Proposal for QRTV gtr based on Japanese concept

JASIC

3. Operation conditions (a) Sound generation method	
Description in the R.E.3	➢The AVAS shall automatically generate a sound at least in the range of vehicle speed from start up to 20 km/h and during reversing, if applicable for that vehicle category. ➢In case the vehicle is equipped with an internal combustion engine that is in operation within the vehicle speed range defined above, the AVAS may not need to generate a sound. ➢For vehicles having a reversing sound warning device, it is not necessary for the AVAS to generate a sound during backup
Concept	➢Concept The range of vehicle speed to be as described in the guideline. (No requirement when the vehicle is stopped.)
Proposal for GTR	➢Same as R.E.3

3. Operation conditions (b) Pause switch	
Description in the R.E.3	➢The AVAS may have a switch to stop its operation temporarily ("pause switch"). ➢If a pause switch is introduced, however, the vehicle should also be equipped with a device for indicating the pause state of the vehicle-approach informing device to the driver in the driver's seat. ➢The AVAS should remain capable of re-operating after stopped by a pause switch. ➢If fitted in the vehicle, a pause switch should be located in such a position that the driver will find and manipulate it with ease.
Concept	➢Concept The pause switch to be optional for contracting party as described in the guideline or prohibited.
Proposal for GTR	➢Same as R.E.3 ➢Contracting parties may prohibit to equip a pause switch.

3. Operation conditions (c) Attenuation	
Description in the R.E.3	➢The AVAS sound level may be attenuated during periods of vehicle operation.
Concept	➢Concept Attenuation to be as described in the guideline.
Proposal for GTR	➢Same as R.E.3

4. Sound type and volume (a) Sound type	
Description in the R.E.3	➢The sound to be generated by the AVAS should be a continuous sound that provides information to the pedestrians and vulnerable road users of a vehicle in operation. However, the following and similar types of sounds are not acceptable: (i) Siren, horn, chime, bell and emergency vehicle sounds (ii) Alarm sounds e.g. fire, theft, smoke alarms (iii) Intermittent sound ~~The following and similar types of sounds should be avoided:~~ (iv) Melodious sounds, animal and insect sounds (v) Sounds that confuse the identification of a vehicle and/or its operation (e.g. acceleration, deceleration etc.)
Concept	➢Concept Sound type to be as described in the guideline.
Proposal for GTR	➢Same as R.E.3, except that the article of “The following and similar types of sounds should be avoided” should be deleted, since it is confusing whether (iv) and (v) are prohibited or not.

4. Sound type and volume (b) Pitch shift	
Description in the R.E.3	➢The sound to be generated by the AVAS should be easily indicative of vehicle behavior, for example, through the automatic variation of sound level or characteristics in synchronization with vehicle speed.
Concept	➢Concept Pitch shift (frequency shift) should be quantified.
Proposal for GTR	➢Pitch shift should have frequency changes of [15%] or more in the range of vehicle speed from 5km/h to 20km/h.

4. Sound type and volume (c) Sound volume	
Description in the R.E.3	➢The sound level to be generated by the AVAS should 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.
Concept	➢Concept a) The requirement for the sound to be minimum O.A. sound level and 1/3 octave band frequency. (See the QRTV report which recommends two frequency peaks.) b) The test method to be followed ISO/CD16254 as a start point. Pitch shift (frequency shift) should be quantified.
Proposal for GTR	➢O.A. level should be [xx]dB(A) or more at the vehicle speed of 10km/h and [xx]dB(A) at 20km/h. ➢Each frequency range of [less than 800Hz] and [over 1.25kHz] in 1/3 octave band frequency should exist one or more bands of [xx]dB(A) or more at the vehicle speed of 10km/h and [xx]dB(A) at 20km/h.

Thank you very much
for your attention