

## Proposal for amendments to UN Regulation No. 13 (Braking)

This proposal aims to equip critical N3 vehicles with 4 axles over 25t of Electronic Stability Control systems due to their specific use creating potential stability troubles. This text proposes to revise wording of § 5.2.1.32. in order to cover these specific applications. The additions and deletions are shown in bold text to facilitate identification of these proposed changes within the existing Regulation.

### I. Proposal

*Paragraph 5.2.1.32., amended to read:*

“5.2.1.32. Subject to the provisions of paragraph 12.3. of this Regulation, all vehicles of the following categories shall be equipped with a vehicle stability function:

(a) M2, M3, N2 <sup>12/</sup>

(b) N3 <sup>12/</sup> having no more than 3 axles;

(c) N3 <sup>12/</sup> with 4 axles, **neither** with a maximum mass not exceeding 25t and a maximum wheel diameter code not exceeding 19.5 **or maintaining transported material’s state through continuous movement (concrete mixer truck for example).**

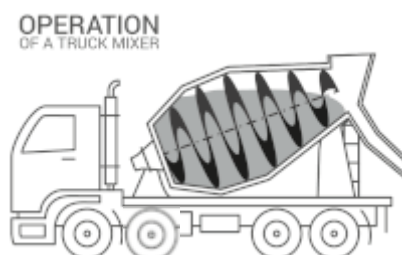
The vehicle stability function shall include roll-over control and directional control and meet the technical requirements of Annex 21 to this Regulation.”

### II. Justification

Specific N3 vehicles, carrying materials maintained in a continuous movement, as concrete mixer truck for example, are unstable when loaded, because their centre of gravity is not static, higher and not centered, as a result of the continuous rotative movement of the spinner, which carries the concrete to the side.

The trucks shall drive on all types of roads, between the concrete plant and the construction area, several times a day, empty and loaded, which creates many different driving conditions. The density of the concrete can also vary from one site to another, which leads to a change in the position of the centre of gravity, which is not precisely known.

The generalization of ESC systems on this type of vehicle would prevent drivers from having to adapt their driving depending on whether or not such a system is present on their vehicle, lowering the non negligible risk of rollover..



There is a significant and regular number of 4-axle concrete mixer trucks that rollovers in France (a simple research on the news makes it possible to count about thirty of them in France in 2021 ; see possibly also

abroad where this finding seems the same). One of this rollover conduct to a very important accident with several deceases.

The injured or sometimes dead therefore mainly concern only the driver, except for a few cases such as the accident mentioned above.

The occurrence of a rollover or loss of control of the trajectory with a collision with a third vehicle is therefore low, but the potential severity is very high given the load generally transported.

The ESC equipment of these vehicles is therefore very important to us to improve road safety.

Moreover, the technologies of the ESC systems have evolved since supplement 8 so that this exemption no longer seems justified to us.

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