

Plant Records, Registration and Operator Licensing

Last Update: 4 August 2014
Owner: Manager HWS

Record of inspections and maintenance

Under the Occupational Health and Safety Amendment Regulations 2014 an employer must ensure that any record of inspections and maintenance carried out on the following plant is retained for the period that the employer has management or control of the plant:

- Boilers categorised as hazard level A, B or C according to the criteria identified in [AS 4343 Pressure equipment – Hazard levels](#)
- Pressure vessels categorised as hazard level A, B or C (see [Additional Information](#)) according to the criteria identified in [AS 4343 Pressure equipment](#) – Hazard levels, other than –
 - Gas cylinders to which [AS 2030 – Gas cylinders](#) applies; and
 - Liquefied petroleum gas fuel vessels for automotive use to which [AS 3509 – LP Gas fuel vessels](#) for automotive use applies; and
 - Serially produced vessels to which [AS 2971 – Serially produced pressure vessels](#) applies
- Tower cranes
- Self-erecting tower cranes
- Lifts
- Building maintenance units
- Amusement structures to which [AS 3533 – Amusement rides and devices](#) applies, other than amusement structures referred to in the standard as class 1 structures
- Concrete placing units (truck mounted with boom)

For the University, the following items will require inspection and maintenance records: compressors, autoclaves, boilers and lifts. Further details on compressors and autoclaves can be found in the section [Pressure Vessels](#) below. Registration with Worksafe is no longer required.

Licensing and certificate of competency

Anyone who operates or uses [high-risk items of plant](#) must have a certificate of competency. These are defined in [Schedule 3 of the OHS Regulations](#). This includes:

- Pressure equipment operation (boilers, turbines and steam engines)
- Scaffolding and rigging
- Forklift operation
- Crane and hoist operation
- Construction (WorkSafe Construction Induction Card)

Managers must ensure that their staff have the proper certificate of competency for the plant they operate or use. Alternatively staff can work under the direct supervision of someone with the relevant certificate of competency or equivalent qualification, to gain the necessary training.

To apply for a licence first time applicants should contact an [authorised license assessor](#) to book in for an assessment. Applicants who already hold a certificate of competency or 'ticket' should now [register online to transfer](#) to the new licence before their certificate of competency expires. Existing certificates are [scheduled to expire](#) over a 5 year transition period, and you must transfer to the new licence before your current certificate expires.

Certificates of competency cover :

- Scaffolding, dogging and rigging.
- Crane and hoist operation.
- Forklift operation
- Pressure equipment operation.

Certificates are no longer required for: backhoe (Not more than 0.6 Cubic Metres), excavator, pile driver or drilling and boring rig.

Details can be found on the [WorkSafe website](#)

Plant requiring registration of design

Plant designs requiring registration are defined in [Schedule 2 \(Part 1\) of the OHS Regulations](#). Anyone designing the following types of plant is required to register that design with [WorkSafe](#):

- Pressure equipment, other than pressure piping
- Tower cranes
- Self-erecting tower cranes
- Lifts and escalators
- Building maintenance units
- Hoists, with a platform movement in excess of 2.4 metres, designed to lift people
- Work boxes suspended from cranes
- Amusement structures to which [AS 3533 – Amusement rides and devices](#) applies, other than amusement structures referred to in the standard as class 1 structures
- Prefabricated scaffolding, being an integrated system of prefabricated components manufactured in such a way that the possible geometry of assembled scaffolds is pre-determined by the designer
- Boom-type elevating work platforms
- Gantry cranes with a safe working load greater than 5 tonnes or bridge cranes with a safe working load greater than 10 tonnes, and a gantry crane or a bridge crane which is designed to handle molten metal or dangerous goods
- Vehicle hoists, being hoists that are permanently installed or intended to be permanently installed in a workplace to elevate a vehicle to allow work to be performed on the vehicle
- Mast climbing work platforms
- Mobile cranes with a safe working load greater than 10 tonnes
- Chairlifts, being aerial powered ropeways that incorporate either elevated open chairs or closed cabins
- Concrete-placing units (truck-mounted with boom).

Pressure Vessels (e.g. air compressors/air receivers, autoclaves)

As noted above, the design of pressure vessels categorised as hazard level A, B or C must be registered and maintenance/inspection records kept.

An example calculation for determining the hazard level of pressure equipment which includes air compressors, air receivers and autoclaves is given below.

The Hazard Level of Pressure Equipment is determined by referencing Australian Standard '[AS 4343 Pressure equipment – Hazard levels](#)'.

The first step in determining the Hazard Level of pressure equipment is to determine the MPa.L. This is achieved by multiplying the pressure of the vessel in Mega Pascals (MPa) by the volume (capacity) of the vessel in litres.

$$\text{MPa} \times \text{Litres} = \text{MPa.L}$$

e.g. An Air Compressor has a pressure of 0.85 MPa and of volume of 155 Litres.

Multiply pressure by volume, $0.85 \times 155 = 132 \text{ MPa.L}$ (132 Mega Pascal Litres)

Please note the conversion 1 cubic metre = 1,000 litres

The second step is to determine the hazard category of the vessel contents. [AS 4343 Pressure equipment – Hazard levels](#) lists the hazard category of various gases and liquids.

The second step is to determine the Hazard Category of the vessel contents. Table 2, Section 3, 'Fluid Types and Classes' from [AS 4343 Pressure equipment – Hazard levels](#) lists the Hazard Category of various gases and liquids.

e.g. **Air** is listed as a **Non Harmful Gas** whereas **Hexafluoroacetone** is listed as a **Lethal Liquid**.

Once the Hazard Category of the contents has been established, you then need to refer to the following table (i.e. Table 1, Section 2, 'Hazard Levels of Pressure Equipment') from AS4343 to determine the Hazard Level.

Table 1: Extract from AS 4343: Hazard Levels for Pressure Equipment

| Pressure Vessels including sterilizers except vacuum vessels and boilers | | | | Value of Volume X Pressure in MPaL | | | | |
|--|--------|------------------|-----------------|--------------------------------------|----------|----------|-----------|----------------|
| Fluid Type and Contents | | Volume in litres | Pressure in MPa | Hazard Levels for Pressure Equipment | | | | |
| | | | | E | D | C | B | A |
| Lethal | Gas | > 0.05 | > 0.05 | Not App | Not App | >= 0.05 | >= 1 | >= 30,000 |
| | Liquid | > 0.2 | > 0.05 | >= 0.05 | >= 0.3 | >= 1 | >= 10 | >= 300,000 |
| Very Harmful | Gas | > 0.2 | > 0.05 | >= 0.05 | >= 3 | >= 10 | >= 100 | >= 3,000,000 |
| | Liquid | > 1.0 | > 0.05 | >= 0.05 | >= 30 | >= 100 | >= 1,000 | >= 30,000,000 |
| Harmful | Gas | > 0.2 | > 0.05 | >= 0.05 | >= 10 | >= 30 | >= 300 | >= 10,000,000 |
| | Liquid | > 1.0 | > 0.05 | >= 0.05 | >= 100 | >= 300 | >= 3,000 | >= 100,000,000 |
| Non Harmful | Gas | > 0.2 | > 0.05 | >= 0.05 | >= 30 | >= 100 | >= 1,000 | >= 30,000,000 |
| | Liquid | > 10 | > 0.05 | >= 0.05 | >= 1,000 | >= 3,000 | >= 30,000 | Not App |

In the example given above, the air compressor in question has a MPa.L figure of 132, and a Hazard Category of "Non Harmful Gas" therefore the HAZARD LEVEL of this air vessel would be **Hazard Level C**.

Using the same MPa.L level of 132, but with a vessel contents of Hexafluoroacetone (a Lethal Liquid) the Hazard Level would be **Hazard Level B**.

As can be seen by these examples the contents of a pressure vessel can have a significant impact on the final Hazard Level of a vessel.

The complete Australian Standard 'AS4343-2005 Pressure Equipment - Hazard Levels' can be accessed by clicking on 'Articles via Databases' and then 'Australian Standards Online Premium' through [Deakin University library](#).

Additional Information

- WorkSafe Victoria: [Working safely with air receivers \(compressors\) - A handbook for workplaces](#)
- Comcare: [Unfired Pressure Vessel Assessor - Macro \[xls\]](#)
Comcare: [Instructions for using the Macro \[pdf\]](#)

Where the calculator refers to licence, this should be interpreted as meaning registration under Victorian requirements. The calculator only calculates hazard levels A, B and C.

The rule of thumb is compressors over 1 cubic metre or 1 metre in length must be registered

- [Pressure Vessels, Boilers and Autoclaves](#)