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## Economic Commission for Europe

### Inland Transport Committee

### World Forum for Harmonization of Vehicle Regulations

#### 181st session

Geneva, 23-25 June 2020

Item 4.8.4 of the provisional agenda

#### 1958 Agreement:

Consideration of draft amendments to existing

UN Regulations submitted by GRVA

## Proposal for Supplement 4 to the original version of UN Regulation No. 140 (ESC)

### Submitted by the Working Party on Working Party on Automated/autonomous and Connected Vehicles \*

The text reproduced below was adopted by the Working Party on Automated/autonomous and Connected Vehicles (GRVA) at its fifth session, in February 2020 (see ECE/TRANS/WP.29/GRVA/5, para 63). It is based on ECE/TRANS/WP.29/GRVA/2020/12 amended by Annex V to the session report. It is submitted to World Forum for Harmonization of Vehicle Regulations (WP.29) and the Administrative Committee of the 1958 Agreement (AC.1) for consideration and vote at their June 2020 sessions.

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\* 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.



*Paragraph 7*, amend to read:

## **"7. Performance requirements**

During each test performed under the test conditions of paragraph 8. and the test procedure of paragraph 9.9., the vehicle with the ESC system engaged shall satisfy the directional stability criteria of paragraphs 7.1. and 7.2., and it shall satisfy the responsiveness criterion of paragraph 7.3. during each of those tests conducted with a commanded steering wheel<sup>5</sup> angle of 5A or greater but limited as per paragraph 9.9.4., where A is the steering wheel angle computed in paragraph 9.6.1.

Notwithstanding the above, the responsiveness criterion is deemed to be satisfied also for systems where the maximum operable steering wheel angle defined in paragraph 9.9.4. and the lateral displacement prescribed in paragraph 7.3. are achieved at a commanded steering wheel angle less than 5A.

Where a vehicle has been physically tested in accordance with paragraph 8., the compliance of versions or variants of that same vehicle type may be demonstrated by a computer simulation, which respects the test conditions of paragraph 8. and the test procedure of paragraph 9.9. The use of the simulator is defined in Annex 1 to this Regulation."

*Paragraph 9.9.4.*, amend to read:

"9.9.4. The steering amplitude of the final run in each series is the greater of 6.5 A or 270 degrees, provided the calculated magnitude of 6.5 A is less than or equal to 300 degrees. If any 0.5 A increment, up to 6.5 A, is greater than 300 degrees, the steering amplitude of the final run shall be 300 degrees.

If the above calculated steering amplitude of the final run is greater than the maximum operable steering wheel angle determined by design of the steering system, the final angle amplitude for the series test shall be greater than 98 per cent of the maximum operable angle."

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