New UN Regulation on electric vehicles of category L

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New UN Regulation on electric vehicles of category L

Run-down

• Process who, when, what

• Alignment with REESS requirements

• Critical issues
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Process
- Mandate 2 years ago
  Informal Working Group engineer, physicist, mathematician
  Meeting 10/2012, 01/2013, 05/2013, 10/2013, 01/2014
- EC Regulation on vehicle functional safety requirements (RVFSR) with requirements regarding electric safety 03/2013
- harmonize functional safety for vehicles in use
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Significant different cat. L REESS requirements

- pay attention to temporary reduced power
- Incorporate removable batteries
- introduce withstand voltage test for on-board charger
- Need for water resistance test (not immersion)
- Consider moped tilted or REESS upside-down (spill of electrolyte?)
- Include provision for detachment of the REESS and its components
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Differences regarding tests

- **Vibration test**
  UN 38.3 test is required while for cat. M, N lower thresholds (frequency, acceleration) are accepted

- **Mechanical test**
  Drop test for removable REESS mechanical shock test when equipped with side and/or centre stand

- **Fire resistance** will be only applied to vehicles with passenger compartment
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Equal tests
- thermal shock and cycling
- external short circuit
- overcharge
- over-discharge
- over- temperature
- emission
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Critical issue
• Amending an existing Regulation vs. drafting a new one

Pros: Put requirements for one vehicle category together and later on you can add safety requirements for fuel cell vehicles or crash requirements for some sub categories

Cons: It is better to avoid collective amendments, copying the same content in different regulations can lead to faults. Example is state of charge test assumption.

Solved: majority tends to drafting a new instead of amending an existing regulation.
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Critical issue

- Battery safety requirements on the vehicle crash situation for L5, L6 and L7 vehicles

Pros: A contracting party is in favor for an Introductory provision

[12.]

Crashworthiness performance of L5, L6 and L7 vehicles is an important safety matter

Cons: It is not yet determined whether this regulation is amended with crash related requirements.
Battery safety requirements on the vehicle crash situation for L5, L6 and L7 vehicles

Cons: The mandate was given to the REESS group because there is a strong need for electric safety requirements for cat. L vehicles. A delay due to establishing crash requirements by a new group of crash experts is not acceptable. A reduction in the scope to cat. L1 to L4 vehicles offends against the European need of safety requirements especially for L5 Vehicles (3-wheeled scooters)
Battery safety requirements on the vehicle crash situation for L5, L6 and L7 vehicles

Aiming at adoption of the new regulation please discuss as compromise the extension of the scope:

1.3 Nothing in this Regulation shall preclude the Contracting Parties applying this Regulation from requiring the proof of compliance to their national/regional provisions on mechanical impact in their territories.
Have a good time!
Thank you for adoption!

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and Digital Infrastructure

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