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**Economic Commission for Europe**

Inland Transport Committee

**World Forum for Harmonization of Vehicle Regulations**

**Working Party on Automated/Autonomous and Connected Vehicles**[[1]](#footnote-2)\*

**Fifth session**

Geneva, 10–14 February 2020

Item 7 of the provisional agenda

**Advanced Emergency Braking Systems**

 Proposal for Supplements to the original text and the 01 series of amendments to UN Regulation No. 152 (Advanced Emergency Braking Systems for M1 and N1 vehicles)

 Submitted by the experts from the informal group on AEBS for M1 and N1 vehicles[[2]](#footnote-3)\*\*

 The text reproduced below was prepared by the experts from the informal group on AEBS for M1 and N1 vehicles in order to improve the text of the regulation with regard to the assessment of the AEBS robustness. The modifications to the existing text of the Regulation are marked in bold for new, and strikethrough for deleted characters.

 I. Proposal

*Add a new paragraph 6.10.*,to read:

“**6.10. Robustness of the system**

**6.10.1. Any of the above test scenarios, where a scenario describes one test setup at one subject vehicle speed at one load condition of one category (Car to Car, Car to Pedestrian), shall be performed two times. If one of the two test runs fails to meet the required performance, the test may be repeated once. A test scenario shall be accounted as passed if the required performance is met in two test runs. The number of failed test runs within one category**

* **shall not exceed 10.0 % of the performed test runs for the Car to Car tests and**
* **shall not exceed 10.0 % of the performed test runs for the Car to Pedestrian tests.**

**6.10.2. The root cause of any failed test run shall be analysed together with the Technical Service and annexed to the test report. If the root cause cannot be linked to a deviation in the test setup, the technical service may test any other speeds for subject vehicle and target vehicle within the speed range as defined in paragraph 5.2.1.3., 5.2.2.3. or 5.2.2.4. as relevant.**

**6.10.3. During the assessment per Annex 3, the manufacturer shall demonstrate via appropriate documentation that the system is capable of reliably delivering the required performances.**”

 II. Justification

1. This text is the follow up of the general agreement reached at the 4th session of GRVA (September 2019) about the need to address the robustness of the system and potential uncertainties due to the test method.
2. Due to influences external to the system, it is simply impossible to ensure that every test run is performed under the exact same conditions, which is why it cannot be concluded that AEBS cannot achieve the maximum performance with only one test run failure. At the same time it is necessary to check that any test failed is not linked to a systematic failure the AEBS.
3. The present text is the outcome of the discussion of the AEBS informal group at its 10th session and propose a balanced solution to the 2 issues at stake.

1. \* Formerly: **Working Party on Brakes and Running Gear (GRRF)**. [↑](#footnote-ref-2)
2. \*\* In accordance with the programme of work of the Inland Transport Committee for 2020 as outlined in proposed programme budget for 2020 (A/74/6 (part V sect. 20) para 20.37), the World Forum will develop, harmonize and update UN Regulations in order to enhance the performance of vehicles. The present document is submitted in conformity with that mandate. [↑](#footnote-ref-3)