



Pearson & Associates

MECHANICAL & ELECTRICAL ENGINEERS

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SUBJECT: Mechanical Systems Description for Purpose of Service Contract Preparation

To Whom It May Concern:

The following is a brief description of the mechanical systems associated with the Stowe Emergency Services Facility in Stowe, Vermont:

1. ERU-1; Semco Model FV-600 Energy Recovery Unit for Apparatus Bay.
 - a. Provides constant ventilation for the Apparatus Bay.
 - b. There is no heating or cooling coil associated with this unit.
2. ERU-2; Semco Model FV-600 Energy Recovery Unit for Locker Room.
 - a. This provides heating, cooling and ventilation for the Locker Room area.
 - b. There is a duct mounted heating coil (HC-2) and a duct mounted cooling coil (CC-2).
3. AHU-1; Trane T-Series Model TSCX014 Air Handling Unit
 - a. This provides heating, cooling and ventilation air for the Police Department and the Fire Department.
 - b. There are VAV boxes in the individual zones that control space temperature. The perimeter VAV boxes have hot water reheat coils.
4. CH-1; Airstack ASP-15A, ASP-10A, 25 Ton Roof mounted chiller.
 - a. This provides cooling for the AHU-1 chilled water coil (CC-1) and the duct mounted cooling coil (CC-2).
5. B-1, B-2 and B-3; Triangle Tube Prestige Boilers (399 MBH each)
 - a. These boilers provide heating for space heat and domestic hot water production.
 - b. There is a Heat Timer Controller that interfaces the sequencing, staging and operation of the boilers.
6. RM-1A, RM-2A, RM-3A and RM-4A; Watts Radiant Floor Heating
 - a. There are two zones of heating for the Apparatus Bay radiant floor heating.
 - b. The manifolds have dedicated circulators with an injection circulator to satisfy radiant loop temperature requirement.
7. UH-1 and UH-2; Trane Gas-Fired Unit Heaters in the Apparatus Bay.
 - a. They are controlled via column mounted thermostats.
 - b. Typically these unit heaters will only operate when the overhead doors are open or fresh air is being introduced from the louvers.



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8. UH-3, UH-4, and UH-5; Sterling Hot Water Unit Heaters
 - a. They provide heating for the Sally Port areas and are connected to a line voltage thermostat.
9. RWH-1 and RWH-2; Myson Recessed Wall Heaters
 - a. They provide heating for the entry vestibule and stairwell #1.
10. CUH-1; Sterling Cabinet Unit Heater
 - a. They provide heating for the Hallway and stairwell #2.
11. P-1 through P-IWH2; Taco Pumps
 - a. There are 14 pumps/circulators that are apart of the heating, cooling and domestic hot water recirculation system.
 - b. In general, electronic controls are implemented to operate the pumps.
12. GF-1 and GF-2; Axiom Industries Glycol Feeders
 - a. These operate to maintain system pressure in the heating and cooling systems.
13. IWH-1 and IWH-2; Indirect Water Heaters
 - a. IWH-1 provides domestic hot water for the facility.
 - b. IWH-2 provides domestic hot water for the Fire Department kitchen area.
14. AC-1 and CDU-1; Mitsubishi Mr. Slim Split System A/C
 - a. This provides cooling for the Data/Audio/Video Room in the Police Department.
15. EF-1; Sally Port Exhaust Fan
 - a. Operates continuously for code ventilation.
16. EF-13; exhaust fan for Apparatus Bay
 - a. Operates when CO or NOx levels get too high in the space.
 - b. This fan has a VFD and is interlocked with two motorized dampers at the exterior louvers.
17. EF-14, EF-16, and EF-17; Greenheck rooftop exhaust fans
 - a. Operate from a space mounted CO sensor.
18. EF-15; Greenheck kitchen hood exhaust fan
 - a. Operates from a switch mounted at the hood.
19. Miscellaneous Exhaust Fans; Panasonic and Greenheck Fans
 - a. The remaining exhaust fans typically operate off from switches or timeclocks.
20. ERS-1; Airvac Automatic Vehicle Exhaust System
 - a. These operate off from photo eyes and door track switches. There is also a manual override switch to operate the fans manually.
21. SP-1; Liberty Pumps submersible sump pump with oil detector system.