

**Submitted by the Chair of
IWG RD-ASEP Subgroup on UN-R 138 and UN-R 51**

Informal Document **GRBP-82-35**
82nd GRBP, 03-05 September 2025
Agenda items 3 and 4

Report to 82nd Session of GRBP (September 2025)

IWG RD-ASEP Subgroup on UN-R 138 and UN-R 51

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Number of Meetings

1) 30 th – 31 st of October 2024 (hybrid in Berlin)	8) 30 th of April 2025 (virtual)
2) 15 th of November 2024 (virtual)	9) 5 th of June 2025 (virtual)
3) 10 th – 12 th of December 2024 (hybrid in Tokyo)	10) 6 th of June 2025 (virtual)
4) 17 th of January 2025 (virtual)	11) 18 th of June 2025 (virtual)
5) 30 th of January 2025 (virtual)	12) 8-11 th of July 2025 (hybrid in Brussels)
6) 13 th of March 2025 (virtual)	13) 6 th of August 2025 (virtual)
7) 8-10 th of April 2025 (hybrid in Berlin)	14) 2 nd of September 2025 (hybrid in Geneva)



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Participants (Contracting Parties & NGOs)

CPs:

Canada, China (from 30/01/2025), EC (Chair),
France, Germany, India, Japan, Netherlands,
Switzerland, United Kingdom

NGO's:

European Tuning Organization (ETO), ETRTO, IMMA,
ISO, OICA (Secretary), World Blind Union (WBU)

1 individual expert

Objectives of the subgroup

- Subject: after two contradictory proposals for each regulation, at the 80th GRBP, it was agreed to find a satisfactory solution regarding the sound emissions of EVs and amend UN-R 51 and UN-R 138 accordingly
- Timeline: working documents or, at least, informal ones were planned to be submitted to GRBP in September 2025 for both regulations (difficult to move on one without moving on the other as a satisfactory hand-shake is needed)
- Due to extensive discussions, the documents should be submitted to the GRBP for February 2026

Method and main orientations of the subgroup (1/2)

- Discuss ideas and different options and their effects on safety and environment before drafting.
- After the February 2025 GRBP the group focussed more on drafting the text and prioritize UN-R 51.
- On UN-R 51: agreement on the introduction of EVs in the scope of Annex 7 (ASEP) and on the urgency to do so since some EVs are already equipped with external sound enhancement systems.

Method and main orientations of the subgroup (2/2)

- Justification and targets of UN-R 138
 - The addition of a sound is justified by the safety issue created by the reduced audibility of quiet vehicles at lower speed.
 - As this additional sound raises the sound level to which road users are exposed and has a direct impact on the environment, it should not be too loud.
- Main orientations on UN-R 138
 - On safety: agreement on the need to ensure an adequate level of safety (safety does not only rely on AVAS)
 - On environment (as max SPLs are included in UNR 138):
 - CPs emphasize the need to take advantage of the switch to EVs to diminish urban noise
 - request from the industry to “keep agreeable flexibility in vehicle sound design where environment is not at stake”

Progress on UN-R 51 (1/2)

- It was decided to use the OICA proposal (working document GRBP/2025/29) as a basis for UN-R 51.
- 2 main points discussed on UN-R 51: addition of optional sounds and SPL limit lines for M1 and N1 EVs.
- Agreements by the group on the addition of optional sounds:
 - The requirements of UN-R 138 have to be fulfilled by the vehicles equipped with any sound system, including ESES.
 - Need to avoid noise discontinuities that create annoyances
 - Need to ensure that optional sounds reflects the expected sound of a vehicle.
 - All electric vehicles shall comply with the requirements of Annex 7 due to the lack of methodologies to prove a vehicle without sound enhancement.

Progress on UN-R 51 (2/2)

- Additional comments still under discussion:
 - It should be possible to switch optional sounds off and
 - Optional sounds should be “off” when the vehicle starts
 - Consequence: back-to back testing is possible to assess the level of optional sound (without any requirement at type approval stage)
- To draw the limit line for M1 and N1 EVs, CPs have conducted a measurement campaign (information shared during February 2025 GRBP)
- Data collected is available in an anonymized format on the wiki of the subgroup: [SG_MD_05_0823_Measurement_Data_anonym.xlsx](#)
- Improvements since September 2024 GRBP
 - the limit lines should be based on the speed of the vehicle (no more reference to the rpm)
 - the limit lines should be as simple as possible

Steps forward on UN-R 138 (1/2)

- Identify and clarify all that needs to be clarified in the current text of UN-R 138:
 - remove all the grey zones, e.g.:
 - requirements applied to the AVAS sound or to the whole vehicle sound, what requirements in the AVAS fade-out speed range,
 - the AVAS sound can be decreasing as the vehicle speed increases even in the mandatory speed range
 - and clarify where the data introduced in the current text come from (to be able to know when an update is needed).
 - Adapt in alignment with the changes to be made in UN-R 51, if needed.
- Identify use-case scenarios in which safety or environment could be an issue and ensure the regulation tackles those cases

Steps forward on UN-R 138 (2/2)

- Need to ensure a good handshake with UN-R 51 regarding RD-ASEP
 - the possibility to emit optional sound should not jeopardize safety
 - limit at standstill is not in UN-R 51, this needs to be addressed
 - ASEP (annex 7 of UNR-R 51) would only be for M1 and N1 vehicles

The idea of having minimum SPLs in UN-R 138 for safety purpose and maximum SPLs in UN-R 51 for environmental purpose, needs to be discussed more in depth due to the difference in scope of both regulations.

Thank you for your attention.