



673-2011 ADDENDUM #1

REPLACEMENT OF COOLING PLANT – 510 MAIN STREET

URGENT

**PLEASE FORWARD THIS DOCUMENT TO
WHOEVER IS IN POSSESSION OF THE BID
OPPORTUNITY**

ISSUED: November 16, 2011
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**THIS ADDENDUM SHALL BE INCORPORATED
INTO THE BID OPPORTUNITY AND SHALL
FORM A PART OF THE CONTRACT
DOCUMENTS**

Template Version: A20070419

Please note the following and attached changes, corrections, additions, deletions, information and/or instructions in connection with the Bid Opportunity, and be governed accordingly. Failure to acknowledge receipt of this Addendum in Paragraph 9 of Form A: Bid may render your Bid non-responsive.

PART A – BID SUBMISSION

Replace: 673-2011 673-2011 Bid Submission with 673-2011_Addendum #1- Bid Submission. The following is a summary of changes incorporated in the replacement Bid Submission:

Form B(R1): Revise Description and Spec. Ref for Separate Price Items

PART B – BIDDING PROCEDURES

Revise: B2.1 to read: The Submission Deadline is 4:00 p.m. Winnipeg time, November 21, 2011.

Revise: B11.1 to read: Bids will not be opened publicly.

PART D – SUPPLEMENTAL CONDITIONS

Revise: D14.3 to read: The Contractor shall not commence any Demolition Work on the Site before March 1, 2012.

NMS– SPECIFICATIONS

Revise: Section 22 05 00 Clause 1.11.1 to read:

Fire-stop all pipe, duct, conduit and wire penetrations through floors and walls of mechanical rooms and/or fuel storage rooms.

Add: Section 22 07 19, Clause 2.4.3:

Canvas

- .1 220 gm/m² cotton, plain weave, treated with dilute fire retardant lagging adhesive to ASTM C 921.
- .2 Lagging adhesive: compatible with insulation.
- .3 Jacking to be painted. Contract Administrator to advise colour.

Revise: Section 22 07 19, Clause 3.6.3.1 to read:

Exposed in mechanical rooms: canvas

Revise: Section 23 05 00 Clause 1.11.1 to read:

Fire-stop all pipe, duct, conduit and wire penetrations through floors and walls of mechanical rooms and/or fuel storage rooms.

Add: Section 23 05 83 Clause 1.1.3:

Provide pre-construction balance report on existing sub-basement ventilation system.

Add: Section 23 05 83 Clause 1.7:

1.7 Pre-construction Balance Report

- .1 Prior to construction, provide a pre-construction balance report on existing sub-basement ventilation system including:
 - .1 Sub-basement air-handler system (F-14): System has a 3780 L/s (approximate) supply fan, O/A intake duct with damper, R/A intake with damper and six (6) S/A diffuser outlets.
 - .2 Sub-basement exhaust fan system (F-15): System is estimated to be 3780 L/s to 5600 L/s with three (3) exhaust air grills.
 - .3 Sub-basement R-134A refrigerant detection system: System has one (1) Vulcain leak detection sensor.
- .2 Report shall indicate central equipment and terminal outlet airflows during normal operation and emergency operation such as when a refrigerant leak is detected.
- .3 Report shall provide an overview of how the system works.
- .4 Report shall indicate any operating problems during tests.
- .5 Report shall indicate all abnormal operating conditions.
- .6 Report shall indicate calibration results of R-134A refrigerant leak detection system.
- .7 Submit two (2) copies of Pre-construction balancing reports to Contract Administrator no later than January 15th, 2012.
- .8 Provide five (5) copies of final reports to Contractor for inserting in Operating and Maintenance Manuals as described in Section 01 33 00 - Submittal Procedures.
- .9 Include types, serial number and dates of calibration of instruments in the reports.

Revise: Section 23 05 83 Clause 3.5.7 to read:

Clean piping system and strainers, clean systems as per Section 23 08 02 – Cleaning and Start-up of Mechanical Piping Systems, drain and fill with clean heat exchange fluid.

Add: Section 23 05 93 Clause 1.1.11:

Existing sub-basement ventilation system.

Add: Section 23 05 93 Clause 1.1.12:

Existing sub-basement R-134A refrigerant leak detection system.

Add: Section 23 05 93 Clause 3.4:

3.4 Existing Sub-basement Ventilation System

- .1 Test existing sub-basement ventilation system during normal and emergency (refrigerant leak detected) operations including all manual, electronic and pneumatic controls.
- .2 Check and report all abnormal operating conditions.
- .3 Report results in Pre-construction Balance Report as per Section 23 05 83 – Balancing.

Add: Section 23 05 93 Clause 3.5:

3.5 Existing Sub-Basement R-134A Refrigerant Leak Detection System

- .1 Check calibration of R-134A refrigerant leak detection system prior to demolition of existing chillers.
- .2 Check and report all abnormal operating conditions.
- .3 Notify Contract Administrator if replacement is needed no later than January 15th, 2012.
- .4 Report results in Pre-construction Balance Report as per Section 23 05 83 – Balancing.

Revise: Section 23 06 00 Clause 1.4 to read:

Tag	P-23	P-24	P-25
Function	CH-3 Condenser Water Pump	CH-3 Chilled Water Pump	HP-1 Circulator Pump
Location	Sub-basement	Sub-basement	Sub-basement
Type	Vertical Inline	Vertical Inline	Inline
Impeller	Bronze	Bronze	Bronze
Casing	Cast Iron	Cast Iron	Cast Iron
Medium Pumped	Water	Water	Water
Maximum Operating Temp., °C	60	12	60
Pump Speed, RPM	1800	1800	1800
Design Flow Rate, L/s	10.7	8.2	0.93
Discharge Head, kPa	121	72	59
Suction/Discharge Sizes, mm	75/75	75/75	40/40
Motor Power, kW	2.25	1.12	0.75
Impeller Size, mm	200	150	150
Power Supply, V/ph/Hz	575/3/60	575/3/60	120/1/60
Manufacturer	Armstrong	Armstrong	Armstrong
Model	4380 IVS 3x3x8	4300 IVS 3x3x6	4380 1.5x1.5x6
Accessories	c/w manufacturers approved suction guide diffuser, triple duty valve, and integrated variable speed drive		c/w manufacturers approved suction guide diffuser and triple duty valve
Remarks	Ref. Spec. Section 23 21 23		

Add: Section 23 06 00 Clause 1.9:

1.9 Pneumatic Control Valve Schedule

Tag	PCV-1	PCV-2
Function	Cooling tower diversion	HX diversion
Location	Sub-basement	Sub-basement
Type	Industrial grade 3-way, twin butterfly valve, spring return, high pressure pneumatic actuator	Industrial grade 3-way, twin butterfly valve, spring return, high pressure pneumatic actuator
Body Type (see Figure 1 below)	Three-Way, Style D	Three-Way, Style E
Valve Size, mm	250	100
CV at 90°	5430	841
CV at 70°	2948	495
Closeoff Pressure, kPa (psig)	25.4 (175)	25.4 (175)
No. Valve Lug Bolting Holes	10	8
Medium	Water	Water
Manufacturer	Johnson Controls	Johnson Controls
Model	VF Series (V-919x Series Actuator)	VF Series (V-919x Series Actuator)
Valve Construction	Cast iron valve body, stainless steel stem, ductile iron disk.	
Remarks	Available on-site air pressure: 6.2 kPa (45 psig) Ref. Spec. Section 23 09 23	
<p style="text-align: center;">Figure 1: Three-Way Valve Body Styles</p>		

Add: Section 23 07 19, Clause 2.4.3:

Canvas

- .1 220 gm/m² cotton, plain weave, treated with dilute fire retardant lagging adhesive to ASTM C 921.
- .2 Lagging adhesive: compatible with insulation.
- .3 Jacking to be painted. Contract Administrator to advise colour.

Revise: Section 23 07 19, Clause 3.6.3.1 to read:

Exposed in mechanical rooms: canvas

Revise: Section 23 09 33, Clause 1.6.1 to read:

Provide a complete and fully operational system of automatic controls, including Control devices, components, wiring and all materials and labour.

Delete: Section 23 09 33, Clause 1.7.3.

Revise: Section 23 09 33, Clause 1.12.1 to read:

A final operational acceptance test of seven (7) consecutive days shall be conducted, when the external temperature is greater than 30°C over four (4) consecutive hours, on the complete and total installed and operational control system to demonstrate that it is functioning properly in accordance with the Specifications.

Revise: Section 23 09 93, Clause 4.2.4 to read:

When the condenser water temperature inside any of the tanks drops below 48.9°C (120°F) as indicated by the tanks integral thermostat, a call for heating will be sent to the BAS. The BAS will enable chiller CH-3. The BAS shall only enable chiller CH-3 if CH-1 or CH-2 is already running. Once CH-3 has been enabled the BAS shall modulate control valve PCV-2 which normally diverts flow away from the heat exchangers will now divert flow to the heat exchangers to maintain a condenser entering water temperature of 46.1°C. Once the integral thermostat reaches 50°C the BAS will disable chiller CH-3, unless it is required for cooling as required by the sequence in 4.1

Add: Section 23 21 14 Clause 2.13:

2.13 Basket Strainers

- .1 4" (100mm) cast-iron basket strainer with flanged connections. Screen to be constructed of type 304 stainless steel.
- .2 Strainer to be 30 mesh with minimum 45% open area. Openings to be 0.022" diameter.
- .3 Standard of acceptance: Colton Industries Cast Iron Flanged Class 125 Basket Strainer.

Add: Section 23 21 14 Clause 3.11:

3.11 Basket Strainers

- .1 Install basket strainer upstream of P-23 on Ø100 condenser return pipe as shown on drawing M-003.

Add: Section 23 64 16, Clause 1.7.2:

The Service Agreement will include the following:

- .1 Spring Start Up (perform one (1) annually, perform no later than April 30th):
 - .1 If the water systems have been drained, fill the chilled water liquid circuit. Flush condenser and check for leaks.
 - .2 Check and record the alarm history (stored in the chiller controller).
 - .3 Check operation and cutout points of all safety controls, including flow switches.
 - .4 Review log sheets and discuss the general operation with the operator. Instruct operator about any new operating procedures.
 - .5 Check and tighten all electrical connections.
 - .6 Check cooling tower components to ensure that they will operate correctly in conjunction with the chiller system.

- .7 Submit written inspection report to the Owner, detailing all of the above items.
 - .8 At conclusion of Spring Start Up, the cooling plant system shall be ready for start-up when required.
- .2 Summer Checks (perform one (1) annually):
- .1 Check the microprocessor displays.
 - .2 Check the entering and leaving chilled liquid temperature and evaporator pressure for comparison with the original design conditions.
 - .3 Check the compressor motor voltage and current (amps).
 - .4 Check and record the alarm history stored in the chiller controller.
 - .5 Verify and record that all chiller systems are in good operating condition.
 - .6 Review log sheets for problem indicators. Discuss problems (actual or potential) with the operator. Instruct operator about any new operating procedures.
 - .7 Report any deficiencies to the operator. Make recommendations to the operator, advise on the overall general condition of the chiller and cooling plant system, and submit an Inspection Check Sheet indicating any work required.
 - .8 Submit written inspection report to the Owner, detailing all of the above items.
- .3 Fall Shut Down (perform one (1) annually, perform no later than November 1st):
- .1 Record refrigerant level.
 - .2 Test all systems for refrigerant leaks with a leak detector. If any leaks are found, they should be repaired before allowing the system to stand for a long period of time.
 - .3 Open the drains on the cooler liquid heads to assure complete drainage.
 - .4 Open the main disconnect switches to the compressor motor(s), chilled water pumps and condensing unit.
 - .5 Open the 120-volt circuit to the control centre and lock out.
 - .6 Check the controls and safety cutouts.
 - .7 Remove condenser heads to inspect condenser tubes and clean if required.
 - .8 Cooler Checks: Inspect and clean the water strainer, inspect and clean the tubes as required, and inspect the end sheets.
 - .9 Compressor Drive Motor Checks: Clean the air passages and windings in accordance with the manufacturer's instructions, megger the motor windings, inspect and service the electrical components as necessary,
 - .10 Perform a chemical analysis of the system.
 - .11 Check and record the alarm history (stored in the chiller controller).
 - .12 Review log sheets for problem indicators. Discuss problems (actual or potential) with the operator. Instruct the system operator about any new operating procedures.
 - .13 Report any deficiencies to the system operator and the Owner. Make recommendations to the operating personnel, advise to the overall general condition of the chiller and submit an Inspection Check Sheet indicating the work required.
 - .14 Submit written inspection report to the Owner, detailing all of the above items.
 - .15 At the conclusion of the Fall Shut Down, the chiller shall be ready for the Spring Start Up.

Add: Section 23 64 16, Clause 1.7.3:

Supply itemized Log Sheets for the operator.

Add: Section 23 64 16, Clause 1.7.4:

Supply one set of the following documents, printed in Times New Roman 16 font and laminated:

- .1 Valve Schedule

- .2 Spring Start Up procedures – step by step instructions, including acceptable ranges of operation
- .3 Summer Check procedures – step by step instructions, including acceptable ranges of operation
- .4 Fall Shut Down procedures – step by step instructions, including acceptable ranges of operation

DRAWINGS

Replace: 673-2011_Drawing_E-001.pdf with 673-2011_Addendum #1_Drawing_E-001-R1.pdf
673-2011_Drawing_E-002.pdf with 673-2011_Addendum #1_Drawing_E-002-R1.pdf
673-2011_Drawing_E-003.pdf with 673-2011_Addendum #1_Drawing_E-003-R1.pdf
673-2011_Drawing_E-004.pdf with 673-2011_Addendum #1_Drawing_E-004-R1.pdf
673-2011_Drawing_E-005.pdf with 673-2011_Addendum #1_Drawing_E-005-R1.pdf
673-2011_Drawing_G-001.pdf with 673-2011_Addendum #1_Drawing_G-001-R1.pdf
673-2011_Drawing_M-001.pdf with 673-2011_Addendum #1_Drawing_M-001-R1.pdf
673-2011_Drawing_M-002.pdf with 673-2011_Addendum #1_Drawing_M-002-R1.pdf
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673-2011_Drawing_M-011.pdf with 673-2011_Addendum #1_Drawing_M-011-R1.pdf
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673-2011_Drawing_S-001.pdf with 673-2011_Addendum #1_Drawing_S-001-R1.pdf