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**Economic Commission for Europe****Inland Transport Committee****Working Party on the Transport of Dangerous Goods****109th session**

Geneva, 3–7 May 2021

Item 6 of the provisional agenda

**Interpretation of ADR****Interpretation of ADR: Application of the requirements concerning the electrical equipment of vehicles in accordance with 9.2.1.1 of ADR – transitional provisions****Transmitted by the Government of the Netherlands and the Government of Germany\*****Background documents:***Summary***Reference documents:** 108<sup>th</sup> session of WP.15 (November 2020), informal documents INF.13 and INF.26**Introduction**

1. For the 108<sup>th</sup> session of WP.15 (November 2020) Germany forwarded informal document INF.13 for interpretation of the transitional measures in the table of 9.2.1.1, in particular for the electrical system. In reply to the questions raised by Germany, the Netherlands submitted informal document INF. 26. The two countries agreed to prepare a joint official position paper on the subject for the next session (see ECE/TRANS/WP.15/251, § 58).

**Reference to vehicles first registered after 31 March 2018**

2. **Question 1 raised by Germany:** Does this provision in the table concerning the electrical equipment of vehicles first registered for road traffic in general after 31 March 2018 (first registration after manufacture, in accordance with road traffic law) refer to the registration within the meaning of road traffic law?

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\* A/75/6 (Sect.20), para 20.51.

3. **Reply by the Netherlands:** Indeed, in the view of the Netherlands the registration in the meaning of road traffic is intended here.

4. This means the date on which the vehicle document, “Certificat d’immatriculation” in France, V5C document in the United Kingdom or “Kraftfahrzeugbrief” in Germany, is issued and the vehicle can be used on the road.

5. In some Contracting Parties this vehicle document is only issued at the time of the first periodic inspection, in particular for trailers. To take this into account the additional option “(or which entered into service if registration is not mandatory)” is always added to the comments in the last column of the table. It is understood that this wording may raise questions if the background is not known.

6. **Question 2 raised by Germany:** Does this provision in the table concerning the electrical equipment of vehicles also apply to vehicles first registered after 31 March 2018 as ADR certified vehicle (EX/II, EX/III, AT, FL) with a certificate of approval in accordance with Part 9 of ADR?

7. **Reply by the Netherlands:** Indeed, the application of comments a, b and e as reproduced below apply to vehicles first registered in the meaning of road traffic.

TECHNICAL SPECIFICATIONS		VEHICLES				COMMENTS
		EX/II	EX/III	AT	FL	
<b>9.2.2</b>	<b>ELECTRICAL EQUIPMENT</b>					
9.2.2.1	General provisions	X	X	X	X	
9.2.2.2.1	Cables	X	X	X	X	
9.2.2.2.2	Additional protection	X <sup>a</sup>	X	X <sup>b</sup>	X	<sup>a</sup> Applicable to vehicles with a maximum mass exceeding 3.5 tonnes first registered (or which entered into service if registration is not mandatory) after 31 March 2018. <sup>b</sup> Applicable for vehicles first registered (or which entered into service if registration is not mandatory) after 31 March 2018.
9.2.2.3	Fuses and circuit breakers	X <sup>b</sup>	X	X	X	<sup>b</sup> Applicable to vehicles first registered (or which entered into service if registration is not mandatory) after 31 March 2018.
9.2.2.4	Batteries	X	X	X	X	
9.2.2.5	Lighting	X	X	X	X	
9.2.2.6	Electrical connections between motor vehicles and trailers	X <sup>c</sup>	X	X <sup>b</sup>	X	<sup>b</sup> Applicable to vehicles first registered (or which entered into service if registration is not mandatory) after 31 March 2018. <sup>c</sup> Applicable to motor vehicles intended to draw trailers with a maximum mass exceeding 3.5 tonnes and trailers with a maximum mass exceeding 3.5 tonnes first registered (or which entered into service if registration is not mandatory) after 31 March 2018.

8. In the informal working group on the electrical system of vehicles carrying dangerous goods, dealing with updating 9.2, it was felt that the risk for EX/II vehicles was not less than EX/III vehicles and that the additional protection of wiring, fuses and circuit breakers and electrical connections should also apply to EX/II vehicles.

9. It was recognized that EX/II vehicles would in most cases be “panel vans”, one phase constructed vehicles, where the wiring would be protected by the body work of the panel van. As “panel van” is a difficult concept, it was decided to use instead the 3.5 tonnes limit for translation purposes.

10. Concerning AT vehicles it was decided to simplify the regulation. Truck manufacturers confirmed that the ADR package did not any longer distinguish between FL and AT vehicles and that appropriate FL protection would always be provided, as well as fuses and circuit breakers, and appropriate electric connectors for trailers.

11. For EX/II and AT vehicles no transitional measures were introduced in 1.6.5 as these provisions were new, or first introduced for these categories. It may be questioned if this was acceptable from a safety point of view. Modification for AT vehicles was based on a

simplification without financial consequences for new vehicles and considering that such existing vehicles would not bring unacceptable risks justifying modification.

12. Most EX/II vehicles are panel vans in which the wiring is protected by the bodywork. All modern EX/II vehicles have fuses and circuit breakers and do comply with the regulation as delivered by the manufacturer. Most EX/II vehicles that are equipped to draw trailers, have specific electric connectors for light trailers up to 3.5 tonnes that are different from those for heavy trucks/trailers. For this reason, the requirements for electric connectors of 9.2.2.6 are exempted for vehicles up to 3,5 tonnes. Most heavy trucks are also approved as EX/II, EX/III, AT and FL and therefore need no further modification to comply with EX/II, EX/III, AT and FL requirements. Only for a very limited number of heavy trucks and trailers first registered after 31 March 2018, approved as EX/II only, modifications may be required.

13. When a vehicle is registered in the sense of road traffic but not used for carriage of dangerous goods right away, it is still possible to start using it for carriage of dangerous goods later on the condition that it complies with the provisions in force at the time of registration and that no expiry of transitional measures invalidate the approval of the vehicle for carriage of dangerous goods. When taken into service for the carriage of dangerous goods it has the same level of safety accepted for vehicles registered at the same time and used right away for dangerous goods.

14. In practice, vehicles and in particular motor vehicles are very difficult to modify on an economical viable basis. In the rare cases that this happens most motor vehicles are prepared for ADR by the original manufacturer from the beginning (i.e. UN Regulation No. 105 approval). The average life span of tractors for semi-trailers, which account for at least 80% of the ADR motor vehicle fleet, is seven years. For trailers a life span of 25 years is foreseen. However, running gear like axles and electric circuits don't last that long and are modernized to the state of the art one or more times during their life.

## **Action to be taken**

15. The Working Party is invited to confirm the information above.

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