

Economic Commission for Europe

Inland Transport Committee

Working Party on the Transport of Dangerous Goods

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Item 8 of the provisional agenda

Any other business

Complementary information about Transport of battery powered vehicles in document ECE/TRANS/WP.15/2019/21

Transmitted by the Government of Switzerland

Introduction

1. In addition to the document ECE/TRANS/WP.15/2019/21, we have the following observation to share with the participants in WP.15.
2. Contrary to vehicles assigned to UN 3166, the vehicles assigned to UN 3171 containing defective or damages lithium batteries are not correctly covered in the regulations. The only provisions to them are laid down in SP667 (b) (ii) second paragraph, which refers again to paragraph (i) of the same SP 667 (b) if it is not possible to safely remove the cell or battery or it is not possible to verify the status of the cell or battery.
3. SP667 (b) (i) refers for vehicles to SP666. But SP666 does not foresee any provisions for vehicles of UN 3171, except the reference to SP 3888. In SP3888 however there are no additional provisions for vehicles containing defective or damages lithium batteries.
4. For this reason, we believe we should add in the regulations some provisions for the carriage of vehicles containing defective or damages lithium.
5. We present below a draft of provisions that could be introduced in the regulations to define containers for use in electric vehicle repairs and in the annex an example of such equipment.

Proposal

6. For UN 3171, 3480 and 3481 Add “BK1 BK2” in column (10), AP11 in column (17) and CVXY in column (18) in column of Table A in chapter 3.2.
7. Amend the second paragraph in SP667 (b) (ii) as follows:
“However, if it is not possible to safely remove the cell or battery or it is not possible to verify the status of the cell or battery, the vehicle, engine, machinery or article may be towed or carried in containers meeting the provisions in 6.11.6, 7.3.2.9, AP11 in 7.3.3.2.7 and CVXY in 7.5.11 ~~specified in (i);~~”
8. Add then following new section in Chapter 6.11:

6.11.6 Container for batteries and for a single vehicle or item of equipment containing batteries

6.11.6.1 To permit the safe handling and disposal of damaged or defective batteries in BATTERY POWERED VEHICLES and EQUIPMENT of UN No. 3171 and damaged or defective batteries of UN Nos. 3480 and 3481 liable to rapidly disassemble, dangerously react, produce a flame or a dangerous evolution of heat or a dangerous emission of toxic, corrosive or flammable gases or vapors under normal conditions of carriage within the

salvage container, the design may include equipment not otherwise used for containers such as fire alarm and Aerosol extinguishing system.

6.11.6.2 The general design and construction requirements are deemed to be met if the container is an ISO Container 20' conforming to the ISO-Norm 668.

6.11.6.3 The container shall be capable of meeting the following additional performance requirements in case of rapid disassembly, dangerous reaction, production of a flame or a dangerous evolution of heat or a dangerous emission of toxic, corrosive or flammable gases or vapors of the battery:

- (a) It shall be equipped with a fire alarm and aerosol extinguishing system;
- (b) The outside surface temperature of the completed package shall not have a temperature of more than 100 °C. A momentary spike in temperature up to 200 °C is acceptable;
- (c) No flame shall occur outside the container;
- (d) No projectiles shall exit the container;
- (e) The structural integrity of the container shall be maintained.

6.11.6.4 The batteries or vehicles carried in the large packaging shall be fixing according to the standard cargo security guidelines, to secure a safe transport.

6.11.6.5 Marking

The marking of container according to 6.11.6 shall conform to the marking provisions of 6.11.3.4. “

9. Add in 7.3.2.9 the following new paragraph:

“7.3.2.9.2 For BATTERY POWERED VEHICLES and EQUIPMENT of UN No. 3171 and damaged or defective batteries of UN Nos. 3480 and 3481 liable to rapidly disassemble, dangerously react, produce a flame or a dangerous evolution of heat or a dangerous emission of toxic, corrosive or flammable gases or vapors under normal conditions of carriage within the container, only closed bulk containers (code BK2) may be used meeting the following additional requirements:

- (b) The outside surface temperature of the container shall not have a temperature of more than 100 °C. A momentary spike in temperature up to 200 °C is acceptable;
- (c) No flame shall occur outside the container;
- (d) No projectiles shall exit the container;
- (e) The structural integrity of the container shall be maintained.”.

10. Add in 7.3.3.2.7 the following AP11

“AP11 The containers shall be made leak tight and shall have a means of retaining any free liquid that might escape during carriage.”.

11. Add following CVXY in 7.5.11

“CVXY The batteries or vehicles shall be so stowed in the container that they cannot overturn or fall”.

Annex

FireBox SECURE YOUR LOGISTICS FOR LITHIUM BATTERIES AND ELECTRIC VEHICLES

STORAGE



20- or 40-foot-container

EV-SALVAGE



LOGISTICS



Integrated FirePro fire alarm and Aerosol extinguishing system



BASIC EQUIPMENT

- 20- or 40-foot-container
- Fire alarm and Aerosol extinguishing system
- Light

AEROSOL EXTINGUISHING SYSTEM

- For fire classes A/B/C and F
- FirePro technology extinguishes fires at a molecular level by interrupting the chemical chain reaction in the source of the fire without depriving it of oxygen

OPTIONS

- Sprinkler system with Storz connection
- Collection tray for liquids
- Battery power supply
- Sliding platform
- Winch
- Hook system for use as roll-off container
- Side doors
- Fire extinguishers

FireBox protects you and your business. Do not run the risk of a lithium battery setting your business on fire.