

## Marine Information Bulletin

### Liquefied petroleum gas (LPG) systems for commercial and fishing ships

#### Purpose

This bulletin serves to clarify servicing and certification requirements for portable and non portable LPG installations on board commercial and fishing ships.

#### Background

Maritime Safety Queensland (MSQ) is concerned by recent reports that some LPG installations on board commercial and fishing ships are being incorrectly categorised as portable installations. This presents a situation where LPG installations that would normally be required to be inspected and certified annually by licensed gas installers are escaping the inspection/certification process. This situation potentially exposes ship owners, operators and crew to increased risks to their personal safety.

#### Definitions

The following definitions have been agreed by Maritime Safety Queensland and the Department of Employment, Economic Development and Innovation (which incorporates Petroleum and Gas Inspectorate, Safety and Health).

**Portable LPG Appliance** - an appliance that is easily removable from a ship, is not permanently affixed to a ship and has flexible gas supply lines. Refer to AS2685-2008 for details.

**Non Portable Appliance** - an appliance that is "permanently affixed" to a ship with metallic gas supply lines of drawn hollow tubing. These can be hard piped to a point near the appliance and then connected with an approved flexible connection. Refer to AS5601-2010 for details.

**Permanently affixed** - any LPG appliance that is welded to or mechanically fastened to a ship whether it is supplied by metallic hollow tubing gas supply lines or an approved flexible connection. Refer to AS5601-2010 for details.

**Example of a non portable appliance** - A prawn cooker that is welded to or bolted to a ship's deck regardless of whether the gas supply line is flexible or drawn hollow tubing.

#### Obligations

Owners and masters of all ships have obligations placed on them to ensure their ships are safe and operated safely. This obligation is imposed by the *Transport Operations (Marine Safety) Act 1994*. It is also imposed by

the *Queensland Petroleum and Gas (Production and Safety) Regulation 2004* section 100. Owner of a commercial vehicle or vessel must ensure the gas fuel system in the vehicle or vessel is inspected and has a gas inspection certificate or an interstate gas inspection certificate issued in relation to it, at least every 12 month period.

Commercial/fishing ships are required under the USL Code section 5 part 9 (Liquefied Petroleum Gas Installation), NSCV part C section 5 subsection 5C (LPG Systems for Appliances), Australian Standard 5601-2010, to comply regarding the installation, testing and retention of Gas Inspection Certificates.

#### Requirements

All gas appliances must be certified by a scheme accepted to the Technical Regulator (DEEDI). The operating pressure of the appliance must not exceed 200kpa, unless authorised by the Technical Regulator. All gas installations and gas system repairs must be conducted by a licensed gas installer.

Gas systems on commercial marine vessels require a Gas System Compliance Certificate annually. Copies of the LPG installation inspection certificate and MSQ compliance certificates are to be maintained as a part of the ships on board documentation.

For the initial registration of any ship (commercial/fishing or recreational), a gas certificate must be lodged with your registration application. The gas certificate is normally valid for twelve months. However, if gas work is carried out after a vessel is registered, then a new gas certificate is required.

Ships having gas appliances installed (inside the accommodation space or on the weather deck) must have the appliance suitably secured to minimise movement or vibration of the appliance and to minimise strain being imparted to the gas supply line and connections. Appliances must be installed in accordance with the appliance manufacturer's instructions, Australian Standards and Queensland legislation.

LPG cylinders must be rigidly secured to the ship's structure suitable to withstand a steadily applied load

equal to four times the weight of the filled cylinder. The cylinder mounting method is to be capable of withstanding this applied load from any direction. LPG cylinders are to be installed in accordance with Australian Standards and Queensland legislation.

### **Prawn cookers**

The design and use of "prawn cookers" would require them to be considered under Type B approval scheme. The "normal" design/build requirements under Type B submission include:

- LP Gas cylinder location, clearance to ignition source and openings/vents into building/vessel. Stable, level non-combustible base on which to stand
- Regulator to be adequately supported independent of the cylinder
- Over pressure protection of downstream pipe, fittings and components
- Maximum operating pressure not greater than 200kpa
- Appliance positioned so performance is not adversely affected by weather
- Prescribed and controlled ignition process
- Adequate flame supervision
- Acceptable termination of flue/exhaust. Clearance from combustible surfaces and to avoid skin contact
- Combustion emissions to be within acceptable limits.

However, due to the location and portability/storage requirement, the submission would fall outside of this normal format.

This would require additional consideration to:

- Location and securing of LP Gas storage on the vessel deck area
- Location and support of regulator
- Suitability of nose connection as apposed to fixed piping
- Limiting operation of appliance to "at sea" not on dock side area or when in port
- Documented risk assessment to cover, ignition process, flame supervision, operating location and flue/exhaust termination.

### **Reference documents**

- *Transport Operations (Marine Safety) Act 1994*
- *Uniform Shipping Laws Code*
- *National Standard for Commercial Vessels*
- *Petroleum and Gas (Production and Safety) Regulation 2004*
- *Australian Standard 5601—2010 General Gas Installations - for fluing and venting*
- *AS 1596-2008 The Storage and Handling of LP Gas - for LP gas cylinder location*
- *AS3814-2009 Industrial and Commercial gas fired appliance - for design and burner valve train, flame supervision, data badge and documentation*

- *AS1375 industrial fuel fired appliances. –used in conjunction with AS3814 to achieve compliance.*

### **Information**

For further information about this Marine Information Bulletin, email [msqmail@msq.qld.gov.au](mailto:msqmail@msq.qld.gov.au).

Other Marine Information Bulletins covering various topics relating to the safe operation of vessels can be obtained from Maritime Safety Queensland's website [www.msq.qld.gov.au](http://www.msq.qld.gov.au) and from the following Maritime Safety Queensland regional offices:

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