

Proposal for Supplements to the 02 and 03 series of Amendments to UN Regulation No. 79 (Steering equipment)

The text reproduced below was prepared by the expert from the European Association for Electromobility (AVERE) introducing an amendment to UN Regulation No. 79. It is aimed at clarifying the text of the Regulation. The modifications to the existing text of the Regulation are marked in bold for new and strikethrough for deleted characters.

I. Proposal

Introduction,

Paragraph 5, amend to read (insert a new footnote):

"It is anticipated that future technology will also allow steering to be influenced or controlled by sensors and signals generated either on or off-board the vehicle. This has led to several concerns regarding responsibility for the primary control of the vehicle and the absence of any internationally agreed data transmission protocols with respect to off-board or external control of steering. Therefore, the Regulation does not permit the general approval of systems that incorporate functions by which the steering can be controlled by external signals, for example, transmitted from roadside beacons or active features embedded into the road surface.* Such systems, which do not require the presence of a driver, have been defined as "Autonomous Steering Systems".

* **An Advanced Driver Assistance Steering System or Automated Steering Function using a Global Navigation Satellite System (GNSS) signal that is not the sole factor in determining steering control shall not be considered as "controlled by an external signal".**

II. Justification

1. The development of Advanced Driver Assistance Steering System (ADAS) and Autonomous Vehicle (AV) technologies will require the possibility of either system to make use of external signals as part of the decision-making process, while not necessarily handing over full steering control to these signals. In the short term, more advanced functionalities will require additional inputs, such as GNSS signal information to improve overall reliability and location awareness. The current text of the introduction has been interpreted by Type Approval Authorities as a barrier to the type approval of vehicle ADAS technologies that make use of external signals, such as GNSS, even though the technologies do not make sole use of the external signals to initiate a maneuver.

2. The ability for ADAS-equipped vehicles to make use of external signals, such as GNSS-based systems, has been possible for some time in the United States of America and has not led to noticeable deterioration of safety levels.

3. A GNSS is a receiver for satellite broadcast signals that establishes the latitude, longitude, and elevation of the receiver. GNSS does not provide a control signal but can be used by an internal ADAS or AV system as one factor to determine a control signal.

4. This proposal seeks to permit the limited use (in non-total control use-cases) of external signals to improve the overall reliability and safety of ACSF functions.