

BUILDING SYSTEMS COMMISSIONING CHECKLIST

The following list includes systems that could require commissioning.

1.0 AIR DISTRIBUTION

The Commissioning Agent (CA) will verify and report on the operation and accessibility of the following items.

1.1 EQUIPMENT

- Air filtration, dampers, diffusers, grilles, fire dampers and access doors.
- Hoods and exhaust systems.
- Heat buildup or noise in motor or shaft bearings.
- Humidification equipment.

1.2 BALANCING

Perform balancing for the following devices:

- Motor current draw. Compare running current to nameplate full load amps rating.
- Motor starter contactor size and overload heater size.
- Voltage and rotation of each motor driven fan or air handling device.
- Belt tension and drive alignment.
- Airflow at outlets with the thermostat adjusted to simulate full cooling, full heating, hood operation, etc. where appropriate.
- Airflow at each air handler at simulated full cooling and/or maximum fresh air.
- Airflow at each fume hood based on sash positions.
- Air flow at each range, dishwasher and process hood.
- Room static pressure with respect to adjacent spaces and outdoors.
- Outside air rate into system.
- Drafts or noise from air distribution devices.

2.0 PLUMBING AND PIPING SYSTEMS

The CA will verify and report on the operation and accessibility of the following items.

2.1 EQUIPMENT

- Sewage lift pump.
- Sump pumps.
- Chemical feed equipment.
- Air compressor, de-ionized water equipment and other process equipment.
- Pump motor current draw. Compare running current to nameplate full load amps rating. Overload heater size.

2.2 PIPING

- Strainers, valves, fixtures, steam traps, air purge, and blow down systems, and instrumentation and flow measuring or control. Bypass and shut off valves for maintenance.
- Cleaning, degreasing, and flushing of piping systems.
- Fluid temperatures and pressures.
- Fuel supply system. Check for water in fuel.
- Test ports for temperature, pressure and chemical treatment measurements.

2.3 WATER AND STEAM TREATMENT

- Filling of hydronic and chilled water systems.
- Glycol concentration and pH.
- Specific conductance.
- Total alkalinity.
- Suspended solids.
- Silica.
- Additives for steam system and protection of the condensate piping.
- Chemical or additive injection systems.

3.0 HEATING AND COOLING

3.1 PLANT EQUIPMENT

The CA will verify and report on the operation and accessibility of the following items.

- ___ Service access.
- ___ Compressors.
- ___ Chillers.
- ___ Boilers.
- ___ Cooling towers.
- ___ Combustion air and exhaust systems.
- ___ Safety devices and controls.

4.0 CONTROL SYSTEMS

The CA will verify and report on the operation and accessibility of the following items.

- ___ Functioning of each control program.
- ___ Functioning of each hardware control point.
- ___ Instruction and training for owner's operating personnel in the proper operation of the systems. The balancing contractor will correct flows and assist in fine tuning system.
- ___ Function of the following devices:
 - ___ Thermostats and temperature sensors,
 - ___ Automatic dampers and valves,
 - ___ Fresh air and return air dampers,
 - ___ Economizer operation,
 - ___ Air handler, boiler, chiller and pump starting and stopping from program control,
 - ___ Exhaust fan and air handler start and stop,
 - ___ Variable air volume control of VAV air handlers, and tracking of associated return fan,
 - ___ Surge and transient protection,
 - ___ Freeze prevention control,
 - ___ Labeling of each control device.
- ___ Function of control loops
 - ___ Time schedules,
 - ___ Optimum start/stop,
 - ___ Reset type schedules,
 - ___ Demand limiting,

- ___ Alarm sequences,
- ___ Maintenance alarms,
- ___ Remote communication (modem),
- ___ Low (or high) limits, and
- ___ Other system programming features.

- ___ Safety devices.
- ___ Instrumentation, gauges, thermometers, flow measuring devices.
- ___ Shutdown of air handling systems in the event of presence of smoke or products of combustion.

5.0 ELECTRICAL

The CA will verify and report on the operation and accessibility of the following items. Use NETA testing procedures where applicable.

- ___ Circuit breakers and protective relays.
- ___ Low voltage circuit breakers, motor starters, motor controls,
- ___ Setpoints, sensitivity and location of lighting controls.
- ___ Equipment ground fault interruption devices.
- ___ Emergency power systems.
- ___ Fire alarm system.
- ___ Communication systems including, but not limited to, telephones, television, intercoms, local area networks (when included in the project).

Commissioning Certificate of Completion

Project No. _____ Date _____

Project Title _____

Building _____

Address _____

Contractors providing the following services for this project:

Mechanical _____
firm name

signature *title* *date*

Electrical _____
firm name

signature *title* *date*

Plumbing _____
firm name

signature *title* *date*

Sheet Metal _____
firm name

signature *title* *date*

Balancing _____
firm name

signature *title* *date*

Commissioning Certificate of Completion (continued)

Controls

firm name

signature *title* *date*

Fire Protection

firm name

signature *title* *date*

Elevator

firm name

signature *title* *date*

Other

firm name

signature *title* *date*

The Commissioning Agent has observed the commissioning process and acknowledges that it was carried out according to the contract documents.

Commissioning

firm name

signature *title* *date*

The Client Agency acknowledges receipt of the following documents and services:

1. Operating and maintenance manuals
2. As-built drawings
3. All certificates
4. Operator instructions

Client Agency

firm name

signature *title* *date*