

DRAFT REPORT

17th meeting of GRRF informal group on

Automatic Emergency Braking and Lane Departure Warning Systems

Venue: Palais des Nations, Geneva (room V)
Chairman: Mr. Johan Renders (EC) (johan.renders@ec.europa.eu)
Secretariat: Mr. Olivier Fontaine (OICA) (ofontaine@oica.net)
Date: Monday, 17 September 2012

1. Welcome and Introduction

The Chair recalled the context of the elaboration of provisions for AEBS-Step 2:

- European Commission will introduce mandatory equipment of LDWS and AEBS via the GSR (General Safety Regulation) for vehicles of categories M2, N2, M3 and N3.
- European Commission keen to rely on UNECE regulations for approval of vehicles
- Informal group started in 2009 with European Commission as Chair and OICA as Secretary
- Deadlines:
Step 1: new vehicle types: 01 November 2013; new vehicles: 1 November 2015.
Step 2: new vehicle types: 01 November 2016; new vehicles: 1 November 2018

2. Roll call of delegates

All the experts introduced themselves

3. Approval of the agenda

The experts from CLEPA and OICA informed the informal group about their intention to present a common position paper per document AEBS/LDWS-17-02-Rev.1

4. Reminder of the background

Documents: ECE/TRANS/WP.29/GRRF/71 (para 3 to 9 + Annex II)
ECE/TRANS/WP.29/1093 (para 37 to 39)
ECE/TRANS/WP.29/GRRF/72 (para 3 +4)
ECE/TRANS/WP.29/1097 (para 53)

The Chair recalled the background as follows:

- 2-step approach :
 - 1st step :
 - N2 > 8 t
 - M2 with non-hydraulic braking system
 - M3 with non-hydraulic braking system
 - N3 with non-hydraulic braking system
 - 2nd step:

More stringent criteria for the vehicles specified in step 1, + introduction of criteria for the following vehicle types and classes:

- N₂ ≤ 8 t with hydraulic braking system
 - M₂ with hydraulic braking system
 - M₃ with hydraulic braking system
- 1st step and 2nd step for vehicles covered by step 1 finalized – expected to be adopted at November 2012 session of WP29
- 2nd step for vehicle types with no criteria in step 1 needs to be developed now - deadline for decision: November 2013 session of WP29, i.e. 3 years in advance of the 2016 deadline

The Chair concluded that this group will have to work fast and some additional meetings are expected to be decided for the following months.

5. Review of the Terms of Reference and Rules of Procedure

Document: AEBS/LDWS-01-07-Rev.3

The experts agreed the changes proposed per document AEBS/LDWS-01-07-Rev.3.

6. AEBS (Automatic Emergency Braking Systems):

6.1. Draft proposals for pass/fail values for the warning and activation test requirements for vehicles of category N₂ ≤ 8 tonnes and of category M₂

Documents: ECE/TRANS/WP.29/2011/93
ECE/TRANS/WP.29/2011/93/Amend.1 (Annex 3)
AEBS/LDWS-17-02-Rev.1
Annex 1

The group had an exchange of view on the proposal from the CLEPA/OICA per AEBS/LDWS-17-02-Rev.1 (see also Annex 1). The main concerns which emerged from the first comments were as follows:

1. Warning time lowest value (both moving and stationary scenario)
2. Target speed in the moving target scenario

There was a suggestion to divide the work in steps:

1. Stationary target, then
2. Moving target

NL questioned the kind of speed for row 1 vs. row 2 vehicles (curves of slide 8)

OICA clarified that the data are extrapolated from computers. The expert considered it possible to provide speed data at the next meeting.

The Chair proposed a 2-step approach, using the criteria as proposed by OICA/CLEPA for the 1st step, and to increase these criteria for the 2nd step, i.e. a more ambitious speed reduction value for the subject vehicle in the stationary target test and a lower value for the speed of the target vehicle in the moving target scenario.

J supported CLEPA/OICA proposal

F and IND had no view to date on the subject

S could support CLEPA/OICA's proposal.

The 2-step approach was supported by some Contracting Parties.

NL on the one hand had a preference for a 1-step approach but on the other hand did not like immature systems on the road. The delegate finally agreed with a 2-step approach.

D considered it possible, when looking the figures, to achieve agreement on a 1-step approach.

The expert from CLEPA informed that a new, corrected simulation tool was available

Conclusion:

- General support for the 2-step approach, i.e.:
 1. Collision mitigation in stationary target scenario and collision avoidance in the moving target scenario, based on the values for speed reduction (10 km/h) and target vehicle speed (67 +/- 2 km/h) as proposed by OICA/CLEPA then
 2. increased value of the speed reduction in the stationary target scenario and collision avoidance in moving target scenario with increased stringency, i.e. a substantially lower value of the target speed.
- Secretary to post the revised simulation tool on the UNECE website (done as document AEBS/LDWS-17-03)

7. Other business

It was agreed that the joint CLEPA/OICA proposal would be presented to GRRF-73 for information, under a concentrated format.

8. List of action items

1. Informal group to achieve consensus on the warning time for stationary and moving scenarii
2. Moving target scenario: informal group to assess whether the value for the target vehicle speed is acceptable.
 - Request for comments,
 - Need for a final decision on whether the informal group follows a 1-step or a 2-step approach
3. Need to review any wording of the draft regulation.
4. Need to refine the wording and the understanding of the footnote Nr. 4 in the Joint CLEPA/OICA proposal AEBS/LDWS-17-02-Rev.1
5. ESV 2005 report to be made available.

9. Date and place of next meetings

AEBS/LDWS-18	7 December 2012	Paris (OICA offices)	Purpose: looking at the items listed as pending.
AEBS/LDWS-19	30-31 January 2013	Paris (OICA offices)	
GRRF-74	18-22 February 2012	Geneva (Palais des Nations)	

Annex 1

Proposal from CLEPA/OICA for AEBS step 2

Changes to the values of the current text of the draft regulation on AEBS (ECE/TRANS/WP.29/2011/93/Amend.1, Annex 3) are indicated in **bold** characters.

A	B	C	D	E	F	G	H	Row
	Stationary target			Moving target				
	Timing of warning modes		Speed reduction (ref. paragraph 6.4.4.)	Timing of warning modes		Speed reduction (ref. paragraph 6.5.3.)	Target speed (ref. paragraph 6.5.1.)	
	At least 1 haptic or acoustic (ref. paragraph 6.4.2.1.)	At least 2 (ref. paragraph 6.4.2.2.)		At least 1 haptic or acoustic (ref. paragraph 6.5.2.1.)	At least 2 (ref. paragraph 6.5.2.2.)			
M_3^1 , $N_2 > 8t$ and N_3	Not later than 1.4 s. before the start of emergency braking phase	Not later than 0.8 s. before the start of emergency braking phase	Not less than 20 km/h	Not later than 1.4 s. before the start of emergency braking phase	Not later than 0.8 s. before the start of emergency braking phase	No impact	12 ± 2 km/h	1
$N_2 \leq 8t^{2,4}$ and $M_2^{2,4}$	Not later than the start of the emergency braking phase³		Not less than 10 km/h	Not later than the start of the emergency braking phase³		No impact	67 ± 2 km/h	2

1/ Vehicles of category M3 with hydraulic braking system are subject to the requirements of row 2

2/ Vehicles with pneumatic braking systems are subject to the requirements of row 1"

3/ **Values shall be specified by the vehicle manufacturer at the time of Type Approval (Annex 1, paragraph 15).**

4/ **Approval to the entire values specified in row 1 may apply at manufacturer's choice**