1. Document for reference [either to be integrated into GRB-68-03 or a new one]: Guidance for the interpretation of the footnote to paragraph 6.2.3.
2. Scope of this document for reference

This guidance applies to all vehicles (regardless of the propulsion system) and all driving conditions (inside and outside of the type-approval test conditions and the ASEP control range) and all vehicle conditions including modes (regardless of the mode selection by the vehicle or the driver).

**2. Guidance for the alterability of the generated sound**

2.1 The sound enhancement system shall produce sounds of the vehicle manufacturer only. In accordance with UN Regulation No. 155 and No. 156 the manufacturer shall take all necessary measures to prevent the usage of third-party sound files and the usage of the [sound enhancement system] as loudspeaker.

2.2 Driver selectable modes are allowed. All modes shall comply with all requirements (type approval and ASEP control range) and shall comply with this guidance document.

**3. Guidance for the content of the generated sound**

3.1 The sound generated by [sound enhancement systems] shall be a continuous sound. A vehicle equipped with a [sound enhancement system] shall continue to fulfil all requirements even when the [sound enhancement system] is active, e.g. but not limited to:

(a) UN Regulation No. 28;

(b) UN Regulation No. 138 (all requirements and specifications, e.g. frequency shift, minimum sounds, …);

(c) UN Regulation No. 165.

3.2 The following and similar types of sounds are not acceptable:

(a) Siren, horn, chime, bell and emergency vehicle sounds;

(b) Alarm sounds e.g. fire, theft, smoke alarms and other distress signals;

(c) Intermittent sounds while moving forward or standstill;

(d) Sound content that deviates from the content that is testable under type approval or ASEP conditions;

(e) Sounds that are intended to generate deliberate disturbance (like backfire sound, “pop and bang”, etc).

3.3 The following sounds shall be avoided:

(a) Melodious sounds, animal and insect sounds, language;

(b) sounds that confuse the identification of a vehicle and/or its operation (e.g. acceleration, deceleration etc.).

**4. Guidance on the sound pressure level of the whole vehicle sound (vehicle + [sound enhancement system])**

4.1 Default requirement, if no stricter requirement applies: The sound level to be generated by a vehicle equipped with an [sound enhancement system] and an electric engine shall not exceed the approximate sound level of a similar vehicle of the same category equipped with an internal combustion engine and operating under the same conditions.

4.2 Guidance on the sound pressure level outside the ASEP control range (**above 80 km/h**)

 The increase of the whole vehicle sound shall originate exclusively from passive vehicle dynamics.

4.3 Guidance on the sound pressure level outside the ASEP control range (**acceleration > 5 m/s2**)

 Monotonically increase relative to acceleration

Open for Discussion:

[solution 1:] for xEV: significantly lower than compared to non-xEV of a similar vehicle of the same category equipped with an internal combustion engine and operating under the same conditions

or

 [solution 2:] The increase of the whole vehicle sound shall originate exclusively from passive vehicle dynamics.

or

[solution 3:] GRB-68-03 [clarification is needed how this **additional margin of [+6] dB** has to be calculated – on top of LASEPkj +x+ ΔLacckj ? Would ΔLacckj not increase sufficiently just by using the higher acceleration?]

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