Daily, Weekly & Monthly

BOILER MAINTENANCE CHECKLIST

With over 95 years in the business, we've found that if maintenance isn't performed consistently, it can lead to costly repairs down the road. According to a study conducted by the National Board of Boiler and Pressure Vessel Inspectors, poor maintenance practices or a defective low water cutoff cause most boiler incidents, including those that result in injuries and building damage. Routine maintenance is critical to ensure a boiler system remains reliable, safe and efficient.

As you know, there's more to owning a boiler than just firing it up when the temperature drops. Let's review our daily, weekly and monthly boiler maintenance checklist, so you can be sure you're keeping your system in top condition.

Remember

Before you begin, it's necessary to follow all manufacturer recommendations and government regulations regarding maintenance and inspections. It's also highly recommended that you keep a logbook for maintenance tasks.

DAILY BOILER MAINTENANCE CHECKLIST

- ❑ Blow down the bottom of the boiler.
- ❑ Blow down the water column(s) and open the drain slowly to prevent float damage.
- ❑ Track boiler pressure and temperature, especially at the steady state to determine if it's keeping up with the load.
- ❑ Take a stack temperature reading to determine how efficiently the boiler is operating. A well-tuned boiler should have a stack temperature of 50 degrees or above the steam or water temperature.
- ❑ Routinely check the gas pressure coming into the gas pressure regulator and also check its downstream pressure.
- ❑ For a hydronic boiler, monitor the supply and return temperatures, which are essential control variables that dictate load satisfaction based on the engineer's design.
- ❑ Look through the boiler's sight port in the furnace and observe the flame for any evidence of impingement and possible sooting.
- ❑ Observe the water softener, dealkalizer, chemical feed system and any other equipment that supports the boiler to ensure proper operation and required levels of salt and chemicals.
- ❑ Take water samples on a regular basis and compare them to the recommendation.

WEEKLY BOILER MAINTENANCE CHECKLIST

- ❑ Conduct an evaporation test on the low water level control(s) to ensure proper operation and burner shutoff at the low water point.
- ❑ Check the condition of the gauge glass on the low water cutoff for wear and etching.
- ❑ Check the operation of the fuel supply valves.
- ❑ Check the single point positioning system on the burner; if applicable, look for wear, slip and hysteresis.
- ❑ Observe the operating and modulating controls, and while watching the pressure gauge, see if they are turning on and off at their respective set points.
- ❑ Pull out the flame scanner to ensure the burner shuts off at the prescribed time.
- ❑ Check the indicating or running lights and alarms to make sure they are functioning properly.
- ❑ Assess the motors for noise and vibration.
- ❑ Look for leaks of fuel, water or flue gas.
- ❑ Check the high- and low-gas pressure switches and the combustion air proving switch.

MONTHLY BOILER MAINTENANCE CHECKLIST

- ❑ Check the burner's diffuser for any deformation, burning or cracking.
- ❑ Check the burner's pilot tube that contains the electrode that provides the spark for pilot ignition.
- ❑ Check the free movement of the air damper device or devices.
- ❑ Check the entire outside of the boiler for signs of hot spots.

Many times, it takes a boiler system failure to serve as a reminder of the importance of routine maintenance. With the right maintenance program, you can save yourself time and money in the boiler room. Boiler equipment failures can be dangerous, so if you have any questions or concerns about maintaining your boiler, or you see something out of the ordinary, contact the boiler room pros at Tate Engineering.