



# Property Risk Consulting Guidelines

XL Risk Consulting

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PRC.1.7.1

## RENTED EQUIPMENT

### INTRODUCTION

Facilities rent boilers, compressors, refrigeration units or other pressure vessels for various reasons. A standby or emergency source of steam, compressed air or refrigeration may be needed to:

- Restore production if the equipment fails that normally supplies the services.
- Maintain a controlled environment during an emergency for goods in storage or process.
- Prevent water or water-based fluid systems from freezing during abnormally cold conditions or service outages.
- Supplement steam or compressed air supplies when seasonal or other conditions place abnormally high demands on the supplies.
- Replace steam or compressed air systems during scheduled maintenance of the equipment that normally supplies the steam or compressed air.
- Provide temporary services during construction or new process installation.

Personnel at a facility often have no information concerning how rental equipment was previously used. They certainly have no control over its maintenance history. Rental boilers sometimes arrive at job sites heavily scaled from being operated with unsatisfactory feed water. Air tanks have arrived half filled with water. Safety and relief valves are occasionally wired shut. It does no good to bring in rental equipment to mitigate a production loss if the rental equipment is going to promptly fail or cause more problems. Therefore, the equipment must be thoroughly inspected before it is installed, if possible, and certainly before it is placed into service.

Concerns that may apply to rented equipment are:

- Past equipment maintenance may not meet established standards.
- Loss control systems may be challenged by temporary connections.
- Jurisdictional regulations must receive attention.

### POSITION

Facilities which may use rental equipment should include appropriate procedures in their pre-emergency plans. Pre-emergency plans are described in Section 7 of *OVERVIEW*.

Even when a pre-emergency plan is in place, rental equipment often must be installed and used under adverse circumstances. Although all parties concerned may be focused on restoring production or preventing further product or equipment deterioration, loss prevention and control must not be compromised.

Electrical installation of any piece of equipment should comply with NFPA 70 or equivalent electrical code. Most rental boilers are oil or gas fired; most rental air compressors are diesel or gasoline engine driven. Fuel handling and burner arrangements should include precautions to prevent fire and explosion hazards. Install the fuel supply for the equipment in accordance with NFPA 31 or NFPA 54 as applicable. The authority having jurisdiction should be consulted.

The following recommendations also apply to any rental equipment installation:

- Locate the equipment where it will not block personnel or emergency vehicle access to any part of the facility or to fire protection equipment or utility service disconnects.
- If temporary shelter is used, ensure that the shelter can withstand anticipated wind or snow loadings.
- Provide fire extinguishers, hose connections and other equipment needed to protect rental equipment and combustible temporary shelters from fire.
- Monitor and maintain rental equipment to the same standard as the equipment being replaced.

When a rental boiler is to be installed, the following recommendations apply:

- Arrange for an internal and external inspection of any rental boiler before placing it in service. The inspection should be performed by an authorized inspector in accordance with the rules of the jurisdiction.
- Install in advance the necessary valves and piping for connecting steam, feedwater, fuel and electricity to the boiler. This will speed and simplify connecting a rental boiler. Steam connections are particularly difficult to install quickly.
- Ensure fuel supply arrangements do not present a fire hazard. Review the situation with the fire brigade chief, the local fire department and the authority having jurisdiction as appropriate.
- Ensure all steam, feedwater, electrical, and other connections are made safely and in accordance with local codes and jurisdictional rules. Test flame failure, low water and other control circuits before firing the boiler.
- Do not operate any boiler having deficient safety controls or protective devices.
- Obtain a certificate of operation from the jurisdiction. Most jurisdictional certificates only cover a boiler at a specific location. A boiler with a new owner or location must be recertified. Some jurisdictions require an installation certificate, particularly if the boiler is brought in from another jurisdiction.
- Ensure the boiler will be operated by properly qualified and, if necessary, licensed operators, whether or not they are employees of the insured, the rental organization or a third party.
- Test safety valves before placing the boiler in service and test the valves periodically as necessary.
- Test the low water protective devices.
- Operate and maintain the boiler in accordance with PRC.7.1.0.5.

Consult the local AXA XL Risk Consulting's representative for assistance if necessary.

Rented pressure vessels are usually associated with air compressing and refrigeration equipment.

When such equipment is installed, the following recommendations apply:

- Install in advance the piping for connecting refrigerant, brine, chilled water and condenser water to a rented refrigeration machine. In most cases, rented air compressors only require a flexible hose connection to the air system.
- Inspect pressure vessels before placing them in service. If there are signs of corrosion, weakness, or any other adverse condition, conduct an ultrasonic test and, if possible, an internal inspection.
- Ensure all compressed air, electrical, and other connections are made safely and in accordance with local codes and jurisdictional regulations.

- Ensure fuel supply arrangements do not present a fire hazard. Review the situation with the fire brigade chief, the local fire department and the authority having jurisdiction as appropriate.
- Obtain a certificate of operation from the jurisdiction. Most jurisdictional certificates only cover a vessel at a specific location. A vessel with a new owner or location must be recertified. Some jurisdictions require an installation certificate, particularly if the vessel is brought in from another jurisdiction.
- Ensure the equipment will be operated by properly qualified and, if necessary, licensed operators, whether or not they are employees of the insured, the rental organization or a third party.
- Test safety valves before placing vessels in service and test periodically as necessary.

Consult the local AXA XL Risk Consulting representative for assistance if necessary.

## **DISCUSSION**

Rental equipment may be put in service immediately or connected for standby in case other equipment fails. Rented boilers and pressure vessels present the same hazards as permanently installed equipment. These include:

- Overpressure and rupture.
- Overheating and igniting flammable surroundings.
- Uncontrolled combustion or fuel explosion inside or outside the object.
- Business interruption and consequential damage in case of failure.

Since use of rented equipment may involve temporary connections and less than ideal equipment, careful attention to inspection and operation of the equipment is necessary.

Boilers in most parts of the country require a certificate of operation. Many states require similar certificates for pressure vessels and a few require certificates for refrigeration systems. An authorized inspector must inspect equipment before a certificate can be issued. Also, in many jurisdictions, the authorized inspector must approve, and possibly witness, the installation of pressure piping. An authorized inspector can advise about safe equipment installation and operation.

Jurisdictional certification, when required, of vessels on rented air compressors or refrigeration systems involve procedures similar to those outlined above for boilers, except internal inspections are not usually required.