

PART 1 - GENERAL

1.1 SUMMARY

.1 Section Includes:

.1 At minimum detailed narrative description of Sequence of Operation of each system including ramping periods and reset schedules.

.1 Control Description Logic (CDL) for each system.

.2 Input/Output Point Summary Tables for each system.

.3 System Diagrams consisting of the following; EMCS System architectural diagram, Control Design Schematic for each system (as viewed on OWS), System flow diagram for each system with electrical ladder diagram for MCC starter interface.

1.2 REFERENCE STANDARDS

.1 Public Works and Government Services Canada (PSPC) / Real Property Branch / Architectural and Engineering Services.

.1 MD13800-September 2000, Energy Management and Control Systems (EMCS) Design Manual. English:
<ftp://ftp.pwgsc.gc.ca/rps/docentre/mechanical/me214-e.pdf>

1.3 SEQUENCING

.1 VAV Control:

.1 The setpoint on the thermostat is the heating setpoint. when the temperature drops to the set point the VAV box throttles to minimum position and turns on perimeter heat. When the temperature rises to the setpoint the perimeter heat is turned off. As the temperature rises the box throttles to allow more air to the space. At 1° above setpoint the box is at maximum air flow.

.2 Night setback is 18°C. This can be overridden by pushing the night setback override button.

.3 Include transformer and relay.

.2 AHU/Condensing Unit Control:

.1 Control by time of day schedule.

.2 Condensing unit to energize when return air temperature above 18°C.

.3 AHU-1 minimum mixed air temperature is 13.8°C, with 795 L/s minimum outside air.

.4 AHU-2 minimum mixed air temperature is 5.3°C with 410 L/s minimum outside air.

- .5 Electric heaters in AHUs to maintain supply temperature from 13°C to 21°C.
- .6 AHU fan motors to start after outside air damper and return air damper end switches close.
- .7 Outside air damper and return air damper to modulate to maintain mixed air temperature setpoint.
- .8 Differential pressure switches to indicate when prefilter and final filter reach dirty condition.
- .9 In cooling mode outside air and return air dampers return to minimum position.
- .10 System alarm when supply air temperature falls below low temperature alarm setpoint.
- .11 When majority of room thermostats are in heating mode, supply air to be set to 21°C, or return falls below setpoint.

PART 2 - PRODUCTS

2.1 NOT USED

- .1 Not Used.

PART 3 - EXECUTION

3.1 NOT USED

- .1 Not Used.