Request for Quotation # 2021-07  
New Chiller Installation  
Addendum 2 dated October 20, 2020

IMPORTANT NOTE REGARDING BID DUE DATE REVISION:  
In order to allow enough time to review all answers and additional information provided herein, the Bid Due Date has been extended to **November 4, 2020**

Addendum 2 has been issued to answer questions related to this RFQ and to address Prevailing Wage Rate information.

NOTE: A third and final addendum will be issued as soon as possible.

1. On the Form of Proposal page 2 of 7 refers to an Allowance for TVC what does that stand for?  
   **ANSWER:** TVC Systems (Portsmouth NH) is the system integrator responsible for work related to integrating the new chiller into the existing control system. The Contractor is required to hire TVC to perform this scope of work. Reference the attached summary scope of work which delineates the responsibilities of TVC and the contractor, and the attached revised project drawings for further information.

2. The new chiller is estimated to have a shipping weight of 70,000 lbs. Is the elevated slab rated for the chiller to be rolled across and then set in its final location or will engineering and or shoring/plating be required?  
   **ANSWER:** The floor is rated for the added load. Include planks to protect the floor.

3. Drawings indicate to connect to existing pipe headers. The detail appears to show that the taps are existing, but are there existing valves? If not please advise who and how the system will be drained, and if there are times that the system can and cannot be offline to drain.  
   **ANSWER:** The taps are existing. Control valves will be provided by TVC. Manual isolation valves and balancing valves to be provided by the Contractor.

4. The notes state to measure flow and pressure in existing system prior to connection as well states to re-balance system. Please clarify what is being considered “the system”; the complete cooling plant, all pumps, all buildings, or just the new system that is being installed?  
   **ANSWER:** Contract calls for the flows in the chiller plant to be verified before any work is being performed. This includes measuring the all the existing pump flows and existing chillers flows. At the end of the job, all the pumps (new and existing) and chillers (new and existing) shall be balanced at the designed specifications.
5. There is a note for two ultrasonic flow meters as an add alternate, please clarify size, and if there is an existing tap for connection.
   **ANSWER:** Flow meters for the add alternate will be provided by TVC. They are strap on meters that require no pipe penetrations, taps, etc. Tapings are not required for the ultrasonic flow meters.

6. Can you confirm that the existing branch supply and return valves on the primary chilled water mains are at least 14” to accommodate the new piping.
   **ANSWER will be provided in Addendum 3**

7. Can you confirm that the floor in the energy center is rated to handle the rigging and install of the new chiller without any added support. The specified chillers shipping weight is 65,443lbs.
   **ANSWER will be provided in Addendum 3**

8. Project Manual file page 1 of 4 States that Division 00 – Bidding Requirements
   DIVISION 00 WILL BE BOUND SEPARATELY. Will Division 00 be issued in a future Addendum?
   **ANSWER:** The reference to Div 00 is remnant language from an older RFQ and its inclusion here was an error. Please reference the Bid Form, the Purchasing Department Insert, and the Contract Draft for all required information.

9. We will need insurance information also
   **ANSWER:** The reference to Article 1.31 of the General Conditions is remnant language from an older RFQ and its inclusion here was an error. Please reference the following excerpt from the Contract Draft provided with the bid documents – Section IV.5. Insurance. The Contractor agrees that while performing services specified in this contract that it shall carry sufficient insurance (liability and/or other) as applicable according to the nature of the service(s) to be performed so as to “save harmless” the State of Connecticut from any insurable cause whatsoever. If requested, certificates of such insurance shall be provided to the contracting state agency prior to the performance of services.

10. Drawing E1.2 shows feed to PCHWP-4 coming from the DSB board located in the second floor switchgear room. As being the original EC that built the Energy Center, I know that PCHWP 1 & 2 come from the MCC’s in the basement. Can we come out of MCC-2A or MCC-2B to feed the new VFD as intended in the original design intent. We should be able to provide a new Bucket with a breaker only. I have attached one of our field copy drawings for reference. This would be far easier and shorter for the feed to this pump.
    **ANSWER will be provided in Addendum 3**

11. In reference to specification section 232113 hydronic piping, 2.1B, please confirm if standard wall pipe in lieu of Sch. 40 is acceptable for piping over 12”
    **ANSWER will be provided in Addendum 3**

12. Please confirm if all products and materials will be subject to domestic buy American act.
    **ANSWER will be provided in Addendum 3**

13. Please confirm if radiographic testing is required. If so, is this the responsibility of the contractor or owner?
    **ANSWER will be provided in Addendum 3**
14. Clarify the State of Wisconsin registered professional engineering credential requirement noted in Section 1.2.C – Scope Of Work (SECTION 26 05 73 - SHORT CIRCUIT COORDINATION STUDY & ARC FLASH RISK ASSESSMENT - PAGE 1 OF 6)

   **ANSWER:** The Registered Professional Engineer must be from the State of Connecticut.

15. Clarify the existence and availability of an updated Short Circuit Study, Coordination Study & Arc Flash Risk Assessment for the following existing equipment:
   a. Existing Square D 480V QED Switchboard supplied by Transformers TSS1 & TSS2 illustrated on Sheet E-2.0.
   b. Existing Russelectric 5KV Switchgear lineup illustrated on Sheet E-2.0.

   **ANSWER:** A short circuit study does not exist.

16. On your Form of Proposal for the referenced project, you have the Liquidated Damages listed as:

   **LIQUIDATED DAMAGES:** The Contractor shall be liable for liquidated damages in the amount of **THREE HUNDRED ($1000.00) DOLLARS FOR EACH CALENDAR DAY** beyond the Project's Substantial Completion date.

   Please advise if they are $300 or $1,000.

   **ANSWER:** $1,000

17. RE: Hoisting to Basement: Is the stationary jib crane available for our use to lower equipment and materials to the basement level?

   **ANSWER:** The jib crane can be used to lower equipment to the lower level as long as the capacity is not exceeded.

18. RE: Water Balancing: Please elaborate on the water balancing. What is required for pre balancing readings and what is required for post balancing of the system?

   **ANSWER:** Basic water balancing of the flows from the chillers is required. We need to be sure one chiller is not overpowering another one by flow.

19. RE: Roof: What type of roof is on the building? Is there a bond or warranty on the roof?

   **ANSWER:** PVC roof - New (2019). Contractor and warranty information can be provided to awarded contractor.

20. RE: Hydronic Piping: Will 150# Carbon steel slip on and weld neck flanges be permissible?

   **ANSWER:** Yes, 150# slip on weld neck flanges will be permissible within code and pressure allowances.

21. RE: Control Wiring: Please confirm that the control wiring is not included in the Control Allowance.

   **ANSWER:** Control wiring, including raceways, is part of contract and not in controls allowance. Controls contractor terminates wire at both ends.

22. <Company Name> currently holds DAS Prequalification with classification “HVAC”. The RFP document states that DAS classification “General Building Construction – Group A” or “Construction Manager at Risk – Group A” is required. Since this is a Chiller Installation project, will bidders with the “HVAC” classification be considered?

   **ANSWER:** The DAS Prequalification requirement for this project has been revised - The prequalification classification for this project is “General Building Construction (Group “A”) or Construction Manager at Risk (Group “A”) or HVAC
A NOTE REGARDING PREVAILING WAGE RATES (PWR) INFORMATION –

CCSU requested PWRs for this project on September 13, 2020 but to date has not received them. Efforts to obtain the PWRs or an update on the status of our request were not successful. The CT Department of Labor issued updated PWRs in July 2020. In order to avoid a delay in this project, please use the July 2020 rates, which can be found in the following link, pages 161 – 165.


All other terms, conditions and specifications in the RFQ remain the same.

END OF ADDENDUM 2
SUMMARY SCOPE OF WORK

**Scope of Work By TVC:**

**Instrumentation:**
- One differential pressure switch for PCHWP-4
- Three differential pressure transmitters (one for PCHWP-4, one for Chiller 4 CHW, and one for Chiller 4 CW)
- One 16” High Performance Butterfly valve with open/close electric actuator for PCHWP-4
- One 16” High Performance Butterfly valve with modulating electric actuator for Chiller 4 CWR line
- One 14” High Performance Butterfly valve with modulating electric actuator for Chiller 4 CHWS line
- Two MSA end of line filters for Chiller 4 refrigerant monitoring

**Control Panel Modifications:**
- Add one four point analog output module to existing Pump I/O panel in basement
- Add one four point analog input module to existing Chiller I/O panel on main floor
- Tie in PCHWP-4 I/O signals to Pump I/O control panel (includes I/O for VFD, dP switch and dP transmitter)
- Tie in Chiller 4 I/O signals to Chiller I/O control panel (includes I/O for CHWS and CWR valves, CW and CHW dP transmitters)
- Tie in Chiller 4 Modbus RTU communications link.
- Tie in Chilled Water Supply Flow and Cooling Water Supply Flow I/O signals to Chiller I/O panel
- **Note: Mechanical and electrical install by others per scope of work noted below**

**Project Design and Implementation Labor:**
- Modify existing project documentation for approval (Functional Specification, Sequence of Operations and Project Drawings)
- Provide instrument submittal for approval
- Review major equipment submittals for conformity to existing control system
- PLC and SCADA programming (modify existing system to incorporate control of the new equipment, historically collect data and add new chiller operational information to the existing Energy Center Reports)
- PLC and SCADA programming to incorporate new switchgear I/O into the system. **We have assumed this will be accomplished via the existing Modbus RTU interface to the existing Russelectric control system.**
- Installation supervision, startup and training

**Scope of Work By Others:**

**Electrical Scope:**

**Main Energy Center Chiller Area:**
- Primary Chiller Water Supply Header Flow – Strap On Ultrasonic Flow Meter
  - Flow Meter vendor will provide installation assistance. They will recommend where flow sensors should be installed on the pipe, program the flow meter and verify installation.
  - Electrical contractor needs to assist with installation by mounting sensors to pipe and running conduit and cabling. A junction box is provided for sensor cable termination close to the actual installation location. Then conduit needs to be run between the junction box and the actual flow transmitter. The flow transmitter should be wall-
mounted at eye level no more than 50 feet away from the junction box. The flow meter vendor will supply cabling that get run between the junction box and the flow meter. Electrical contractor needs to pull and terminate cable.

- Electrical contractor needs to provide a 120VAC power from UPS source to the wall-mounted flow meter.
- Electrical contractor needs to provide and install conduit and 4-20mA twisted pair with shield cabling between the wall-mounted flow meter and the existing Chiller I/O cabinet that is located on the wall near the back end of chiller 1.

- Cooling Water Supply Header Flow – Strap On Ultrasonic Flow Meter
  - Flow Meter vendor will provide installation assistance. They will recommend where flow sensors should be installed on the pipe, program the flow meter and verify installation.
  - Electrical contractor needs to assist with installation by mounting sensors to pipe and running conduit and cabling. A junction box is provided for sensor cable termination close to the actual installation location. Then conduit needs to be run between the junction box and the actual flow transmitter. The flow transmitter should be wall-mounted at eye level no more than 50 feet away from the junction box. The flow meter vendor will supply cabling that get run between the junction box and the flow meter. Electrical contractor needs to pull and terminate cable.
  - Electrical contractor needs to provide a 120VAC power from UPS source to the wall-mounted flow meter.
  - Electrical contractor needs to provide and install conduit and 4-20mA twisted pair with shield cabling between the wall-mounted flow meter and the existing Chiller I/O cabinet that is located on the wall near the back end of chiller 1.

- Chiller 4 CHWS Valve
  - Electrical contractor to provide field wiring between valve and Existing Chiller I/O cabinet – requires two (2) single conductor wires for limit switch valve position feedback, two (2) twisted pair with shield for analog valve position feedback and position request.
  - Valve requires separate 120VAC power sourced from UPS supply with local disconnect

- Chiller 4 CWR Valve
  - Electrical contractor to provide field wiring between valve and Existing Chiller I/O cabinet – requires two (2) single conductor wires for limit switch valve position feedback, two (2) twisted pair with shield for analog valve position feedback and position request.
  - Valve requires separate 120VAC power sourced from UPS supply with local disconnect

- Chiller 4 CHW Differential Pressure
  - Electrical contractor to provide field wiring between dP transmitter and Existing Chiller I/O cabinet – requires one (1) twisted pair with shield

- Chiller 4 CW Differential Pressure
  - Electrical contractor to provide field wiring between dP transmitter and Existing Chiller I/O cabinet – requires one (1) twisted pair with shield

- Chiller 4 Modbus Communications
  - Electrical contractor to provide field wiring between existing Chiller 3 Control Panel and new Chiller 4 Control Panel – Requires Modbus 485 Serial Cabling (Belden 3106A or equal)

**Basement Energy Center Area:**

- Primary Chilled Water Pump 4
  - Electrical contractor to provide and install field wiring between VFD and exiting Pump I/O panel – Requires eight (8) single conductor wires for pump run status, local/remote
status, VFD fault, start/stop (Enable). Requires two (2) twisted pair with shield for speed request and feedback

- **Primary Chilled Water Pump 4 Valve**
  - Electrical contractor to provide and install field wiring between valve and existing Pump I/O panel – requires six (6) single conductor wires for valve limit switch status and open/close request
  - Valve requires separate 120VAC power source from UPS supply with local disconnect

- **Primary Chilled Water Pump 4 Differential Pressure Switch**
  - Electrical contractor to install conduit and field wiring between switch and existing Pump I/I panel – requires two (2) single conductor wires

- **Primary Chilled Water Pump 4 Differential Pressure**
  - Electrical contractor to provide field wiring between dP transmitter and Existing Pump I/O panel – requires one (1) twisted pair with shield

**Switchgear:**
- Electrical contractor to hire Russelectric to incorporate new switchgear devices into existing Russelectric control system. This includes making electrical metering and breaker control I/O available through the existing Russelectric Modbus RTU interface to the Energy Center Balance of Plant Control System

**Mechanical Scope:**

**Main Energy Center Chiller Area:**
- Chiller 4 CHWS Valve
  - Install valve
- Chiller 4 CWR Valve
  - Install valve
- Chiller 4 CHW Differential Pressure
  - Install dP transmitter – requires installation of impulse tubing between CHWS and CHWR lines on chiller – should follow existing chiller 1, 2 and 3 transmitter installation
- Chiller 4 CW Differential Pressure
  - Install dP transmitter – requires installation of impulse tubing between CWS and CWR lines on chiller – should follow existing chiller 1, 2 and 3 transmitter installation
- Chiller 4 Refrigerant Monitoring – Provide and install tubing between existing MSA Refrigerant Monitor Control Panel and new Chiller 4 – follow installation chiller 1 and 3 tubing installation. TVC will provide end of line filters.

**Basement Energy Center Area:**
- Primary Chilled Water Pump 4 Valve
  - Install valve
- Primary Chilled Water Pump 4 Differential Pressure Switch
  - Install dp switch – requires installation of impulse tubing between pump inlet and outlet lines – should follow existing pump 1, 2 and 3 switch installation
- Primary Chilled Water Pump 4 Differential Pressure
  - Install dp transmitter – requires installation of impulse tubing between pump inlet and outlet lines – should follow existing pump 3 dP transmitter installation