



# CITA comment on GTR 22

Proposal for a technical review on the development of a new global technical regulation on In-Vehicle Battery Durability for Electrified Vehicles

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- Comment on:
  1. Current focus on State-of-Certified Energy and State-of-Certified Range
  2. Validation and calculation of SOCE / SOCR
  3. Consistency of the algorithm
    - Type approval testing / ISC and possible applicability like COP / Market surveillance or PTI
  4. Definition of Families

# 1. Current focus on State-of-Certified Energy and State-of-Certified Range



## Current focus on SOCE and SOCR



- CITA welcomes this approach and the results
  - ➔ more legal certainty
- Today: Performance and durability requirements
  - ➔ No safety assessment or aging status – therefore not a complete state of health (SOH)
- Current requirements for the SOCE / SOCR:



- Do not exceed the current manufacturer's warranties
  - ➔ Increase requirements in the future!
  - ➔ Add value for consumer protection?

## Recommendation

- In-field assessment of traction batteries may not only be limited to performance criteria, but safety aspects as well
- Tolerance and deviation of SOCE / SOCR should be minimized in perspective
- 5 % is too vague
  - ➔ Measurement uncertainty is more accurate
    - CITA recommends a target value of 2%

## 2. Validation and calculation of SOCE / SOCR

### Validation and calculation of the SOCE / SOCR data

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- Initial validation of SOCE/SOCR monitors for new vehicles necessary
- Voluntary software updates can affect battery performance
- Date of latest update of SOCE/SOCR monitor may be considered as a relevant parameter for Annex II

### Recommendation

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- Initial validation of SOCE / SOCR shall be mandatory during type approval process
- Corrective measures shall be confirmed by Technical Services

### 3. Consistency of the algorithm

#### Consistency of the algorithm

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- Comparability to WLTP is currently not given
- A uniform test procedure for type approval and following tests is needed (e.g COP / ISC)



#### Recommendation

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- Inclusion of ISC Testing in type approval  
➔ reference measurement
- Approach: Introducing aging factors comparable to deterioration factors for emissions (DF)
- Or 2 test procedures = > comparison how many WLTP can be driven with which SOCE
- Manufacturer's specification for test procedures for aged battery in terms of range determination
- Include software versions in test reports
- Description in the information forms

### Definition of Families

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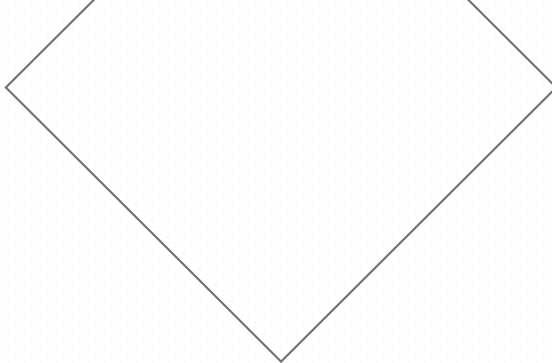


- Comprehensive formation of vehicle families
  - ➔ Linking of the definition of criteria to type approval / Test processes
    - Creation of database
    - Clear process description
    - Evaluation of the criteria

### Recommendation

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- Validation of the classification in vehicle family
- A defined family must be described precisely
  - ➔ Authorities or TS validation
- In consideration with UN-ECE Regulations
- Part A and B must be traceable in the information forms - Part A for ISC
- Part B => Verification via PTI
  - ➔ Capacity check as spot check



**THANK YOU**