



EXPLANATORY NOTE

LIQUEFIED PETROLEUM GASES TRANSPORTED IN STATIONARY TANKS PERMANENTLY MOUNTED ON TRAILERS

1. ISSUE

Liquefied petroleum gases (LPG) being transported in stationary tanks permanently mounted to trailers are non-compliant with respect to the *Transportation of Dangerous Goods Act, 1992* (TDG Act), *Transportation of Dangerous Goods Regulations* and the applicable Canadian Standards Association (CSA) standards, namely CSA B620 and B622.

Carriers using these type of transport must come into compliance immediately. Transport Canada's Transportation of Dangerous Goods (TDG) inspectors and Provincial/Territories inspectors will be closely monitoring the issue and will take necessary enforcement action to remedy the situation.

The following provides background and information for industry to better understand the non-compliance and the proper way to transport liquefied petroleum gases to be in compliance with regulatory requirements.

2. BACKGROUND

Highway tanks (TC 331) designed to transport propane and other types of liquefied petroleum gases, as shown in image #1, must be manufactured to comply with CSA B620.



Image #1

Stationary tanks are tanks manufactured to comply with CSA B51. Although stationary tanks may be compliant with CSA B51, they do not comply with the requirements of a TC 51 portable tank or a TC 331 highway tank. Stationary tanks are not designed for the transport of dangerous goods but rather the storage of dangerous goods at a fixed location. Image #2 shows a stationary tank loaded onto a vehicle for delivery.



Image #2

Carriers may transport stationary tanks as set out in CSA B622 if the tank meets all condition listed under clause 6.3, in Specific Requirement 24, such as:

- (a) The tank's construction must comply with CSA B51.
- (b) The tank must be empty to the greatest extent possible.
- (c) The tank must not contain more than 5% of its volumetric capacity of liquefied petroleum gas (e.g., propane).

Equivalency certificates (e.g., SU 11577) have been issued to allow for the transport of "stationary" tanks with more than 5% propane. However, this equivalency certificate prohibits the stationary tank from being permanently mounted on a chassis or trailer.

Specific Requirement 24 aims to avoid Transport Canada (TC) having to issue a high number of equivalency certificates (permits) to land owners or LPG delivery companies who need to move B51 stationary tanks because they:

- (a) No longer need them at the site; or
- (b) Must requalify them to meet provincial requirements for permission to continue to use them.

While some stationary tank inspections may take place on site, other servicing such as requalification, may not. When stationary tanks require servicing, requalification may take place only at facilities authorized by the regulatory authority (clause 12.7.2 of CSA B51 - **Boiler, pressure vessel, and pressure piping code**), and an owner must move the emptied but not purged, stationary tanks. Before Transport Canada created Specific Requirement 24, we had to issue equivalency certificates for such periodic movement.



TC has become aware that some propane companies are transporting liquefied petroleum gases in stationary tanks **permanently mounted** (i.e., bolted or welded) on trailers (e.g., refer to images #3, #4 and #5). In most cases, companies deliver these tanks to construction sites or to farmers to dry their crops. They leave the stationary tanks on the trailer for use at the site and pick them up when the user no longer needs the tank at that location.



Image 3



Image 4



Image 5

It is important to:

- Remember that TC created Specific Requirement 24 for the **periodic**, not **frequent** movement of stationary tanks that are filled to less than 5% of their volumetric capacity.
- Keep in mind that the lower attachment points of stationary tanks may not be designed for dynamic loading forces that can occur during frequent travel. Companies or tank owners use the lower attachment points to attach the stationary tanks to the trailer.



3. GUIDING REGULATORY PRINCIPLES

The stationary LPG tanks permanently mounted on trailers in image 3, 4 and 5 do not have several safety features that would be required by CSA B620 for highway tanks. For example, they do not have:

- Bumpers, other devices serving similar purposes or rear end protection (CSA B620 Clauses 5.1.5.2, 5.1.5.3 & 5.1.5.4).
- Emergency discharge control (B620 – Clause 5.3.2.5).
- No rollover damage protection (B620 – Clause 5.6.9.3.2).

According to the CSA B620 definition, a highway tank is **“a tank intended for the transport of dangerous goods by road...”**. See the full definition below.

TC considers stationary tanks mounted on trailers to be “highway tanks” because:

- It is clear the trailer’s only purpose is to transport the stationary tank from site to site, even if the tank is less than 5% full.
- If the tank were removed from the trailer, the trailer would serve no other purpose, since trailers do not have a loading deck.

This means the tank and trailer configuration must comply with all the CSA B620 requirements that apply to TC 331 highway tanks.

CSA B620 – Definition of a Highway tank

A tank intended for the transport of dangerous goods by road, consisting of a tank wall fitted with service equipment and structural equipment necessary for the transport or handling of such dangerous goods, and that

- (a) is permanently attached to or forms a part of a truck or trailer; and
- (b) is loaded or unloaded without being removed from the vehicle

Stationary tanks are manufactured to comply with CSA B51. Their structure is not designed for frequent transport with a capacity of dangerous goods more than 5%.

CSA B51-09 aims to fulfill two main objectives:

- To promote safe design, construction, installation, operation, inspection, testing, and repair practices; and
- To help Canadian jurisdictions adopt and enforce uniform requirements.



Transport
Canada

Transports
Canada



Finally, Clause 1.3 of CSA B51 also specifies that it “*does not apply to pressure vessels for the transportation of dangerous goods regulated by Transport Canada*”. Effectively this means that stationary tanks are not intended for the transport of dangerous goods.

4. CONTACT

If you have any questions about this issue, please send an email to TC TDG at: tdg-tmd@tc.gc.ca