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**DOSH Pressure Vessel Unit**

# The Pressure Vessel Unit's main objectives are:

- Inspect and permit certain classes of vessels.
- Work with Oil Refiners, Chemical Companies and Utilities to insure their equipment is manufactured, inspected, maintained and repaired according to the American Society of Mechanical Engineers (ASME), National Board and State Codes and Standards.

## The Pressure Vessel Unit's main objectives are (cont.):

- Investigate accidents involving pressurized equipment.
- Inform the public thru presentations at conferences and symposiums the importance of maintaining their equipment in a safe operating condition.

# What pressure vessels in CA require a permit to operate?

- Boilers
- Air Tanks
- LPG Tanks

# Boiler Permitting

- Boilers – All boilers in a place of employment in CA require a permit to operate except:
  - Low pressure boilers (<15psig)

# Boilers exempt from permitting

- Miniature boilers: A boiler which does not exceed any of the following:
  - 16" ID of the shell
  - 5 cu. ft. gross volume
  - 20 sq. ft. heating surface
  - 100 MAWP

# Boilers exempt from permitting

- High temperature water boilers – Commonly found in hotels/hospitals used primarily to heat large quantities of water at less than the boiling temperature.

# Boilers exempt from permitting

- Any other boiler that does not exceed any of the following:
  - 100 sq. ft. of heating surface
  - Steam drum < 16" ID
  - MAWP of 100 psi
  - Water capacity of 35 gallons
  - Burner btu input of 400,000 BTU/hr.

# Boiler Permits

- Boilers are issued a one year operating permit.

# Air Tank Permitting

- All air tanks at a place of employment require a permit to operate except:
  - Air tanks not exceeding 6" in diameter
  - Air tanks having a volume of 1 ½ cu. ft or less with safety valves set to open at not more than 150 psi.
  - Self Contained breathing apparatus having a volume of 1 cu. ft. or less.

# Air Tank Permitting

- Air tanks are issued a 5-year permit unless it is mounted with an air compressor on a towed vehicle, then a 3-year permit is issued.
- Also, an air tank less than 25 cubic feet in volume with a MAWP not exceeding 150 psi will be issued an indefinite permit.

# LPG Tank Permitting

- All LPG tanks with a water capacity that exceeds 125 gallons requires a permit.
- LPG tanks are issued either a 3 year or 5 year operating permit depending on their service.

**Why does the State of CA  
require certain classes of  
pressure vessels to be  
inspected and permitted?**

If they are not properly inspected,  
maintained and repaired they  
tend to come apart.

# Pressure Vessel Accidents

- We will look at 10 separate accidents involving:
  - Two separate air tank accidents
  - A water tank
  - An LPG tank
  - Hot Water Heating Boiler
  - Steam Kettle
  - A water heater
  - CNG tanks (3)

**End**