Task Force
on Electro-magnetic Compatibility
(TF EMC)

Status report of TF to GRE-75
Friday, 8 April 2016
TF EMC Status Report - Background

- According to report of GRE-74 (see item 24.), TF EMC was created to handle EMC related proposals on Regulation No. 10
  - GRE/2015/35 (GRSG)
  - GRE/2014/41 (Belgium) and GRE-74-12 (Russian Federation)
  - GRE/2015/36 (China)

- TF EMC had its first meeting in Paris, on January 27th, with the participation of France, Japan, RF, OICA and IMMA

- Above topics were discussed, along with AECS (e-call), based on a paper communicated by Netherlands (GRSG)

- TF EMC had its 2nd meeting on April 5th, including participants from Japan, UK, RF and OICA. The conclusions of these two meetings are now being reported to GRE-75 (agenda item 7c.)
1. Devices for indirect vision
   ➢ Done

2. AECS (e-call)
   ➢ Done

3. Trolley buses
   ➢ proposal from TF

4. Proposal from China
   ➢ current situation in TF
As stated in Regulation No. 107, trolley buses are dual modes vehicles:

a. **Trolley mode:** connected to the Overhead Contact Lines (OCL)

b. **Bus mode:** not connected to the OCL (propelled by Battery or Diesel engine) or connected to the Power Grid when charging the battery (charging mode)

In mode a. IEC 62236-3-1 (Railway Standard) should apply, whereas in mode b. UN Regulation No.10 should apply

In order to illustrate these two operating conditions, TF EMC suggested a template flow diagram that **could be inserted** in Regulation No 10.
(a) Trolley bus operating while connected to the overhead contact line (OCL) → IEC 62236-3-1

(b) Trolley bus operating while not connected to the overhead contact lines (OCL) → UN Regulation No. 10

(c) Trolley bus in charging mode and connected to the power grid → UN Regulation No. 10
TF EMC Status Report - Trolley buses

The background for this clarification, the template flow diagram and has been included in informal document GRE-75-13e. From informal document, the following items need attention:

TF has identified that in some cases (when a trolley bus equipped with a Diesel engine) then other Regulations then R10 will be impacted. For example:

- Regulations No. 100 (electrical safety) - GRSG
- Regulations No. 51 (noise) - GRB
- Regulations No. 89 (speed limitation of devices) - GRRF
- Regulation No. 49 (emissions) - GRPE
- Regulation No. 13 (brakes) - GRRF

Therefore, TF recommends to seek advice from June WP.29, in order to get guidance on how to proceed further with the treatment of trolley buses in the frame of UN Regulations

The topic should then be addressed, via an informal document, to June 2016 WP.29 session
TF EMC Status Report - Proposal from China

- **GRE/2015/36** (China) contains several proposals for modification of provisions of Regulation No.10

- During its 1st meeting, TF has aligned positions of France, Japan, OICA and IMMA on the Chinese proposal. A table containing all the provisions and the diverse position is available in the minutes on TF workspace, as TF-EMC-01-02e Meeting Minutes

- IMMA needed further checks on some TF comments and came back before 2\textsuperscript{nd} meeting with document [TF-EMC-02-02e-IMMA Comments on GRE-2015-36](#), which shows that all positions are now aligned, except for one technical item whose conformity with CISPR12 needs to be checked (figure 1 of annex 4, appendix 1)

- At this point, the work on the Chinese proposal is on hold until we get the complete set of answers from the expert from China

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TF EMC Status Report - Further Actions

- Get guidance from June WP.29 on trolley buses. Seemingly, a *horizontal* approach would have to be adopted, since *multiple GR’s are impacted*

- Get comment from the Chinese representative on TF position, on [GRE/2015/36](#)

- Next meeting of TF will be just before GRE-76. Possibly, one intermediate meeting can be arranged before that, depending on feedbacks on comments and/or further potential proposals
TF EMC Status Report - Further Actions

BACK-UP
TF EMC Status Report - Devices for indirect vision

- Document [GRE/2015/35](#) to replace *rear view mirrors* by *devices for indirect vision*, was adopted during GRE-74.

- Before vote in AC.1 during March WP.29, EMC experts have checked and analyzed further the potential impact of this change. No critical item has been identified.

- Documents [WP.29/2016/16](#) and [WP.29/2016/17](#) were then presented and adopted at WP.29 in March.

- This will then be removed from TF agenda.
During its 1st meeting, TF EMC has addressed some concerns from NL, coming from GRSG. Considerations are summarized in a discussion paper, available on TF workspace: Discussion paper (NL) - AECD vs R10. This document contains three questions that the expert from OICA answered:

1. **Does R10.04 (and any later version) fully cover the EMC aspects for AECD components to be fitted to vehicles and for vehicles with these systems installed/integrated?**

   OICA considers that when going through R10.05, paragraph 3.2.1 "Applicability of this Regulation to ESA", it is clear that AECD falls into the scope of R10.05.

2. **In case not, what amendments can be proposed to Regulation No. 10?**

   Does not apply.

3. **Are specific EMC provisions necessary within the Regulation on AECS?**

   General requirements of Regulation No. 10 are adequate and sufficient.

Those answers have been communicated back to NL.

Additionally, potential inclusions of future immunity-related functions in Regulation No. 10 (for instance, with Autonomous Driving) should be discussed deeper by TF.
TF EMC Status Report - Trolley buses

- In addition to these clarifications regarding UN R10, TF has made some comments, during its 1st meeting, on the document Mutual Resolution No. 2 (M.R.2) of the 1958 and the 1998 Agreements – see WP.29/1121, containing Vehicle Propulsion System Definitions (VPSD) - see item 44 of the document

- M.R.2. reads: “Electric trolley vehicles are not covered in vehicle regulations at this stage.”

- It should then be amended in the direction of the above proposed developments/clarifications