

Minutes

5th MEETING

WORKGROUP ON QUIET ROAD TRANSPORT VEHICLES

17 and 19 January 2011

Munich, Germany

17 January – 1:30 p.m. to 6:00 p.m.

1.0 Welcome and Opening remarks by Chairman

1.1 Opening Remarks by German Host - **BMW Mr Guggenmoos.**

1.2 Introduction of Participants

2.0 Adoption of Agenda

3.0 Approval of Minutes from 4th Meeting in Berlin

4.0 Presentation by Dr. Katsuya Yamauchi – **Research concerning the Sound Level of the Warning Sound in Munich:**

- Relationships between hearing impressions and acoustic properties
- Showed example of aftermarket Japanese product. States product conforms to Japanese guideline, but does not. (Uses human voice in addition to two tone continuous sound)
- Adequate sound level for quiet environment (60 dB environment) not adequate for 73 dB environment.
- Results from Munich research
- 3 possible warning sounds: Horn, Engine, Broadband sound
- Spread of subject results of 10 dB

NHTSA (Steve Beretzky) asked how the experiment was conducted. He is concerned the experiment itself biased the observers. The issue was the sound was presented at a higher level first. He wants to distinguish between known sounds being detected and any unknown sound being detected. He was concerned that some subjects won't hear the sound.

CLEPA stated that people quickly learn new sound.

OICA noticed that some parts of the study are out of the focus of the work of the group. 73 dB(A) is representative of heavy traffic (roads with more than 70000 cars/day). OICA advises the people working on regulation in the field of QRTV to first determine the situations where AVAS is of importance.

- 5.0 Consideration of Recent U.S. Congressional Mandate for QRTV Regulation by Mr. Steve Beretzky, U.S. National Highway Traffic Safety Administration (NHTSA). Many issues are open to interpretation: Sound at idle, number of sounds allowed, etc.
- 6.0 Review Work to Date on QRTV Proposed Guidance for Audible Vehicle Alert System (AVAS).
 - 6.1 Review Japanese Guidance and highlight areas for revision (QRTV W/G had substantial discussion regarding prohibited and allowed AVAS sounds and the matter of a manual switch vs. sound attenuation during prolonged low speed and idle operation)
 - 6.2 Review AVAS Guidance proposed by Chairman (QRTV W/G revised proposed preamble and scope and revised and incorporated key elements of final Japanese guidance document submitted to GRB as ECE /TRANS/WP.29/GRB/2011/6.
 - 6.3 Review Comments regarding Chairman proposed AVAS
 - 6.3.1 Japan (supports both sound attenuation and manual off switch and is paying attention to the definition of the AVAS.- Sound. The sound should be defined as “continuous” or not intermittent. 'not intermittent' is same meaning as 'continuous' here which means not ON/OFF or not going to zero sound. The group agreed in principal, but is still looking for the proper wording and put therefore the word continuous in brackets).
 - 6.3.2 General Motors (SAE/ISO) (supported sound attenuation during idle)
 - 6.3.3 EC/EU (strongly supports need for manual off switch for AVAS; does not support sound attenuation)
 - 6.3.4 UK (concerned with different sounding forward and reverse AVAS, supported sound attenuation during idle)
 - 6.3.5 US (oppose manual off switch for AVAS, asked where the outcome of the group will be implemented, RE 3? SR 1? GRB or WP.29 report?)
 - 6.3.6 OICA (opposed AVAS sound during idle condition, supported sound attenuation)

6.3.7 QRTV Secretariat

6.3.8 BMW demonstration of Mini with AVAS and tour of BMW Acoustic Wind Tunnel.

18 January 2011 – 9:30 a.m. to 5:30 p.m.

- 7.0 Draft QRTV Recommended Interim Global Guidance for AVAS - Based on final guideline submitted by Japan as ECE /TRANS/WP.29/GRB/2011/6 with addition of preamble, scope and revisions by QRTV Work Group. Secretariat to draft QRTV proposed guideline in proper format for submission to GRB (15 Feb.)

19 January 2011 – 9:30 a.m. to 5:30 p.m.

8.0 Other

- 8.1 Draft Work Group Report to GRB / WP.29 (Chairman to prepare)

- 8.2 Presentation by Henry Morgan, Brigade Electronics, Importance of AVAS Directionality. CLEPA pushed for inclusion of directivity in the text but didn't get support of the W/G.

- 8.3 UK update: TRL has done research. Their conclusions seem to be in line with the first results of NHTSA. DfT will try to make a link with the type approval values or further test.

9.0 Next Steps for Work Group

9.1 QRTV Future Work Program

- 9.1.1 Consideration of Ulf Sandberg, et al paper - "Are Vehicles Driven in Electric Mode So Quiet That They Need Acoustic Warning Signals?" (Postponed to 6th QRTV)

- 9.1.2 Consideration of CLEPA Recommended Acoustic Test Method (postponed to 6th QRTV)

- 9.1.3 EU/EC urged QRTV W/G to review comments by critics of AVAS (scheduled for 6th QRTV)

- 9.2 Develop outline for AVAS GTR - Chairman to draft 1st cut outline for QRTV W/G consideration (scheduled for 6th QRTV)

- 9.3 US - present results of Phase 2 investigations and, if possible, status of regulation development (scheduled for 6th QRTV)

- 10.0 Next Meeting: May 17 thru 19, 2011; San Diego State University, San Diego, California; Hosted by the University and the National Federation of the Blind

11.0 Adjourn