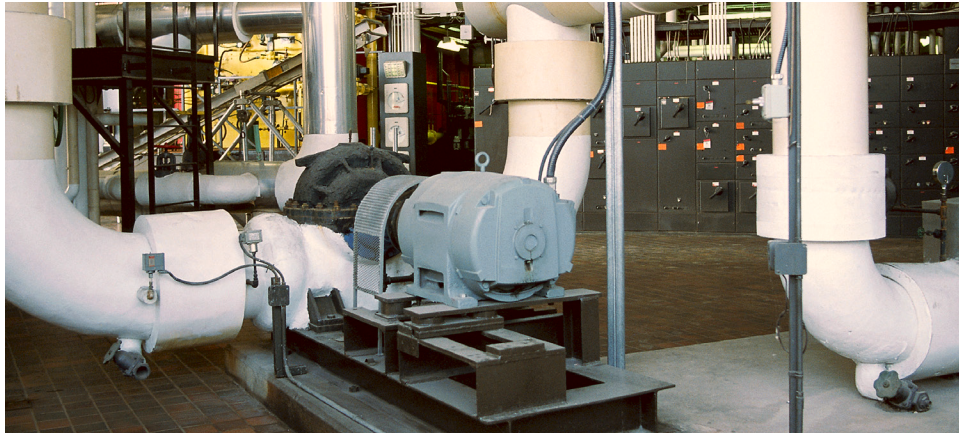


# Jurisdictional inspection preparation guideline

## Equipment breakdown guide

from Liberty Mutual Insurance



Depending on your jurisdiction, your boiler and pressure vessel may require an internal or external inspection. This guideline is designed to assist you in preparing your boiler for inspection. It is important that the suggested steps below only be performed by a qualified individual with sufficient experience and expertise.

Information contained in this guide is designed to assist the customer in the management of their own activities and should not be construed as legal advice.

Customers should always consult with the equipment manufacturer.

This information does not amend, alter, or otherwise affect the provisions or coverage of any insurance policy.

Liberty Mutual Inspectors adhere to jurisdictional requirements, the National Board Inspection Code along with other reputable industry standards.

Once an inspector calls to schedule an inspection, determine if it is an internal or external inspection. This will determine the extent of preparation needed for a proper inspection.

## Pre-inspection activities

- Upon arrival, inspectors will want to examine records available back to and including the prior inspection. Have any records of repairs or alterations, operating/maintenance logs, water treatment, or other inspection records available to the inspector. In larger boilers, you may monitor tube or metal thickness for corrosion or erosion. Have these records or trends available for the inspector.
- The inspector will want to discuss the operating conditions as well as any outstanding recommendations from the previous inspection.
- (Internal Inspection) If the boiler is large enough to enter, prepare the space to be entered by properly locking out and tagging out all potential sources of energy, just prior to the inspection.
- (Internal Inspection) The air in the space to be entered should be tested and a confined space entry permit completed within an hour of the inspection.
  1. Oxygen content of the breathable atmosphere should be between 19.5 and 23 percent.
  2. If any flammable or combustible materials are present in the atmosphere, they should not exceed 10 percent of their lower explosive limit or lower flammable limit.
  3. Inspectors are equipped with gas monitoring devices and will not enter an area if the atmosphere is not within acceptable limits. Use of air movers to circulate good air into the area may be necessary.
- The Inspector will want to observe the overall condition of the boiler/pressure vessel.

## Internal inspection

- Drain the boiler/pressure vessel.
- Lock and tag-out the boiler/pressure vessel.
- Ensure the boiler/pressure vessel is cooled (less than 120°F) prior to inspection. Be sure to follow manufacture cool down rates to avoid damage to the vessel.
- Remove pressure gage and safety valves and have them tested and calibrated prior to inspection.

- Open all manways and hand holes into each space to be inspected.
- Remove all inspection plugs on operating and limit control piping.
- Open the low water cutoffs and clean prior to inspection (leave open for inspection).
- The boiler/pressure vessel should be cleaned of rust, scale, oil sludge, and any other deleterious material.
- Provide adequate safe access to each boiler/pressure vessel entry location.
- An entry attendant will need to be provided for any entry into a confined space.

### **External inspection**

- The inspector is going to look at the general condition of the boiler room or space that the pressure vessel resides. Lighting, adequacy of ventilation, combustion air, housekeeping, personal safety, and general safety considerations will be assessed.
- Boiler/pressure vessel fittings, valves, and piping will be checked for compliance with the required codes and standards.
- Boiler/pressure vessel controls will be checked for proper operation.
- Boiler/pressure vessel will be checked for cracks, gas, or fluid leaks; excessive corrosion; and any other degradation that could interfere with the proper operation.
- If there is evidence of leakage where the source cannot be readily seen, the inspector may request the removal or insulation or masonry, or fixed parts of the boiler/pressure vessel to determine the cause of the leakage.
- Any pitting or corrosion will be closely examined to determine its extent.
- Gage glass will be tested to ensure the piping is clear and reading accurately. If the gage glass is in a condition that makes it difficult to make an accurate reading, it may be required to replace the glass.
- The inspector will request you to test the safety valve by lifting on the hand lever to ensure the valve is in proper condition.

Additional guidance can be found in the boiler operating manuals and in the National Board Inspection Code, Part 2.

## References

National Board Inspection Code, Part 2.



The illustrations, instructions, and principles contained in the material are general in scope and, to the best of our knowledge, current at the time of publication. Our risk control services are advisory only. We assume no responsibility for: managing or controlling customer safety activities, implementing any recommended corrective measures, or identifying all potential hazards.

No attempt has been made to interpret any referenced codes, standards, or regulations. Please refer to the appropriate government authority for interpretation or clarification.

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