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## Economic Commission for Europe

### Inland Transport Committee

#### Working Party on the Transport of Dangerous Goods

##### Joint Meeting of the RID Committee of Experts and the Working Party on the Transport of Dangerous Goods

Berne, 12-16 March 2018

Item 9 of the provisional agenda

**Any other business**

### **Filling of LPG cylinders by private individuals or enterprises for their own supply**

**Transmitted by the Government of Switzerland\***

#### **Introduction**

1. As part of their market surveillance activities in the field of transportable pressure equipment, the Swiss authorities have run several times into the question of the filling of gas cylinders by private individuals or enterprises for their own supply. Recently the question arose whether it was allowed to fill Liquefied Petroleum Gas (LPG) cylinders at gas stations, be it with or without supervision of the personal of the gas station.

2. Refillable LPG cylinders have been bought by private individuals for many years already. In the caravanning sector the private owned cylinders are economically attractive compared to depot or rented cylinders and a good solution to the difficult exchange of cylinders when travelling abroad. Cylinders that are permanently affixed to a caravan or motorhome and approved together with the rest of the vehicle are considered a vehicle equipment (Figures 1, 2 and 3).

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\* In accordance with the draft programme of work of the Inland Transport Committee for 2018-2019, (ECE/TRANS/WP.15/237, annex V, (9.2)).

Figure 1: Steel cylinder



Figure 2: Aluminium cylinders



Figure 3: Filling of a fixed cylinder



3. However, cylinders are not always affixed to a vehicle. Particularly light cylinders such as aluminium cylinders and composite cylinders are not only used in the caravanning sector but also for hot air balloons, boating, heating, drying or melting purposes on construction sites, etc. (Figures 4, 5 and 6). Some advertisements give the impression that their direct filling by private individuals or workers of enterprises using LPG for their own supply is allowed without condition.

Figure 4: Small aluminium cylinder



Figure 5: Composite cylinder



Figure 6: Direct filling



## Discussion

4. The filling of LPG cylinders by private individuals or enterprises for their own supply, be it at gas stations, at other filling facilities or even from a private owned tank raises some questions from the legal and safety points of view.

## Legal aspects

5. After some research it appears that several European countries authorize the filling of LPG cylinders when these are affixed to the vehicle, as this operation is considered being equivalent to fueling a vehicle tank. On the other hand, it appears that some countries explicitly forbid the filling of LPG cylinders at gas stations and other filling facilities when the cylinders are not permanently affixed to a vehicle (portable cylinders).

6. We believe the only explicit internationally harmonized requirements are those in paragraph (7) (a) of packing instructions P200 in 4.1.4.1 RID/ADR:

"The filling of pressure receptacles may only be carried out by specially-equipped centres, with qualified staff using appropriate procedures.

The procedures shall include checks:

- of the conformity of receptacles and accessories with RID/ADR;
- of their compatibility with the product to be carried;
- of the absence of damage which might affect safety;
- of compliance with the degree or pressure of filling, as appropriate;
- of marks and identification."

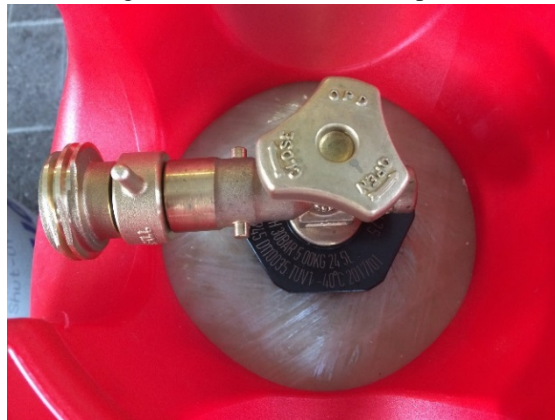
These requirements are considered to be complied with if the standards listed in paragraph (11) are applied. It is however not clear how private individuals and enterprises filling LPG cylinders for their own supply can fulfil these requirements.

## Safety aspects

7. To take an example, the composite cylinder shown on Figure 5 has been recently put on the Swiss market. This Pi-marked pressure receptacle is designed to be refilled at gas stations. Unlike the aluminium cylinder shown on Figure 4, it has only one valve for filling and emptying. As other examples of cylinders presented in this document, it has an automatic overfill prevention device, which deactivates the filling process when the cylinder is full to 80%, provided the cylinder is in upright position. It is therefore very important to ensure that this last condition is fulfilled during filling.

8. We also see a critical safety issue with the use of the adapters that are needed to fill the cylinders in different countries. In Switzerland for instance two consecutive adapters are needed to fill the composite cylinder (Figure 7) and another adapter is needed to consume the LPG. In our opinion the successive handling of adapters reduces safety.

Figure 7: Two successive adaptors



9. Finally, we question how private individuals comply with the provisions set out in RID/ADR regarding periodic inspection and marking, as well as checking the absence of damage which might affect safety.

10. It is clear to us that the safety requirements applying to gas stations and other filling facilities are mainly based on national regulations. However, as the cylinders are intended to be used in international transport and may be filled by their owner in different countries, it is important to find a harmonized way to understand and apply the provisions of P200 RID/ADR.

## Questions

11. Switzerland would like the opinion of the Joint Meeting on the following aspects:
- a) How is the filling of portable LPG cylinders at gas stations and other filling facilities regulated in the different countries applying RID/ADR?
  - b) Considering that RID/ADR provides for exemptions (1.1.3.1, 1.1.3.2), is packing instruction P200 applicable to private individuals and enterprises filling portable cylinders for their own supply?
  - c) Is it possible for private individuals and enterprises filling cylinders for their own supply to fill portable cylinders in compliance with the requirements of P200?
  - d) Considering that caravans and motorhomes are travelling throughout Europe, should the filling of portable LPG cylinders at gas stations and other filling facilities be internationally regulated?
  - e) Is there a need to adapt the regulations for the transport of dangerous goods?
  - f) Are other measures necessary to ensure safety?

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