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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\*****Second session**

Geneva, 28 January-1 February 2019

Item 8 (b) of the provisional agenda

**Motorcycle braking: UN Regulation No. 78****Proposal for amendments to the 04 series of amendments  
to Regulation No. 78 (Motorcycle braking)****Submitted by the expert from the International Motorcycle  
Manufacturers Association\*\***

The text reproduced below was prepared by the experts from the International Motorcycle Manufacturers Association (IMMA), to amend UN Regulation No. 78 and introduce provisions relevant for activation of stop lamps under more conditions than application of the service brake only, e.g. also by regenerative braking. The modifications to the existing text of the Regulation are marked in bold for new or strikethrough for deleted characters.

**I. Proposal**

*Insert a new paragraph 2.31., to read:*

"2.31. **"Braking Signal" means a logic signal indicating when illumination of the stop lamp is required or allowed as specified in paragraph 5.1.17. of this Regulation.**"

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\* Formerly: **Working Party on Brakes and Running Gear (GRRF)**.

\*\* 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/Add.1, Cluster 3), 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.

GE.18-19715(E)



\* 1 8 1 9 7 1 5 \*



Insert a new paragraph 2.32., to read:

"2.32. **"Electric Regenerative Braking System"** means a braking system which, during deceleration, provides for the conversion of vehicle kinetic energy into electrical energy and is not part of the service braking system."

Insert a new paragraph 5.1.17. and its sub-paragraphs, to read:

"5.1.17. **Generation and de-activation of the braking signal to illuminate stop lamp(s) as defined in UN Regulation No. 53 shall only be under the following conditions:**

5.1.17.1. **Application of any service brake by the rider shall generate a braking signal that will be used to illuminate the stop lamps.**

5.1.17.2. **In addition, in case of vehicles powered solely by electric powertrain equipped with electric regenerative braking systems as defined in paragraph 2.32. of this Regulation, which produces a retarding force upon release of the accelerator control, the braking signal shall be generated also according to the following provisions:**

| <i>Vehicle decelerations</i>                       | <i>Signal generation</i>                 |
|--|--|
| $\leq 0.7 \text{ m/s}^2$                           | <b>The signal shall not be generated</b> |
| $> 0.7 \text{ m/s}^2$ and $\leq 1.3 \text{ m/s}^2$ | <b>The signal may be generated</b>       |
| $> 1.3 \text{ m/s}^2$                              | <b>The signal shall be generated</b>     |

## II. Justification

1. The above proposal is an improved version of document GRRF-86-35, which was presented in February 2018, taking into account the comments raised.
2. The proposal aims to introduce activation of stop lamps under more conditions than the application of the service brake only (e.g. also by regenerative braking) into UN Regulation No. 78.
3. UN Regulation No. 53 currently allows for the activation of the stop lamp by application of the brakes only. As already presented at the Working Party on Lighting and Light-Signalling (GRE) (see ECE/TRANS/WP29/GRE/2018/25), IMMA is proposing to introduce activation of stop lamps under more conditions than the application of the service brake only, e.g. also by regenerative braking. As noted in the report of seventy-fourth session of GRE, see ECE/TRANS/WP29/GRE/74, para. 30: "the proposal might need to be accompanied by a modification of UN Regulation No. 78 under GRRF." Such proposal was meanwhile accepted by GRE.
4. IMMA has thus prepared also the correspondent proposal for UN Regulation No. 78, which is herewith being submitted.
5. Amendments of the stop lamp installation requirements in UN Regulation No. 53 lead to amendments of the stop lamp activation criteria in UN Regulation No. 78, which are proposed here above.
6. The deceleration criteria in paragraph 5.1.17.2. were taken from the criteria established in UN Regulation No. 13-H, paragraph 5.2.22.4., to provide consistent behaviour of stop lamp illumination as other road users."