Submitted by the expert from BMFE

Informal document No. **GRSG-116-xx**
(Agenda item)

UN Regulation No. 107 (Uniform provisions concerning the approval of category M_2 or M_3 vehicles with regard to their general construction)

Draft proposal for supplement XX to 07 series of amendments
of UN Regulation No. 107

I. PROPOSAL

Annex 3, paragraph 7.5.1.5.1. amend to read*:*

"7.5.1.5.1. The alarm system and the fire suppression system, if fitted, shall be automatically activated through a fire detection system. The detection system shall be designed so as to detect a temperature, in the engine compartment and in each compartment where a combustion heater is located, in excess of **[xxx°C], which is deemed to be** the temperature occurring during normal operation.
At the time of Type Approval, this temperature of detection shall be verified by the Technical Service, in accordance with the manufacturer's recommendations, with a detection technology different to that of the fire detection system under approval."

II. JUSTIFICATION

1. It was agreed during BMFE- 05 to provide a draft proposal for a minimum performance level for fire detection systems.
2. In this case the most measurable detection criterion seems to be the temperature.
3. The proposed temperature of detection should be a maximum one aiming a reasonable reaction time in case of fire.
4. This maximum detection temperature however depends largely on the place where the temperature excess must be detected as well as on the combustion heater compartments. Some sides of an engine compartment can be rather hot and, depending on the 'robustness' of detection conduit material and its assembly, a fire detection temperature of e.g. 170°C could be too low, while in other places the temperature could reach 230° in normal operation.
5. Mandating a too high detection temperature could lead to missing some fire ignitions, while mandating a too low temperature could lead false alarms and loss of credibility by the driver.
6. The verification method should be decided following the manufacturer's recommendation since the temperatures to be detected may vary according to the place of detection.
7. The proposal also indicates that the Technical Service should verify the threshold via a technology different to that of the fire detection system (e.g. infrared vs. a thermocouple) in order to ensure reliability of the measure.

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