

Economic Commission for Europe

Inland Transport Committee

Working Party on the Transport of Dangerous Goods

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Proposals for amendments to annexes A and B of ADR:

Construction and approval of vehicles

Camera-monitor systems on EX/III and FL vehicles (vehicles with battery master switches)

Transmitted by the Government of Germany

I. Introduction

1. In practice, problems frequently arise in the context of the testing and approval of EX/III and FL vehicles if these are equipped with a camera-monitor system.

For camera-monitor systems, the requirements of UN Regulation No. 46 must be complied with. Among other things, 16.1.1 of this Regulation requires that, after each engine switch-off (intended use), the camera-monitor system remain operational for a period of at least 120seconds.

Moreover, 16.1.2 „Operating readiness (System availability)“ in UN Regulation No. 46 states the following:

“Non-operation of the system shall be recognizable to the driver (e.g. CMS failure by, i.e. warning indication, display information, absence of status indicator). The information for the driver shall be explained in the operator's manual.”

2. 9.2.2.8.3 of ADR stipulates that the electrical circuits must be broken within 10 seconds after operation of the battery master switch. As a result, the following questions arise:

2.1 Is it acceptable in the context of the vehicle's approval in accordance with Part 9 of ADR that the camera-monitor system switches off only after 120 seconds and that this electrical circuit is only broken/switched off then?

2.2 Is it acceptable in the context of the application of UN Regulation No. 46 that the camera-monitor system is switched off after operation of the battery master switch and, as described in 16.1.2 of UN Regulation No. 46, the driver is made aware of the fact that the camera-monitor system is non-operational?

Assessment of question 2.1

3. Germany is of the opinion that such a camera-monitor design precludes approval in accordance with Part 9 of ADR. Maintaining an electrical circuit operational for 120 seconds is currently not in compliance with ADR, irrespective of whether the vehicle's electronic system would permit this. The time-limit of 10 seconds after operation of the switch is an argument against it being acceptable.

4. An approval would only be possible if the electrical circuit for the camera-monitor system were an individual circuit that meets the requirements for permanently energized circuits set out in 9.2.2.9. However, this would require considerable effort, and camera-monitor system components of the required design types are probably not yet available on the market.

5. Here, approval should not be handled differently in practice. For this reason, the Working Party is asked for a uniform interpretation on how camera-monitor systems should be dealt with in the context of approving vehicles in accordance with Part 9 of ADR.

Assessment of question 2.2

6. In accordance with 16.1.2 of UN Regulation No. 46, whenever the camera-monitor system is not operational, the driver must somehow be made aware of that. This means that the vehicle manufacturer has to develop a concept to ensure that information about the non-operation of the system reliably reaches the driver. This concept is then examined by the technical services (Technischer Dienst) and the approval authority within the context of issuing an approval in accordance with the UN Regulation.

7. It would be conceivable to design the battery master switch in such a way that, within 10 seconds after the operation of the switch, a signal is given that makes the driver aware of the deactivation of the camera-monitor system. Such a design would then also make it possible to meet the requirements set out in 16.1.2 of UN Regulation No. 46. The question as to whether such a battery master switch design would actually be accepted in the context of the application of UN Regulation No. 46 would, however, have to be submitted to Working Party 29 for clarification.

8. If such an approach finds support, the question arises as to whether the signal information given when the battery master switch is operated should be harmonized so that changing drivers can always expect the same signal when the camera-monitor systems are switched off. This signal would then also be switched off when all electrical circuits are broken.

9. The Working Party is asked to discuss whether this approach to the design of the battery master switch is supported and whether the question regarding conformity with UN Regulation No. 46 should be submitted to Working Party 29.
