# Comments on ECE/TRANS/WP.29/GRSG/2011/14 (Draft amendment to Regulation No. 67/01 by the expert from the Netherlands)

Paragraph 2, amend the text to read:

"Class 0 High pressure parts including tubes and fittings containing liquid LPG with a pressure  $\geq 3,000$  kPa"

Figure 1, amend accordingly.

### Justification:

According to the present definition, that is not intended to be modified by the document ECE/TRANS/WP.29/GRSG/2011/14, Class 1 includes parts containing liquid LPG at pressure equal to 3,000 kPa. Then, Class 0 has to include parts containing liquid LPG at pressure above 3,000 kPa.

Paragraph 6.15.13.1.2, amend to read:

"6.15.13.1.2. Service valves of Class 1 shall withstand a pressure of 6,750 kPa in the open and closed position.

Service valves of Class 0 shall with stand a pressure of WP\*2.25  $\rm kPa$  in the open and closed position."

#### **Justification:**

In the second line, it is not correct to report the pressure-measurement unit.

Insert new paragraph 17.6.1.3, to read:

"17.6.1.3 Notwithstanding the provision of paragraph 17.6.1.2, in case of liquid injection systems, if a fuel recirculation is required to purge the system from gas bubbles (vapour lock), it is allowed to keep the remotely controlled service valve with excess flow valve open for a period not longer than 20 seconds before starting the engine in LPG running mode."

#### Insert new paragraph 17.9.5, to read:

"17.9.5. Notwithstanding the provision of paragraph 17.9.4, in case of liquid injection systems, if a fuel recirculation is required to purge the system from gas bubbles (vapour lock), it is allowed to keep the remotely controlled shut-off valve open for a period not longer than 20 seconds before starting the engine in LPG running mode and during the fuel switching-over."

## Justification:

In case of hot start and fuel switching-over, the LPG direct injection requires a phase of cooling and purging of bubbles (vapor lock) in the refueling system parts located in the engine compartment and under the bodywork.

To operate this phase it is necessary to flow some LPG for a very limited period before starting the engine and during the fuel switching-over.