



# County of Roanoke

## FINANCE DEPARTMENT PURCHASING DIVISION

Kari Sutphin, Buyer  
5204 Bernard Drive SW, Suite 300 F  
Roanoke VA 24018  
(540) 283-8151  
(540) 283-6736 – Fax  
[ksutphin@roanokecountyva.gov](mailto:ksutphin@roanokecountyva.gov)

February 23, 2018

### **IFB # 2018-068** **Chiller Replacement at Roanoke County Administration Building**

#### **ADDENDUM NO. 1**

**Pre Bid Sign-in and Meeting Notes**  
**Removed language from specifications**

Due Date & Time:  
**March 9, 2018 2:00 PM**  
**(Local Prevailing Time)**

**IFB # 2018-068**  
**Chiller Replacement at Roanoke County Administration Building**  
**ADDENDUM NO. 1**

1. **Pre-Bid Meeting Notes\Sign in sheets** – Please see the following notes, confirmations, and further specifications as discussed at the mandatory pre-bid meeting held at Roanoke County Administration Building on February 22, 2018. Bids submitted shall abide by any new information contained below in order to be considered compliant with IFB 2018-068.
  - a) **How much volume of water in the loop?** We estimate 850-1150 gallons
  - b) **What is the Glycol content in the water?** The measurement taken showed 14%.
2. **In the Specifications removed the language below with the strike through it and added language that is shown in **BOLD**.**
  - a) Under Part 1 General, 1.01 Summary, A. Base Bid: 1. Mechanical Work Summary: Adjust existing piping to connect into new water-cooled chiller. Clean and re-use existing piping accessories such as isolation valves, balancing valves, and strainers. Provide new thermometers and pressure gauges. Provide testing and balancing in accordance with industry recognized standards (NEBB, AABC, or TABB) of new chiller and existing pumps to provide design flow rates through the evaporator and condenser. Provide mineral fiber insulation (ASTM C547, Types I, II or III) with manufacturer's recommended factory-applied jacket and vapor barrier for new chilled water piping. Provide connection to existing Trane Tracer SC control panel. Update graphics in Trane Tracer SC to include ~~new chiller.~~
  - b) Under Part 1 General, 1.01 Summary, B. Bid Option: 1. Mechanical Work Summary: Adjust existing piping to connect into new air-cooled chiller. Provide new piping accessories such as isolation valves, balancing valves, and strainers. Provide new thermometers and pressure gauges. Provide testing and balancing in accordance with industry recognized standards (NEBB, AABC, or TABB) of new chiller and existing pump to provide design flow rates through the evaporator. Provide new pump for redundancy with isolation vales as necessary for maintenance/repair to be made and allow chilled water system to operate. Provide mineral fiber insulation (ASTM C547, Types I, II or III) with manufacturer's recommended factory-applied jacket and vapor barrier for new chilled water piping. Exterior chilled water piping shall be heat traced to protect the piping to an ambient of minus 20 degrees F. Exterior piping penetrations shall be sealed to minimize air and water penetration through building envelope. Provide connection to existing Trane Tracer SC control building envelope. Provide connection to existing Trane Tracer SC control panel. Update graphics ~~in Trane Tracer SC to include new chiller.~~

### **2.03 BASE BID: WATER-COOLED CHILLER SCHEDULE:**

- A. Capacity: 143 tons. **Actual minimum capacity.**
- B. Full-Load Efficiency (Power Input/Cooling Output):
  - 1. Positive Displacement: 0.718 kW/ton Maximum.
  - 2. Centrifugal: 0.639 kW/ton Maximum.
- C. Part-Load Efficiency (NPLV):
  - 1. Positive Displacement: 0.54 kW/ton Maximum.
  - 2. Centrifugal: 0.45 kW/ton Maximum.
- D. Evaporator:
  - 1. Pressure Rating: 150 psig.
  - 2. Fluid Type: Water **with Glycol concentration of 35%.**
  - 3. Design Fluid Flow Rate: 345 gpm.
  - 4. Entering-Fluid Temperature: 55 °F.
  - 5. Leaving-Fluid Temperature: 45 °F.
  - 6. Fluid Pressure Drop: 15 ft. of head.
  - 7. Fouling Factor: 0.0001 ft.<sup>2</sup> by hr. by °F/Btu.
- E. Water-Cooled Condenser:
  - 1. Pressure Rating: 150 psig.
  - 2. Fluid Type: Water.
  - 3. Design Fluid Flow Rate: 450 gpm.
  - 4. Entering-Fluid Temperature: 85 °F.
  - 5. Leaving-Fluid Temperature: 95 °F.
  - 6. Fluid Pressure Drop: 15 ft. of head.
  - 7. Fouling Factor: 0.00025 ft.<sup>2</sup> by hr. by °F/Btu.
- F. Chiller Electrical Requirements:
  - 1. Minimum Circuit Ampacity (Maximum allowable): 183 A.
  - 2. Maximum Overcurrent Protection Device: 225 A.
  - 3. Volts: 480.
  - 4. Phase: Three.
  - 5. Hertz: 60.

### **2.04 BID OPTION: AIR-COOLED CHILLER SCHEDULE**

- A. Capacity: 143 tons. **Actual minimum capacity**
- B. Full-Load Efficiency (EER): 9.562 Minimum.
- C. Part-Load Efficiency (NPLV): 12.75 Minimum.
- D. Low Ambient Operation: Chiller designed for operation to 30°F.
- E. Evaporator:
  - 1. Configuration: Integral to chiller.
  - 2. Pressure Rating: 150 psig (kPa).
  - 3. Fluid Type: Water
  - 4. Design Fluid Flow Rate: 345 gpm.
  - 5. Entering-Fluid Temperature: 55 °F.
  - 6. Leaving-Fluid Temperature: 45 °F.
  - 7. Fluid Pressure Drop: 15 ft. of head.
  - 8. Fouling Factor: 0.0001 ft.<sup>2</sup> by hr. by °F/Btu.

REMAINDER OF PAGE INTENTIONALLY LEFT BLANK