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Working Party on the Transport of Dangerous Goods
(Berne, 24-28 March 2003)

**CHAPTER 6.8: PROTECTION OF SHUT-OFF DEVICES ON BATTERY
VEHICLES/BATTERY WAGONS INTENDED FOR THE CARRIAGE
OF COMPRESSED GASES**

Transmitted by the Government of Germany */

The secretariat has received the following proposal from the Central Office for International Carriage by Rail (OCTI).

Summary

Analytical summary: The aim of this proposal is to increase the protection requirements for external shut-off devices on battery vehicles and battery wagons intended for the carriage of compressed gases, in order to provide them with the same degree of protection as for internal shut-off devices for liquefied gases.

Decision: Add an appropriate sentence to 6.8.3.2.20

Related documents: INF. 37 of the Joint Meeting (Berne, 18-22 March 2002)

*/ Circulated by the Central Office for International Carriage by Rail (OCTI) under the symbol OCTI/RID/GT/III/2003/1.

Introduction:

At the Joint Meeting in Berne, 18-22 March 2002, Germany introduced its informal document INF. 37 in which more detailed information was given on the work that has been done to improve the protection of shut-off devices on battery vehicles intended for the carriage of compressed gases.

While investigating a collision between a lorry and a battery vehicle at the end of a traffic jam on the motorway in the Federal Republic of Germany, we arrived at the conclusion that the requirements of RID/ADR concerning the technical safety design of shut-off devices on battery vehicle/battery wagon tubes should be improved.

Photos 1-3 show the effect of the accident on the battery vehicle's unprotected first shut-off devices (valves), including the rear tubular frame.



Photo 1: Battery vehicle before the accident, rear view showing rear tubular grille.



Photo 2: Battery vehicle after being hit by lorry travelling at about 60 km/h.



Photo 3: Close-up of the battery vehicle after the accident: first shut-off devices broken off (brass valves), scorch marks caused by hydrogen flames.

In Germany's view, the consequence of this accident – i.e. several broken valves on the 9 tubes containing hydrogen and escape of hydrogen with jets of gas catching fire – requires an immediate improvement in the safety of the first shut-off device on such battery vehicles/battery wagons. There is already such a requirement in ADR for external shut-off devices on tanks fitted with a lining, tanks intended for the carriage of certain substances and vacuum operated waste tanks in accordance with 6.10.3.5; but there is no such requirement for the first external shut-off devices fitted on battery vehicles/battery wagons (in RID/ADR).

In Germany's view, the clear lack of safety in respect of these battery vehicles/battery wagons is therefore obvious.

In order to put this situation right, it is proposed to include the equivalent wording concerning protection for battery vehicles from Chapter 6.10 of ADR to achieve improved safety for the first shut-off device.

Add the following to RID/ADR 6.8.3.2.20:

"In order to avoid any loss of contents in the event of damage to the external filling and discharge fittings (valves, shut-off devices), the internal shut-off device or the first external shut-off device (where applicable), and its seatings shall be protected against the danger of being wrenched off by external stresses or shall be so designed as to withstand them."
