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Refurbishing and relocating above ground tanks used to hold flammable liquids

This quick guide is for people wanting to refurbish and relocate above ground tanks for flammable liquids.

This guide is limited to the minor repair or relocation of workshop fabricated above ground tanks that store flammable liquids¹. This guide covers both:

- where the original design and fabrication of the tank is known (option 1), and
- tanks which are certified according to the *Health and Safety at Work (Hazardous Substances - Management of Pre-2006 Stationary Container Systems up to 60,000 L) Safe Work Instrument 2017* (option 2).

Works on the tanks are limited to normal routine maintenance that does not invalidate the original design certificate. These include the cleaning of tanks, repainting of tanks and valve replacement.

Tanks not covered in this guide include tanks which:

- are supported by a three-legged structure (tripod tanks)
- are deformed
- require weld repairs, or
- require alterations to cradles or support structures.

Background

Stationary tanks² that contain hazardous liquids are regulated under the Health and Safety at Work (Hazardous Substances) Regulations 2017 (the regulations).

Generally, the design and manufacture of a tank is certified under these regulations by a compliance certifier. The regulations also require tanks, once they are installed, to be certified.

Stationary container design certification

If a workshop fabricated stationary tank design is certified³ the design will be listed on the [Stationary Container Tank Design and Fabricators Register](#). The tank design will be recognised by a design approval number such as a TNK number, or for tanks placed into service before 1 April 2004, an LAB number or OSH number.

¹ Class 3.1A, 3.1B, 3.1C or 3.1D.

² Stationary tanks that Part 17 of the Health and Safety at Work (Hazardous Substances) Regulations 2017 relate to.

³ Under regulation 17.93 of the Hazardous Substances at Work (Hazardous Substances) Regulations 2017.

Stationary container system compliance certificates

All tanks that hold amounts of flammable substances above the limits⁴ set out in the regulations require a stationary container system compliance certificate, which certifies the stationary container system as installed. Stationary container system certificates are invalidated when the tank is relocated⁵, unless the tank is made to be movable and has an integral support structure that rests on the ground.

Relocating and refurbishing tanks

Certified tank fabricator

If you refurbish tanks, you should be certified by a compliance certifier as a certified fabricator.

When you are relocating or refurbishing tanks check if the tank has a design approval number marked on the tank. You will need to do different things depending on whether you know the design approval number from marking on the tank, or not. What you need to do is described in Options 1 and 2 below.

Changing the location and making minor repairs to tanks

OPTION 1: ORIGINAL DESIGN AND FABRICATION CERTIFICATE IDENTIFIED BY MARKING

In this option a tank could be removed from site, refurbished and placed back into service at the same or different site.

Actions to take

- Refurbish in line with the original designs and design standards. Refurbishing a tank is limited to normal maintenance.
- Retain the original markings.
- When put back into service, tanks must have a new stationary container system compliance certificate issued for their installation, if the tank size is above the threshold.⁴

OPTION 2: ORIGINAL DESIGN AND FABRICATION CERTIFICATE IS UNKNOWN

Tanks refurbished under option 2 can only be put back into service for diesel storage.

In this option a tank could be removed from site, refurbished and placed back into service at the same or a different site.

We expect that all tanks in service from 1 July 2006 have a plate with markings (ie design approval number) on them indicating the original design and fabrication. Therefore, this option is only relevant to stationary tanks with a capacity up to 60,000 L and placed into service before 30 June 2006.

Tanks placed into service prior to 1 July 2006 that do not have markings are able to be verified according to the provisions of the *Health and Safety at Work (Hazardous Substances – Management of Pre-2006 Stationary Container Systems up to 60,000 L) Safe Work Instrument 2017*.

Actions to take

- Ask someone who is skilled and experienced in tank design and fabrication⁶ to verify the tank and structure – see Box 1.
- Refurbish in line with *AS 1692-2006 Steel Tanks for Flammable and Combustible Liquids* or Schedule 1 of the *Health and Safety at Work (Hazardous Substances – Management of Pre-2006 Stationary Container Systems up to 60,000 L) Safe Work Instrument 2017*. Refurbishing a tank is limited to normal maintenance.
- Mark the tank with a plate with all of the correct information – see Box 2.
- When put back into service, tanks above the threshold⁴ must have a new stationary container system compliance certificate issued for their installation.

⁴ Threshold capacities for stationary container system compliance certificates are:

2,500 L for tanks containing 3.1A or 3.1B substances

5,000 L for tanks containing hazardous liquids that are not 3.1A or 3.1B

60 L for a tank containing a 3.1 substance supplying a burner

500 L for a tank containing a class 3.1A, 3.1B or 3.1C substance supplying an internal combustion engine

500 L for a tank containing a 3.1D substance supplying an internal combustion engine.

⁵ Regulation 17.83 of the Hazardous Substances at Work (Hazardous Substances) Regulations 2017.

⁶ A person such as a tradesman or professional engineer who is skilled and competent in this field.

BOX 1

Verifying the tank and structure for tanks without markings

The verification of the tank and structure must confirm that:

- the tank design, such as steel thickness, weld types and tank dimensions, complies with *AS 1692-2006 Steel tanks for flammable and combustible liquids* or Schedule 1 of the *Health and Safety at Work (Hazardous Substances – Management of Pre-2006 Stationary Container Systems up to 60,000 L) Safe Work Instrument 2017*
- the tank and any supporting structure complies with the seismic and wind loadings specified in the Standards or Safe Work Instruments listed in Regulation 17.6 of the regulations
- all vents comply with regulations 17.2 and 17.8 of the regulations, and
- the welds are suitable. All welds should be assessed visually as being suitable. For tanks in excess of 25,000 L capacity, 10% of the welds must be x-rayed.

BOX 2

Markings for option 2

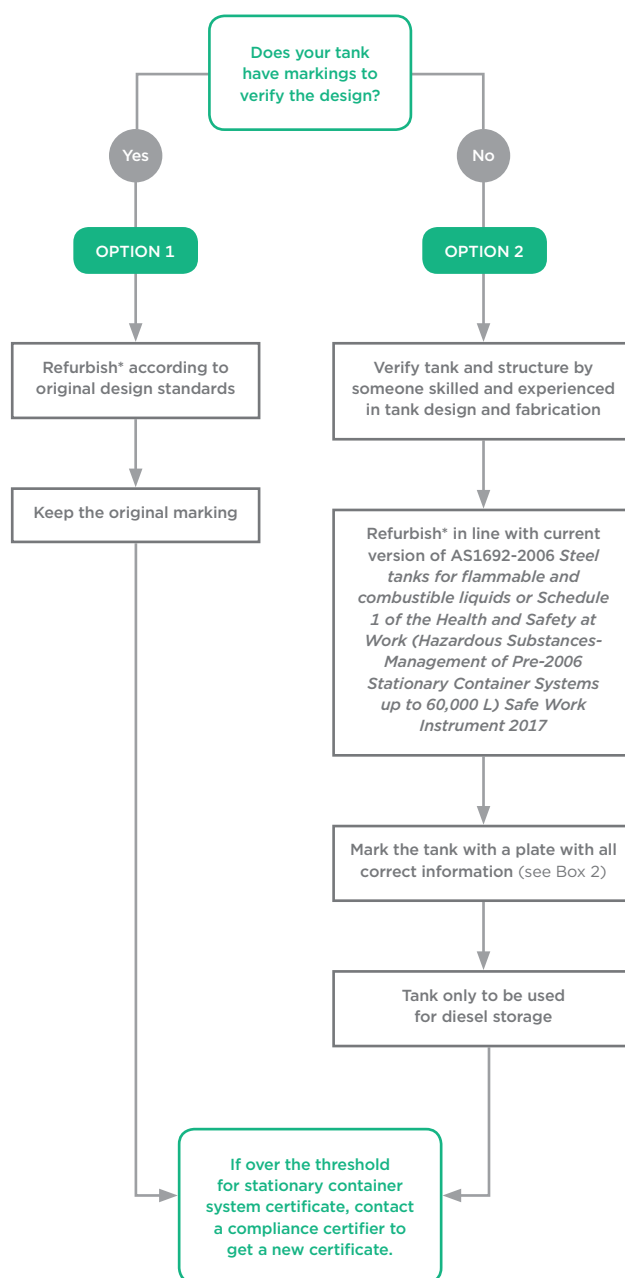
After a tank has been refurbished it must have a plate attached that complies with regulation 17.76 of the regulations.

The plate must include the following information, which must be permanently and legibly marked on the plate:

- refurbished to *AS 1692-2006 Steel Tanks for Flammable and Combustible Liquids* or Schedule 1 of the *Health and Safety at Work (Hazardous Substances – Management of Pre-2006 Stationary Container Systems up to 60,000 L) Safe Work Instrument 2017*
- the date the tank was refurbished
- the materials used in the construction of the tank
- the name and address of the person who refurbished the tank
- the maximum and minimum design pressure of the tank
- the maximum and minimum design temperature of the tank
- the maximum permitted density of any liquid that may be contained in the tank
- the maximum safe fill level of the tank
- an identifier that links the tank to the records that relate to the tank.

Clause 7 of the *Health and Safety at Work (Hazardous Substances – Management of Pre-2006 Stationary Container Systems up to 60,000 L) Safe Work Instrument 2017* specifies the application of this for tanks with incomplete information.

Refurbishing and relocating tanks summary



* Refurbishing must be limited to normal maintenance.