



**THE CITY OF WINNIPEG**

# **REQUEST FOR PROPOSAL**

**RFP NO. 123-2014**

**SUPPLY AND DELIVERY OF GAS DETECTION EQUIPMENT FOR THE SEWAGE  
TREATMENT PROGRAM**

**BIDDERS PLEASE NOTE CLAUSE D11**

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## **PART B - BIDDING PROCEDURES**

### **B1. CONTRACT TITLE**

B1.1 SUPPLY AND DELIVERY OF GAS DETECTION EQUIPMENT FOR THE SEWAGE TREATMENT PROGRAM

### **B2. SUBMISSION DEADLINE**

B2.1 The Submission Deadline is 4:00 p.m. Winnipeg time, April 24, 2014.

B2.2 Proposals 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. ENQUIRIES**

B3.1 All enquiries shall be directed to the Contract Administrator identified in D6.1.

B3.2 If the Bidder finds errors, discrepancies or omissions in the Request for Proposal, 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.

B3.3 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.

B3.4 Responses to enquiries which, in the sole judgment of the Contract Administrator, require a correction to or a clarification of the Request for Proposal will be provided by the Contract Administrator to all Bidders by issuing an addendum.

B3.5 Responses to enquiries which, in the sole judgment of the Contract Administrator, do not require a correction to or a clarification of the Request for Proposal will be provided by the Contract Administrator only to the Bidder who made the enquiry.

B3.6 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.

### **B4. CONFIDENTIALITY**

B4.1 Information provided to a Bidder by the City or acquired by a Bidder by way of further enquiries or through investigation is confidential. Such information shall not be used or disclosed in any way without the prior written authorization of the Contract Administrator. The use and disclosure of the confidential information shall not apply to information which:

- (a) was known to the Bidder before receipt hereof; or
- (b) becomes publicly known other than through the Bidder; or
- (c) is disclosed pursuant to the requirements of a governmental authority or judicial order.

B4.2 The Bidder shall not make any statement of fact or opinion regarding any aspect of the Request For Proposal to the media or any member of the public without the prior written authorization of the Contract Administrator.

## **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 Request for Proposal, 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 Division website at <http://www.winnipeg.ca/matmgt/bidopp.asp>
- B5.2.2 The Bidder is responsible for ensuring that he/she has received all addenda and is advised to check the Materials Management Division website 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 9 of Form A: Proposal. Failure to acknowledge receipt of an addendum may render a Proposal non-responsive.

## **B6. SUBSTITUTES**

- B6.1 The Work is based on the materials, equipment, methods and products specified in the Request for Proposal.
- 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/her 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/she 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 may base his/her 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 B20.
- 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.
- B6.10 Notwithstanding B6.2 to B6.9 and in accordance with B7.7, deviations inconsistent with the Request for Proposal document shall be evaluated in accordance with B20.1(a).

## **B7. PROPOSAL SUBMISSION**

- B7.1 The Proposal shall consist of the following components:
- (a) Form A: Proposal;
  - (b) Form B: Prices;
  - (c) Form N: Price Adjustment Proposal Form;
  - (d) Form P: Proposal Information;
- B7.2 The Proposal should consist of the following components:
- (a) Published Canadian Price List;
  - (b) Technical Information.
- B7.3 Further to B7.1, the Bidder should include the written correspondence from the Contract Administrator approving a substitute in accordance with B6.
- B7.4 All components of the Proposal 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 Proposal.
- B7.4.1 Bidders should submit one (1) unbound original (marked “original”) and six (6) copies.
- (a) The unbound original should include all proposal components, including Technical Information.
  - (b) The copies should include the entire proposal, except the Technical Information, which should be submitted as per B7.5.
- B7.4.2 Submit two CDs/DVDs of the complete proposal submission in searchable electronic PDF format.
- B7.4.3 In case of a discrepancy between the paper and electronic copies, the paper copy will be adhered to.
- B7.5 Bidders should submit the Technical Information in the following format:
- B7.5.1 One paper hard copy in the (1) unbound original copy as per B7.4.1
  - B7.5.2 In electronic format on the CDs/DVDs as per B7.4.2.
  - B7.5.3 In case of a discrepancy between the paper and electronic copies, the paper copy will be adhered to.

- B7.6 The Proposal Submission shall be submitted enclosed and sealed in an envelope clearly marked with the RFP number and the Bidder's name and address.
- B7.6.1 Samples or other components of the Proposal Submission which cannot reasonably be enclosed in the envelope may be packaged separately, but shall be clearly marked with the RFP number, the Bidder's name and address, and an indication that the contents are part of the Bidder's Proposal Submission.
- B7.7 Bidders are advised that inclusion of terms and conditions inconsistent with the Request for Proposal document, including the General Conditions, will be evaluated in accordance with B20.1(a).
- B7.8 Proposals submitted by facsimile transmission (fax) or internet electronic mail (e-mail) will not be accepted.
- B7.9 Proposals shall be submitted to:  
The City of Winnipeg  
Corporate Finance Department  
Materials Management Division  
185 King Street, Main Floor  
Winnipeg MB R3B 1J1

## **B8. PROPOSAL**

- B8.1 The Bidder shall complete Form A: Proposal, making all required entries.
- B8.2 Paragraph 2 of Form A: Proposal shall be completed in accordance with the following requirements:
- (a) if the Bidder is a sole proprietor carrying on business in his/her own name, his/her 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/her 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 Proposal 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: Proposal, the Bidder shall identify a contact person who is authorized to represent the Bidder for purposes of the Proposal.
- B8.4 Paragraph 11 of Form A: Proposal shall be signed in accordance with the following requirements:
- (a) if the Bidder is a sole proprietor carrying on business in his/her 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/her 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: Proposal should be printed below such signatures.

B8.5 If a Proposal 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 Proposal 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.

B9.1.2 Prices on Form B: Prices shall not include Environmental Handling Charges (EHC) or fees, which shall be extra where applicable.

B9.2 The quantities listed on Form B: Prices are to be considered approximate only; and are based upon estimated purchases over a ten year period. The City will use said quantities for the purpose of comparing Proposals.

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 in the applicable Specifications.

B9.4 Where applicable to the Request for Proposal, payments for services to Non-Resident Bidders are subject to a Non-Resident Withholding Tax pursuant to the Income Tax Act (Canada).

B9.5 The prices entered in the Unit List Price column of Form B shall be the current Canadian list price of the item, without any discounts applied. The price shall be consistent with the manufacturer's Canadian price list. Where multiple products are included in the Form B price, the price shall be the sum of the list price of the various components.

B9.6 The prices entered in the Discounted Unit Price column of Form B shall be the current Canadian List Price of the item, as per B9.5, with the discount indicated on Form B applied. This shall be the price offered to the City.

B9.6.1 The Discounted Unit Price shall be the Unit List Price multiplied by  $(1 - \text{discount})$ .

B9.7 The price for Form B, Item 17 shall be inclusive of all travel, expenses, meals, tools, mileage, and miscellaneous costs.

B9.7.1 Assume that each day is independent and not adjacent to other commissioning days. That is, assume that travel fully applies to each full day.

B9.8 The prices entered in the Discounted Unit Price column of Form B shall be the final offered selling price for the period from award to December 31, 2015.

B9.9 The Bidder shall enter a standard discount off list price that shall apply to the manufacturer's entire product range of gas detection sensors and transmitters on Form B, Item 19. The Form B Discounted Unit Price shall be consistent with the indicated Discount Factor.

B9.10 The Bidder shall enter a standard discount off list price that shall apply to the manufacturer's entire product range of gas detection controllers on Form B, Item 20. The Form B Discounted Unit Price shall be consistent with the indicated Discount Factor.



- B9.11 The Bidder shall enter a standard discount off list price that shall apply to the manufacturer's entire product range of gas detection accessories on Form B, Item 21. The Form B Discounted Unit Price shall be consistent with the indicated Discount Factor.
- B9.12 By submitting a proposal, the Bidder acknowledges and agrees that the pricing discount levels provided on Form B is effectively provided for the manufacturer's entire gas detection equipment offering.
- B9.13 In the event that a discrepancy between the Form B Discounted Unit Price and the Unit List Price reduced by the corresponding Discount Factor, the Unit List Price reduced by the corresponding Discount Factor shall be utilized.

**B10. PRICE ADJUSTMENT PROPOSAL (FORM N)**

- B10.1 The Bidder shall complete Form N: Price Adjustment Proposal, making all required entries.
- B10.2 Provision of a price adjustment proposal is a mandatory requirement.
- B10.2.1 Failure to provide a Price Adjustment Proposal will be evaluated in accordance with B20.1(a).
- B10.3 The Price Adjustment Proposal is applicable to all products in this Request for Proposal and the manufacturer's entire range of gas detection products.
- B10.4 The price in effect shall be based upon the date that the purchase order is submitted to the Contractor.
- B10.5 Fixed Price Period
- B10.5.1 The prices indicated on Form B will be fixed through to December 31, 2015.
- B10.5.2 No escalation of prices will be permitted during this period for any cause.
- B10.6 Price adjustments will occur annually with the first adjustment taking effect on January 1, 2016.
- B10.7 Complete Form N to indicate the method, and details of price determination after the expiration of the fixed prices.
- B10.8 Fixed Escalation Rate
- B10.8.1 If the Price Adjustment is proposed to be based on a Fixed Escalation Rate, the following shall apply:
- (a) Contract prices for equipment and/or service will remain firm through the Fixed Price Period.
  - (b) Price adjustments will take effect annually after the Fixed Price Period expires, with the first adjustment on the first day after the Fixed Price Period.
  - (c) Price adjustments will be made in accordance with the percentage change indicated on Form N.
  - (d) Provision of a fixed escalation rate is mandatory through until December 31, 2020.
  - (e) In the event that an escalation rate is not proposed for a given year:
    - (i) The actual escalation rate to be utilized will be negotiated with the City.
    - (ii) The Bid will be evaluated in accordance with B21.4.2(b).
- B10.8.2 Currency linkage may be proposed by the Bidder to allow adjustment of prices, such that the prices quoted are effectively linked to another currency. In the event that the Canadian dollar exchange rate relative to the other currency would drop, the effective price of the Goods would increase.
- B10.8.3 In the event that the Bidder indicates that the prices will be linked to a currency exchange rate on Form N, the following shall apply:

- (a) The currency exchange rate indicated on the date of the Bid Submission Deadline shall be recorded and shall be deemed the effective exchange rate.
- (b) Beginning on January 1, 2016 and every year thereafter, the currency exchange rate in effect thirty (30) Calendar Days prior shall be compared against the effective exchange rate. In the event that the current currency exchange rate is different by more than 5% from the effective exchange rate, the prices shall be adjusted accordingly and the current exchange rate shall be deemed the effective exchange rate.
- (c) For example:
  - (i) If a linkage to the Can\$ / US\$ exchange rate is proposed and the Can\$ to US\$ exchange rate on the date of the Bid Submission Deadline is 0.95, this will be deemed the effective exchange rate. The prices in effect will be as per Form B and the indicated Discount Factors.
  - (ii) If on December 2, 2015 the Can\$ to US\$ exchange rate is 0.93, the change compared to the effective exchange rate (0.95) is less than 5%. Thus, no change to the pricing will be made on January 1, 2016 other than the other factors indicated in the Price Adjustment Proposal.
  - (iii) If on December 2, 2016 the Can\$ to US\$ exchange rate is 0.85, the change compared to the effective exchange rate (0.95) is 10.5%. Thus, in addition to fixed escalation rate indicated in the Price Adjustment Proposal, the prices on January 1, 2017 would be escalated by 10.5% due to the currency linkage.
- (d) The currency exchange rate may either increase or lower the effective price in Canadian dollars.
- (e) The currency exchange rate utilized shall be the nominal rate posted by the Bank of Canada.

B10.8.4 The currency exchange rate to be utilized will be as indicated in Form N.

B10.8.5 The Fixed Escalation Rate and Currency Exchange Rate adjustment shall apply to the Form B prices, as well as the manufacturer's complete gas detection equipment offering.

- (a) The base prices for equipment not specifically listed on Form B will be based upon the list prices submitted with the Bid and the Discount Factors indicated on Form B.

#### B10.9 Published List Prices

B10.9.1 If the Price Adjustment is proposed to be based on Published List Prices, the following shall apply:

- (a) The price will be based upon the Bidder's indicated discount off the manufacturer's Published Canadian Price List, as indicated on Form B.
- (b) The manufacturer shall employ a standard practice of utilizing constant discount percentages, and modifying the standard list price to account for the manufacturer's escalation.
- (c) The discount off list price indicated on Form B shall be a percentage of the list price that is subtracted from the list price to determine the actual price.
  - (i) Example: If a discount of 20% is indicated and the list price is \$1,000, the actual price would be \$800.
- (d) The prices indicated on Form B must be consistent with the Published Canadian Price List and the indicated discount on Form N. Significant discrepancies may, at the discretion of the City, result in the bid being determined non-responsive.
- (e) The City reserves the right to use external sources to verify the validity of the Published Canadian Price List provided.
- (f) The escalation of prices on the standard price lists shall not exceed accepted market conditions. The City reserves the right to negotiate the prices or cancel the Contract in the event that the price increments are excessive.

- (g) A new Published Canadian Price List shall be submitted to the Contract Administrator a minimum of 60 days prior to the new prices taking effect.
- (h) A new Published Canadian Price List will be accepted for price adjustment annually. The discount off list price indicated on Form B, shall not change. The price list must be in effect on January 1 of the year the prices take effect.
  - (i) The new prices will come into effect on January 1, 2016 and on January 1 annually thereafter.

#### B10.10 Indexed Price Adjustment

B10.10.1 If the Price Adjustment is proposed to be based on Indexed Price Adjustment, the following shall apply:

- (a) Contract prices for equipment and/or service will remain firm through the Fixed Price Period.
- (b) Price adjustments will take effect annually after the Fixed Price Period expires, with the first adjustment on January 1, 2016.
- (c) Price adjustments will be made in accordance with the percentage change in the referenced index, as per Form N.
- (d) The price adjustment rate will be determined by comparing the percentage difference between the index in effect at the Bid Submission Deadline and the latest index data available thirty (30) Calendar Days prior to the new prices taking effect. The percentage difference between the two index values will be the price adjustment rate from the original fixed prices.

B10.10.2 The Indexed Price Adjustment shall apply to the Form B prices, as well as the manufacturer's complete gas detection equipment offering.

- (a) The base prices for equipment not specifically listed on Form B will be based upon the list prices submitted with the Bid and the Discount Factors indicated on Form B.

B10.11 The Bidder's Price Adjustment proposal will be reflected in the calculation of the Evaluated Bid Price as per B21.

#### B10.12 Contract Extension Prices

B10.12.1 As indicated in D3, the City may negotiate a Contract extension with the Contractor. The prices for the Contract extension shall be consistent with the Contractor's Price Adjustment Proposal on Form N.

### **B11. PROPOSAL INFORMATION (FORM P)**

B11.1 The Bidder shall complete Form P: Proposal Information, making all required entries. Where insufficient space is provided, attach additional pages as required.

B11.2 Form P will be utilized as reference information for the evaluation of the proposal.

### **B12. PUBLISHED CANADIAN PRICE LIST**

B12.1 The Bidder should provide a manufacturer Published Canadian Price List.

B12.2 The scope of the Published Canadian Price List should include:

- (a) All products proposed as part of the Bidder's proposal;
- (b) The manufacturer's entire gas detection equipment product offering,
- (c) If a Price Adjustment based on Published Prices is proposed on Form N, the Published Canadian Price List shall include all products addressed within this Request For Proposal.

B12.3 The Published Canadian Price List shall be a published standard list of prices, applicable to all sales by the manufacturer in Canada. Use of a price list that is specific to an individual or group

of provinces, areas, industries, or customers is not acceptable. Provide evidence as requested to support the list prices submitted.

- B12.4 The price list should be included in both the Bidder's paper and electronic proposal.
- B12.5 The complete provision of the Published Canadian Price List is not a mandatory bid requirement, but lack thereof, or incomplete information, may affect the bid evaluation as per B20.

**B13. TECHNICAL INFORMATION**

- B13.1 The Bidder should provide the following technical information:
- (a) Product datasheets for all the products proposed;
  - (b) Documents to support claims made in Form P.
  - (c) Detailed installation drawings including wiring diagrams and all terminal locations;
  - (d) Installation Manuals;
  - (e) Operation Manuals;
  - (f) Maintenance Manuals.
- B13.2 The complete provision of the above information is not a mandatory bid requirement, but lack of information, or incomplete information, may affect the bid evaluation as per B20.

**B14. QUALIFICATION**

- B14.1 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.
- B14.2 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 Division website at <http://www.winnipeg.ca/matmgt/debar.stm>
- B14.3 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);
- B14.4 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.

B14.5 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.

#### **B15. OPENING OF PROPOSALS AND RELEASE OF INFORMATION**

B15.1 Proposals will not be opened publicly.

B15.2 After award of Contract, the names of the Bidders and the Contract amount of the successful Bidder will be available on the Closed Bid Opportunities (or Public/Posted Opening & Award Results) page at The City of Winnipeg, Corporate Finance, Materials Management Division website at <http://www.winnipeg.ca/matmgt/>

B15.3 To the extent permitted, the City shall treat all Proposal as confidential, however the Bidder is advised that any information contained in any Proposal Submission 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.

B15.4 Following the award of Contract, a Proponent will be provided with information related to the evaluation of its submission upon written request to the Project Manager.

#### **B16. IRREVOCABLE OFFER**

B16.1 The Proposal(s) submitted by the Bidder shall be irrevocable for the time period specified in Paragraph 10 of Form A: Proposal.

B16.2 The acceptance by the City of any Proposal shall not release the Proposals of the other responsive Bidders and these Bidders shall be bound by their offers on such Work for the time period specified in Paragraph 10 of Form A: Proposal.

#### **B17. WITHDRAWAL OF OFFERS**

B17.1 A Bidder may withdraw his/her Proposal without penalty by giving written notice to the Manager of Materials at any time prior to the Submission Deadline.

B17.1.1 Notwithstanding C21, the time and date of receipt of any notice withdrawing a Proposal shall be the time and date of receipt as determined by the Manager of Materials.

B17.1.2 The City will assume that any one of the contact persons named in Paragraph 3 of Form A: Proposal or the Bidder's authorized representatives named in Paragraph 11 of Form A: Proposal, and only such person, has authority to give notice of withdrawal.

B17.1.3 If a Bidder gives notice of withdrawal prior to the Submission Deadline, the Manager of Materials will:

- (a) retain the Proposal until after the Submission Deadline has elapsed;
- (b) open the Proposal to identify the contact person named in Paragraph 3 of Form A: Proposal and the Bidder's authorized representatives named in Paragraph 11 of Form A: Proposal; and
- (c) if the notice has been given by any one of the persons specified in B17.1.3(b), declare the Proposal withdrawn.

B17.2 A Bidder who withdraws his/her Proposal after the Submission Deadline but before his/her offer has been released or has lapsed as provided for in B16.2 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.

**B18. INTERVIEWS**

B18.1 The Contract Administrator may, in his/her sole discretion, interview Bidders during the evaluation process.

**B19. NEGOTIATIONS**

B19.1 The City reserves the right to negotiate details of the Contract with any Bidder. Bidders are advised to present their best offer, not a starting point for negotiations in their Proposal Submission.

B19.2 The City may negotiate with the Bidders submitting, in the City's opinion, the most advantageous Proposals. The City may enter into negotiations with one or more Bidders without being obligated to offer the same opportunity to any other Bidders. Negotiations may be concurrent and will involve each Bidder individually. The City shall incur no liability to any Bidder as a result of such negotiations.

B19.3 If, in the course of negotiations pursuant to B19.2 or otherwise, the Bidder amends or modifies a Proposal after the Submission Deadline, the City may consider the amended Proposal as an alternative to the Proposal already submitted without releasing the Bidder from the Proposal as originally submitted.

**B20. EVALUATION OF PROPOSALS**

B20.1 Award of the Contract shall be based on the following evaluation criteria:

- (a) compliance by the Bidder with the requirements of the Request for Proposal, or acceptable deviation therefrom (pass/fail);
- (b) qualifications of the Bidder and the Subcontractors, if any, pursuant to B12 (pass/fail);
- (c) Evaluated Bid Price 40 %
- (d) Pricing Completeness and Consistency 1 %
- (e) Gas Detection Sensors and Transmitters Technical Features 25 %
- (f) Gas Detection Controller – Type 1 Technical Features 18 %
- (g) Gas Detection Controller – Type 2 Technical Features 7 %
- (h) Accessories 2 %
- (i) Warranty 3 %
- (j) Service / Support 4 %
- (k) economic analysis of any approved alternative pursuant to B6;

B20.2 Further to B20.1(a), the Award Authority may reject a Proposal as being non-responsive if the Proposal 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 Proposal, or waive technical requirements or minor informalities or irregularities if the interests of the City so require.

B20.3 Further to B20.1(b), the Award Authority shall reject any Proposal submitted by a Bidder who does not demonstrate, in his/her Proposal, in other information required to be submitted, during interviews or in the course of reference checks, that he/she is responsible and qualified.

B20.4 Further to B20.1(c), the Evaluated Bid Price will be calculated as per B21.

B20.5 Further to B20.1(d), the Pricing Completeness and Consistency will be evaluated based upon completeness, consistency, and overall effectiveness in providing transparent pricing to the City of Winnipeg. Provision of a Published Canadian Price List is a mandatory component to receiving a score for this item.

- B20.6 Further to B20.1(e), the Gas Detection Sensors and Transmitters Technical Features will be evaluated utilizing the following as sources:
- (a) Form P;
  - (b) Technical Information provided as per B13.
  - (c) Other information submitted with the proposal.
- B20.7 Further to B20.1(f), the Gas Detection Controller – Type 1 Technical Features will be evaluated utilizing the following as sources:
- (a) Form P;
  - (b) Technical Information provided as per B13.
  - (c) Other information submitted with the proposal.
- B20.8 Further to B20.1(g), the Gas Detection Controller – Type 2 Technical Features will be evaluated utilizing the following as sources:
- (a) Form P;
  - (b) Technical Information provided as per B13.
  - (c) Other information submitted with the proposal.
- B20.9 Further to B20.1(h), the Accessories Technical Features will be evaluated utilizing the following as sources:
- (a) Form P;
  - (b) Technical Information provided as per B13.
  - (c) Other information submitted with the proposal.
- B20.10 Further to B20.1(i), the Warranty will be evaluated utilizing the following as sources:
- (a) Form P;
  - (b) Technical Information provided as per B13, including the completeness and quality of information.
- B20.11 Further to B20.1(j), the Service / Support will be evaluated utilizing the information submitted in Form P, considering the service and support requirements of the City.
- B20.12 The City may utilize the information available on the manufacturer's website to confirm and clarify information in the proposal.
- B20.13 This Contract will be awarded as a whole.
- B20.14 If, in the sole opinion of the City, a Proposal does not achieve a pass rating for B20.1(a) and B20.1(b), the Proposal will be determined to be non-responsive and will not be further evaluated.

**B21. EVALUATED BID PRICE**

- B21.1 The subtotal bid price will be calculated based upon Form B as the sum of the estimated quantities multiplied by the unit prices for Items 1 through 18.
- B21.2 The Estimated Cost Per Year will be calculated as follows:
- (a) Year 0 (2014): 0% of the subtotal bid price;
  - (b) Year 1 (2015): 2% of the subtotal bid price;
  - (c) Year 2 (2016): 15% of the subtotal bid price;
  - (d) Year 3 (2017): 15% of the subtotal bid price, plus escalation;

- (e) Year 4 (2018): 12% of the subtotal bid price, plus escalation, plus currency exchange rate factor indicated in B21.4.1;
- (f) Year 5 (2019): 15% of the subtotal bid price, plus escalation;
- (g) Year 6 (2020): 15% of the subtotal bid price, plus escalation;
- (h) Year 7 (2021): 15% of the subtotal bid price, plus escalation;
- (i) Year 8 (2022): 7% of the subtotal bid price, plus escalation;
- (j) Year 9 (2023): 2% of the subtotal bid price, plus escalation;
- (k) Year 10 (2024): 2% of the subtotal bid price, plus escalation.

B21.3 Further to B20.1(c), the Evaluated Bid Price will be calculated as the sum of the Estimated Cost Per Year multiplied by the estimated total escalation for the year.

B21.4 The estimated total escalation for each year will be based upon the Bidder's Price Adjustment Proposal in Form N.

B21.4.1 If the Price Adjustment includes a linkage to the Currency Exchange Rate, an additional escalation rate of 3.0% shall be added to the escalation for January 1, 2018. Otherwise, no additional escalation factor shall apply.

B21.4.2 If the Price Adjustment is proposed to be based on a Fixed Escalation Rate, the following shall apply:

- (a) The calculation of the Evaluated Bid Price will utilize the indicated escalation values indicated on Form N.
- (b) In the event that a percentage price increase is not proposed after December 31, 2020, the annual escalation assumed for the purpose of bid evaluation will be the maximum price increase for the respective year from all other responsive bids, or 7%, whichever is greater.

B21.4.3 If the Price Adjustment is proposed to be based on Published List Prices, the following shall apply:

- (a) An annual escalation value of 4.5% will be assumed for the calculation of the Evaluated Bid Price, provided that a Published Canadian Price List is found to be consistent with Form B and the discount proposed on Form B.
- (b) In the event that the standard list prices are not deemed sufficiently consistent with Form B and the discount proposed on Form B, an annual escalation value of 5.0% will be assumed.
- (c) In the event that the standard list price has, in the opinion of the Contract Administrators, major inconsistencies with Form B and the discount proposed on Form B, the Contract Administrator may determine the bid to be non-responsive.

B21.4.4 If the Price Adjustment is proposed to be based on Indexed Price Adjustment, the following shall apply:

- (a) An annual escalation rate of 3.0% or the average change of the last five years of the index, whichever is greater, will be assumed for the calculation of the Evaluated Bid Price.

B21.5 Form B, Item 16 is not mandatory. In the event that a price is not provided, the unit price for the corresponding item will be calculated as the corresponding average unit price of the other proposals that proposed a price for the corresponding item, for the purpose of calculating the Evaluated Bid Price.

B21.6 In the event that a product is not proposed for any item on Form B, the City may:

- (a) Determine the bid to be nonresponsive in accordance with B20.2; or
- (b) Utilize for the purpose of Bid Evaluation, the average price for the item of the other responsive Bids; or



- (c) In the event that the product specified is adequately addressed by other products in the Bidder's proposal, a price of zero will be utilized for the corresponding line item.

B21.7 In the event that the Unit List Price indicated on Form B is not consistent with the List Prices provided in the Published Canadian Price List, the Contract Administrator may:

B21.7.1 Determine the bid to be nonresponsive in accordance with B20.2; or

B21.7.2 Select the Unit List Price indicated on Form B for the purpose of bid evaluation.

B21.8 In the event that, in the Contract Administrator's opinion, a specified component of the Form B price appears to be missing, the Contract Administrator may:

B21.8.1 Determine the bid to be nonresponsive in accordance with B20.2; or

B21.8.2 For the purposes of bid evaluation, normalize the bid by adding a nominal value to the Form B price to address the missing component. The nominal value may be from the Published Canadian Price List, multiplied by one minus the proposed Discount Factor, or the average discounted price for the equivalent component from the other bidders.

## **B22. AWARD OF CONTRACT**

B22.1 The City will give notice of the award of the Contract or will give notice that no award will be made.

B22.2 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 Proposals are determined to be responsive.

B22.2.1 Without limiting the generality of B22.2, 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 Proposal 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.

B22.3 Where an award of Contract is made by the City, the award shall be made to the responsible and qualified Bidder submitting the most advantageous offer, in accordance with B20.

B22.4 Following the award of Contract, a Bidder will be provided with information related to the evaluation of his/her Proposal upon written request to the Contract Administrator.

## **PART C - GENERAL CONDITIONS**

### **C0. GENERAL CONDITIONS**

- C0.1 The *General Conditions for the Supply of Goods* (Revision 2008 05 26) are applicable to the Work of the Contract.
- C0.1.1 The *General Conditions for the Supply of Goods* are available on the Information Connection page at The City of Winnipeg, Corporate Finance, Materials Management Division website at [http://www.winnipeg.ca/matmgt/gen\\_cond.stm](http://www.winnipeg.ca/matmgt/gen_cond.stm)
- C0.2 A reference in the Request for Proposal to a section, clause or subclause with the prefix “**C**” designates a section, clause or subclause in the *General Conditions for Supply of Goods*.

## **PART D - SUPPLEMENTAL CONDITIONS**

### **GENERAL**

#### **D1. GENERAL CONDITIONS**

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

#### **D2. INTENT**

D2.1 The intent of this Request for Proposal is to select a gas detection equipment manufacturer for the City's Sewage Treatment Program and set the conditions for supply.

D2.2 The quantities indicated on Form B are the current best estimate of the equipment to be procured, however the City's upgrade and expansion plans are still in development, and thus the actual quantities purchased are subject to change.

D2.3 The controller and gas detection equipment should be produced by a single manufacturer, to assure seamless integration.

D2.4 It is intended that the manufacturer selected by this RFP process may be considered the standard for gas detection equipment to be utilized for the City of Winnipeg wastewater treatment facilities.

D2.4.1 The City may procure gas detection equipment, not specifically identified under this Request For Proposal, via this Contract without initiating a separate Bid Opportunity process.

D2.5 The Goods to be purchased under this contract are intended to be utilized at the SEWPCC, NEWPCC, and WEWPCC facilities.

D2.6 The City of Winnipeg reserves the right to procure equipment under this Contract for other City of Winnipeg facilities, without initiating a separate Bid Opportunity process.

#### **D3. SCOPE OF WORK**

D3.1 The Work to be done under the Contract shall consist of supply and delivery of gas detection equipment for the period from Contract award until June 30, 2019, with the option of four (4) five (5) year extensions.

D3.1.1 The City may extend the term of this Contract upon the first expiry, dated June 30, 2019, by providing written notice to the Contractor within one hundred twenty (120) Calendar Days prior to the expiry date of the Contract.

(a) If exercised by the City, the first five (5) year extension of the Contract is mandatory for the Contractor.

(b) The City shall incur no liability to the Contractor if the option is not exercised.

D3.1.2 All subsequent Contract extensions after June 30, 2024 shall be mutually agreed upon between the City and the Contractor, based upon negotiations.

(a) The City may negotiate the extension option with the Contractor within one hundred eighty (180) Calendar Days prior to the expiry date of the Contract. The City shall incur no liability to the Contractor as a result of such negotiations.

(b) Changes resulting from such negotiations shall become effective on July 1 of the respective year. Changes to the Contract shall not be implemented by the Contractor without written approval by the Contract Administrator.

D3.1.3 The prices for Contract extensions shall be consistent with the Price Proposal indicated in Form N and B10.

- D3.2 The Work shall be done on an "as required" basis during the term of the Contract.
- D3.2.1 The type and quantity of Work to be performed under this Contract shall be as authorized from time to time by the Contract Administrator and/or Users.
- D3.2.2 Subject to C7, the City shall have no obligation under the Contract to purchase any quantity of any item in excess of its actual operational requirements.

#### **D4. PROCUREMENT VIA INSTALLATION CONTRACTORS**

- D4.1 Procurement of Goods under this Contract may be directly by the City, or indirectly via an Installation Contractor engaged by the City.
- D4.1.1 It is expected that most of the Goods purchased under the Contract will be via Installation Contractors engaged by the City.
- D4.2 The Contractor shall allow Installation Contractors to procure equipment on behalf of the City, based upon the pricing, technical specifications and delivery requirements this Contract.
- D4.3 The pricing provided to Installation Contractors shall be as per the Contract. No additional surcharges shall be applied.
- D4.4 Payment for all Goods procured via an Installation Contractor shall be the responsibility of the Installation Contractor, as per D17.
- D4.5 The City shall incur no liability to the Contractor for Goods procured via an Installation Contractor, other than that required by Provincial Regulations (Builders' Liens Act).
- D4.6 The Contractor shall not impose any restrictions or conditions on the Installation Contractors in relation to this Contract.
- D4.7 Failure to deliver Goods to the Installation Contractor may be determined to be an event of default under this Contract.
- D4.8 Upon request by the City or a potential Installation Contractor for installation work on behalf of the City, the Contractor shall provide an itemized quotation for the Goods, consistent with the terms of the Contract.
- D4.9 Where the City issues a Bid Opportunity, which includes the supply and installation of Goods related to this Contract, the Contractor shall review the Bid Opportunity package to identify and confirm the scope of Goods required under the Bid Opportunity. The quotation of Goods shall be comprehensive to the requirements of the Bid Opportunity.
- D4.10 The Contractor shall provide an equal quotation to all potential Installation Contractors, consistent with the terms of the Contract.
- D4.10.1 The Contractor shall supply a copy of the quotation made to potential Installation Contractors to the Contract Administrator, upon request.
- D4.11 Invoices to Installation Contractors must clearly indicate, as a minimum:
- (a) the City's Bid Opportunity Number shall be indicated;
  - (b) date of delivery;
  - (c) delivery address;
  - (d) type and quantity of Goods delivered;
  - (e) the amount payable with GST, MRST, and any applicable environmental handling charges/fees identified and shown as separate amounts; and
  - (f) the Contractor's GST registration number.
- (g) The Installation Contractor's name.

D4.12 The Goods delivered and associated amounts payable must be clearly itemized and priced in a manner to allow the City to verify that the proposed pricing and terms of the Contract are being adhered to.

## D5. DEFINITIONS

D5.1 When used in this Request for Proposal:

- (a) "Discount Factor" means a percentage that the unit list price is reduced by to calculate the discounted unit price. The discounted unit price = list price x (1 - Discount Factor)
- (b) "CH<sub>4</sub>" means Methane
- (c) "CO" means Carbon Monoxide
- (d) "HART" means Highway Addressable Remote Transducer
- (e) "H<sub>2</sub>S" means Hydrogen Sulfide
- (f) "IR" means Infrared.
- (g) "NEWPCC" means North End Water Pollution Control Centre.
- (h) "SEWPCC" means South End Water Pollution Control Centre.
- (i) "WEWPCC" means West End Water Pollution Control Centre.
- (j) "O<sub>2</sub>" means Oxygen
- (k) "O&M" means Operation and Maintenance.

D5.2 Notwithstanding C1.1, when used in this Request for Proposal:

- (a) "**Installation Contractor**" means the person undertaking construction or implementation work under a separate contract with the City, who will utilize the pricing, terms, and conditions of this Contract to procure equipment for performing the work under the separate contract. The Installation Contractor may be a subcontractor to a contractor engaged by the City.
- (b) "**Shop Drawings**" means drawings, diagrams, illustrations, schedules, performance charts, brochures and other data which are to be provided by the Contractor to illustrate details of a portion of Work.

## D6. CONTRACT ADMINISTRATOR

D6.1 The Contract Administrator is SNC-Lavalin Inc., represented by:

Curtis Reimer

Project Manager / Lead Automation Engineer  
SNC-Lavalin Inc.  
148 Nature Park Way, Winnipeg, MB, R3P 0X7  
curtis.reimer@snclavalin.com

Telephone No. (204) 786-8080

Facsimile No. (204) 786-7934

D6.2 Bids Submissions must be submitted to the address in B7.9.

## D7. RETURN OF GOODS

D7.1 Further to C9.8 to C9.13, Goods incorrectly supplied as a result of the Contractor's error shall be returned at the Contractor's cost.

D7.2 Further to C9.8 to C9.13, Goods incorrectly supplied as a result of the City's error will be returned at the City's cost.

- D7.3 Further to C9.8 to C9.13, Goods incorrectly supplied as a result of the Installation Contractor's error will be returned at the Installation Contractor's cost.
- D7.4 Further to C9.8 to C9.13, the Contractor will be responsible for costs and any associated equipment manufacturer correspondence for any and all equipment delivered in an unusable state.
- D7.5 Where restocking fees apply, they shall not exceed 10%.

**D8. CHANGES IN THE WORK**

- D8.1 Further to C7, the City anticipates that during the term of the Contract there will be changes including but not limited to:
- (a) Products line / model availability;
  - (b) Products required to meet specific applications.
- D8.2 Changes shall be addressed in accordance with C7 of the General Conditions.
- D8.3 The Contractor shall advise the City of planned obsolescence of a product or product line a minimum of one year prior to obsolescence.
- (a) The Contractor shall provide detailed technical literature on the proposed replacement. The Contract Administrator will determine the technical acceptability of the proposed replacement product.
- D8.4 Where the Contractor is unable to provide a replacement product to meet changes in the City's requirements, the City shall have the right to remove the product from the Contract.
- D8.5 The price of the proposed replacement product must have pricing that is comparable and consistent with the pricing originally proposed in the Contractor's submission. The Contractor shall clearly justify any price changes for the replacement product. The City reserves the right to negotiate the pricing for replacement products.
- D8.6 Where the price of the replacement product is determined by the City to not be comparable to the original product proposed, the City shall have the right to remove the product from the Contract.
- D8.7 Where the proposed replacement product(s) and/or pricing no longer meets the overall intent of the Contract, the City reserves the right to cancel the complete Contract or the applicable portion.

**D9. NOTICES**

- D9.1 Notwithstanding C21.3 all notices of appeal to the Chief Administrative Officer shall be sent to the attention of the Chief Financial Officer at the following facsimile number:
- The City of Winnipeg  
Chief Financial Officer  
Facsimile No.: 204 949-1174

**D10. OWNERSHIP OF INFORMATION, CONFIDENTIALITY AND NON DISCLOSURE**

- D10.1 The Contract, all deliverables produced or developed, and information provided to or acquired by the Contractor are the property of the City and shall not be appropriated for the Contractors own use, or for the use of any third party.
- D10.2 The Contractor shall not make any public announcements or press releases regarding the Contract, without the prior written authorization of the Contract Administrator.

- D10.3 The following shall be confidential and shall not be disclosed by the Contractor to the media or any member of the public without the prior written authorization of the Contract Administrator;
- (a) information provided to the Contractor by the City or acquired by the Contractor during the course of the Work;
  - (b) the Contract, all deliverables produced or developed; and
  - (c) any statement of fact or opinion regarding any aspect of the Contract.
- D10.4 A Contractor who violates any provision of D10 may be determined to be in breach of Contract.

## **D11. FACILITY STANDARD**

- D11.1 The gas detection equipment selected through this RFP process may be utilized as a facility standard for the wastewater treatment facilities.

## **SUBMISSIONS**

### **D12. AUTHORITY TO CARRY ON BUSINESS**

- D12.1 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.

## **SCHEDULE OF WORK**

### **D13. COMMENCEMENT**

- D13.1 The Contractor shall not commence any Work until he/she is in receipt of a notice of award from the City authorizing the commencement of the Work.
- D13.2 The Contractor shall not commence any Work until:
- (a) the Contract Administrator has confirmed receipt and approval of:
    - (i) evidence of authority to carry on business specified in D12;
    - (ii) where applicable, evidence of the workers compensation coverage specified in C6.16; and
  - (b) the Contractor has attended a meeting with the Contract Administrator, or the Contract Administrator has waived the requirement for a meeting.

### **D14. DELIVERY**

- D14.1 All Goods other than gas detection controllers shall be delivered within fifty-six (56) Calendar days, f.o.b. destination, freight prepaid to the destination indicated on the purchase order.
- D14.2 All gas detection controllers shall be delivered within seventy (70) Calendar days, f.o.b. destination, freight prepaid to the destination indicated on the purchase order.
- D14.3 All destinations may be assumed to be within the limits of the City of Winnipeg.
- D14.4 Notwithstanding D14.1 and D14.2, all Goods shall be delivered within the maximum timeframes indicated on Form P, or the timeframes indicated in D14.1 and D14.2, whichever is less.
- D14.5 The average of all deliveries within a given annual period determined by the Contract Administrator shall be within the average timeframe indicated on Form P.

- D14.6 The Contractor shall off-load Goods as directed at the delivery location.
- D14.7 Where Goods are ordered directly by the City, the following shall apply:
- D14.7.1 The Contractor shall confirm each delivery with the Contract Administrator or his/her designate, at least two (2) Business Days before delivery.
- D14.7.2 Goods shall be delivered between 8:00 a.m. and 3:30 p.m. on Business Days.

## **MEASUREMENT AND PAYMENT**

### **D15. INVOICES – CITY ORDERED GOODS**

- D15.1 Where the City directly orders Goods under this Contract, the following shall apply.
- D15.2 Further to C10, the Contractor shall submit an invoice for each order delivered to:
- The City of Winnipeg  
Corporate Finance - Accounts Payable  
4th Floor, Administration Building, 510 Main Street  
Winnipeg MB R3B 1B9
- Facsimile No.: 204 949-0864  
Email: [CityWpgAP@winnipeg.ca](mailto:CityWpgAP@winnipeg.ca)
- D15.3 Invoices must clearly indicate, as a minimum:
- (a) the City's purchase order number;
  - (b) date of delivery;
  - (c) delivery address;
  - (d) type and quantity of goods delivered;
  - (e) the amount payable with GST, MRST, and any applicable environmental handling charges/fees identified and shown as separate amounts; and
  - (f) the Contractor's GST registration number.
  - (g) The person placing the order.
- D15.4 The Goods delivered and associated amounts payable must be clearly itemized and priced in a manner to allow the City to verify that the proposed pricing and terms of the Contract are being adhered to.
- D15.5 The City will bear no responsibility for delays in approval of invoices which are improperly submitted.
- D15.6 Bids Submissions must be submitted to the address in B7.9.

### **D16. PAYMENT – CITY ORDERED GOODS**

- D16.1 Further to C10, the City may at its option pay the Contractor by direct deposit to the Contractor's banking institution.
- D16.2 Further to C10.1.1, the payment to the Contractor shall include the escalation indicated in the Bidder's price proposal, or as agreed to via negotiation.

### **D17. PAYMENT – INSTALLATION CONTRACTOR ORDERED GOODS**

- D17.1 Payment for Goods ordered by the Installation Contractor will be made by the Installation Contractor.
- D17.2 The price shall be based upon the price under this Contract in effect at the time of order.



**D18. PAYMENT SCHEDULE**

- D18.1 Further to C10, payment shall be in Canadian funds net thirty (30) Calendar Days after receipt and approval of the Contractor's invoice.
- D18.2 All payments shall include price adjustments in accordance with Form N.
- D18.3 Payment for Form B, Item 18, Local Training Session will be made on a per session basis.
- (a) In the event that the quality of training provided does not, in the opinion of the Contract Administrator, meet the specifications and the requirements of the City, the payment may be reduced to reflect the quality of training provided.

**D19. PROVISION OF AUDIT SERVICES**

- D19.1 Upon request by the Contract Administrator, the Contractor shall supply the following:
- (a) A complete list of all orders placed and delivered under the Contract.
  - (b) All invoices for Goods delivered under the Contract, including orders placed by the City or by an Installation Contractor.
  - (c) Evidence that the prices invoiced are consistent with the terms of this Contract.
- D19.2 In the event that it is determined that the price invoiced and paid for Goods exceeded the terms of the Contract, the Contractor shall pay the City the difference.
- D19.2.1 Payment corrections shall apply to both the Goods ordered by the City or an Installation Contractor.

**WARRANTY**

**D20. WARRANTY**

- D20.1 Notwithstanding C11, the warranty period shall begin on the date of successful commissioning and expire one (1) year thereafter or as indicated in Form P, whichever is longer.
- D20.2 In the event that the commissioning of the goods is not initiated within six (6) months of delivery, the warranty period shall begin on the date six (6) months from the date of delivery.

## **PART E - SPECIFICATIONS**

### **GENERAL**

#### **E1. APPLICABLE SPECIFICATIONS**

E1.1 These Specifications shall apply to the Work.

#### **E2. APPROVED MANUFACTURERS**

E2.1 Approved manufacturers are:

- (a) Det-Tronics
- (b) Draeger
- (c) Emerson (Net Safety)
- (d) Honeywell
- (e) MSA

E2.2 Bidders are reminded that requests for approval of substitutes as an approved equal or an approved alternative shall be made in accordance with B6.

#### **E3. WORK BY OTHERS**

E3.1 The installation of the equipment will be by others.

E3.2 The commissioning of the equipment will be by others, except as provided for by E24.

#### **E4. MANUFACTURER MODELS**

E4.1 Where multiple model series are proposed for the same product, provide a separate bid for each model series.

#### **E5. SUBMITTAL PROCEDURES**

E5.1 Administrative

E5.1.1 Submit to Contract Administrator submittals listed for review in accordance with the Specifications, or as requested by the Contract Administrator.

E5.1.2 Submit promptly and in orderly sequence to not cause delay in Work. Failure to submit in ample time is not considered sufficient reason for extension of Contract Time and no claim for extension by reason of such default will be allowed.

E5.1.3 Do not proceed with Work affected by submittal until review is complete.

E5.1.4 Present Shop Drawings, product data, samples and mock ups in SI Metric units.

E5.1.5 Where items or information is not produced in SI Metric units converted values are acceptable.

E5.1.6 Review submittals prior to submission to Contract Administrator. This review represents that necessary requirements have been determined and verified, or will be, and that each submittal has been checked and co-ordinated with requirements of Work and Contract Documents. Submittals not stamped, signed, dated and identified as to specific project will be returned without being examined and considered rejected.

E5.1.7 Notify Contract Administrator, in writing at time of submission for review, identifying deviations from requirements of Contract Documents stating reasons for deviations.

E5.1.8 Contractor's responsibility for errors and omissions in submission is not relieved by Contract Administrator's review of submittals.

- E5.1.9 Contractor's responsibility for deviations in submission from requirements of Contract Documents is not relieved by Contract Administrator review.
- E5.1.10 Acceptance of Shop Drawings for a component or a subassembly does not constitute acceptance of the complete assembly of which it is a part.
- E5.1.11 The Contractor shall make any corrections required by the Contract Administrator and shall resubmit the required number of corrected copies of Shop Drawings. The Contractor shall direct specific attention in writing or on resubmitted Shop Drawings to revisions other than the corrections requested by the Contract Administrator on previous submission.
- E5.1.12 After Contract Administrator's review and return of copies, distribute copies to Subcontractors as appropriate.
- E5.2 Shop Drawings and Product Data
- E5.2.1 The Contractor shall 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, weights, dimensions, 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 in writing of any deviations in Shop Drawings from the requirements of the Contract Documents.
- E5.2.2 Have Shop Drawings stamped, signed and dated by a Professional Engineer Licensed to practice in the Province of Manitoba where required in the Specifications or by the Contract Administrator.
- E5.2.3 The Contractor shall examine all Shop Drawings prior to submission to the Contract Administrator to ensure that all necessary requirements have been determined and verified and that each Shop Drawing has been checked and coordinated with the requirements of the Work and the Contract Documents. Examination of each Shop Drawing shall be indicated by stamp, date and signature of a responsible person of the sub-contractor for supplied items and of the General Contractor for fabricated items. Shop Drawings not stamped, signed and dated will be returned without being reviewed and stamped "Re-submit". Ensure that the following are verified:
- E5.2.4 Submit Shop Drawings in a native text-searchable electronic PDF copy (not scanned).
- E5.2.5 Shop Drawing reviews by the Contract Administrator is solely to ascertain conformance with the general design concept. Responsibility for approval of detail design inherent in Shop Drawings rests with the Contractor and review by the Contract Administrator shall not imply such approval.
- E5.2.6 After submittals are stamped "REVIEWED", "NO EXCEPTIONS TAKEN", "MAKE NOTED CORRECTIONS" or "REVIEWED AS MODIFIED", no further revisions are permitted unless re-submitted to the Contract Administrator for further review.
- E5.2.7 Any adjustments made on Shop Drawings by the Contract Administrator are not intended to change the Contract Price. If it is determined that such adjustments affect the Contract Price, clearly state as such in writing prior to proceeding with fabrication and installation of Work. Any changes to the Shop Drawings shall not affect the delivery time as per D14.
- E5.2.8 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.
- E5.2.9 Show the following information in lower right hand corner of Shop Drawings.
- (a) Project Title.
  - (b) Tender number or other project number assigned by the Contract Administrator.
  - (c) Name of the depicted item in accordance with the Specifications and Drawings.

- (d) Project series number and location where the item is used if applicable.
- (e) Specification section number if applicable
- (f) Proposed option if applicable.
- (g) Name of Contractor.

## **E6. GAS DETECTOR GENERAL REQUIREMENTS**

### **E6.1 Transmitter**

- E6.1.1 Transmitter shall be microprocessor controlled and perform self-diagnostics with error detection.
- E6.1.2 Transmitter shall produce 4 to 20 mA output and provide HART® communication capability.
- E6.1.3 Transmitter shall allow for non-intrusive, one-person, password protected calibration using transmitter pushbuttons, magnetic wand, infrared remote control, or HART handheld terminal.
- E6.1.4 Transmitter shall have terminals for field wiring.
- E6.1.5 Transmitter should have capability to mount sensor remotely from transmitter / display. Minimum distance to be 5.0 m.
- E6.1.6 During calibration or configuration of the gas detector, the detector shall stop transmitting actual gas level measurements.
- E6.1.7 Calibration/configuration menu language shall be fixed in English or user selectable in English.
- E6.1.8 The transmitter shall meet or exceed the following specifications:
  - (a) Housing Material:
    - (i) copper free aluminum enclosure with epoxy / polyester powder paint coat (thermally treated); or
    - (ii) 316 stainless steel.
  - (b) Output Signal Current: 4 mA to 20 mA
  - (c) Fault: < 3.2 mA and/or >22 mA
  - (d) Supply Voltage: 24 VDC nominal, 18 to 30 VDC actual
  - (e) Hazardous Rating: Class I, Div 1, Groups B, C, D and/or Class I, Zone 1 Groups IIA and IIB
  - (f) Protection: NEMA 4X
  - (g) Connection: 20 mm (¾") NPT female conduit entry

### **E6.2 Relay Requirements**

- E6.2.1 The requirement for relays to be provided is detailed in the specific gas detector sections, however an option for relays shall be provided for all transmitters.
- E6.2.2 All relays should be Form C (SPDT), rated 5A @ 120 VAC, resistive.
- E6.2.3 Relays should be configurable to be actuated in their normal non-alarmed operating state.
- E6.2.4 Desired minimum relay requirements:
  - (a) One fault relay
  - (b) Two alarm relays, with individual programmable alarm setpoints.

## **E7. CARBON MONOXIDE DETECTOR**

E7.1 Comply with the general requirements in E6.

### **E7.2 Sensor**

E7.2.1 The sensor of the gas detector shall be based on electrochemical principles.

#### **E7.2.2 Environmental:**

- (a) Operating Temperature: 0°C to 40°C
- (b) Operating Humidity: 15-95% RH, non-condensing.

#### **E7.2.3 Minimum performance requirements:**

- (a) Measurement range: 0 – 500 ppm.
- (b) Response Time: T63 ≤ 26 sec, T90 ≤ 60 sec.
- (c) Accuracy: +/- 10% of reading or 6 ppm (whichever is greater)

#### **E7.2.4 Desired performance requirements:**

- (a) Measurement range: 0 – 500 ppm.
- (b) Response Time: T63 ≤ 11 sec, T90 ≤ 25 sec.
- (c) Accuracy: +/- 2% of reading or 2 ppm (whichever is greater)
- (d) Zero Drift: < 4.8 % / year

E7.2.5 Sensor to be temperature compensated and able to operate within ambient temperature range.

E7.2.6 Sensor to contain on-board data memory capability which contains sensor type, part number, serial number, manufacture date and date of initial installation. Additionally it must contain calibration data such as zero, sensitivity and date of last calibration.

E7.2.7 Sensor to have capability for full calibration at a remote location (e.g. instrument shop) and then installed in field transmitters without further calibration required.

E7.2.8 Field replacement of sensor to be accomplished without the need to declassify the area or the need to turn off the entire system.

### **E7.3 Transmitter**

#### **E7.3.1 Display:**

- (a) Minimum two line alphanumeric backlit LCD or organic LED display.

E7.3.2 Transmitter shall accept, recognize, and upload calibration data of a remotely calibrated sensor without the need to repeat configuration and/or calibration.

### **E7.4 Relays**

E7.4.1 Provide relays integrated into the transmitter.

### **E7.5 Accessories to be included in the Form B price:**

- (a) Splashguard
- (b) Mounting brackets for wall mounting (as required)

## **E8. H<sub>2</sub>S DETECTOR**

E8.1 Comply with the general requirements in E6.

### **E8.2 Sensor**

E8.2.1 The sensor of the gas detector shall be based on electrochemical principles.

#### **E8.2.2 Environmental:**

- (a) Operating Temperature: 0°C to 40°C
- (b) Operating Humidity: 5-95% RH, non-condensing.

#### **E8.2.3 Minimum performance requirements:**

- (a) Measurement range: 0 – 50 ppm.
- (b) Response Time: T63 ≤ 26 sec, T90 ≤ 60 sec.
- (c) Accuracy: +/- 10% of reading or 3 ppm (whichever is greater)

#### **E8.2.4 Desired performance requirements:**

- (a) Measurement range: 0 – 50 ppm.
- (b) Response Time: T63 ≤ 10 sec, T90 ≤ 23 sec.
- (c) Accuracy: +/- 3% of reading or 0.5 ppm (whichever is greater)
- (d) Zero Drift: < 4.8 % / year

E8.2.5 Sensor to be temperature compensated and able to operate within ambient temperature range.

E8.2.6 Sensor to contain on-board data memory capability which contains sensor type, part number, serial number, manufacture date and date of initial installation. Additionally it must contain calibration data such as zero, sensitivity and date of last calibration.

E8.2.7 Sensor to have capability for full calibration at a remote location (e.g. instrument shop) and then installed in field transmitters without further calibration required.

E8.2.8 Field replacement of sensor to be accomplished without the need to declassify the area or the need to turn off the entire system.

### **E8.3 Transmitter**

#### **E8.3.1 Display:**

- (a) Minimum two line alphanumeric backlit LCD or organic LED display.

E8.3.2 Transmitter shall accept, recognize, and upload calibration data of a remotely calibrated sensor without the need to repeat configuration and/or calibration.

### **E8.4 Relays**

E8.4.1 The provision of relays is to be an option, and not included in the Form B price.

### **E8.5 Desired Features:**

E8.5.1 Performance approved to ISA 92.00.01.

### **E8.6 Accessories to be included in the Form B price:**

- (a) Splashguard
- (b) Mounting brackets for wall mounting (as required)

## **E9. INFRARED HYDROCARBON DETECTOR**

E9.1 Comply with the general requirements in E6.

### **E9.2 Gas Detector**

E9.2.1 The sensor of the gas detector shall be based on infrared principles.

E9.2.2 Approvals: CSA 22.2 No. 152

E9.2.3 Environmental:

- (a) Operating Temperature: 0°C to 40°C
- (b) Operating Humidity: 15-95% RH, non-condensing.

E9.2.4 Minimum performance requirements:

- (a) Measurement range: 0 – 100 %LEL. (Methane)
- (b) Response Time: T63 <= 10 sec, T90 <= 23 sec.
- (c) Accuracy: +/- 5% of full scale (<50 %LEL) and  
+/- 10% of full scale (≥50 %LEL)

E9.2.5 Desired performance requirements:

- (a) Measurement range: 0 – 100 %LEL.
- (b) Response Time: T63 <= 3 sec, T90 <= 4 sec.
- (c) Accuracy: +/- 1% of full scale (<50 %LEL) and  
+/- 3% of full scale (≥50 %LEL)
- (d) Zero Drift: < 0.5 % / year

E9.2.6 The gas detector shall be microprocessor controlled and perform self-diagnostics with error detection.

E9.2.7 Calibration:

- (a) During calibration or configuration of the gas detector, the detector should stop transmitting actual gas level measurements.
- (b) Transmitter shall have the capability for remote calibration when the sensor is not accessible. Expectations include with both remote gas and either a remote HART connection or a remote display.
- (c) Calibration/configuration menu language shall be fixed in English or user selectable in English.

E9.2.8 Desired Feature:

- (a) The IR detector should have heated optics to prevent condensation.
- (b) The IR detector should be double compensated with two lamps and two detectors.

### **E9.3 Transmitter**

E9.3.1 The requirement for a display is dependent upon the proposed means to provide for remote calibration, as per E9.5.3.

### **E9.4 Relays**

E9.4.1 The provision of relays is to be an option, and not included in the Form B price.

E9.5 Accessories to be included in the Form B price:

E9.5.1 Splashguard

E9.5.2 Mounting brackets for wall mounting (as required)

E9.5.3 Remote Calibration / Sensor Connection Kit

- (a) All hardware required in order to remotely calibrate the sensor, when the sensor is not in an accessible location. The remote sensor connection kit shall include but not be limited to junction boxes, connectors, proprietary cables, etc.
- (b) Two acceptable alternatives for provision of the remote sensor are:
  - (i) Provision of a transmitter / display unit remote from the sensor, whereby maintenance personnel can access the unit's calibration functions.
  - (ii) Provision of an intrinsically safe HART interface, remote from the sensor, whereby maintenance personnel can access the unit's calibration functions.
- (c) Minimum distance to be 5.0 m.

#### E9.5.4 Remote Calibration Gas Kit

- (a) All hardware required in order to remotely provide a calibration gas to the sensor, when the sensor is not in an accessible location. The calibration kit shall include but not be limited to a remote calibration accessory, connectors, calibration gas connectors, etc. Calibration gas tubing to the remote sensor location is excluded from the Calibration Gas Kit.
- (b) Minimum distance to be 5.0 m.

### E10. OXYGEN DETECTOR

E10.1 Comply with the general requirements in E6.

E10.2 Sensor

E10.2.1 The sensor of the gas detector shall be based on electrochemical principles.

E10.2.2 Environmental:

- (a) Operating Temperature: 0°C to 40°C
- (b) Operating Humidity: 15-95% RH, non-condensing.

E10.2.3 Minimum performance requirements:

- (a) Measurement range: 0 – 25 %
- (b) Response Time: T63 <= 26 sec, T90 <=60 sec.
- (c) Accuracy: +/- 5% of reading or 1% V/V (whichever is greater)

E10.2.4 Desired performance requirements:

- (a) Measurement range: 0 – 25 % V/V
- (b) Response Time: T63 <= 13 seconds , T90 <= 20 sec,
- (c) Accuracy: +/- 1% of reading or 0.1 % V/V (whichever is greater)
- (d) Zero Drift: < 4.8 % (span) / year

E10.2.5 Sensor specifications include:

- (a) Operating Temperature: -20°C to 50°C.
- (b) Operating Humidity: 15-95% RH, non-condensing
- (c) Measurement range: 0 – 25 %

E10.2.6 Sensor to be temperature compensated and able to operate within ambient temperature range.

E10.2.7 Sensor to contain on-board data memory capability which contains sensor type, part number, serial number, manufacture date and date of initial installation. Additionally it must contain calibration data such as zero, sensitivity and date of last calibration.

E10.2.8 Sensor to have capability for full calibration at a remote location (e.g. instrument shop) and then installed in field transmitters without further calibration required.



E10.2.9 Field replacement of sensor to be accomplished without the need to declassify the area or the need to turn off the entire system.

E10.3 Transmitter

E10.3.1 Display:

(a) Minimum two line alphanumeric backlit LCD or organic LED display.

E10.3.2 Transmitter shall accept, recognize, and upload calibration data of a remotely calibrated sensor without the need to repeat configuration and/or calibration.

E10.4 Relays

E10.4.1 The provision of relays is to be an option, and not included in the Form B price.

E10.5 Accessories to be included in the Form B price:

(a) Splashguard

(b) Mounting brackets for wall mounting (as required)

### **E11. GAS DETECTOR CONFIGURATION HARDWARE / SOFTWARE**

E11.1 Provide any specialized setup tools, magnetic wands, handheld calibrators, controllers, dongles, hardware, and software required to setup, configure, and calibrate the gas detectors.

E11.2 Provision of a standard HART calibrator is not required.

E11.3 Each package shall include all required configuration hardware and software.

E11.3.1 If different hardware / software are required for the various types of detectors, then provide one component of each type required within each package.

### **E12. REPLACEMENT CARBON MONOXIDE (CO) SENSOR**

E12.1 Provide one replacement CO sensor compatible with the proposed CO detector.

### **E13. REPLACEMENT HYDROGEN SULFIDE (H2S) SENSOR**

E13.1 Provide one replacement H2S sensor compatible with the proposed H2S detector.

### **E14. REPLACEMENT OXYGEN (O2) SENSOR**

E14.1 Provide one replacement O2 sensor compatible with the proposed O2 detector.

### **E15. GAS DETECTION CONTROLLER - GENERAL REQUIREMENTS**

E15.1 The gas detection controller shall meet the following requirements:

(a) Microprocessor based.

(b) Approvals: CSA C22.2 No. 152.

(c) Power Supply: 120 VAC, 8 A max

(d) Enclosure: NEMA 4 minimum

(e) Mounting: Wall

(f) Operating Temperature range: 0°C to 40°C.

(g) Operating Humidity: 0-90% RH, non-condensing

E15.2 Active Sale and Production Guarantee

E15.2.1 The manufacturer shall have no plans to remove the proposed gas detection controller equipment from active sale and/or production within the next five years.

- E15.2.2 The desired requirement for the product lifecycle guarantee is:
- (b) The manufacturer shall have no plans to remove the proposed gas detection equipment from active sale and/or production within the next ten years.
- E15.3 Product Support Guarantee
- (a) Provide a guarantee that the gas detection controller will be operable, maintainable and fully supported by the manufacturer, including availability of spare parts, for a period of at least five (5) years from the date of award of the contract.
  - (b) Desired feature:
    - (i) Provide a guarantee that the gas detection controller will be operable, maintainable and fully supported by the manufacturer, including availability of spare parts, for a period of at least ten (10) years from the date of award of the contract.
- E15.4 Input Channels
- E15.4.1 Configuration
- (a) Capable of accommodating differing numbers of input channels.
  - (b) Capability may be provided via internal add-on modules.
- E15.4.2 Input Signal:
- (a) 4-20 mA mandatory
  - (b) Desired feature: HART communication capability.
- E15.4.3 Configurable for gas, range, and units.
- E15.4.4 Power for gas detectors connected to input channels shall be supplied by the controller.
- E15.5 Display
- E15.5.1 Alphanumeric display to be English or user selectable in English.
- E15.5.2 Configurable for 0.1 through 8,000 ppm for ppm levels.
- E15.5.3 Configurable for 0-100% for percentage levels.
- E15.5.4 Allow viewing of all active channels simultaneously.
- E15.6 Alarms
- E15.6.1 Provide clear visible indication of all active alarms on the front panel.
- E15.7 Alarm Relays:
- E15.7.1 Provide a common controller fault relay.
- E15.7.2 Provide two output relays per channel, with independent configurable setpoints per relay per channel.
- E15.7.3 Capability may be provided via an internal add-on module.
- E15.7.4 All relays to be Form C, SPDT.
- E15.7.5 Contacts rated for 5A at 30 VDC and 120 VAC
- E15.7.6 Configurable for fail-safe operation, where relays are normally energized.
- E15.7.7 Desired feature: Expandable relay configurations available.
- E15.7.8 Desired feature: Configurable for latching or non-latching operation.
- E15.7.9 Desired feature: Configurable for zoning together of input channels.

**E15.8 Configuration:**

- E15.8.1 All configuration should be available from the unit front display.  
(a) Desired feature: Configuration available without requiring the enclosure to be opened.
- E15.8.2 Password protected.
- E15.8.3 Store data in non-volatile memory. Battery backed RAM for storing configuration data is not acceptable.
- E15.8.4 Desired Feature:  
(a) Software setup application with the capability to load and save the controller configuration to a file. This feature to be in addition to local configuration capability.

**E15.9 Communication:**

- E15.9.1 Minimum requirement: Modbus RS-485 slave  
(a) Provide registers to access each channel gas level, as well as all alarm and fault status indications.  
(b) Register map to be fully documented and made available.
- E15.9.2 Desired Features:  
(a) Modbus TCP  
(b) PROFIBUS DP

**E15.10 Desired Features:**

- E15.10.1 Provide trending capability integrated into the controller.
- E15.10.2 Provide on-board memory for storing historical data.

**E16. GAS DETECTION CONTROLLER – TYPE 1**

- E16.1 Provide general requirements as per E15.
- E16.2 Input Channels:  
E16.2.1 Provide four input channels, in one unit.  
E16.2.2 Desired feature: The system should be expandable to 8 input channels within one unit.

**E17. GAS DETECTION CONTROLLER – TYPE 2**

- E17.1 Provide general requirements as per E15.
- E17.2 Input Channels:  
E17.2.1 Provide sixteen (16) input channels.  
E17.2.2 Desired feature: All sixteen channels should be in one unit.  
E17.2.3 Desired feature: The system should be expandable to 64 input channels within one unit.
- E17.3 Desired features:  
E17.3.1 The gas detection controller should be common in manufacture, style, and function with the four channel controller specified in E16.

**E18. GAS DETECTION CONTROLLER CONFIGURATION SOFTWARE**

E18.1 Provide any configuration software available/required to configure, setup, and commission both the Type 1 and Type 2 gas detection controllers.

E18.2 The unit price on Form B shall be for a complete, independent software package.

**E19. CARBON MONOXIDE (CO) DETECTOR SETUP / CALIBRATION SYSTEM**

E19.1 Provide all components required to calibrate a Carbon Monoxide detector including but not limited to:

- (a) One 58 - 98 L cylinder of calibration gas (span)
- (b) One 58 - 98 L cylinder of zero air
- (c) Regulators
- (d) Tubing
- (e) Cup Adapter

E19.2 Provide any specialized handheld calibrators, controllers, or setup tools required, other than a standard HART calibrator.

**E20. HYDROGEN SULFIDE (H<sub>2</sub>S) DETECTOR SETUP / CALIBRATION SYSTEM**

E20.1 Provide all components required to calibrate an H<sub>2</sub>S detector including but not limited to:

- (a) One 58 - 98 L cylinder of calibration gas (span)
- (b) One 58 - 98 L cylinder of zero air
- (c) Regulators
- (d) Tubing
- (e) Cup Adapter

E20.2 Provide any specialized handheld calibrators, controllers, or setup tools required, other than a standard HART calibrator.

**E21. METHANE (CH<sub>4</sub>) DETECTOR SETUP / CALIBRATION SYSTEM**

E21.1 Provide all components required to calibrate a combustible gas detector including but not limited to:

- (a) One 58 - 98 L cylinder of calibration gas (span)
- (b) One 58 - 98 L cylinder of zero air
- (c) Regulators
- (d) Tubing
- (e) Cup Adapter

E21.2 Provide any specialized handheld calibrators, controllers, or setup tools required, other than a standard HART calibrator.

## **E22. OXYGEN (O2) DETECTOR SETUP / CALIBRATION SYSTEM**

- E22.1 Provide all components required to calibrate an Oxygen detector including but not limited to:
- (a) One 58 - 98 L cylinder of calibration gas
  - (b) One 58 - 98 L cylinder of zero air
  - (c) Regulators
  - (d) Tubing
  - (e) Cup Adapter
- E22.2 Provide any specialized handheld calibrators, controllers, or setup tools required, other than a standard HART calibrator.

## **E23. SAMPLE PUMP SYSTEM**

- E23.1 Supply of a gas sample pump module is not a mandatory requirement.
- E23.2 Provide all hardware required in order to connect a flow through sample line to a combustible gas IR detector for gas detection of a sample gas.
- E23.3 Desired feature: Eductor based system.
- E23.4 Requirements for an educator based system include:
- (a) An eductor based sampling system with instrument air connection
  - (b) Flow cap for an IR detector to allow for sample based gas detection.
  - (c) A pressure regulator to drop instrument air pressure down to eductor operating pressure.
  - (d) In-line filter
  - (e) End-of-line filter to remove water from the sample inlet.
  - (f) A low flow switch with one Form C contact.
  - (g) 3-way Valve to allow for calibration of detector.
- E23.5 Requirements for a pump based system include:
- (a) A pump based sampling system with a 24 VDC or 120 VAC power connection.
  - (b) Flow cap for an IR detector to allow for sample based gas detection.
  - (c) In-line filter
  - (d) End-of-line filter to remove water from the sample inlet.
  - (e) A low flow switch with one Form C contact.
  - (f) 3-way Valve to allow for calibration of detector

## **E24. SETUP AND COMMISSIONING**

E24.1 Provide the services for a factory-trained instrument technician to setup and commission the gas detection instruments and controllers, as requested by the City. It is expected that setup and commissioning will be required for some, but not all, of the equipment.

E24.2 Qualification

- (a) The personnel provided shall be a factory trained and certified technologist, with a minimum of one year of experience working with the products proposed.

E24.3 Services

E24.3.1 Provide a full eight hours of on-site labour, for each allocated day, to setup and commission the gas detection systems.

E24.3.2 Provide all travel and tools required.

## **E25. LOCAL TRAINING SESSION**

E25.1 Overview

E25.1.1 Provide instruction to designated City personnel in the operation and maintenance of the gas detection equipment.

E25.2 Location

E25.2.1 The location of the training will be in the City of Winnipeg, in a facility provided by the City.

E25.3 Travel

E25.3.1 Provide all travel, meals and accommodations at no additional cost.

E25.4 Submittals

E25.4.1 Submittals to be in accordance with E5.

E25.4.2 Submit the names and qualifications of the proposed instructors.

E25.4.3 Submit training proposal complete with hour by hour schedule including brief overview of content of each training segment a minimum of 30 working days prior to the anticipated date of beginning of training.

E25.5 Quality Assurance

E25.5.1 Provide competent instructors thoroughly familiar with all aspects of the gas detection equipment.

E25.5.2 The Contract Administrator may reject instructors it determines to not be qualified.

E25.5.3 In the event that the training provided is not satisfactory, reduction of payment as per D18.3(a) may be applied.

E25.6 Duration

E25.6.1 The training shall be a minimum of eight (8) hours in duration, excluding coffee and lunch breaks.

E25.6.2 Each session shall be assumed to be independent of other training sessions, and not necessarily aligned with other on-site work or training.

E25.7 Materials

E25.7.1 Provide equipment, visual and audio aids, and materials.

E25.7.2 Supply manual for each trainee, describing in detail the information included in each training program.

## E25.8 Attendees

E25.8.1 The attendees are expected to include, but not be limited to:

- (a) Electrical and instrumentation maintenance personnel.
- (b) Operations personnel.

## E25.9 Content

E25.9.1 Overview of the equipment.

E25.9.2 Equipment maintenance training including:

- (a) Installation
- (b) Configuration
- (c) Troubleshooting
- (d) Preventative maintenance