

Purchasing Division Finance Department

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Addendum #3 Solicitation # 20-10AA Project: Hot Water Distribution System Balance of Plant (Mechanical) at Duluth Energy Systems

This addendum serves to notify all bidders of the following changes to the solicitation documents:

Questions and Responses:

- 1. Is there a spec for the spring hangers? Are the spring hangers provided by the owner or the contractor?
 - A. By <u>this</u> Contractor. Requirements are that hanger materials and application conform to MSS SP-58, SP-69, SP-89 and ASTM B31.9.
- 2. Division 25 Integrated Automation to be issued in the future. Does that mean all PT, FT, TT, CV, FCV, PDT and LT will be included in that package?
 - A. Yes. However non-powered indicators such as thermometers and pressure gauges will be by <u>this</u> Mechanical Contractor. Installation of thermowells for electronic devices will also be by <u>this</u> MC.
- Is there a spec section 230900? Water treatment section refers to 230900.
 A. See below.
- 4. Where is the division between the SCS contractor and this new project? Are we to connect to the flanges on the vertical heat exchangers as shown on the drawings or end and leave a connection after the FT's and TT's as shown on the Mechanical Schematic?
 - A. Final connection of steam piping to the horizontal steam header (by Others) will be by <u>this</u> Contractor at/near the Plant wall. Single connection coordinated with SCS installing Contractor (Northern Horizons).
- Please clarify the requirements for painting of pipe for this project
 A. Pipe painting not required.
- 6. Flushing and cleaning of the system. Are we to clean/flush our newly installed piping and equipment? Or the entire new HW system?

A. Contractor to flush/clean with TSP only their pipe. The SCS and the network distribution pipe will be cleaned by others.

7. If the entire system please supply total volume. If we are to flush the new SCS skid, please provide volume of skid.

A. N/A – SCS flush/clean by others

8. Is the use of Heatlok High Lift spray on insulation permitted?

A. The use of Heatlok insulation is not permitted as it does not meet the requirements for insulation in the plant.

9. Are all the system fill components existing other than the RPZ?

A. On HGA Drawing M600 all strainers, valves, & RPZ shown on the schematic are all needed prior to tie into the existing city water connection

Changes/Clarifications to Drawings and Specifications:

Below is clarification of the scope limits of the "steam header" and "steam train" furnish and install. Defined as follows:

- 1. As shown in the construction drawings and P&IDs, the "steam header" is the section of main steam header from the building west wall face, extending into the building at the 'Steam Deck' level. This header has (4) take-offs; three of which will have attached the "steam trains". The 4th take-off will be valved and capped for future:
 - a. Furnished by: Campbell-Sevey (as part of previous contract).
 - b. Supported by: Structural steel provided by this contractor.
 - i. As part of contract: 20-10AA Balance of plant mechanical (<u>this</u> contract)_____
 - c. Installed by: <u>This</u> contractor_
 - i. As part of contract: 20-10AA Balance of Plant mechanical (<u>this</u> contract)
- "Steam trains" are the sections of branch steam rising up from the "steam header" on the steam deck, then turning horizontal and running south to their respective SCS-1, 2 and 3 PHX inlets. These trains have all the devices required to control steam delivery to their respective SCS – as detailed in the plan/elevation drawings and P&IDs:
 - a. Furnished by: Campbell-Sevey (as part of previous contract).
 - b. Supported by: Structural steel provided by this contractor.
 - i. As part of contract: 20-10AA Balance of plant mechanical (<u>this</u> contract)_____
 - c. Installed by: <u>This</u> contractor.

i. As part of contract: **20-10AA Balance of Plant mechanical** (<u>this</u> **contract**)

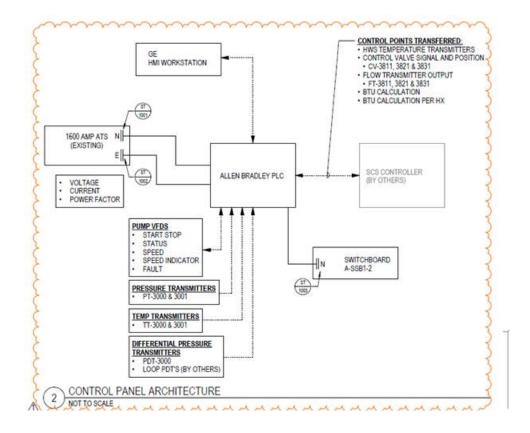
Additional clarifications and specifications that <u>will be included and formalized in future</u> <u>ASI</u> – included here for pricing guidance:

- Under Specification 230523 Section 2.7 Silent Check Valves must be provided at the outlet of the pumps. No other check valves will be accepted for this service.
- Under Specification 230523 Section 2.9.A the Pressure Class should be 300#.
- Under Specification 230523 Section 2.9.2.b the temperature and pressure rating should be 215F and 250 PSIG.
- Under Specification 232923 Section 2.8 all VFD's for the pump drives **MUST** be NEMA 4 rated.
- Under Specification 232923 Section 2.7 one (1) of the 4 VFDs will be equipped with a bypass. The by-pass will receive its input power from another feeder from a different piece of electrical distribution equipment, which is on the same utility source. The two sources should be electrically isolated from each other at the VFD/by-pass.
- Forthcoming document 230900
 DESCRIPTION
 - The local panel shall enable local and remote operation of the pumps.
 - The panel annunciator shall be a conventional lighted panel display type. First out indication shall be provided. It shall include one point for each alarm and shutdown plus four active spares.

REQUIREMENTS

- The Pump PLC Allen Bradley ControlLogix PLC based system controllers.
- The Panel shall have a 17" diagonal touch screen with 256 colors, 1024 x 768-pixel LCD resolution (minimum). Locate to allow easy viewing and access from operating floor.
- Control Station and Display Requirements:
 - Local operation and programming of controllers, graphic display of information, alarm message display, historical and real-time trending, remote controller tuning, and standard Internet browser remote communication. Network to plant compact logix controller with a factory talk View HMI in the BoP control panel.
 - Selection of automatic or manual control of pump speed. Local manual control to increase and decrease the speed.
 - Real time display of all connected process parameters including control output, set point, process variable, all data gathering and processing from all controllers associated with the boiler.
 - Display of all control system alarm messages and faults. History of alarms and faults and recommendations for troubleshooting.
 - Complete display and facilities to allow programming all controllers associated with the pumps.

- Provide alternate means of automatic and manual operation of pump management if touch-screen fails.
- Provide continuous display of critical operating parameters, including but not limited to the following: number of pumps running, pump speed, pressure, line temperatures.
- All PLC I/O channels shall be individually isolated, fused, and 24 VDC power supply shall be redundant.
- Pump control system shall be provided and configured to stamp with the plant master clock on all digital input signals when the event occurs.
- The enclosure shall be NEMA 4 rated and provided with a cooling system if required to maintain operating temperature when adjacent space is at 120 F. Compressed air coolers are prohibited.
- Power supplied: 120 Volt
- Provided with an Uninterruptible Power Supply (UPS) with a One (1) hour minimum back up time.
- A hardwired emergency stop must be provided on the face of the local panel with a cover to avoid inadvertent trips.
- The cabinet shall contain a grounding bus drilled and tapped for #10 screw.
- The local panel shall contain AC and DC power supply and distribution with main and individual breakers and fuses with proper breaker/fuse coordination to eliminate propagation of faults.
- PLC digital input and digital output modules shall be 24 VDC signal types.
- The local panel shall contain an isolated instrument ground and a chassis ground.
- All electrical items shall be designed to conform to applicable requirements in NEMA, NEC, and UL.
- All electrical wiring shall have numbered wire wraps affixed to each end of each wire for easy traceability. Numbers shall be shown on all electrical drawings.
- All wiring shall be installed as detailed on the vendors physical wiring diagram. No "free-lance" wiring is permissible.



Please acknowledge receipt of this Addendum by checking the acknowledgment box within the <u>www.bidexpress.com</u> solicitation or by initialing and dating next to Addendum # on the paper bid form.

Posted: 04/27/2020