

SECTION 15940
SEQUENCES OF OPERATION

PART 1 GENERAL

1.1 SUMMARY

- A. This section describes the specific minimum requirements for control monitoring for mechanical systems.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.1 MOTOR STARTING

- A. Sequence 3 phase motors so they do not start simultaneously, whether startup from normal, emergency or standby power.

3.2 OIL WATER SEPARATORS

- A. Monitor the system and generate an independent maintenance alarm to indicate system trouble.

3.3 GLYCOL LOOPS

- A. On any glycol system added by the Tenant, monitor the system pressure sensor, and generate an alarm on switch closure.

3.4 CABINET UNIT HEATERS/UNIT HEATERS

- A. Provide means to disable units when then hot water supply has been shut off.

3.5 FAN COIL UNITS

- A. Monitor fan, filters, and space temperature.

3.6 TYPICAL ZONE TEMPERATURE MONITORING

- A. Generate maintenance alarm if any zone temperature is not being maintained within the setpoint band tolerance determined by the engineer.
- B. Generate critical alarm if any zone temperature falls below 55 degrees F (adjustable).

3.7 TYPICAL CONSTANT SPEED CIRCULATING PUMP FLOW MONITORING

- A. Provide current sensors to monitor pump motor current, and input into BAS. Current switches not acceptable.
- B. Determine normal and motor inrush currents. Set high and low alarm setpoints based upon normal operating currents. A time delay may be necessary to reduce nuisance alarms due to motor start inrush currents.
- C. Generate an alarm if the motor current falls below low alarm setpoint or above high alarm setpoint whenever the pump has been commanded on.

3.8 TYPICAL CONSTANT SPEED FAN FLOW MONITORING

- A. Provide current sensors to monitor fan motor current, and input into BAS. Current switches not acceptable.
- B. Determine normal and motor inrush currents. Set high and low alarm setpoints based upon normal operating currents. A time delay may be necessary to reduce nuisance alarms due to motor start inrush currents.
- C. Generate an alarm if the motor current falls below low alarm setpoint or above high alarm setpoint whenever the fan has been commanded on.

3.9 TYPICAL FILTER MONITORING

- A. Provide differential pressure sensor across each filter bank. Provide high pressure alarms as indicated in the sequences.

END OF SECTION