



# EC counter-proposal on UNR 51: Informal document GRBP-80-12

GRBP meeting

*18 September 2024*

# OICA's proposal at a glance and EC position

## Definition and legalization of ESES

EC position: The emission of additional exterior sound is acceptable as long as it addresses safety concerns. It shall be strictly prohibited whenever safety is not at stake.

## Introduction of EVs in the scope of ASEP

EC position:

- Good to introduce EVs in the scope of ASEP
- This introduction should ensure the full benefit of the switch to EVs in terms of noise emissions.

# EC counter-proposal on ESES: 2-step approach

1st step: review the definition and ensure consistency with the terminology used

2<sup>nd</sup> step: prohibition and transitional provisions

# EC counter-proposal on ESES: 1st step - definition

OICA proposal (definition 2.29.)

« Exterior sound enhancement system (ESES) » means an active system that is installed to a vehicle for producing exterior sound, such as but not limited to AVAS according to the definition of UN Regulation No. 138, sound actuators, either integrated into an exhaust silencing system or mounted as an individual unit.

EC counter-proposal

« Exterior sound producing and amplifying system (ESPAS) » means any system that is installed to a vehicle for producing or amplifying exterior sound, with the exception of safety-related devices required by UN-Regulations or national legislations such as AVAS, reverse warning systems, horns and sirens. »

NB: Exterior noise producing and amplifying system (ENPAS) could be a more accurate alternative.

# EC counter-proposal on ESES: 1st step – definition - changes and justifications

- Name of the system: the name chosen by OICA is not consistent with the definition they propose. The aim of the system is to produce exterior sound/noise, without any criterium of “enhancement”. The EC counter-proposal therefore suggests to switch the name to “Exterior sound producing and amplifying system (ESPAS)” to better reflect the reality.
- With the introduction of the notion of “amplification”, the EC definition is wider than what OICA proposed but is fully in line with the intent of encompassing all additional exterior noises (so noises newly produced as well as amplifications of already existing noises).
- Replacement of “a” by “any” to ensure a full coverage of all possible systems. Same idea for the deletion of “active” (not defined and not clear).
- Suppression of “either integrated into an exhaust silencing system or mounted as an individual unit” to guarantee a broader coverage and technological neutrality.
- Introduction of a needed exception for safety-related devices.

# EC counter-proposal on ESES: 2nd step – prohibition

- Introduction of the prohibition of ESPAS as one of the three general specifications of the regulation (in 6.1.3.), along with:
  - specifications on durability (6.1.1.)
  - specifications on the resistance against manipulations (6.1.2)
- 6.1.3.: The installation of Exterior Sound Producing and Amplifying Systems (ESPAS) is prohibited.
- Transitional provisions: importance of a quick and broad application of the supplement after its entry into force:
  - immediate application to new type approvals
  - application to existing type approvals and their extensions after a lead time of 2 years

# EC counter-proposal on the introduction of EVs in the scope of ASEP

## OICA proposal:

- More important changes in Annex 7 (dedicated to ASEP)
- General principle of the introduction of EVs into ASEP: as the engine speed is irrelevant for EVs, OICA proposes to calculate an ersatz based on the speed of the vehicle (see 2.5.2.)

## EC analysis and position:

- Changes in Annex 7: the way OICA introduces EVs in the scope of ASEP implies no gain in terms of noise emissions due to the switch to EVs + more generally, a careful review of ASEP is necessary to assess the changes that need to be made to adapt it to EVs
- EC position: need to account for the fact that noise emitted by power train is very low for EVs
- Suggested way forward:
  - validate the approach to be followed during this September 2024 GRBP
  - pursue the discussion in the RD-ASEP working group at the end of October (or, if need be, add a short meeting before)
  - come up with a working document for February 2025 GRBP for both the introduction of EVs in the scope of ASEP and the prohibition of ESES (deadline: 25 November?)

# EC counter-proposal: other more limited changes (1/2)

- Changes directly stemming from the OICA proposal:
  - Annex 3, 1.2.: the proposal from OICA was not fully satisfactory on that point as there can be several measurement sessions per day. Besides, the last two paragraphs of 1.2., forgotten by OICA in its proposal, are reintroduced.
  - Correction of a reference in Annex 3, Appendix 2 (3.3.3. instead of 3.2.3.) as rightly suggested by OICA in its proposal
  - Annex 9: small change in 2.4.: “Powertrain”
- Clarification of the role of Type-Approval Authorities:
  - 3.4.2. (c): [...] by laboratories and test facilities of a Technical Service designated by the Type Approval Authority ~~and selected by the vehicle manufacturer~~
- Deletion of useless former 6.1.1.: ~~The vehicle, its engine and its sound reduction system shall be so designed, constructed and assembled as to enable the vehicle, in normal use, despite the vibration to which it may be subjected, to comply with the provisions of this Regulation.~~
- Rephrasing of the general specification against manipulation in 6.1.2.: “**The sound reduction system shall be so designed, constructed and assembled as to be able to reasonably resist manipulations.**”



# EC counter-proposal: other more limited changes (2/2)

- Clarification introduced in 6.2.3.: for vehicles of (a), (b) and (c) tests of Annex 7 can only be carried out after type-approval is already granted. But the ASEP requirements apply to those vehicles as well.
- Direct consequences of the prohibition of ESPAS:
  - In 6.2.3. deletion of the last sentence: Any electric sound enhancement system for the purpose of the exterior sound emission shall be operational during the type-approval test.
  - In annex 3, 2.2.3.3., deletion of: Active Sound Systems: Any active sound devices, either for noise control, or sound enhancement, shall operate as foreseen by the vehicle manufacturer and not be interfered with during the measurements.
  - In Annex 9, deletion of exemptions 1.2. referring to ESES
  - In Annex 9, deletion of definition 2.2. of ESES
- Correction of a typo in Annex 3, 3.1.2.1.6.
- A few “prime” introduced in Annex 7 (a lot are still missing and will need to be added in the working document for next GRBP)
- Annex 9:
  - clarification of the scope of RD-ASEP in 1
  - **change in the 3.8 formula** in order for AVAS not to be considered as a simple buffer (and consequences on 3.7. and Formula 3.7.). Important to change it now in order for the ongoing monitoring exercise to be correctly exploited.

# EC counter-proposal: supplement or new series of amendments?

## ESES (or ESPAS) in the current UNR 51

- In 6.2.3.: Any electric sound enhancement system for the purpose of the exterior sound emission shall be operational during the type-approval test.
- In Annex 3, 2.2.3.3.: Definition: Active Sound Systems: Any active sound devices, either for noise control, or sound enhancement, shall operate as foreseen by the vehicle manufacturer and not be interfered with during the measurements.
- In Annex 9, definition 2.2.: "*Exterior sound enhancement system*" means a system that is installed to a vehicle for producing exterior sound, such as but not limited to sound actuators, either integrated into an exhaust silencing system or mounted as an individual unit.

## Consequences

- In 6.2.3: misleading terminology based on « enhancement » with a reference to exterior sound emission but, due to the lack of definition, it is not clear what is referred to. It could be AVAS, which OICA considers as an ESES.
- Annex 3: Definition of active sound systems but with no reference to noise production (contrary to the current OICA proposal) and only with the purpose of noise control and noise enhancement (and none of them is defined)
- Annex 9 is the only definition already included in the regulation but:
  - this annex was so far only introduced for monitoring purpose. The discussions regarding it will take place if and when it is to replace Annex 7.
  - Looking at formula 3.8.: ESES probably means AVAS only as only AVAS sound is considered in the formula.
- Conclusion: the EC counter-proposal is more a clarification than the introduction of new requirements. The appropriate tool to use is therefore a supplement and the transitional provisions proposed in 11.17. are consistent with the limited scope of the change.

Thank you.