DRAFT REPORT

13th meeting of the Informal Working Group on Advanced Emergency Braking Systems (AEBS) for light vehicles

25-26 June 2020,
On Web

Venue: Web (Microsoft Teams provided by Mr. Fontaine)

Chairman: Mr. Antony Lagrange (EC) and Mr. Toshiya Hirose (Japan)
Secretariat: Mr. Yukihiro Shiomi (Japan) and Mr. Olivier Fontaine (OICA)

1. Welcome and Introduction

Outcomes of WP29-181: all documents tabled by GRVA at WP.29 were adopted
Target of this session: official documents to GRVA-07 since deadline is Monday 29 June. C2B scenario is 1st priority.

2. Approval of the agenda

Document:
- AEBS-13-01 (Chair)

Adopted with no change

3. Finalisation of the discussion on AEBS for Car to Bicycle scenario

Document:
- AEBS-13-02 Draft regulation for 02 series amendment
- AEBS-13-15 (Chair) Summary after 12th meeting

Presentation of AEBS-13-15 by the chair: 3 documents will be finalized today: 00 Series, 01 Series, 02 Series

2-step approach:
Day 1
Presentation by Industry per document AEBS-13-09: enhancing the window in the table
Reference to EuroNCAP data (AEBS-10-04):
- 70% of vehicles tested (not of the production)
- Robustness: old technology does not fit the high-performance requirements.

D: good step, need to check with government. Can be acceptable
NL: good direction: still problem with 30 km/h while the Bicycle is at 15 km/h. Should still be possible to avoid the impact.
N: support D and NL, presentation by Industry is convincing, yet need to cross-check.
F: good proposal but need to internally cross-check.
Industry: can accept 30km/h avoidance
Conclusion Day 1:
- Decide tomorrow after cross-check
- 2 alternatives in the official document text (?)
- Take the time between now and GRVA-07 for reaching an agreement within the group.

Day 2
European Commission had not enough time to internally cross check, hence OK to send the alternative to GRVA

D: would favour sending 1 option only, yet can accept the compromise of the alternative
N: Accept the 2-step approach, will provide written justifications at a later stage
NL: no strong position, can accept having the alternative in the document sent to GRVA-07
J: similar to NL: prefer to defer the decision to GRVA.

Chair: as this is no technical matter, GRVA may be the better place to make such decision. Alternative:

- 2-step per OICA proposal + Full avoidance at 30 km/h at step 1, (2024/2028) vs.
- 1-step in 2024NT/2026AT

CP (D, NL, EC, F, NO)	New AEBS-C types	Existing AEBS-C types
AEBS Series 1 (C2P)	May 2024	May 2026
AEBS Series 2 (C2B)	2024	2026

OICA	New AEBS-C types	Existing AEBS-C types
AEBS Series 1 (C2P)	May 2024	May 2026
AEBS Series 2 (Step1 for C2B)	EIF	Accepted until 2028 (if first issued before May 2024)
AEBS Series 3 (Step2 for C2B)	2024	From 2028

AEBS Step 1 NT: Date of EIF

Conclusion Day 2:

- Alternative to be proposed to GRVA-07
- 1-step: a new Supplement to the 01 series
- 2-step:
  - 1st step: Supplement to the 01 series
  - 2nd step: 02 series,

Note of the Secretariat: The documents were subsequently made available on the UNECE website:

Document reference	Document status
GRVA/2020/26	Draft Suppl. 03 to 00 Series
GRVA/2020/27	Draft Suppl. 02 to the 01 Series 1-Step approach
GRVA/2020/28	Draft 02 Series
GRVA/2020/35	Draft Suppl. 02 to the 01 Series 2-Step approach

Turning events:
Day 1
Presentation per document AEBS-13-10
Is harsh cornering relevant in urban scenario? Yes since the scenario may happen.
D: suggest “significant turning”. Want to avoid that the scenario is extended to non-relevant cases.
NL: suggests a value of degrees
F: for application of the wording, will be difficult to discriminate the turning events affecting the performances from the others.
Debate on whether adding values since the aim is to best distinguish the cases in stake. The turning event is not only related to the yaw rate (opening angle + accuracy due to yaw rate), the accuracy detection depends on the yaw rate.
Idea is supported, yet wording must be improved.
Conclusion Day 1:

- Think overnight

Day 2
OICA subsequently presented document AEBS-13-14. (h) and (i) as amended, vs. (c).

D: the (c) addresses the road, while the h and i address the movement of the vehicle
European Commission: can support (c) only, but can accept the h and i as well.

Conclusion Day 2: see AEBS-13-14-Rev.1 as annotated in green

Test section:
Presentation of AEBS-13-04 by Hirose san (co-Chair): attention that this is for the 2nd step.

Conclusion: adopted, yet paragraph 6.7.1. must be adapted to the 2-step approach in the draft official document.

Timeline:
Debate according to blue table in document AEBS-13-02 (see also above)

See "2-Step approach" above

4. Confirmation of the corrections to the 00 and 01 series

Document:
- AEBS-13-03 Draft regulation for 01 series amendment
- AEBS-13-04 Draft regulation for original series amendment

5. Finalisation of the discussion on Automatic AEBS deactivation

Document: GRVA-05-64 (OICA)

Automatic deactivation (paragraph 5.4.2.)
The chair requested the revised positions of the contracting parties.
NL: concern with proposed wording. AEBS HMI requests 2step deactivation and < 10km/h. Hence, if ESC triggers the AEBS deactivation, it should follow the same rules as AEBS. Also concern that the proposal is an incentive to the driver to indirectly deactivate AEBS via the ESC, with the detrimental side effect of also deactivating the ESC.
Debate
European Commission: can accept both solutions
N: the automatic deactivation should be linked to exceptional conditions
D: can support automatic deactivation. Seems very few drivers disconnect their ESC (while concerns about regular manual AEBS deactivation)
J: can accept Industry proposal. The adapted justifications are OK.
OICA: committed to improve again the justifications.
ESC deactivation never happens accidentally
Proposal: include the text in [ ] and check at GRVA. In the meantime, Industry to liaise with NL for improving the text.

Conclusion:
- include the text in [ ] and check at GRVA-07
- In the meantime, Industry to liaise with NL for improving the text
- To apply as from 00 Series

Link to ACC and ALKS (paragraph 5.4.4.)
J: support reference to ALKS, but cannot accept reference to ACC because ACC is ADAS where the river keeps primary control of the vehicle. And there could be a crossing pedestrian or cyclist, and the AEBS is still useful then.
OICA: suggest a note in the report.

Common understanding of the group: "when the ACC is active, the deceleration may be smoother and does not exceed the requested 5 m/s² hence making the AEBS superfluous. Of course, AEBS remains in veil and intervenes in case of sudden event". (wording to be improved).
Conclusion:

- Amended paragraph included w/o [ ]
- the reference of 5m/s² in paragraph 5.2.2.2. aims at distinguishing between ACC and AEBS, and hence covers the concern from Industry.
- To apply as from 00 Series

6. Finalisation of the discussion on the reference tyre of ASTM

Document: AEBS-11-11 (F)

PBC:
D: our (and NCAP's) tracks are at ca 0,9 PBC, but this does not prevent decelerations > 10m/s²
NL: in the USA, they refer to 0,9
OICA: is the reference value meaning that it is a minimum? Since it is difficult to find a track with the exact 0,9 value
OICA presented document AEBS-13-13.
Conclusion:

- The "nominal" value is understood as being the **minimum** theoretical target value
- Footnote added to the regulation
- France to table the proposal to GRVA-07
- Industry to table paragraph 6.1.6. to GRVA-07 to align with ACSF-B1 (with improved wording)

SRTT tyre reference tyre:
OICA: can support France

7. Review of the comments received and discussion on the false reaction scenarios

Document:

- AEBS-12-09 (J) Additional research of false reaction_20200514
- AEBS-12-10-r1 (J) Relationship between Scenario and Research result example
- AEBS-12-11 (J) Amendment proposal of Annex3 Appendix2_20200514

Day 1
Presentation of document AEBS-13-05
F: support the approach as necessary for the regulation. Yet 2 concerns:

- The annex is dedicated to false reaction. Hence the behaviour of the system is expected by the driver, we cannot put pass/fail criteria, yet "the system behaves as expected" is the criterion for pass/fail (brake/not brake)
- Detailed description, while high level provisions should be better: if detailed parameters are given, then this will bring confusion when testing.

OICA:

- support the approach of Japan, rather than clear pass/fail criterion.
- The proposed scenarios are relevant and challenging. Hence Industry suggests improving the opening paragraph.

Chair: ideally, we must have pass/fail criteria, yet they should not always be values.
J: hard (or emergency) braking should be taken as a pass/fail criterion, yet in some cases, depending on the concept of the manufacturer, lower braking may be accepted.
Chair: questions the reason of the test, i.e. what is wrong when it brakes while it was not supposed to?
J: for confirming the strategy/declaration of the manufacturer. But this is for clarifying the provisions of paragraph 5.1.6.
OICA: suggests switching from "scenario" to "type of scenario".
J and OICA stressed that the text should not be too detailed in the description of the scenarios.

F: concern to be limited by the values proposed in the text if some other parameters are found more relevant. Supports addition of schemes.
J: the proposed values are based on J internal research

Conclusion Day 1:

- Clarify that the scenarios are examples
- Clarify that the aim is to verify the strategies declared by the manufacturer.
- For tomorrow: OICA and J to improve the wording:
  - Adding schemes from J, presentation of 13-07
  - Main goal of the appendix
  - The values in paragraphs 2 are not necessarily the values to be used in the tests.
- Decide tomorrow to which series the changes should apply

Day 2
Scenario 3: should turn left (in lieu of "right")

Applicability: from 00 series, as a supplement, not affecting already granted approvals

Conclusion Day 2:

- from 00 series, as a supplement
- "this Supplement does not affect already granted approvals"

8. Review of the comments received and discussion on virtual testing

Documents:

- AEBS-12-06 (F) Virtual testing draft proposal
- AEBS-12-07 (UTAC) Virtual testing AEBS

F: call for experts to review the document AEBS-12-07-Rev.1 and to comment it (to date only received comments from J)

D: at last meeting, D requested to discuss this at a later stage, need for more time.
OICA: makes sense to go through, but the items worth spending time, hence no hurry. Need to 1st understand the approach

Conclusion:

- D/OICA-CLEPA to directly contact France.
- Review this later. (tentatively at September meeting)
- D to transmit their comments to the AEBS informal group.

9. Other business

Tolerance for bicycle speed: tolerance should be aligned on those of NCAP
D: for tolerance: OK since it does not change the performance requirements.

Conclusion: adopted

10. List of action items

Plan for next meetings:
No need for a meeting for the 2-step approach, can be by email exchange
Yet let's save a date
GRVA-14: Friday 4 September 2020 (probably distant meeting), from 9 to 12 am.