UNECE Regulation 96

on

Uniform provisions concerning the approval of compression ignition (C.I.) engines to be installed in agricultural and forestry tractors and in non-road mobile machinery with regard to the emissions of pollutants by the engine

- **R96 covers only part of the scope of EU Stage V* Regulation.**
- **R96 includes in its scope T vehicles which will be subject to equivalent Stage V legislation, under development.**
- **Need to align R96 limits to EU Stage V Regulation.**

*Stage V = REGULATION (EU) 2016/1628*
Work Progress

Guiding principles of the 05 series of amendment

• Follow R96-04 structure

• Mirroring the scope of EU Stage V
  ▪ IWV & Rail out of scope for WP29

• Keep R96 as a core Type Approval legislation
  ▪ Exemptions and particular provisions to remain only in national/regional legislation

• Alignment of the R96 technical annexes to the EU Stage V Delegated and Implementing Acts.
  ▪ Examples:
    o deletion of annex 4A in R 96
    o Addition of PN measurements

The previous series of amendments remain in force for contracting parties wishing to apply them.
Scope Evolution

R 96-04
NRMM + T
CI engines
19 to 560 kW

R 96-05
NRMM + T
CI and SI engines
Liquid and gaseous fuelled
0 to ∞ kW

SI < 19 kW
IWV & RAIL

IWV & RAIL
New NRMM Regulation

Land-based NRMM

- SI – Spark-ignited (gasoline)
- CI – Compression-ignited (diesel)

<table>
<thead>
<tr>
<th>Power Range</th>
<th>SI (0-19kW)</th>
<th>SI (19-56kW)</th>
<th>CI (0-8kW)</th>
<th>CI (8-19kW)</th>
<th>CI (19-37kW)</th>
<th>CI (37-56kW)</th>
<th>&gt;0kW</th>
</tr>
</thead>
</table>

Rail - Locomotives

- >0kW

Rail - Railcars

- >0kW

Inland Waterway Vessels (IWV)

- 37-75kW
- 75-130kW
- 130-300kW
- 300-1000kW
- ≥1000kW

Snowmobiles

- >0kW

All Terrain & Side-by-Side Vehicles

- >0kW

Scope of Directive 97/68/EC
Scope extensions new NRMM Regulation

Regulation (EU) 2016/1628

European Commission
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1 Scope
2 Definitions and abbreviations
3 Application for approval
4 Approval
5 Requirements and tests
6 Installation on the vehicle
7 Engine Family
8 Conformity of production
9 Penalties for non-conformity of production
10 Modifications and extension of approval of the approved type
11 Production definitively discontinued
12 Transitional provisions
13 Names and addresses of Technical Services responsible for conducting approval tests and of Type Approval Authorities
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Annexes

1 Information document No ... relating to the type approval
   Appendix 1 Essential characteristics of the (parent) engine
   Appendix 2 Essential characteristics of the engine family
   Appendix 3 Essential characteristics of engine types within the family
   Appendix 4 Parameters for the definition of engine types and engine families, and their operation modes

2 Communication
   Appendix 1 Test report for NRMM engines

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4 Test procedure for compression-ignition engines to be installed in
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6 Requirements for engines fuelled with reference fuels and any other specified fuels, fuel mixtures or fuel emulsions
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7 Measurements and tests with regard to the area associated with the non-road steady-state test cycle
8 Methodology for adapting the emission laboratory test results to include the deterioration factors
9 Requirements with regard to emission control strategies, NOx control measures and particulate control measures

Appendix 1 Additional technical requirements on NOx control measures for engines of categories NRE and NRG, including the method to demonstrate these strategies
Appendix 2 Technical requirements on particulate pollutant control measures, including the method to demonstrate these measures
Timing

- Planned to submit a first draft as informal document to next GRPE session (June 2017)
- Publication goal
  - In order to ensure adequate EU market alignment and contemporary EU and UN ECE approvals in view of Stage V, the new amendment should ideally be published in 2018.
- Regulation 120
  - Also Regulation 120 will need update to maintain alignment on some specific provisions like:
    - Accessories installed for engine power determination
    - Reference fuels
    - Information document
  - This can be done as a sister activity of the main one.
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