

Informal document GRB-58-16  
(58th GRB, 2-4 September 2013,  
agenda item 10)

# France consideration on maximum noise in Global Technical Regulation on Quiet Road Transport Vehicles

ECE-TRANS-WP29-GRB-58

# Why « maximum noise » has to be considered in GTR on QRTV ?

Following § 12 of report WP 29 ECE/TRANS/WP29/1102 and recommendations of AC2 from WP 29, France propose to consider « maximum noise » in GTR on QTRV :

- for environmental and safety issues,
- to transcript to ECE-TRANS-WP29-GRB-58-inf04 annex 9 §4.3 wording into objective criteria,
- to prevent conflict between minimum and maximum noise level.

# Environmental and safety issues

- Environmental issue : to prevent noise annoyance in quiet urban areas
- Safety issue : to avoid excessive vehicle noise which might mask others

# Transcription of ECE-TRANS-WP29-GRB-58-inf04 annex 9 §4.3 wording

- ECE-TRANS-WP29-GRB-58-inf04e :

“The sound level generated by the AVAS shall not exceed the approximate sound level of a vehicle of the M1 category equipped with an internal combustion engine and operating under the same conditions.”
- As long as we work to prevent noise annoyance in quiet urban areas, such sentence has to transcript in objective specification.

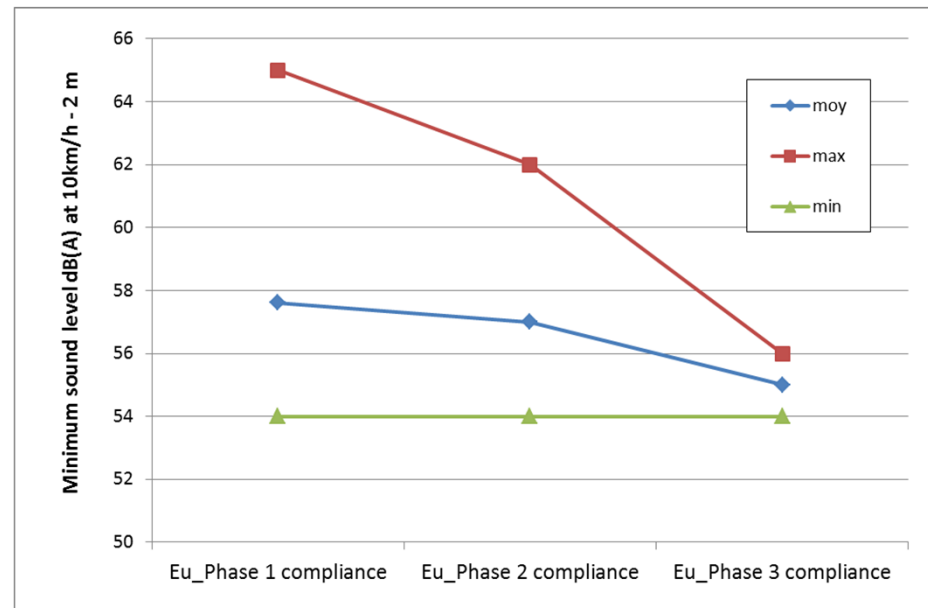
# Conflict between “maximum” and “minimum” noise

- Conflict with ECE51.03 noise reduction limits
- Conflict with ECE51.03 noise limits and testing conditions
- Overlap with ECE51 ASEP

# Conflict between “maximum” and “minimum” noise

- Conflict with ECE51 noise reduction limits :

statistics are build on  
light ICE vehicle's  
compliant for each Eu  
phase  
(Using OICA dBase)



→ Noise level of ICE will be reduced in next 10 years in Europe.  
Sound level of EV with AVAS shall not become higher than ICE

# Conflict between “maximum” and “minimum” noise

- Conflict with ECE51.03 noise limits and testing conditions :

For HDV with powertrains with no rotational engine speed available - 2 target conditions for the vehicle speed  $v_{\text{target}}$  BB' :

$$- 25 \text{ km/h} \leq v_{\text{BB}'1} \leq 35 \text{ km/h}$$

AVAS will impact ECE51 sound level for that condition

$$- 35 \text{ km/h} \leq v_{\text{BB}'2} \leq 45 \text{ km/h}.$$

→ If applicability is confirmed for all EV and HV vehicles, sound level specification has to take into account maximum limit values for HDV.

# Conflict between “maximum” and “minimum” noise

- Overlap with ECE51 ASEP :
  - No conflict as long as ASEP is applied to vehicles of categories  $M_1$  and  $N_1$  equipped with an internal combustion engine and AVAS is applied on EV and HV (ICE off).
  - If AVAS is applied to quiet ICE or If ASEP is applied to EV, a conflict is possible for excessive noisy AVAS → Non compliance for ASEP due to AVAS could be prevented by a maximum sound level for AVAS.



# Conclusions

- France propose to consider, in the purpose and in the development of the GTR on QRTV, the maximum noise :

*[The purpose of this standard GTR is to reduce the number of deaths and injuries that result from electric and hybrid [electric] vehicles low speed crashes with pedestrians (and others like but not limited to cyclists) by providing a sound level and sound characteristics necessary for these vehicles to be detected, [located] and recognized by pedestrians]\* [without generate excessive noise and introduce conflict regarding ECE51.03].*

*\* From 4<sup>th</sup> QRTV for GTR meeting*

Thank you for your attention