

Proposal to amend ECE/TRANS/WP.29/GRVA/2021/26

Additional amendments to the original proposal are identified in **blue characters**. Modifications to the existing text of the Regulation are marked in bold for new or strikethrough for deleted characters.

I. Proposal

Paragraphs 2.31. to 2.32., renumber 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.
- 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.
- ~~2.31.~~ **2.33.** "Disable the antilock brake system" means to put the system into a state where it will no longer fulfil the technical requirements in paragraph 9 of Annex 3 to this Regulation."

Paragraph 5.1.17.2., amend to read:

- "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 ⁴:

<i>Vehicle deceleration by regenerative braking</i>	<i>Signal generation</i>
$\leq 0.7 \text{ m/s}^2$	The signal shall not be generated
$> 0.7 \text{ m/s}^2$ and $\leq 1.3 \text{ m/s}^2$	The signal may be generated
$> 1.3 \text{ m/s}^2$	The signal shall be generated

In all cases the signal shall be de-activated at the latest when the deceleration has fallen below 0.7 m/s^2 .*

~~* At the time of type approval, compliance with this requirement shall be confirmed by the vehicle manufacturer~~

Once generated, the signal shall be kept as long as a deceleration demand persists. However, the signal may be suppressed at standstill.

An appropriate measure (e.g. switch-of-hysteresis, averaging, time delay) shall be implemented in order to avoid fast changes of the signal resulting in flickering of the stop lamps.

⁴ At the time of type approval, compliance with this requirement shall be confirmed by the vehicle manufacturer."

Insert new paragraph 5.1.17.3., to read:

- "5.1.17.3. **Once generated, the signal shall be kept as long as a deceleration demand by the electric regenerative braking persists. However, the signal may be suppressed at standstill.**

The signal shall not be generated when retardation is solely produced by the natural braking effect of the engine, air-/rolling resistance and/or road slope."

II. Justification

1. This informal document aims to amend working document GRVA/2021/26, with the following objectives:

- To correct an existing numbering mistake in the definitions of the 05 series of amendments to UN Regulation No. 78.
- To extend the provisions of paragraph 5.1.17.2. to hybrid vehicles and require the activation of the stop lamp under regenerative braking also in case of this powertrain configuration.

2. In addition, for the sake of clarity and for further alignment with UN Regulation No. 13-H, the table header in paragraph 5.1.17.2. has been updated to specify that the thresholds correspond to the deceleration resulting from the regenerative braking system.
