



Economic and Social Council

Distr.: General
21 December 2023

Original: English

Economic Commission for Europe

Inland Transport Committee

World Forum for Harmonization of Vehicle Regulations

192nd session

Geneva, 5-8 March 2024

Item 4.7.1 of the provisional agenda

1958 Agreement:

Consideration of draft amendments to existing

UN Regulations submitted by GRVA

Proposal for a Supplement 21 to the 11 series of amendments to UN Regulation No. 13 (Heavy Vehicle Braking)

Submitted by the 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 seventeenth session (see ECE/TRANS/WP.29/GRVA/17, para. 100) and is based on ECE/TRANS/WP.29/GRVA/2023/24. It is submitted to the World Forum for Harmonization of Vehicle Regulations (WP.29) and to the Administrative Committee (AC.1) for consideration at their March 2024 sessions.

* In accordance with the programme of work of the Inland Transport Committee for 2024 as outlined in proposed programme budget for 2024 (A/78/6 (Sect. 20), table 20.5), 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 5.1.2.4.3.1., amend to read:

“5.1.2.4.3.1. It shall be deemed to comply with the requirements in paragraphs 5.1.2.4.1. and 5.1.2.4.2., if the vehicle equipped with the endurance braking system is able to store and/or dissipate (e.g. with an extra-endurance brake) the energy of the maximum negative vertical height difference (requiring energy storage capacity in the traction battery), limited to the energy level as required to fulfil the requirements in paragraphs 5.1.2.4.1. and 5.1.2.4.2., that can be reached by the vehicle (consuming stored energy in the traction battery on the journey towards the relevant negative vertical height difference), considering the current electric state of charge, using methods such as a global navigation satellite systems combined with a topography model and an intelligent battery management system.

This shall be demonstrated to the satisfaction of the Technical Service, including through the test specified in Annex 4, paragraph 1.8.2.5. (a) and submission of detailed documentation explaining the strategies implemented in the system and how this ensures endurance braking requirements can always be met.”
