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World Forum for Harmonization of Vehicle Regulations

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Item 4.9.1. of the provisional agenda

1958 Agreement:

consideration of draft amendments

to existing UN Regulations submitted by GRPE

Proposal for Supplement 10 to UN Regulation No. 85 (Measurement of the net power and the 30 min. power)

Submitted by the Working Party on Pollution and Energy*

The text reproduced below was adopted by the Working Party on Pollution and Energy (GRPE) at its seventy-ninth session (ECE/TRANS/WP.29/GRPE/79, para. 34). It is based on ECE/TRANS/WP.29/GRPE/2019/11 as amended and reproduced in Annex V to the report. 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 November 2019 sessions.

* In accordance with the programme of work of the Inland Transport Committee for 2018–2019 (ECE/TRANS/274, para. 123 and ECE/TRANS/2018/21, Cluster 3.1), 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.

Supplement 10 to UN Regulation No. 85 (Measurement of the net power and the 30 min. power)

Annex 5, Table 1, Footnote 9, amend to read:

"⁹ Charge air cooled engines shall be tested with charge air cooling, whether liquid or air cooled, but if the engine manufacturer prefers, a test bench system may replace the air cooled cooler. In either case, the measurement of power at each speed shall be made with the same pressure drop and temperature drop of the engine air across the charge air cooler on the test bench system as those specified by the manufacturer for the system on the complete vehicle.

Alternatively, at the request of the manufacturer with the agreement of the type approval authority, the measurement of power (at each speed) may be made with the charge air cooler outlet temperature set as follows:

$$T_{\text{outlet, bench, N}} = T_{\text{outlet, vehicle, N}} - (T_{\text{amb}} - 298)$$

Where,

$T_{\text{outlet, bench, N}}$ is set temperature at engine speed N during the bench test (K)

$T_{\text{outlet, vehicle, N}}$ is measured temperature at engine speed N during a test of the complete vehicle test (K)

T_{amb} is ambient temperature during the complete vehicle test (K)"
