

Safety Requirements for Electric Vehicles in the EU

(legal framework for the type-approval of motor vehicles)

Informal Group on Electric Vehicle safety (EVS)
1st session, 23-25 April 2012



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EU legal framework for approval of motor vehicles

- Objective:
 - road vehicles to be placed on the market according to common requirements
 - ensure proper functioning of the internal market in the EU
- Member States to certify that a type of vehicle complies with administrative and technical requirements on:
 - active and passive safety
 - environmental protection
 - performance, etc.
- Same harmonised technical requirements in all 27 Member States;
- Mutual recognition of approvals;
- Legal framework is constantly adapted to technical evolution and to address societal needs.



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EU legal framework for approval of motor vehicles

- Main legal instrument: Directive 2007/46/EC (the “new” Framework Directive)
- Applicable as of 29 April 2009
- Replacing “old” Directive 70/156/EEC
- Mandatory application of EC whole-vehicle type-approval to all vehicle categories irrespective of their means of propulsion



EU approval requirements for electric vehicles

Situation:

- EVs were not covered by “old” Framework Directive 70/156/EEC
- thus, EVs were type-approved nationally by EU MS
- changed with entry into application of “new” Framework Directive 2007/46/EC:
- all vehicle categories - irrespective of their means of propulsion - have to comply with EU whole vehicle type-approval requirements -> electric vehicles too



EU approval requirements for electric vehicles

Study in 2010

Electric vehicles: Review of type-approval legislation and potential risks

- To provide recommendations on the completion of EC (and also UNECE) type-approval requirements for electric vehicles;
- To assess potential risks associated with electric propulsion that are not covered by legislation, including EC and UNECE regulations;
- To provide recommendations on appropriate legislative action if potential risks are identified.

http://ec.europa.eu/enterprise/sectors/automotive/files/projects/report_electric_vehicles_en.pdf



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Objectives:

1. introduce specific type-approval requirements on electric safety of vehicles
2. define other specific technical requirements for electric vehicles in the “new” framework Directive and separate acts (braking, energy consumption, range, engine power, noise, etc.)
 - need to adopt common requirements to ensure the functioning of internal market and public safety
 - need to simplify the approval framework



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EU approval requirements for electric vehicles

Objective 1: introduction of electric safety requirements

- UNECE Regulation 100 on **safety of electric vehicles** (as amended in 2010)
- EU applying amended Regulation 100
- mandatory application of UNECE Regulation 100 as part of EU type-approval framework:
 - Approval of **new vehicle types**: as of 1 May 2011 (00 series)
as of 4 December 2012 (01 series)
 - Registration, sale and entry into service of **new vehicles**:
as of 1 January 2012 (00 series)



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Objective 2: other specific safety requirements

- Recent amendments to UNECE Regulations 12 (protective steering), 94 (frontal impact) and 95 (side impact) concerning **crash safety**, to cover risks specific to **electric power-train vehicles**
- EU is applying these amended Regulations 12, 94 and 95
- mandatory application of amended Regulations 12, 94 and 95 as part of EU type-approval framework:
 - New vehicle types: as from 1 November 2012
 - New vehicles: as from 1 November 2014



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Objective 3: specific safety requirements for batteries (REESS)

- REESS group of GRSP finished its draft proposal for a 2nd amendment to Regulation 100: extension of scope to Rechargeable Energy Storage Systems with regard to their safety
- To be adopted at May 2012 GRSP
- Adoption by WP.29 in November 2012
- Incorporation in EU type-approval framework



More information

ec.europa.eu/enterprise/sectors/automotive/competitiveness-cars21/energy-efficient/index_en.htm

European Commission

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European Commission > Enterprise and Industry > Sectors > ... > Competitiveness & CARS 21 > Energy efficient

Automotive

European strategy on clean and energy efficient vehicles

On this page:

- Communication from the Commission
- Public hearing
- Written contributions and Synthesis of stakeholder comments
- Roadmap on regulations and standards for the electrification of cars
- Final Report - Electric vehicles: Review of type-approval legislation and potential risks
- State of play 2010
- "Electric vehicles - challenges of the new mobility" Confere Conference - Sofia, Bulgaria, 11.02.2011
- Informal working groups on electric vehicles
- State of play 2011

