



SIG TP02
Issue 13
Family concept

31 Jan 2024
11:30-12:30



Background:

Introduction of REESS/vehicle family concept was originally proposed to reduce the number of Thermal Propagation tests at vehicle level when REESS/vehicle do not differ significantly with regards to Thermal Propagation but maybe complex to implement.

proposal:

- Keep/Update definition of Family concept

Alternative:

- Update definition of REESS type and vehicle type and remove family definition

7. Modifications and extension of the Type Approval

7.1. Every modification of the vehicle or REESS type with regard to this Regulation shall be notified to the Type Approval Authority which approved the vehicle or REESS type. The Authority may then either:

- (a) Decide, in consultation with the manufacturer, that a new type approval is to be granted; or
- (b) Apply the procedure contained in paragraph 7.1.1. (Revision) and, if applicable, the procedure contained in paragraph 7.1.2. (Extension).

7.1.1. Revision

When details recorded in the information documents of Annex 1 - Appendix 1 or Annex 1 - Appendix 2 have changed and the Type Approval Authority considers that the modifications made are unlikely to have appreciable adverse effect, and that in any case the vehicle still meets the requirements, the modification shall be designated a "revision".

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7.1.2. Extension

The modification shall be designated an "extension" if, in addition to the change of the particulars recorded in the information folder:

- (a) Further inspections or tests are required; or
- (b) Any information on the communication document (with the exception of its attachments) has changed; or
- (c) Approval to a later series of amendments is requested after its entry into force.

Proposal modification of “Type of REESS” definition to take into account family criteria:

2.48. "Type of REESS" means systems which do not differ significantly in such essential aspects as:

- (a) the manufacturer's trade name or mark,
- (b) the chemistry, capacity and physical dimensions of its cells,
- (c) the number of cells, the mode of connection of the cells and the physical support of the cells,
- (d) the construction, materials and physical dimensions of the casing,
- (e) REESS design, operation strategy influencing thermal propagation
- (e) the necessary ancillary devices for physical support, thermal management and electronic control.
- (f) the installation prescriptions provided by the manufacturer of the REESS,

6.15.5.1. REESS family criteria

REESS that are substantially similar with respect to the following elements may consist of the same REESS family:

- (a) ~~The chemistry, capacity and physical dimensions of its cells;~~
- (b) REESS design influencing the thermal propagation protection;
- (c) Battery Management System (BMS) (with regards to thermal propagation protection);
- (d) Operation strategy of all components influencing the thermal propagation protection;
- (e) Venting strategy

Vehicle Family/Type definition

Proposal modification of "Vehicle type" definition to take into account family criteria:

2.51. "Vehicle type" means vehicles which do not differ in such essential aspects as:

- (a) Installation of the electric power train and the galvanically connected high voltage bus
- (b) Nature and type of electric power train and the galvanically connected high voltage components.

(c) Installation of the REESS regarding to thermal propagation
(mounting method, position, mechanical protection, REESS/vehicle clearance)

(d) Vehicle venting strategy

6.15.5.2. Vehicle family criteria for vehicles of categories M1 and N1 for verification of thermal propagation

Vehicles that are substantially similar with respect to the following elements may consist of the same family:

- (a) REESS mounting method and position;
- (b) REESS mechanical protection, such as REESS casing and/or chassis structures around the REESS)
- (c) Vehicle venting strategy;
- (d) REESS clearance with vehicle body and floor;
- (e) REESS family
- (f) vehicle family for egress time, if required

6.15.5.3. Vehicle family criteria or vehicles of categories M2, M3, N2 and N3 for verification of thermal propagation

"Vehicle family" means a category of power-driven vehicles which do not differ in such essential aspects, in so far as they have an adverse effect on the result of the thermal propagation test prescribed in this Regulation:

- (a1) REESS location in a truck, regardless of application fall broadly into the following:
 - (i) Under body: outside and/or inside frame rails, left or right hand side
 - (ii) Under cab
 - (iii) Behind cab
 - (iv) Any combination of the above
- (b) REESS mechanical protection, such as REESS casing or chassis structures around the REESS
- (c) Vehicle venting strategy;
- (d) REESS clearance with vehicle body and floor, if required;
- (e) REESS family