

## Economic Commission for Europe

### Inland Transport Committee

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

109<sup>th</sup> session

28 April 2021

Geneva, 3-7 May 2021

Item 5 (a) of the provisional agenda

**Proposals for amendments to annexes A and B of ADR:  
construction and approval of vehicles**

### **Report of the task force on Battery Electric Vehicles (BEV) and Hydrogen Fuel Cell Vehicles (HFCV)**

#### **Transmitted by the Government of the Netherlands on behalf of the task force**

1. The task force met virtually for a second and third session between the November 2020 and May 2021 sessions of WP.15.
2. The second session on 12 January 2021 was devoted to a presentation by WP.29 officers on the aspects that were covered by the vehicles safety regulations for BEV (GTR 20 / UN Regulation No. 100) and HFCV (GTR 13 / UN Regulation No. 134). In particular increased requirements for hydrogen storage systems and test against propagation of fire between battery cells were mentioned as part of the development in the Phase 2 of the regulations. It was also said that industry is developing guidance for emergency responders on how to intervene in case of accidents with these vehicles.
3. As it remains unclear how heavy duty BEV and HFCV will develop it was decided at the second session that it would be appropriate to continue work in separate groups, in first instance a group with vehicle manufacturers, organized by OICA, and in a second stage with consignors and carriers.
4. At the third session progress was discussed. The chair of the task force had made a document available to discuss future configurations of heavy duty vehicles. The group in OICA that deals with ADR vehicles met several times to discuss BEV and HFCV. It confirmed the probability of most of the described configurations and reported on the work done on the inventory of changes required for Chapter 9.2 to make inclusion of BEV and HFCV possible. In particular it was mentioned that requirements on the electrical system need amendments, also in regard to standards for the traditional wiring. It was also mentioned that the requirements for cabin heaters would still require further development by WP.29.
5. It was also suggested that trailers would see a degree of electrification in the near future for the regeneration of braking energy and for this reason CLCCR was specially invited.
6. From the user side it was mentioned that risks analyses would be undertaken for these vehicles and documents developed in the task force would be of assistance. When outcome of these discussion becomes available this will be discussed in a future session of the task force.
7. A timeline was discussed for inclusion of requirements of BEV and HFCV in ADR 2023. To make these possible concrete proposals need to be ready for the November 2021 session of WP.15 for final adjustment and approval in the May 2022 session. It was felt that this would be a very tight schedule. There is an option to simplify and to limit to purpose requirements only, because many aspects are already covered by UN Regulations Nos. 100 and 134. We only need to add where additional measures are necessary to protect the dangerous load. However, it could be questioned in how far this approach would help all the parties involved in carriage of dangerous goods.

8. It was remarked that particular attention should be paid that security measures could be applied while re-charging heavy duty vehicles during the transport operation.
9. Several principle questions were raised:
  - (a) Should the requirements for BEV and HFCV apply to AT vehicles? The background for this question is that wiring is applicable to AT vehicles but the requirements for the various fuel systems are not. A decision needs to be taken where to place the electrical drive system.
  - (b) Should the whole of Chapter 9.2 be re-organized to type or category of vehicle rather than subject? For example, requirements applicable to all vehicles (i.e. UN Regulation Nos. 13 and 89), to AT vehicles and additional to these requirements for FL and EX/II and EX/III vehicles. In light of a wider application of the ADR that may be expected for the future application of certain vehicle regulations that are mandatory within the EU could then be more easily applied to vehicles for international transport in Contracting Parties outside the EU.
  - (c) Another topic is the cabin heater, because at this moment gaseous fuels are not permitted for EX/II and EX/III vehicles. The question arises if we should allow hydrogen fuelled combustion for cabin heaters.
10. The task force would appreciate discussion on the topics above and welcomes further discussion on other related issues.
11. The task force seeks the approval of WP.15 for the work done so far and approval for continuation of the task force.

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