

## Proposal for the 01 series of amendments to UN Regulation No. 178 (Emergency Lane Keeping Systems)

The text reproduced below was prepared by the expert from Australia proposing the 01 series of amendments to United Nations Regulation No. 178 (Emergency Lane Keeping Systems). The proposed amendments clarify some of the existing text, and include reference to the lane markings of the 01 series of UN Regulation 130. The modifications to the existing text of the Regulation are marked in red bold for new characters and red strikethrough for deleted characters.

### I. Proposal

*Insert new paragraph 5.3., to read:*

**“5.3. The effectiveness of ELKS shall not be adversely affected by magnetic or electrical fields. This shall be demonstrated by fulfilling the technical requirements and respecting the transitional provisions of the 05 series of amendments to UN Regulation No. 10.”**

*Paragraph 6.2.2.1., amend to read:*

“6.2.2.1. In accordance with Annex 3 of this Regulation, the vehicle manufacturer shall provide a list of situations and corresponding criteria where the ELKS function is automatically deactivated which shall be annexed to the test report. **The vehicle operating instructions shall also include this list of situations where the ELKS is automatically deactivated.**”

*Paragraph 6.5., amend to read:*

“6.5. LDWS **performance** requirements”

*Paragraph 6.5.2., amend to read:*

“6.5.2. Lane departure warning

...

- (c) For solid line and dashed lane markings in line with one of those described in Annex 3 (Visible lane marking identification) to UN Regulation No. 130 **in its 01 series of amendments** on uniform provisions concerning the approval of motor vehicles with regard to the Lane Departure Warning System;

...”

*Paragraph 6.6.2., amend to read:*

“6.6.2. Lane Keep

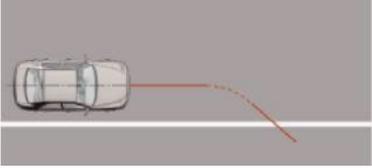
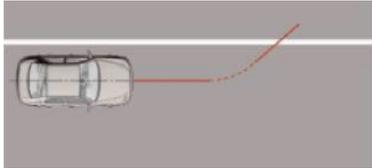
**6.6.2.1.** In the absence of conditions leading to **the** deactivation or suppression of the system, the CDCF shall be able to prevent lane departure by crossing of visible lane markings in the **two** scenarios (**i.e. right and left departure**) shown in ~~the following~~ table 1 by **no** more than a DTLM of – 0.3 m:

...

- (c) For solid **line** lane markings in line with one of those described in Annex 3 (Visible lane marking identification) to UN Regulation No 130 **in its 01 series of amendments**;

...

**Table 1: Scenarios - to the right and left side of the vehicle.**

No.	Scenario description
1.	Solid line <b>lane markings</b> – departure to <b>the</b> right side of the vehicle 
2.	Solid line <b>lane markings</b> – departure to <b>the</b> left side of the vehicle 

...”

Paragraph 7.2.1., amend to read:

“7.2.1. Lane markings

The solid line and dashed lane markings on the road used for the tests shall be in line with one of those described in Annex 3 (Visible lane marking identification) to UN Regulation No 130 **in its 01 series of amendments**. The markings shall be in good condition and of a material conforming to the standard for visible lane markings. The lane-marking layout used for the tests shall be recorded in the test report.

The width of the lane (measured between the lane markings) shall be a minimum of 3.5 m for the purpose of the tests of this point. The vehicle manufacturer shall demonstrate, through the use of documentation, compliance with all other lane markings identified in Annex 3 (Visible lane marking identification) to UN Regulation No 130 **in its 01 series of amendments**. Any ~~of~~ such documentation shall be appended to the test report.”

Paragraph 7.2.2.1., amend to read:

“7.2.2.2. The subject vehicle shall be tested at the tyre pressures recommended by the vehicle manufacturer. **The tyre pressures recommended shall be appropriate for the load conditions tested, as specified in the vehicle operating instructions.**”

Paragraph 7.2.2.3., amend to read:

“7.2.2.3. Where the LDWS is equipped with a user-adjustable warning threshold, the tests specified in paragraph 7.3 shall be performed with the warning threshold set at its maximum lane departure setting **i.e. the minimum DTLM**. No alteration shall be made once the test procedure has begun.”

Paragraph 8.2.1., amend to read:

“8.2.1. Lane markings

The solid **line** lane markings on the road used for the tests shall be in line with one of those described in Annex 3 (Visible lane marking identification) to UN Regulation No 130 **in its 01 series of amendments**. The markings shall be in good condition and of a material conforming to the standard for visible lane markings. The lane-marking used for the tests shall be recorded in the test report.

The solid **line** lane markings shall be a minimum of 3.5 m distance from any other lane markings, for the purpose of the tests of this point. The vehicle manufacturer shall demonstrate, through the use of documentation, compliance with all other solid **line** lane markings identified in Annex 3 (Visible lane marking identification) to UN Regulation No 130 **in its 01 series of amendments**. Any ~~of~~ such documentation shall be appended to the test report.”

*Paragraph 8.2.2.2., amend to read:*

“8.2.2.2. The subject vehicle shall be tested at the tyre pressures recommended by the vehicle manufacturer. **The tyre pressures recommended shall be appropriate for the load conditions tested, as specified in the vehicle operating instructions.**”

*Insert new paragraph 8.2.5., to read:*

*Paragraph 8.3.1.1., amend to read:*

“8.3.1.1. The subject vehicle shall be driven with an activated CDCF on a road with solid **line** lane markings on at least one side of the lane.  
...”

*Paragraph 8.3.1.2., amend to read:*

“8.3.1.2. In addition, the manufacturer shall demonstrate to the satisfaction of the Technical Service that the requirements defined in paragraph 6.6.4.1.1. and 6.6.4.1.2. are fulfilled in the whole range of CDCF operation (**including lane markings**). This may be achieved on the basis of appropriate documentation appended to the test report.”

*Paragraph 8.3.2.1., amend to read:*

“8.3.2.1. The subject vehicle shall be driven with an activated CDCF on a road with solid **line** lane markings on each side of the lane  
...  
The force and steering input applied by the driver on the steering control to override the intervention shall be recorded.  
The test requirements are fulfilled if:  
(a) The force applied by the driver on the steering control to override the intervention does not exceed 50 N.  
...”

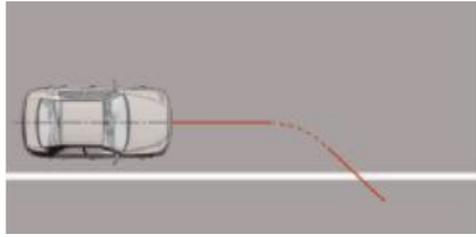
*Paragraph 8.3.3.1., amend to read:*

“8.3.3.1. The CDCF shall be tested for Test Scenarios ~~Nos. 1. and 2~~ described in paragraph 6.6.2.1.”

*Paragraph 8.3.3.1.2., amend to read:*

“8.3.3.1.2. A test path shall be driven which consists of an initial straight path parallel to the solid **line** lane markings being tested, followed by a fixed radius curve to apply a known lateral velocity and yaw to the subject vehicle, followed again by a straight path without any force applied on

the steering control (e.g. by removing the hands from the steering control).



*Figure 1: An example of the test path.”*

## **II. Justification**

1. This proposal aims to:
  - Ensure that an ELKS is not adversely affected by magnetic or electrical fields;
  - Clarify when the system shall automatically deactivate to prevent unintended consequences, which should be at least detailed in the vehicle's operating instructions as a minimum;
  - Include the latest lane markings located in Annex 3 to UN Regulation 130. This is important as the 01 series of amendments to UN Regulation 130 includes Australian lane markings, ensuring compatibility;
  - Correct minor grammatical errors;
  - Ensures consistent and repeatable testing.