

It's time for your boiler inspection

Introduction

It's that time of year again. You've just come off the phone with the Risk Control Consultant from your insurance company and scheduled your annual boiler inspection. These inspections are required by most states and some local jurisdictions for all high-pressure boilers used in commercial service. You understand the importance of this inspection to maintain safe operation of the boiler. However, downtime on this boiler can cut into your production. Taking the time now to prepare the boiler for inspection should allow for a more effective inspection, as well as help to save time for the inspector and your personnel. Proper preparation gets your boiler back on-line in the shortest amount of time. It is better to pick up a problem now and prepare for repairs in coordination with the inspection than have to call in a repair company or track down parts during the inspection.

The pre-inspection activities must be performed by personnel properly trained on the boiler, auxiliary equipment, controls, and safety devices. All activities must follow the plant's lock-out, tag-out, confined space entry, and all other applicable safety procedures. You should document all your pre-inspection activities for the authorized inspector at the time of inspection. The following provides guidance for suggested pre-inspection activities.

Pre-outage inspection

The purpose of the pre-outage inspection is to detect conditions requiring maintenance or investigation during the scheduled outage. Some conditions can be corrected prior to the inspection. For other problems, parts can be ordered and arrangements with repair companies made so that outage time is minimized. This inspection is done while the boiler and its auxiliaries are in operation.

The pre-outage inspection should include examination of all water, steam, exhaust, and gas or oil piping for leaks. Look for any unusual conditions such as discoloration or hotspots on the boiler casing. Inspect casing insulation. Damaged asbestos insulation must be replaced with non-asbestos insulation following approved OSHA and EPA procedures. The safety relief valve should be examined for leaks and the valve's data tag should be readable. The relief valve and low water cutout should be tested following the manufacturer's recommendations. The burner flame should be examined for proper color and shape. Examine auxiliary equipment such as pumps and fans for unusual noise or vibration.

Personnel safety cautions

Personnel should take safety precautions when preparing for the internal jurisdictional inspection. Precautions should include proper lockout/tagout and confined space entry procedures, and personal protective equipment. Check with your plant safety manager to assure compliance with all OSHA regulations.

Boiler preparation

There are also a number of things you can do to prepare the boiler itself. Allow the boiler to cool down to 150-200 °F before draining. When a boiler is in a battery with other operating boiler(s) and common blow down piping, secure the blow down piping of the operating boiler. The operating boiler's blow down valves must not be operated until the blow down valves on the shut down boiler are blanked off or closed and locked. The main header stop valve on the boiler to be inspected must be closed, padlocked, and tagged. Lock and tag the fuel supply and power. The feed water supply must be locked out and tagged.

Documentation

Documenting your boiler review and pre-inspection activities will greatly aid the inspector. Provide the authorized inspector with the following documentation at time of inspection:

- Records of past outages
- Records of welded repairs
- Water treatment log
- Boiler operating log

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Summary

When the boiler is properly prepared, the authorized Inspector can perform his/her job in an efficient and thorough manner to the benefit of all parties. Preparation and documentation are key to a thorough, efficient, and safe inspection.

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