Supporting document for Informal document No. GRRF-68-09
Presentation summary

Background

• New applications involving the brake system are constantly approaching.
• In the close perspective: Fully Automatic Coupling Systems, FACS
• In a bit more distant perspective: “Totally Integrated Vehicle Combination Control Systems”, (TIVCCS)

• The GRRF has previously got information about FACS.

• TIVCCS involves control of propulsion, braking, handling, … for the entire vehicle combination.
  • See Project description summary “Integrated control of Propulsion, Braking and steering of Long Modular Vehicle Combinations”, Reg. no. 2009-004340 with the Swedish Energy Agency
  • This will include regenerative braking and propulsion in the trailers. For regenerative braking in general for commercial vehicles see:

• These emerging application have in common that they are incompatible with the ISO7638 connector.
Proposal

• Make ECE Regulation 13 more robust and resilient to take on these emergent challenges.
  • In the definition section add definitions of the braking related signals handled through ISO7638 today.
    • This is to remedy the lack of nomenclature causing ISO7638 “litter” all parts of the R13
    • As a consequence nearly all references to ISO7638 are replaced with signal references
  • New paragraphs are added to describe how the braking related signals shall be handled safely
    • Traditional couplings stay with ISO7638
    • FACS get strict requirements both for physical requirements and handling to prevent electrical coupling errors. Eventually standards like the in progress ISO13044-x will apply
    • As TIVCCS come along a special paragraph will be added to rule how the braking/propulsion related signals are handled.
      • Some new signals relevant may need to be defined.
  • The remainder of the regulation text will stay unchanged.
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**Justification**

- New technology applications will call for a more versatile handling of braking related signals.
- The current way to use ISO7638 as an implicit definition of nomenclature for braking related signals has worked fine.
  - Keep these benefits by the introduction of explicit definition of nomenclature.
    - In this way we avoid exemption texts for new applications at all places where the implicit definition would have been used.
- As new applications come along as it will, only limited changes to the R13 text will be needed
  - The explicit definition of nomenclature may occasionally need to be changed
  - A specific paragraph addressing the new application requirements would be needed.
    - Full focus on the risks and merits of the particular application.
    - Existing applications remain unchanged

- Now is the right time to act on this matter
  - Changes will inevitably be needed sooner rather than later.
  - Now the complexity is “small” which reduces risk with doing the change.
Thank you for your attention!
Transmitted by the experts from Sweden

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