

PRESSURE EQUIPMENT

Facilitator Guide



Timings	Facilitator Notes	Resources
15 mins	Introduce topic and discuss assessment criteria.	Slide 1 Slide 2
	EXPLAIN <i>Refer WHS Reg 2011 Schedule 19 – Definitions</i> • Pressure Equipment • Pressure Vessel • Boiler	Slide 3
	DISCUSS <i>Refer Student Notes – Statutory Provisions</i> Discuss the following legislative requirements: • Registration of Plant • Registration of Plant Design • High Risk Work License requirements	Slide 4
	EXPLAIN <i>Refer Student Notes – Pressure Equipment Hazards</i> Explain the potential hazards associated with pressure equipment.	Slide 5
	DISCUSS <i>Refer Student Notes Table 4.1 – Inspection Intervals</i> Discuss Table 4.1 and inspection intervals. Highlight that the inspection intervals are a guide only and are specific to each gas cylinder.	Slide 6
	DISCUSS <i>Refer Student Notes – Care and Handling</i> Discuss care and handling requirements as outlined in student notes	Slide 7
	DISCUSS Discuss the various provisions regarding Boilers from AS/NZS 1200 and Gas Cylinders from AS2030.1: • Marking and labelling • Operation instructions • Inspection criteria •	Slide 8
	ACTIVITY Have participants break into groups and complete the STUDENT QUESTIONS within Student Notes.	-

STUDENT QUESTIONS – PRESSURE EQUIPMENT

1. Are the following statement TRUE or FALSE?

Serially produced vessels require design and item registration before they can be supplied or used	FALSE
Pressure equipment with hazard level D require item registration	FALSE
A high risk work licence is required to operate a standard boiler	TRUE
A high risk work licence is required to operate reciprocating steam engine where the diameter of any piston exceeds 250mm	TRUE

2. The following question relates to WHS Regulation 2011 s224. Are the following statements TRUE or FALSE?

The persons with management or control (PVMC) of pressure equipment must ensure that the equipment is inspected on a regular basis by any persons	FALSE
The PVMC of pressure equipment must ensure that any gas cylinder that is inspected is marked with a current inspection mark showing the date of the most recent inspection	TRUE
The PVMC of gas cylinders at a workplace that is a gas cylinder filling station can fill any gas cylinder regardless of whether it bears a current inspection mark or not	FALSE
The PVMC of gas cylinders at a workplace that is a gas cylinder filling station can fill a gas cylinder with any gas	FALSE

3. What are four hazards associated with pressure equipment?

- Defective or damaged pressure equipment or pressure vessels and their components (e.g. cracks, dents, manufacturing defect, leaks)
- Inappropriate hoses, couplings, connections and end fittings used
- Gas cylinders are unsecured during storage, transport or use and can fall or be knocked over.
- Operating the pressure equipment or vessel at a pressure higher than its maximum allowable working pressure
- Lack of or non-functional safety relief valve
- Lack of or non-functional pressure gauge
- Storing or placing pressure equipment or vessels near an ignition source or flammable materials (e.g. fuel, paint, solvents)
- Gas cylinder dropped during handling
- Pressure equipment or pressure vessels placed in a position where they can be damaged by vehicle traffic or general work operations

4. List four control measures that eliminate or minimize the hazards associated with pressure equipment
 - A functioning pressure gauge
 - A safety relief valve
 - Pressure vessels secured by a chain, in a racking system or using a strap
 - Pressure equipment and vessels placed in a location where they cannot be damaged by vehicle traffic or general work operations
 - Install impact bollards to prevent vehicles from impacting the gas cylinders
 - Store and/or transport cylinders in an impact cage.
 - Use a gas cylinder carrier or trolley when handling gas cylinders
 - Place pressure equipment and pressure vessels away from ignition sources or flammable materials
 - Inspect pressure equipment and pressure vessels for defects and damage. Remove any pressure equipment with defects or damage from service.
5. List four factors which could be the cause of an incident associated with pressure equipment or vessels
 - Poor design of equipment
 - Poor manufacture of equipment
 - Improper installation and commissioning procedures and practices
 - Poor design of the workplace
 - Poor operational practice
 - Poor maintenance and repair of equipment
 - Improper alterations to the equipment
 - Improper dismantling and transportation process
 - Failure of alarm and shut down systems
6. What safety information must be supplied with the pressure equipment or vessel?
 - Mounting, including assembling, or different pieces of pressure equipment.
 - Putting into service.
 - Use.
 - Maintenance including checks by the user.
7. What tests should be carried out on cylinders stamped with a certified station mark?
 - Identification of gas and valve removal
 - External visual inspection
 - Internal examination
 - Inspection of cylinder neck
 - Pressure test or ultrasonic examination
 - Mass test
 - Operations on rejected cylinders
 - Operations on accepted cylinders
 - Complete records

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