439.14 | 46439.2 | DR | 24 | 46114.2 | LAMP 2-2 OPEN CAPACITOR@100% POWER | Alarm | OK | Capacitor failure monitoring |
| 1080 | UV2400\DI\Lamp_2_3_OpenCap_100pct | 46439.13 | 46439.3 | DR | 24 | 46114.3 | LAMP 2-3 OPEN CAPACITOR@100% POWER | Alarm | OK | Capacitor failure monitoring |
| 1081 | UV2400\DI\Lamp_3_1_OpenCap_100pct | 46439.12 | 46439.4 | DR | 24 | 46114.4 | LAMP 3-1 OPEN CAPACITOR@100% POWER | Alarm | OK | Capacitor failure monitoring |
| 1082 | UV2400\DI\Lamp_3_2_OpenCap_100pct | 46439.11 | 46439.5 | DR | 24 | 46114.5 | LAMP 3-2 OPEN CAPACITOR@100% POWER | Alarm | OK | Capacitor failure monitoring |
| 1083 | UV2400\DI\Lamp_3_3_OpenCap_100pct | 46439.10 | 46439.6 | DR | 24 | 46114.6 | LAMP 3-3 OPEN CAPACITOR@100% POWER | Alarm | OK | Capacitor failure monitoring |
| 1084 | UV2400\DI\Lamp_1_1_ShortCap_100pct | 46439.9 | 46439.7 | DR | 24 | 46114.7 | LAMP 1-1 SHORTED CAPACITOR@100% POW | Alarm | OK | Capacitor failure monitoring |
| 1085 | UV2400\DI\Lamp_1_2_ShortCap_100pct | 46439.8 | 46439.8 | DR | 24 | 46114.8 | LAMP 1-2 SHORTED CAPACITOR@100% POW | Alarm | OK | Capacitor failure monitoring |
| 1086 | UV2400\DI\Lamp_1_3_ShortCap_100pct | 46439.7 | 46439.9 | DR | 24 | 46114.9 | LAMP 1-3 SHORTED CAPACITOR@100% POW | Alarm | OK | Capacitor failure monitoring |
| 1087 | UV2400\DI\Lamp_2_1_ShortCap_100pct | 46439.6 | 46439.10 | DR | 24 | 46114.10 | LAMP 2-1 SHORTED CAPACITOR@100% POW | Alarm | OK | Capacitor failure monitoring |
| 1088 | UV2400\DI\Lamp_2_2_ShortCap_100pct | 46439.5 | 46439.11 | DR | 24 | 46114.11 | LAMP 2-2 SHORTED CAPACITOR@100% POW | Alarm | OK | Capacitor failure monitoring |
| 1089 | UV2400\DI\Lamp_2_3_ShortCap_100pct | 46439.4 | 46439.12 | DR | 24 | 46114.12 | LAMP 2-3 SHORTED CAPACITOR@100% POW | Alarm | OK | Capacitor failure monitoring |
| 1090 | UV2400\DI\Lamp_3_1_ShortCap_100pct | 46439.3 | 46439.13 | DR | 24 | 46114.13 | LAMP 3-1 SHORTED CAPACITOR@100% POW | Alarm | OK | Capacitor failure monitoring |
| 1091 | UV2400\DI\Lamp_3_2_ShortCap_100pct | 46439.2 | 46439.14 | DR | 24 | 46114.14 | LAMP 3-2 SHORTED CAPACITOR@100% POW | Alarm | OK | Capacitor failure monitoring |
| 1092 | UV2400\DI\Lamp_3_3_ShortCap_100pct | 46439.1 | 46439.15 | DR | 24 | 46114.15 | LAMP 3-3 SHORTED CAPACITOR@100% POW | Alarm | OK | Capacitor failure monitoring |
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