



Federal Ministry  
of Transport and  
Digital Infrastructure

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# 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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## New UN Regulation on electric vehicles of category L

### 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



## New UN Regulation on electric vehicles of category L

### 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



## New UN Regulation on electric vehicles of category L

### 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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## New UN Regulation on electric vehicles of category L

### Equal tests

- **thermal shock and cycling**
- **external short circuit**
- **overcharge**
- **over-discharge**
- **over- temperature**
- **emission**





## New UN Regulation on electric vehicles of category L

### 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.



## New UN Regulation on electric vehicles of category L

### 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.



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## 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)



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## 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.



Thank you for adoption!

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