



GRPE 92nd meeting EVE IWG 83rd meeting

Geneva, March 24th-28th



- Rationale 8: This GTR therefore aims to provide a harmonized methodology to address these concerns by introducing a method by which the health of the battery can be monitored over time. The health of the battery is a bit misleading since the GTR is a vehicle regulation and refers to SOCE on the vehicle.
- Rationale 12: phase 2 should include a review and evaluation of the feasibility for battery lifetime and MPR.
- Rationale 27: SOCE doesn't necessarily correlate to the state of health of the battery. It is a new term created to evaluate the electric vehicle performance.
- Rationale 42: Battery longevity refers to the lifetime of the battery
- Rationale 60: It seems the study was done only for LDV → there should be a possible review on the value when there is more data.
- Rationale 71: battery health is used.
- rationale 74: the reference to accurate battery health information is a bit misleading, since we are looking at usable battery energy and SOCE, not at physical battery health.
 - Perhaps: "accurate state of certified energy information"
- rationale 76: NUI is something which can be very helpful, but we should invest some good time on:
 - what could be monitored and not
 - How often
 - How detailed
 - Part A & Part B
 - standardization
- definition 3.16:
- definition 3.22: "hybrid electric vehicle" is not defined within the GTR. Hybrids without ICE e.g. FCELL should be exempted in phase 1 at least...
- EU-VII:
 - (52) 'fuel cell' means an energy converter transforming chemical energy (input) into electrical energy (output) or vice versa;
 - (53) 'fuel cell vehicle' or 'FCV' means a vehicle equipped with a powertrain containing exclusively fuel cell(s) and electric machine(s) as propulsion energy converter(s);
 - (54) 'fuel cell hybrid vehicle' or 'FCHV' means a fuel cell vehicle equipped with a powertrain containing at least one fuel storage system and at least one rechargeable electric energy storage system as propulsion energy storage systems;
 - (55) 'hybrid vehicle' or 'HV' means a vehicle equipped with a powertrain containing at least two different categories of propulsion energy converters and at least two different categories of propulsion energy storage systems;
 - (56) 'hybrid electric vehicle' or 'HEV' means a hybrid vehicle where one of the propulsion energy converters is an electric machine;
- GTR HDV Phase 1 and EU-VII combined: is the understanding correct, that FCEV will exempted by definition, since "FCHV" is not considered a "HV"



Definitions

[3.15. "Total propulsion energy" is the DC energy in kWh supplied to the traction inverter terminals and to ~~auxiliary systems/vehicle accessories necessary for basic vehicle operation (for example, braking, steering, lights, heating, venting/ventilation and air conditioning except for Category 1-2 vehicles, hydraulic system for Category 1-2 vehicles-...)~~ discharging the REESS ~~ref Annex 5.~~]

5.2

[At the request of the manufacturer and for vehicles designed with additional applications such as V2X, Power take-off (PTO) or non-traction purpose applications ~~and Power take-off (PTO)~~, the equivalent virtual distance calculated following the equation below shall be reported by each vehicle, referring to the total energy throughput as the sum of the propulsion energy and additional application discharge energy:

- Definition 3.15: Annex 5 should be un-striking
- 52.: last sentence displayed should end with "[...] propulsion energy."
 - The meaning of additional application discharge energy is already included in the pto/V2X definition"

Annex I

Vehicle Examination and Maintenance by the Testing Centre {(please use the relevant entries according to the type of vehicle)}

Was the vehicle not charged adequately* for the last month?

If the vehicle was not charged adequately for the last month (as evidenced by values read from the vehicle under {point 4}, Annex 2) and the tester wishes to use it for testing, then it has to be conditioned by operating the vehicle in a manner that results in discharge of at least 50 per cent of the usable capacity of the battery, followed by a full recharge.

- Exchange all further items by the question:
 - „Vehicle examination and maintenance according to manufacturer specifications (yes/no)“

Annex I

Have there been major engine, electric motor or vehicle repairs?

- Electric Motor vs. Electric Engine
- Inconsistent with former survey questions

Annex I

If no, the vehicle cannot be selected.

Was the vehicle used for one of the following?

As vehicle used in show-rooms?

For racing / motor sports?

Usage not originally prescribed

- Untypical for HDV
- No impact on battery durability
- Can be dismissed

Annex I

- Untypical HDV classification
- Rather classify axle formulas
- 4x2, 4x4, 6x2, 6x4, 6x6, 8x2, ...

Drive axle (FWD/AWD/RWD):

Annex II

5. Average battery temperature while propulsion system is active, and during charging, and (if equipped) during non-usage of the vehicles (i.e. non-propulsion system active, non-charging)

~~Maximum, minimum, average ambient temperature* the vehicle was exposed to during its lifetime~~

- We do not see the benefit of average battery temperature
- Especially since it would end up in life-long average how it is written now
- Better: minimum and maximum Temperature during lifetime to identify possible hazardous situations

Annex II

810. Total energy throughput in V2X and/or PTO and/or non-traction purpos
[kWh], if applicable

- To be deleted
- Based on the virtual mileage definition, this is not necessary anymore
- In case of PTOs or such at intermediate transmissions etc. the part C verification procedure shall be enough, which is planned for phase 2

Annex III

[1.1. Vehicle selection]

1.1.1. Vehicle selection during certification

The vehicle selection during certification shall be carried out according to the regional regulations either to verify the SOCE monitor or the ~~UBE_{certified}~~.

The selection of the vehicle configuration during certification to verify the SOCE monitor shall be a vehicle corresponding to the lowest energy demand configuration within Part B family.

In the case that the test procedure is applied to measure ~~UBE_{certified}~~ for more than one vehicle, then vehicles shall be selected from different Part B families.

- Lowest energy demand is not defined as certified value in any HDV UN-R regulation
- Proposal:
1.1.1. Vehicle Selection during Certification
“The vehicle selection during certification shall be carried out in alignment with the responsible regional authority.”