



District Energy St. Paul Preventive Maintenance Checklist – Fall

A preventive maintenance program is a way to ensure that all mechanical equipment is operating efficiently and using energy wisely. Fall is the time of year when building operators need to prepare for the heating season so there is a smooth transition to cool weather.

For any questions please contact District Energy customer service at 651.297.8955.

Building Loop

- Test the system water for proper chemical treatment levels for corrosion inhibitors, pH, microbiological growth, etc. as recommended by the chemical treatment consultant.
- Check that the air pressure on expansion tank is closely set to the system water pressure.
- Verify system loop pressure is within normal range based on height of building and system size. Too low of pressure indicates piping/valve/coil leak. Too high indicates heat exchangers failure and incoming water from district loop.

Heat Exchangers

- Visually check heat exchanger for leaks at the connection points to the heat exchanger as well as the body of the heat exchanger. Insulation may be hiding small leaks so also check for areas of wet or water stained insulation.
- Confirm units are tightened as recommended by the manufacturer.
- Check the pressure gauges and thermometers for accuracy.
- Check the heat exchanger and strainers for pressure drop. If greater than 5 psi, clean and the screens.
- To blowdown your strainer, open the blowdown valve and purge the strainer for a few seconds to flush out the accumulated sediment. Check the safety relief valves.

Controls – Heat Exchangers

- Manually cycle temperature control valves.
- Check main control valve temperature reset schedule based on outside air temp.
- Check accuracy and calibrate instruments and transmitters as necessary.
- Check the room thermostats. Repair or replace if necessary
- Control valves should be positively shut off when no heat transfer is required.

Pumps

- Visually check the pump alignment and coupling.
- Check VFD operating conditions if installed.
- Lubricate the pump bearings according to the manufacturer's recommendations.
- Check the motor mounts and vibration pads. Repair or replace if necessary.
- Inspect the mechanical seals or pump packing. Replace if necessary.

Pneumatic Instrument Air System (if in use)

- Check the storage tank for rust spots.
- Drain the tank and check the auto drain.
- Check the air filter intake. Replace if necessary.
- Change the crankcase oil level and check the pressure.
- Verify that the unloader is cycling the on and off at the correct pressure set points
Typically On at 90 PSI and off at 120 PSI.
- Check the high pressure safety valve. Replace if necessary.

Air Dryer (if in use)

- Clean the air dryer condenser fins and cover grille. Replace the filter.
- Check the air dryer drain and trap.
- Check the air dryer refrigerant pressure and temperature. Refill if necessary
- Check the air dryer pressure reducing valves. Replace if necessary.

Air Handling/Makeup Air Units (Fans and Coils)

- Brush and vacuum the coil, fan, and housing.
- Lubricate the fan and motor bearings according to the manufacturer's recommendations.
- Check the air filters and replace them if necessary. (Either based on static pressure drop of greater than twice the clean filter pressure drop or when VFDs run at 60 Hz and can no longer supply enough airflow)
- Check the air filter automatic advance mechanism (if in use). Lubricate and adjust.
- Clean the condensate drain pans and the drains from the pans.
- Clean the outside air intake screen.
- Check the electrical connections, contactors and relays. Repair or replace if necessary.

- Check the belts and sheaves. Tighten or Replace the belts and adjust if necessary.
- Check the minimum setting for the outside air damper. Ensure proper operation and a tight shutoff. Replace any seals that are cracked or falling off.
- Lubricate and adjust the dampers and linkage.
- Check the fan motor mounts and vibration pads.
- Check the control valve packing and lubricate if necessary.
- Check the pneumatic pilot positioners for correct span for valve spring range (if in use)
- Calibrate all of the pneumatic control devices.
- Adjust the schedule of system starts and stops based on currently occupant loading.
- Test freeze stat for proper operation.

Radiators and Reheat Coils

- Visually inspect the fins on the radiation element and coils. Brush clean if necessary.
- Inspect base board connectors and brush clean from dust.
- Check air vents to make sure they are in operating condition.
- Check system air releases and remove air from the loop if necessary.
- For proper air circulation, do not block coils with large items such as furniture, shelving, storage, etc.