Comments on AAPC proposal (EDR-DSSAD-IWG-27-19) in comparison to EC/DE proposal (EDR-DSSAD-IWG-26-08)

20/03/2025

Comments on EDR-DSSAD-IWG-27-19

Demonstration method

EC/DE proposal

- **Maintain** "*to the satisfaction of the approval authority*" in UNR169, 4.1
- Annex 5: Collision simulations **AND** documentation
  - Simulations of two collisions
  - Documentation how EDR would trigger

AAPC proposal

- **Delete** "*to the satisfaction of the approval authority*" in UNR169, 4.1
- Annex 5: Collision simulations **OR** documentation (at choice of OEM)
  - Collision simulation option: Similar to EC/DE proposal
  - Documentation option: see next slide for performance criteria

Comments on EDR-DSSAD-IWG-27-19

Performance criteria

EC/DE proposal

- **Maintain** requirement that "*triggering performance is equally effective*" in UNR169, 4.1
- Annex 5: Required trigger effectiveness:
  - Longitudinal and lateral collision need to be captured (impact speed to be defined) based on delta-v, airbag deployment or any other suitable trigger mechanism (including technological solutions / driver assistance systems)

AAPC proposal

- **Delete** requirement that "*triggering performance is equally effective*" from UN R169, 4.1
- Annex 5: Required trigger effectiveness (alternatives at choice of OEM):
  - "*performance requirements implicit in para. 5.3.2. of Regulation No. 160*", i.e. UNR160 data **locking thresholds** (airbag activation or 25 km/h delta-v) → high severity
  - "*impact energy of 133 kN [longitudinal] and 106 kN [lateral]*", i.e. UNR160 **survivability levels** (UNR94/95 energy levels; assume kJ meant) → high severity, loading condition of subject vehicle not defined
  - "*detection of imminent collisions such as incorporated into collision-warning and collision-avoidance systems*" → not defined what type of collisions need to be detected

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Summary

- Missing requirements for “equal effectiveness” and “to the satisfaction of the approval authority”
- If OEM choses impact-based triggering strategy: High severity thresholds (data locking or survivability levels)
- If OEM choses triggering strategy based on detection of imminent collisions: No criteria defined which collisions should be captured

- Consequences:
  - Could severity levels for impact-based triggering be set too high (documentation option, trigger based on signal generation due to impact; AAPC proposal Annex 5, 10.2.8)? This risks missing many collisions that result in serious injuries in lighter collision opponent (e.g. car occupants)
  - Could every vehicle be approved simply based on AEBS trigger (documentation option, trigger based on detection of imminent collisions; AAPC proposal Annex 5, 10.2.7)? This risks missing all side and rear impacts, frontal impacts where subject vehicle is being impacted, and frontal impacts with vehicles not detected by AEBS