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NOTE

From:	Presidency
To:	Permanent Representatives Committee
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Subject:	Proposal for a Regulation of the European Parliament and of the Council on requirements relating to emission limits and type-approval for internal combustion engines for non-road mobile machinery <i>- Analysis of the final compromise text with a view to agreement</i>

I. INTRODUCTION

1. The Commission transmitted this proposal to the Council on 25 September 2014.
2. The Working Party on Technical Harmonisation (Motor Vehicles) examined this proposal on 10 occasions under the Italian and Latvian Presidencies.
3. The European Economic and Social Committee issued its opinion on 18 February 2015.
4. The main responsible committee in the European Parliament is the Environment, Public Health and Food Safety Committee (ENVI). Rapporteur is Ms Elisabetta Gardini (EPP - IT).

5. During the Luxembourg Presidency a total of four trilogues were conducted.
6. During the Netherlands Presidency two more trilogues were conducted. At the trilogue of 6 April 2016 the Institutions reached a tentative agreement.

II. STATE OF PLAY

7. The tentative agreement reached at the 6 April trilogue concerned the few remaining outstanding issues, namely the transitional period for the NRE engines, the temporary exemption for cotton harvesters and snow throwers and the parts of the text where there were differences between the Council and the European Parliament in the area of delegated vs implementing acts.
8. Coreper was informed on 13 April 2016 of the agreement reached at the last trilogue. Delegations showed willingness to support the agreement. The Commission was also very supportive.

III. OUTSTANDING ISSUES

9. Following the tentative agreement at the last trilogue there are no more outstanding issues between the Council and the European Parliament.

IV. CONCLUSION

10. The Permanent Representatives Committee is invited to endorse the compromise text and to mandate the Presidency to inform the European Parliament that, should the Parliament adopt the text of the Proposal in the exact form as set out in the Annex - subject to legal-linguistic revision- at a forthcoming plenary meeting, the Council would adopt the proposed Regulation thus amended.

Proposal for a

REGULATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL

of...

on requirements relating to gaseous and particulate pollutant emission limits and type-approval for internal combustion engines for non-road mobile machinery, amending and repealing Directive 97/68/EC and amending Regulation (EU) No 1024/2012

(Text with EEA relevance)

THE EUROPEAN PARLIAMENT AND THE COUNCIL OF THE EUROPEAN UNION,

Having regard to the Treaty on the Functioning of the European Union, and in particular Article 114 thereof,

Having regard to the proposal from the European Commission,

After transmission of the draft legislative act to the national Parliaments,

Having regard to the opinion of the European Economic and Social Committee¹,

Acting in accordance with the ordinary legislative procedure²,

Whereas:

¹ OJ L ...

² **Position of the European Parliament of ... (not yet published in the Official Journal) and decision of the Council of ...**

- (1) The internal market comprises an area without internal frontiers in which the free movement of goods, persons, services and capital must be ensured. To this end measures for the reduction of air pollution by engines to be installed in non-road mobile machinery were established by Directive 97/68/EC of the European Parliament and of the Council³. It is appropriate to pursue efforts in the development and operation of the internal market of the Union.
- (2) The internal market should be based on transparent, simple and consistent rules which provide legal certainty and clarity from which businesses and consumers alike can benefit.
- (3) With the aim of simplifying and accelerating its adoption, a new regulatory approach has been introduced in respect of Union engine type-approval legislation. Accordingly, the legislator sets out the fundamental rules and principles and empowers the Commission to adopt delegated **and implementing** acts concerning further technical details. With regard to substantive requirements, this Regulation should therefore lay down only fundamental provisions on the emission of gaseous and particulate pollutants and empower the Commission to lay down the technical specifications in delegated **and implementing** acts.
- (4) Regulation (EU) No 167/2013 of the European Parliament and of the Council⁴ has already established a regulatory framework for the approval and market surveillance of agricultural and forestry vehicles. Owing to the similarity of the fields and given the positive experience derived from the application of Regulation (EU) No 167/2013, many of the rights and obligations established by that Regulation should be taken into consideration in respect of non-road **mobile** machinery. However, it is essential that a distinct set of rules be adopted to fully take into account the specific requirements of engines to be installed in non-road mobile machinery.

³ Directive 97/68/EC of the European Parliament and of the Council of 16 December 1997 on the approximation of the laws of the Member States relating to measures against the emission of gaseous and particulate pollutants from internal combustion engines to be installed in non-road mobile machinery (OJ L 59, 27.2.1998, p. 1).

⁴ *Regulation (EU) No 167/2013 of the European Parliament and of the Council of 5 February 2013 on the approval and market surveillance of agricultural and forestry vehicles (OJ L 60, 2.3.2013, p. 1).*

(4a) Directive 2006/42/EC of the European Parliament and of the Council⁵ lays down the essential health and safety requirements in relation to design and manufacture in order to improve the safety of machinery placed on the market. However, that Directive does not set out gaseous and particulate emission requirements for engines installed in non-road mobile machinery. Certain specific requirements for non-road mobile machinery manufacturers should therefore be laid down in order to ensure that the installation of engines in such machinery is carried out in a manner that does not adversely affect the engine performance with regard to its gaseous and particulate emissions. Certain obligations in relation to non-road mobile machinery in which an engine is being, or has been, installed, as regards aspects of the emission limits for gaseous and particulate pollutants of such engines are also necessary in order to ensure the effectiveness of the emission limits for engines set out in this Regulation.

(5) This Regulation should contain substantive requirements relating to emission limits and EU type-approval procedures for engines to be installed in non-road mobile machinery. The main elements of the relevant requirements of this Regulation are based on the results of the impact assessment of 20 November 2013 carried out by the Commission analysing different options by listing possible advantages and disadvantages in terms of economic, environmental, **and health effects, and** safety and societal aspects. Both qualitative and quantitative aspects were included in that analysis. After comparison of the different options, the preferred options were identified and chosen to form the basis for this Regulation.

⁵ **Directive 2006/42/EC of the European Parliament and of the Council of 17 May 2006 on machinery, and amending Directive 95/16/EC (OJ L 157, 9.6.2006, p. 24)**

(6) This Regulation **should** lay down harmonised rules for the EU type-approval of engines to be installed in non-road mobile machinery, with a view to ensuring the functioning of the internal market. For these purposes, new emission limits should be established, **which should be applied also to agricultural and forestry machinery**, to reflect technological progress and ensure convergence with Union policies in the on-road sector, with a view to achieving Union air quality targets and reducing the emissions from non-road mobile machinery **and agricultural and forestry vehicles**, thus resulting in a more proportionate share of machinery emissions in relation to road vehicle emissions. The scope of Union legislation in this field should be broadened, with a view to improving market harmonisation at **Union** and international level and minimising the risks of market distortions **and of adverse health effects**. In addition, this Regulation **should** simplify the current legal framework, including **by means of** measures **aimed at** simplifying administrative procedures, and **should** improve the general conditions for enforcement, in particular by strengthening the rules on market surveillance.

(6a) In addition to broadening the scope of Union legislation in the field of market harmonisation, while minimising market distortions, this Regulation aims to simplify the current legal framework, including measures for simplifying administrative procedures, and to improve the general conditions for enforcement, in particular by strengthening the rules on market surveillance.

(6b) The Commission White Paper of 28 March 2011 entitled ‘Roadmap to a Single European Transport Area – Towards a competitive and resource efficient transport system’ highlights the particular role to be played by railways and inland waterways in achieving climate targets. Given the air pollution-related deficit in those modes of transport, the Commission and Member States, within their respective remits, should provide different ways of supporting innovation in emission technology so that further expanding the volume of freight shifted to rail and inland waterways goes hand-in-hand with an improvement in terms of healthy air in Europe.

(7) The requirements set out in respect of engines for non-road **mobile** machinery and secondary engines for passenger and goods vehicles should follow the principles laid down in the Commission Communication of 5 June 2002 entitled ‘Action plan “Simplifying and improving the regulatory environment”’.

- (8) The Seventh General Union Environment Action Programme adopted by Decision No 1386/2013/EU of the European Parliament and of the Council⁶ recalls that the Union has agreed to achieve levels of air quality that do not give rise to significant negative impacts on, and risks to, human health and the environment. Union legislation has established appropriate emission limits for ambient air quality for the protection of human health and sensitive individuals in particular, as well as for national emission ceilings⁷. Following its Communication of 4 May 2001, which established the ‘Clean Air for Europe (CAFE) Programme’, the Commission adopted another Communication on 21 September 2005 entitled ‘Thematic Strategy on air pollution’. One of the conclusions of that thematic strategy is that further reductions in emissions from the transport sector (air, maritime and land transport), from households and from the energy, agricultural and industrial sectors are needed to achieve Union air quality objectives. In this context, the task of reducing emissions from engines installed in non-road mobile machinery should be approached as part of an overall strategy. The Stage V emission limits are one of the measures designed to reduce the current in-use emissions of air pollutants such as particulate pollutants as well as ozone precursors such as nitrogen oxides (NOx) and hydrocarbons.
- (9) On 12 June 2012, the World Health Organisation, through its International Agency for Research on Cancer, reclassified diesel engine exhaust as ‘carcinogenic to humans’ (Group 1), based on sufficient evidence that exposure is associated with an increased risk for lung cancer.

⁶ Decision No 1386/2013/EU of the European Parliament and of the Council of 20 November 2013 on a General Union Environment Action Programme to 2020 ‘Living well, within the limits of our planet’ (OJ L 354, 28.12.2013, p. 171).

⁷ Decision No 1600/2002/EC of the European Parliament and of the Council of 22 July 2002 laying down the Sixth Community Environment Action Programme (OJ L 242, 10.9.2002, p.1); Directive 2008/50/EC of the European Parliament and of the Council of 21 May 2008 on ambient air quality and cleaner air for Europe (OJ L 152, 11.6.2008, p. 1).

- (10) **The sustainable achievement of** the Union's air quality **and air protection** objectives **between now and 2020 and beyond that date** requires a continuous effort to reduce **emissions from various types of engines**. For that reason manufacturers should be provided with clear **and comprehensive** information on future emission limit values **in advance** and should be afforded an appropriate period of time in which to attain them and pursue the requisite technical developments.
- (11) In setting emission limits it is important to take into account the implications for **the** competitiveness of markets and manufacturers, the direct and indirect costs imposed on business and the benefits that accrue in terms of stimulating innovation, improving air quality, reducing health costs and increasing life expectancy.
- (11a) Sustainable reduction of emissions from engines requires the constant intensification of direct cooperation between manufacturers and other related businesses on the one hand and well-established scientific research institutions on the other. Such cooperation has a significant role in the development of new products and technologies that have a positive impact on the improvement of air quality.**
- (12) Emissions from non-road mobile machinery engines constitute a significant proportion of the total man-made emissions of certain noxious atmospheric pollutants. Engines responsible for a considerable share of air pollution by nitrogen oxides and particulate matter should fall within the scope of the new emission limit rules.
- (12a) In order to guarantee an optimum level of protection for persons working in the vicinity of machinery and to keep the cumulative exposure of persons working in the vicinity of several different items of mobile machinery and equipment as low as possible, currently available technology should be used to minimise emissions.**

- (13) The Commission should keep under review emissions which are, as yet, unregulated and which arise as a consequence of the wider use of new fuel formulations, engine technologies and emission control systems. Where necessary, the Commission should submit a proposal to the European Parliament and to the Council with a view to regulating such emissions.
- (14) It is necessary to encourage the introduction of alternative fuel vehicles, which can have low NO_x and particulate emissions. Thus, limit values for total hydrocarbons should be adapted in order to take into account non-methane hydrocarbons and methane emissions.

(14a) This Regulation is without prejudice to Member States' entitlement to lay down, in due observance of the Treaties, such requirements as they may deem necessary to ensure that the public and workers are protected when machinery referred to in this Regulation is used, provided that such requirements do not affect the placing on the market of the engines in question.

- (15) In order to ensure that emissions of ultrafine particulate pollutants (size of 0,1 µm and below) are controlled, the Commission should be empowered to adopt a number-based approach to emissions of particulate pollutants, in addition to the mass-based approach which is currently used. The number-based approach to emissions of particles should draw on the results of the Particulate measurement programme of the United Nations Economic Commission for Europe (UNECE) and be consistent with the existing ambitious objectives for the environment.
- (16) In order to achieve these environmental objectives, it is appropriate to indicate that the particle number limits are likely to reflect the highest levels of performance currently obtained with particle filters by using the best available technology.

- (16a) Given the long lifetimes of non-road mobile machinery it is appropriate to consider retrofitting the engines already in service. Such retrofitting should in particular target densely populated urban areas as a means of helping Member States to comply with Union air quality legislation. To ensure a comparable and ambitious level of retrofitting, Member States should take into account the principles of UNECE Regulation 132 on Retrofit Emission Control (REC).**
- (16b) Where appropriate and where technologies are interlinked, synergies should be sought between the reduction of gaseous and particulate emissions in engines installed in non-road mobile machinery and emission limits as applied in heavy-duty vehicles (HDVs). Such action could help to improve economies of scale and improve air quality.**
- (17) The Commission should adopt worldwide harmonised test cycles in the test procedures that provide the basis for EU type-approval emissions regulations. The application of portable emissions measurement systems for monitoring the actual in-use emissions should also be considered.
- (18) In order to better control actual in-use emissions and to prepare the in-service conformity process, a testing methodology for monitoring the emission performance requirements based on the use of portable emission measurement systems should be adopted within an appropriate timeframe.
- (19) The correct functioning of the **exhaust** after-treatment system, and more specifically in the case of NO_x, is the basic requirement for fulfilling the established limits for pollutant emissions. In this context, measures to guarantee the proper operation of **exhaust after-treatment** systems relying on the use of **any consumable or non-recoverable medium** should be introduced.

- (19a) Portable fire-fighting pumps are essential machinery in certain emergency situations where channelled water supply is not available. The installation of exhaust after-treatment systems in engines for such machinery would increase its weight and operating temperatures to the extent it would become dangerous for the operator and impossible to carry by hand. Portable fire-fighting pumps should therefore be excluded from the scope of this Regulation.**
- (19b) Modifications to an engine such as inactivation of its exhaust gas after-treatment system or increase in power could have serious consequences on the resulting emissions performance and durability. Legal persons carrying out such modifications should therefore be responsible for ensuring the applicable emission limits.**
- (20) Engines which are in compliance with and covered by the new rules on emission limits and EU type-approval procedures **laid down by this Regulation** should be permitted to be placed on the market in the Member States; those engines should not be subject to any other national emission requirement **in respect of their placing on the market**. Member States granting approvals should take verification measures **in order to ensure the identification of engines produced under** EU type-approval. **This should be without prejudice to the right of Member States to encourage or restrict the use of engines that have already been placed on the market, provided that the criteria applied are not discriminatory and are objectively justified.**
- (21) A limited number of exemptions should be granted to address the specific needs related to armed forces, logistic supply constraints, field testing of prototypes, **certain replacement engines, engines for certain types of projects in the railway sector** and the use of **non-road mobile** machinery in explosive atmospheres.

(21a) Engines for export and for use by the armed forces should not be subject to the emission limits set out in this Regulation. However, in order to distinguish such engines from engines which are subject to those emission limits, markings should be required in certain cases.

(21b) In order to take account of logistic supply constraints and to allow for 'just in time' production flow, as well as to avoid unnecessary costs and administrative burden, a manufacturer should be allowed to deliver, with the consent of the original equipment manufacturer ("OEM"), an engine separately from its exhaust after-treatment system.

(21c) Some non-road mobile machinery operates under conditions of an extreme nature involving risks to health or life or is subject to very challenging technical requirements. In view of those particular circumstances and of the relatively small number of engines installed in such non-road mobile machinery, certain exemptions should be provided for engines to be used in potentially explosive atmospheres and for use in lifeboat launch vehicles with regard to the emission limit requirements set out in this Regulation.

(21d) In order to allow for the field testing activities carried out by engine manufacturers, which are inherent to the engine development process, the temporary placing on the market of engines that have not been EU type-approved at that stage should be allowed. Exemptions allowing the temporary placing on the market for the purposes of field testing prototypes should also be possible.

(21e) In order to take account of long term projects in the railway sector requiring heavy investments, an exemption should be provided, in accordance with Directive 2008/57/EC of the European Parliament and of the Council⁸, for engines included in a project launched before the date of application of this Regulation, which is at an advanced stage of development.

(21f) It is essential not to hamper technical innovation related to the emission performance of engines for non-road mobile machinery with requirements that are not currently foreseen by existing administrative procedures for type-approval. It is therefore necessary to allow for certain exemptions and rules for engines that incorporate new technologies or new concepts.

(21g) OEMs producing limited numbers of units per year face severe challenges when re-designing their fleet within the standard transition period. Those manufacturers are typically SMEs that have a limited engineering capacity and obtain information regarding future stage engines often later than other OEMs. This is the case, in particular, of agricultural machinery manufacturers, where small and medium-sized enterprises ("SMEs") producing a limited number of units per year face a serious structural challenge when undertaking the transition to Stage V emission limits.

(21h) The placing on the market of engines intended to replace engines that are already installed in non-road mobile machinery, and which comply with lower emission limits than those set out in this Regulation, should be permitted in order to allow engine manufacturers to fulfil their warranty obligations and to ensure sufficient availability of such engines on the market.

⁸ ***Directive 2008/57/EC of the European Parliament and of the Council of 17 June 2008 on the interoperability of the rail system within the Community (OJ L 191, 18.7.2008, p.1)***

(21i) According to current estimates, there is a number of broad gauge line locomotives which need to be replaced between 2016 and 2025. High-power engine locomotives suitable for the 1520 mm network are not available on the Union market. Custom-built solutions would significantly increase the cost of the new locomotive and would deter railway operators from renewing their fleets. The technical and economic restraints of 1520 mm rail network should be considered in the EU type-approval procedures. In order to facilitate and speed up the greening of the railway sector in those Member States and to promote the use of the best available technology currently on the market, a temporary exemption should be granted for those locomotives on the railway network. The above-mentioned possibility of excluding certain requirements for locomotives may allow for the reduction of the rail traffic impact on the environment.

(21j) Cotton production within the Union is limited to very few Member States. Due to the high costs of new cotton harvesting machinery, and in order to avoid additional financial burden for the cotton production sector, which would further threaten its economic viability, operators should be granted access to a wide range of available used cotton harvesting machinery. Therefore, Member States should have the possibility to apply, for a limited period of time, national law to engines installed in such machinery.

(22) **This Regulation should lay down** obligations of national authorities **relating to** market surveillance **which** are more specific than the corresponding **obligations laid down in** Regulation (EC) No 765/2008 of the European Parliament and of the Council⁹.

⁹ *Regulation (EC) No 765/2008 of the European Parliament and of the Council of 9 July 2008 setting out the requirements for accreditation and market surveillance relating to the marketing of products (OJ L 218, 13.8.2008, p. 30).*

- (23) In order to ensure that the procedure for monitoring conformity of production, which is one of the cornerstones of the EU type-approval system, has been correctly implemented and functions properly, manufacturers should be regularly checked by the appointed competent authority or by an appropriately qualified technical service designated for that purpose.
- (24) The Union is a contracting party of the UNECE Agreement concerning the Adoption of Uniform Technical Prescriptions for Wheeled Vehicles, Equipment and Parts which can be fitted to and/or used on Wheeled Vehicles and the Conditions for Reciprocal Recognition of Approvals Grant ed on the Basis of these Prescriptions ('Revised 1958 Agreement').
- (25) As a consequence, **approvals granted under** UNECE regulations and the amendments thereto which the Union has voted in favour of or to which the Union has acceded, in application of Decision 97/836/EC **of the Council**¹⁰, should be recognized as equivalent to EU type-approvals granted under this Regulation. Accordingly, **in order to ensure coherence and alignment between EU and UNECE legislation,** the Commission should be empowered to adopt delegated acts in order to determine which UNECE regulations will apply to EU type-approvals.

¹⁰ **Council Decision 97/836/EC of 27 November 1997 with a view to accession by the European Community to the Agreement of the United Nations Economic Commission for Europe concerning the adoption of uniform technical prescriptions for wheeled vehicles, equipment and parts which can be fitted to and/or be used on wheeled vehicles and the conditions for reciprocal recognition of approvals granted on the basis of these prescriptions ('Revised 1958 Agreement') (OJ L 346, 17.12.1997, p. 78).**

- (26) In order to ensure uniform conditions for the implementation of this Regulation, implementing powers should be conferred on the Commission. Those powers should be exercised in accordance with Regulation (EU) No 182/2011 of the European Parliament and of the Council¹¹.
- (27) In order to supplement this Regulation with further technical details, the power to adopt acts in accordance with Article 290 of the Treaty on the Functioning of the European Union should be delegated to the Commission in respect of monitoring of in-service emission performance, technical tests and measurement procedures, conformity of production, separate delivery of an engine's exhaust after-treatment system, engines for field-testing, engines for use in hazardous atmospheres, equivalence of engine **EU** type-approvals, information for **original equipment manufacturers** and end-users, standards and assessment of technical services. It is of particular importance that the Commission carry out appropriate consultations during its preparatory work, including at **Member States** expert level. **It is of particular importance that the Commission carry out appropriate consultations during its preparatory work, including at expert level, and that those consultations be conducted in accordance with the principles laid down in the Interinstitutional Agreement on Better Law-Making of (date). In particular, to ensure equal participation in the preparation of delegated acts, the European Parliament and Council receive all documents at the same time as Member States' experts, and their experts have systematic access to meetings of Commission expert groups dealing with the preparation of delegated acts.**

¹¹ *Regulation (EU) No 182/2011 of the European Parliament and of the Council of 16 February 2011 laying down the rules and general principles concerning mechanisms for control by Member States of the Commission's exercise of implementing powers (OJ L 55, 28.2.2011, p. 13).*

- (28) Member States should lay down rules on penalties applicable to infringements of this Regulation and ensure that they are implemented. Those penalties should be effective, proportionate and dissuasive.
- (29) With a view to taking into account on-going technical progress and the latest findings in the fields of research and innovation, it is appropriate to identify **the** further pollutant emission reduction potential of engines installed in non-road mobile machinery. The focus of these assessments should be on those engine categories that **fall** for the first time **within** the scope of this Regulation and on those for which emission limit values remain unaltered under this Regulation.

(29a) The specific limit values, test procedures and requirements for pollutant emissions laid down in this Regulation will also apply to engines for agricultural and forestry vehicles covered by Regulation (EU) No 167/2013. Given the combined effect of the Stage IV postponement for agricultural tractors of categories T2, T4.1 and C2 and the Stage V application dates, Stage IV would, in respect of the power range 56 – 130 kW, have a very short duration. In order to avoid inefficiencies and unnecessary burdens, the Stage IV compulsory EU type-approval date should be delayed by one year and the flexibility quantity increased appropriately. Furthermore, the transition clauses set out in this Regulation in respect of the Stage V application requirements should apply also to Stage IIIB engines. Regulation (EU) No 167/2013 and Commission Delegated Regulation (EU) No 2015/96¹² should, therefore, be amended accordingly.

¹² **Commission Delegated Regulation (EU) 2015/96 of 1 October 2014 supplementing Regulation (EU) No 167/2013 of the European Parliament and of the Council as regards environmental and propulsion unit performance requirements of agricultural and forestry vehicles (OJ L 16, 23.1.2015, p. 1).**

- (30) In the interests of clarity, predictability, rationality and simplification and in order to reduce the burden for engine and **non-road mobile** machinery manufacturers, this Regulation should contain only a limited number of implementation stages for the introduction of new emission levels and **EU** type-approval procedures. **The** timely definition of requirements is essential to ensuring sufficient lead-time for manufacturers to develop, test and implement technical solutions for engines produced in series, and for manufacturers and approval authorities in the Member States to put in place the necessary administrative systems.
- (31) Directive 97/68/EC has been substantially amended several times. In the interests of clarity predictability, rationality and simplification, **that** Directive should be replaced by a Regulation and a small number of delegated and implementing acts. The use of a Regulation ensures that the provisions are directly applicable to manufacturers, approval authorities and technical services, and that they can be updated much faster and more efficiently to take better account of technical progress.
- (32) Directive 97/68/EC should **therefore** be repealed with effect from **a** date **which** **w**ould allow industry sufficient time to adapt to this Regulation and to the technical specifications and administrative provisions to be set out in the delegated and implementing acts adopted pursuant to this Regulation.

(32a) Directive 97/68/EC does not provide a derogation for engines intended for installation in non-road mobile machinery to be used in potentially explosive atmospheres. In order to take account of the strict technical requirements that are essential for the operational safety of such engines, Directive 97/68/EC should therefore be amended in order to allow derogations for such engines to be applied until that Directive is repealed.

(32b) The exchange of data and information related to EU type-approvals needs to be improved so that this Regulation can be applied effectively and swiftly. Therefore, the national authorities should be required to cooperate efficiently with each other and with the Commission, and to exchange information relating to EU type-approvals by means of the Internal Market Information System ('IMI') established by Regulation (EU) No 1024/2012 of the European Parliament and of the Council¹³. In order to facilitate the implementation of this Regulation, a module of IMI specifically customised for non-road mobile machinery should be established. It should also be possible for manufacturers and technical services to use IMI for the exchange of such data and information.

(33) Since the objectives of this Regulation, namely to lay down harmonised rules on the administrative and technical requirements relating to emission limits and EU type-approval procedures for engines to be installed in non-road mobile machinery, cannot be sufficiently achieved by the Member States, **but** can **rather**, by reason of their scale and effects, be better achieved at Union level, the Union may adopt measures in accordance with the principle of subsidiarity as set out in Article 5 of the Treaty on European Union. In accordance with the principle of proportionality as set out in that Article, this Regulation does not go beyond what is necessary in order to achieve those objectives,

HAVE ADOPTED THIS REGULATION:

¹³ **Regulation (EU) No 1024/2012 of the European Parliament and of the Council of 25 October 2012 on administrative cooperation through the Internal Market Information System and repealing Commission Decision 2008/49/EC ('the IMI Regulation'), (OJ L 316, 14.11.2012, p.1).**

CHAPTER I

SUBJECT MATTER, SCOPE AND DEFINITIONS

Article 1

Subject matter

- 1.** This Regulation establishes emission limits for gaseous **and particulate** pollutants and the administrative and technical requirements relating to EU type-approval for all engines referred to in Article 2(1).

This Regulation also lays down certain obligations in relation to non-road mobile machinery in which an engine referred to in Article 2(1) is being, or has been, installed, as regards aspects of the emission limits for gaseous and particulate pollutants of such engines.

- 2.** This Regulation also establishes the requirements for the market surveillance of engines **referred to in Article 2(1)** installed **in** or intended to be installed in non-road mobile machinery **and** which are subject to EU type-approval.

Article 2

Scope

1. This Regulation **applies** to all engines **corresponding to the categories** set out in Article 4(1), which are installed in, or intended to be installed in, non-road mobile machinery **and, insofar as aspects of emission limits for gaseous and particulate pollutants of those engines are concerned, to such non-road mobile machinery.**
2. This Regulation **does** not apply to engines for:
 - (a) the propulsion of vehicles **referred to in Article 2(1)** of Directive 2007/46/EC of the European Parliament and of the Council ¹⁴;
 - (b) the propulsion of agricultural and forestry **tractors** as defined by point (8) of Article 3 of Regulation (EU) No 167/2013;
 - (ba) the propulsion of vehicles referred to in Article 2(1) of Regulation (EU) No 168/2013 of the European Parliament and of the Council ¹⁵;**
 - (c) stationary machinery;
 - (d) sea-going vessels, requiring a valid maritime navigation or safety certificate;

¹⁴ *Directive 2007/46/EC of the European Parliament and of the Council of 5 September 2007 establishing a framework for the approval of motor vehicles and their trailers, and of the systems, components and separate technical units intended for such vehicles (OJ L 263, 9.10.2007, p.1).*

¹⁵ **Regulation (EU) No 168/2013 of the European Parliament and of the Council of 15 January 2013 on the approval and market surveillance of two- or three-wheel vehicles and quadricycles (OJ L 60, 2.3.2013, p. 52).**

(da) crafts as defined in Directive 2006/87/EC of the European Parliament and of the Council¹⁶ and not falling within its scope;

(e) the propulsion **or auxiliary purposes** of inland waterway vessels of net power less than **19** kW;

(f) **water**craft as defined by **point (1) of Article 3 of** Directive 2013/53/EU of the European Parliament and of the Council ¹⁷;

(g) aircraft **as defined by point (a) of Article 2 of Commission Regulation (EU) No 1321/2014¹⁸;**

(h) any recreational vehicles, except snowmobiles, all-terrain vehicles and side-by-side vehicles;

(i) vehicles and machinery exclusively **used or** intended **to be exclusively used** in competition;

¹⁶ **Directive 2006/87/EC of the European Parliament and of the Council of 12 December 2006 laying down technical requirements for inland waterway vessels and repealing Council Directive 82/714/EEC (OJ L 389, 30.12.2006, p.1).**

¹⁷ Directive 2013/53/EU of the European Parliament and of the Council of 20 November 2013 on recreational craft and personal watercraft and repealing Directive 94/25/EC (OJ L 354, 28.12.2013, p. 90).

¹⁸ **Commission Regulation (EU) No 1321/2014 of 26 November 2014 on the continuing airworthiness of aircraft and aeronautical products, parts and appliances, and on the approval of organisations and personnel involved in these tasks (OJ L 362, 17.12.2014, p.1)**

(ia) portable fire-fighting pumps defined by and referred to in European standard EN-14466;

(j) reduced-scale models or reduced-scale replicas of vehicles or machinery ry where re those models or replicas have a net power of less than 19 kW.

Article 3

Definitions

For the purposes of this Regulation, the following definitions apply:

- (1) “non-road mobile machinery” means any mobile machine, transportable equipment or vehicle with or without body work or wheels, not intended for the use of passenger or goods transport on roads; it includes machinery installed on the chassis of vehicles intended for passenger or goods transport on roads;
- (2) “EU type-approval” means the procedure whereby an approval authority certifies that an engine type or engine family satisfies the relevant administrative provisions and technical requirements of this Regulation;
- (3) “gaseous pollutants” means **the following pollutants in gaseous state emitted from the engine:** carbon monoxide (CO), total hydrocarbons (HC) and oxides of nitrogen (NO_x), the last being nitric oxide (NO) and nitrogen dioxide (NO₂), expressed as nitrogen dioxide (NO₂) equivalent;

- (3a) **"particulate pollutants" means any matter emitted from the engine that is measured as PM or PN;**
- (4) “**particulate matter**” or “**PM**” means **the mass of** any material **in the gas emitted from the engine that is** collected on a specified filter medium after diluting **the gas** with clean filtered air so that the temperature does not exceed 325 K (52 °C);
- (5) “**particle number**” or “**PN**” means the number of solid particles **emitted from the engine** with a diameter greater than 23 nm;
- (6) “**internal combustion engine**” (“**engine**”) means an energy converter other than a gas turbine **designed to transform chemical energy (input) into mechanical energy (output) with an internal combustion process;** it includes, **where those are installed,** the emission control system and the communication interface (hardware and messages) between the engine electronic control unit(s) and any other powertrain or vehicle control unit necessary to comply with Chapters II and III;
- (7) “engine type” means a **group** of engines which do not differ in essential engine characteristics;
- (8) “engine family” means a manufacturer's grouping of engine types which, through their design, have similar exhaust emission characteristics and respect the applicable emission limit values;
- (9) “parent engine” means an engine type selected from an engine family in such a way that its emissions characteristics are representative for that engine family;

(9a) “replacement engine” means an engine that:

(a) is exclusively used to replace an engine already placed on the market and installed in a non-road mobile machinery, and

(b) complies with an emission stage which is lower than the one applicable on the date of the replacement of the engine;

(9b) “in-service engine” means an engine that is operated over its normal operating patterns, conditions and payloads and used to perform the emission monitoring tests referred to in Article 18;

(10) “**compression ignition engine**” or “**CI engine**” means an engine that works on the compression-ignition (“**CI**”) principle;

(11) “**spark ignition engine**” or “**SI engine**” means an engine that works on the spark-ignition (“**SI**”) principle;

(12) “dual-fuel engine” means an engine that is designed to simultaneously operate with a liquid fuel and a gaseous fuel, both fuels being metered separately, the consumed amount of one of the fuels relative to the other one being able to vary depending on the operation;

(13) “single-fuel engine” means an engine that is not a dual-fuel engine;

(14) “liquid fuel” means a fuel which exists in the liquid state under standard ambient conditions **(298K, absolute ambient pressure 101,3 kPa)**;

(15) “gaseous fuel” means any fuel which is wholly gaseous at standard ambient conditions **(298K, absolute ambient pressure 101,3 kPa)**;

- (16) “**GER**” (Gas Energy Ratio) means, in the case of a dual-fuel engine, the ratio of the energy content of the gaseous fuel over the energy content of both fuels; in the case of single-fuel engines, GER is defined as being either 1 or 0 according to the type of fuel;
- (17) “variable-speed engine” means an engine that is not a constant-speed engine;
- (18) “constant-speed engine” means an engine whose **EU** type-approval is limited to constant-speed operation, excluding engines whose constant-speed governor function is removed or disabled; **it** may be provided with an idle speed that can be used during start-up or shut-down **and it** may be equipped with a governor that can be set to **an** alternative speed when the engine is stopped;
- (19) “constant-speed operation” means **an** engine operation with a governor that automatically controls the operator demand to maintain engine speed, even under changing load;
- (20) “hand-held SI engine” means an SI engine **having a reference power less than 19 kW** and that meets at least one of the following requirements:
- (a) it is used in a piece of equipment that is carried by the operator throughout the performance of its intended function(s);
 - (b) it is used in a piece of equipment that operates multi-positionally, such as upside down or sideways, to complete its intended function(s);

- (c) the engine must be used in a piece of equipment for which the combined engine and equipment dry weight is less than 20 **kg** and meets at least one of the following conditions:
- (i) its operator provides support or, alternatively, carries the equipment throughout the performance of its intended function(s),
 - (ii) its operator provides support or attitudinal control for the equipment throughout the performance of its intended function(s),
 - (iii) it is used in a generator or a pump;

(21) **deleted**

(22) “auxiliary engine” means an engine installed or intended **to be installed** in a non-road mobile machinery **that does not directly or indirectly provide propulsion**;

(23) “net power” means the engine power **in kW** obtained on a test bench at the end of a crankshaft, or its equivalent, measured in accordance with the method of measuring the power of internal combustion engines specified in UNECE Regulation No. 120 using a reference fuel or **fuel combination** set out in Article 24(2);

(24) “reference power” means the net power that **is** used to determine the applicable emission limit values for the engine;

(25) “rated net power” means net power **in kW** as declared by the manufacturer of an engine at rated speed;

- (26) “maximum net power” means the highest value of the net power on the nominal full-load power curve for the engine type;
- (27) “rated speed” means the **maximum full load speed allowed by the governor, as designed by the manufacturer, or, if such a governor is not present, the speed at which maximum net power is attained by the engine, as specified by the manufacturer;**
- (28) “engine production date” means the date (expressed as the month and year) when the engine passes the final check after it has left the production line and is ready to be delivered or to be put on stock;
- (29) “transition period” means the first **24** months following the date **set out in Annex III** for the **placing on the market** of Stage V **engines**;
- (30) “transition engine” means an engine **that** has an engine production date that is prior to the dates for placing on the market of engines **set out** in **Annex III** and **that** meets any of the following requirements:
- (a) **it** is in **compliance** with the latest applicable emission limits defined in the relevant legislation applicable on ...*
- (b) **it falls within a power range or is used or intended for use in an application that was not subject to pollutant emission limits and type-approval** at Union level on ...* ;

* **[OJ: please insert date of the day before the entry into force of this Regulation]**

- (31) “**non-road mobile** machine production date” means the **month and** year indicated on the statutory marking of the machine or, in **the** absence of a **statutory** marking, the **month and** year **in which** the machine passes the final check after it has left the production line;
- (32) “inland waterway vessel” means a **craft** falling within the scope of Directive 2006/87/EC;
- (33) “generating set” means an independent non-road mobile machine that is not part of a power train, primarily intended to produce electric power;
- (34) “stationary machinery” means machinery that is intended to be permanently installed in one location in its first use and not intended to be moved, on road or otherwise, except during shipment from the place of manufacture to the place of first installation;
- (35) “permanently installed” means bolted, or otherwise effectively fixed so that it cannot be removed without the use of tools or equipment, to a foundation or an alternative constraint intended to cause the engine to operate in one single location at a building, structure, facility or installation;
- (36) “reduced-scale model” **or** “**reduced-scale** replica” means a model or replica machine or vehicle that is manufactured to a smaller scale than the original for recreational purposes;
- (37) “snowmobile” means a self-propelled machine that is intended for off-road travel primarily on snow, is driven by tracks in contact with snow and steered by a ski or skis in contact with the snow, and has a maximum unladen mass, in running order, of 454 kg (including standard equipment, coolant, lubricants, fuel **and** tools but excluding optional accessories **and the driver**);

- (38) “all-terrain vehicle” **or** “ATV” means a motorised vehicle, propelled by an engine, intended primarily to travel on unpaved surfaces on four or more wheels with low-pressure tyres, having a seat designed to be straddled by the driver only or a seat designed to be straddled by the driver and a seat for no more than one passenger, and handlebars for steering;
- (39) “side-by-side vehicle” **or** “SbS”, means a self-propelled, operator-controlled, non-articulated vehicle intended primarily to travel on unpaved surfaces on four or more wheels, having a minimum unladen mass, in running order, of 300 kg (including standard equipment, coolant, lubricants, fuel, tools but excluding optional accessories **and the driver**) and a maximum design speed of 25 km/h or more; in addition, it is designed to transport persons and/or cargo and pull and push equipment and steered by a control other than a handlebar, designed for recreational or utility purposes and **carrying** no more than six people including the driver, sitting side by side on one or more non-straddle seats;
- (40) “railcar” means a railway vehicle designed to provide, either directly through its own wheels or indirectly through the wheels of other railway vehicles, the motive power for propelling itself, and that is specifically designed to carry goods or passengers, or both goods and passengers, and is not a locomotive;
- (41) “locomotive” means a railway vehicle designed to provide, either directly through its own wheels or indirectly through the wheels of other railway vehicles, the motive power for propelling itself and for propelling other railway vehicles that are designed to carry freight, passengers and other equipment, itself being designed or intended not to carry freight or passengers (other than those operating the locomotive);
- (42) “auxiliary railway vehicle” means a railway vehicle that is not a railcar or locomotive, including but not limited to a railway vehicle specifically designed to perform maintenance or construction work or lifting operations associated with the track or other infrastructure of the railway;

- (43) “railway vehicle” means a non-road mobile machinery ry that operates exclusively on railway tracks;
- (43a) “mobile crane” means a self-powered jib crane capable of travelling on-road and/or off-road relying on gravity for stability and operating on tyres, crawlers or with other mobile arrangements;**
- (43b) “snow thrower” means a self-powered machine that is exclusively designed for clearing snow from a pavement surface by collecting a swath of snow and projecting it forcefully through a chute;**
- (44) “making available on the market” means any supply of an engine **or non-road mobile machinery** for distribution or use on the Union market in the course of a commercial activity, whether in return for payment or free of charge;
- (45) “placing on the market” means the first making available of an engine **or non-road mobile machinery** on the Union market;
- (46) “manufacturer” means any natural or legal person who is responsible to the approval authority for all aspects of the engine EU type-approval or authorisation process, for ensuring conformity of the engine production and who is also responsible for market surveillance concerns for the engines produced, whether or not directly involved in all stages of the design and construction of the engine which is the subject of the **EU type-**approval process;
- (47) “manufacturer’s representative” **or “representative”** means any natural or legal person established in the Union who is duly appointed by the manufacturer **by a written mandate** to represent the manufacturer in matters related to the approval authority or the market surveillance authority and to act on the manufacturer’s behalf in matters covered by this Regulation;

- (48) “importer” means any natural or legal person established in the Union who places on the market an engine from a third country, whether or not the engine is already installed in **non-road mobile** machinery;
- (49) “distributor” means any natural or legal person in the supply chain, other than the manufacturer or the importer, who makes an engine available on the market;
- (50) “economic operator” means the manufacturer, the manufacturer’s representative, the importer or the distributor;
- (51) “**original equipment manufacturer**” **or** “**OEM**” means a manufacturer of non-road mobile machinery;
- (52) “approval authority” means the authority of a Member State established or appointed and notified to the Commission by the Member State **and having** competence for:
- (a)** all aspects of the **EU type**-approval of an engine type or of an engine family;
 - (b)** the authorisation process;
 - (c)** issuing and, if appropriate, withdrawing or refusing **EU type**-approval certificates;
 - (d)** acting as the contact point for the approval authorities of other Member States;
 - (e)** designating the technical services; and
 - (f)** ensuring that the manufacturer meets his obligations regarding the conformity of production;

- (53) “technical service” means an organisation or body designated by the approval authority of a Member State as a testing laboratory to carry out tests, or as a conformity assessment body to carry out the initial assessment and other tests or inspections, on behalf of the approval authority, it being possible for the approval authority itself to carry out those functions;
- (54) “market surveillance” means the activities carried out and measures taken by national authorities to ensure that engines made available on the market comply with the requirements set out in the relevant Union harmonisation legislation;
- (55) “market surveillance authority” means an authority of a Member State responsible for carrying out market surveillance on its territory;
- (56) “national authority” means an approval authority or any other authority involved in and responsible for market surveillance, border control or placing on the market in a Member State, in respect of engines to be installed in non-road mobile machinery **or of non-road mobile machinery in which engines are installed;**
- (57) “end-user” means any natural or legal person other than the manufacturer, OEM, importer or distributor that is responsible for operating the engine when installed in a non-road mobile machinery;
- (58) **deleted**
- (59) **deleted**
- (60) **deleted**
- (61) **deleted**

- (62) “defeat strategy” means an emission control strategy that reduces the effectiveness of the emission controls under ambient or engine operating conditions encountered either during normal machine operation or outside the EU type-approval test procedures;
- (63) “emission control system” means any device, system or element of design which controls or reduces emissions;

(63a) “emission control strategy” means an element or a set of elements of design that is incorporated into the overall design of an engine or non-road mobile machinery in which the engine is installed and used in controlling emissions;

(64) **deleted**

(65) “electronic control unit” means an engine's electronic device that is part of the emission control system and uses data from engine sensors to control engine parameters;

(66) “exhaust after-treatment system” means a catalyst, particulate filter, deNO_x system, combined deNO_x particulate filter or any other emission-reducing device, **with the exception of exhaust gas recirculation and turbochargers**, that is part of the emission control system but is installed downstream of the engine exhaust **ports**;

(67) “exhaust gas recirculation” **or “EGR”** means a technology that is part of the emission control system and reduces emissions by routing exhaust gases that had been expelled from the combustion chamber(s) back into the engine to be mixed with incoming air before or during combustion, with the exception of the use of valve timing to increase the amount of residual exhaust gas in the combustion chamber(s) that is mixed with incoming air before or during combustion;

- (68) “tampering” means inactivation, adjustment or modification of the engine emission control system, including any software or other logical control elements of **such a** system, that has the effect, whether intended or not, of worsening the emissions performance of the engine;
- (69) “test cycle” means a sequence of test points, each with a defined speed and torque, to be followed by the engine when being tested under steady state or transient operating conditions;
- (70) “steady-state test cycle” means a test cycle in which engine speed and torque are held at a finite set of nominally constant values. Steady-state tests are either discrete mode tests or ramped-modal tests;
- (71) “transient test cycle” means a test cycle with a sequence of normalized speed and torque values that vary on a second-by-second basis with time;
- (72) **deleted**
- (73) “crankcase” means the enclosed spaces in, or external to, an engine which are connected to the oil sump by internal or external ducts through which gases and vapours can be emitted;
- (74) “regeneration” means an event during which emissions levels change while the **exhaust** after-treatment performance is being restored by design, being classified as continuous regeneration or infrequent (periodic) regeneration;
- (75) “emission durability period” means the number of hours used to determine the deterioration factors;
- (76) “deterioration factors” means the set of factors that indicate the relationship between emissions at the start and end of the emission durability period;

(77) “virtual testing” means computer simulations, including calculations, undertaken to demonstrate the level of performance of an engine as an aid to decision-making without requiring the use of a physical engine;

(78) **deleted**

(79) **deleted**

Article 4

Engine categories

1. For the purposes of this Regulation, the following engine categories, subdivided into the sub-categories set out in Annex I, apply:

(1) ‘category NRE’:

- (a) engines for non-road mobile machinery intended and suited to move, or to be moved, by road or otherwise, that are not excluded under Article 2(2) and are not included in any other category set out in points (2) to (10) **of this paragraph**;
- (b) engines **having** a reference power of less than 560 kW used in place of **Stage V** engines of categories IWP, **IWA**, RLL or RLR;

- (2) ‘category NRG’ : engines having a reference power that is greater than 560 kW exclusively for use in generating sets;

Engines for generating sets other than those having the characteristics set out in the first **sentence of this point are** included in the categories NRE or NRS, according to their characteristics;

- (3) ‘category NRSh’ : hand-held SI engines having a reference power that is less than 19 kW exclusively for use in hand-held machinery;

- (4) ‘ category NRS’ : SI engines having a reference power that is less than 56 kW and not included in category NRSh;

- (5) ‘ category IWP’ :

(a) engines exclusively for use in inland waterway vessels, for their **direct or indirect** propulsion, or intended for their **direct or indirect** propulsion, having a reference power that is greater than or equal to **19** kW;

(b) engines used in place of engines of category IWA subject to complying with the requirements of Article 23(8);

- (6) ‘category IWA’ : **auxiliary** engines exclusively for use in inland waterway vessels, having a net power that is greater than **19** kW.

- (7) ‘category RLL’ : engines exclusively for use in locomotives, for their propulsion or intended for their propulsion;

(8) 'category RLR', comprising:

(a) engines exclusively for use in railcars, for their propulsion or intended for their propulsion;

(b) engines used in place of Stage V engines of category RLL;

(9) 'category SMB': SI engines exclusively for use in snowmobiles.

Engines for snowmobiles other than SI engines are included in the category NRE;

(10) 'category ATS': SI engines exclusively for use in all terrain and side-by-side vehicles (ATVs and SbS).

Engines for ATVs and SbS other than SI engines are included in the category NRE.

2. A variable-speed engine of a particular category may be used in place of a constant-speed engine of the same category. Variable-speed engines of category IWP used for constant-speed operation shall additionally comply with Article 23(7) or Article 23(8), as applicable.
3. Engines for auxiliary railway vehicles and auxiliary engines for railcars and locomotives are included in the categories NRE or NRS, according to their characteristics.

CHAPTER II

GENERAL OBLIGATIONS

Article 5

Obligations of Member States

1. Member States shall establish or appoint the approval authorities and the market surveillance authorities in accordance with this Regulation.
2. **Member States shall notify the Commission of the establishment and appointment** of the approval and market surveillance authorities **referred to in paragraph 1**, including their name, **postal** address **and** electronic address, and area of responsibility.

The Commission shall publish a list and details of the approval authorities **on its website**.

3. Member States shall only permit the placing on the market of:
 - (a) engines that are covered by a valid EU type-approval granted in accordance with this Regulation, **whether or not already installed in non-road mobile machinery**;
 - (b) **non-road mobile** machinery in which **are installed** engines that are covered by a valid EU type-approval granted in accordance with this Regulation.

4. Member States shall not prohibit, restrict or impede the placing on the market of :
 - (a) engines on grounds related to aspects of their construction and functioning covered by this Regulation, if **those engines** satisfy its requirements;
 - (b) **non-road mobile machinery on grounds related to aspects of gaseous and particulate pollutant emissions from engines installed in such machinery, where those engines fall within the scope of this Regulation and satisfy its requirements.**
5. Member States shall organise and carry out market surveillance and the control of engines entering the market in accordance with Chapter III of Regulation (EC) No 765/2008.

Article 6

Obligations of approval authorities

1. Approval authorities shall ensure that manufacturers applying for EU type-approval comply with this Regulation.
2. Approval authorities shall grant EU type-approval only to the engine types or engine families that **comply with** this Regulation.
3. Approval authorities shall make public, by means of the **Internal Market Information System established by Regulation (EU) No 1024/2012 of the European Parliament and of the Council ("IMI")**, a register of all engine types and engine families for which EU type-approvals **have been granted, extended or withdrawn, or in respect of which application for EU type-approval has been refused.**

The register shall contain at least the following information:

- (a) name and address of the manufacturer and name of company, where different;**
- (aa) trademark(s) belonging to the manufacturer;**
- (b) designation of the engines types covered by the EU type-approval of the engine type or, where applicable, of the engine family;**
- (c) engine category;**
- (d) number of the EU type-approval including, if any, the number of its extension(s);**
- (e) date of the EU type-approval; and**
- (f) the content of the sections "General engine information" and "Final emission result" of the test report referred to in Article 21(9).**

Article 7

Obligations of market surveillance authorities

- 1. Market surveillance authorities shall perform, on an adequate scale and on the basis of an adequate percentage of samples, documentary checks and, where appropriate, physical and laboratory checks of engines. When doing so, they shall take account of established principles of risk assessment, of any complaints and of other relevant information.**
- 2. Market surveillance authorities may require economic operators to make such documentation and information available as is deemed necessary for the purpose of carrying out their activities.**

Article 8

General obligations of manufacturers

1. Manufacturers shall ensure that when their engines are placed on the market, they are manufactured and approved in accordance with this Regulation.
- 1a. Where manufacturers modify an engine which is subject to EU type-approval in such a manner that it subsequently qualifies to belong to a different category or sub-category, they shall be responsible for ensuring the compliance of that engine with the requirements applicable to that category or sub-category.**

Where any legal person modifies an engine in such a way that the emission limits applicable to that engine according to its category or subcategory are no longer complied with, that person shall be considered responsible for ensuring compliance with those emission limits.

2. **deleted**
3. **deleted**
4. Manufacturers shall be responsible to the approval authority for all aspects of the **EU type-**approval process and for ensuring conformity of production, whether or not they are directly involved in all stages of the construction of an engine.

5. **Manufacturers shall ensure that procedures are in place for series production to remain in conformity with the approved type *and for monitoring emissions of in-service engines in accordance with Article 18.***

Changes in **the** design or **in the** characteristics **of an engine type** and changes in the requirements to which an engine **type** is declared to conform shall be taken into account in accordance with Chapter VI.

6. In addition to the **statutory** marking affixed to their engines in accordance with Article 31, manufacturers shall indicate their name, registered trade name or registered trade mark and the address in the Union at which they can be contacted **on their engines placed on the market** or, where that is not possible, in a document accompanying the engine.
- 6a. Manufacturers shall provide upon reasoned request the OEM with a duplicate of the statutory marking referred to in Article 14a (3a).**
7. Manufacturers shall ensure that, whilst they are responsible for an engine, storage or transport conditions do not jeopardise its compliance with **this** Chapter and **Chapter III**.
- 8. Manufacturers shall keep the EU type approval certificate with its attachment as referred to in Article 22(1) and, where applicable, a copy of the statement of conformity referred to in Article 30 at the disposal of the approval authorities for a period of 10 years after the placing on the market of an engine.**
- 9. Manufacturers shall provide a national authority with a copy of the EU type-approval certificate for an engine, through the approval authority, upon reasoned request. That certificate shall be in a language which can be easily understood by the requesting authority.**

- 10.** For the purpose of **EU type-**approval of engines, manufacturers established outside the Union shall appoint a single representative established within the Union to represent them in their dealings with the approval authority.
- 11.** **For the purpose of market surveillance,** manufacturers established outside the Union shall appoint a single representative established within the Union, which may be the representative referred to in paragraph **10**.

Article 9

Obligations of manufacturers concerning their engines that are not in conformity

1. Manufacturers who consider or have reason to believe that their engine that has been placed on the market is not in conformity with this Regulation shall immediately conduct an investigation into the nature of the non-conformity and the likelihood of its occurrence. **Based on the outcome of the investigation, manufacturers** shall take corrective **measures** to ensure that engines in production are brought into conformity with the approved type or family in a timely manner.

The manufacturer shall immediately inform the approval authority that granted the EU type-approval, giving details, in particular, of the non-conformity and of any corrective measures taken.

2. **Notwithstanding paragraph 1, manufacturers shall not be required to take corrective measures in respect of an engine which is not in conformity with this Regulation as a result of modifications made after the engine has been placed on the market that have not been authorised by the manufacturer.**
3. **deleted**
4. **deleted**

Article 10

Obligations of manufacturers' representatives for market surveillance

Manufacturers' representatives for market surveillance shall perform at least the **following tasks **which shall be** specified in the **written** mandate received from the manufacturer:**

- (a) **ensure that** the **EU type-approval certificate with its attachments as** referred to in Article **22(1)** and, **where applicable, a copy of the statement** of conformity referred to in Article 30 can be **made available** the approval authorities for a period of 10 years after the placing on the market of an engine;
- (b) provide **the approval** authority with all the information and documentation necessary to demonstrate the conformity of production of an engine, **upon reasoned request**;
- (c) cooperate with the approval or market surveillance authorities, at their request, on any action taken.

Article 11

General obligations of importers

1. Importers shall place on the market only compliant engines which have received EU type-approval.
2. Before placing on the market an EU type-approved engine, importers shall ensure that:
 - (a) **the EU type-approval certificate with its attachments as referred to in Article 22** is available;
 - (b) the engine bears the required **statutory** marking **referred to in Article 31**;
 - (c) **the engine** complies with Article 8(6).
3. **For a period of 10 years after the placing on the market of the engine, importers shall keep, where applicable, a copy of the statement of conformity referred to in Article 30 at the disposal of the approval and market surveillance authorities, and ensure that the EU type-approval certificate with its attachments as referred to in Article 22 can be made available to those authorities, upon request.**
4. Importers shall indicate their name, registered trade name or registered trade mark and the address at which they can be contacted on the engine or, where **that** is not possible, in a document accompanying the engine.

5. Importers shall **ensure that the engine is accompanied by the** information and instructions **referred to in** Article 41.
6. Importers shall ensure that, whilst they are responsible for an engine, storage or transport conditions do not jeopardise its compliance with **this** Chapter and **Chapter** III.
7. **Importers shall, upon reasoned request, provide the requesting national authority with all the information and documentation necessary to demonstrate the conformity of an engine. That information and documentation shall be in a language which can be easily understood by the requesting national authority.**

Article 12

Obligations of importers concerning engines that are not in conformity

1. Importers **that** consider or have reason to believe that an engine is not in conformity with this Regulation, and in particular that it does not correspond to its **EU** type-approval, shall not **place** the engine **on the market** until it has been brought into conformity.

Importers shall inform, **without undue delay**, the manufacturer and the market surveillance authorities, as well as the approval authority that has granted the **EU type-approval** **thereof**.

2. Importers **that** consider or have reason to believe that an engine which they have placed on the market is not in conformity with this Regulation shall immediately conduct an investigation into the nature of the non-conformity and the likelihood of its occurrence.

Based upon the outcome of the investigation, importers shall take corrective **measures and inform the manufacturer thereof** to ensure that engines in production are brought into conformity with the approved type or family in a timely manner.

3. **deleted**

Article 13

General obligations of distributors

1. When making an engine available on the market, distributors shall act with due care in relation to the requirements of this Regulation.
2. Before making an engine available on the market, distributors shall verify that:
 - (a) the engine bears the required statutory marking **referred to in Article 31;**
 - (b) **the** required **information and** instructions **referred to in Article 41 are** available in a language that is understandable to the OEM;
 - (c) **where applicable,** the importer **has** complied with Article 11(2) and (4);
 - (d) **the manufacturer has complied with Article 8(6) and** Article 31(1) and (2).

3. Distributors shall ensure that, whilst they are responsible for an engine, storage or transport conditions do not jeopardise its compliance with this Chapter and Chapter III.
- 4. Distributors shall, upon a reasoned request, ensure that the manufacturer provides the requesting national authority with the information specified in Article 8(8) or that the importer provides the requesting national authority with the information specified in Article 11(3).**

Article 14

Obligations of distributors concerning engines that are not in conformity

1. Where distributors consider or have reason to believe that an engine is not in conformity with this Regulation, they shall not **make** the engine **available on the market** until it has been brought into conformity.
2. Distributors who consider or have reason to believe that an engine which they have **made available on the market** is not in conformity with this Regulation shall inform the manufacturer or the manufacturer's representative to ensure that the corrective measures necessary to bring engines in production into conformity with the approved type or family are taken in accordance with Article 9 or Article 12.
3. **deleted**

Article 14a

Specific obligations of OEMs concerning the installation of engines

- 1. OEMs shall install EU type-approved engines in non-road mobile machinery in accordance with the instructions provided by the manufacturer pursuant to Article 41(2) and in a manner that does not adversely affect the engine's performance with regard to its gaseous and particulate emissions.**
- 2. Where an OEM does not follow the instructions referred to in paragraph 1 of this Article, or modifies an engine in the course of its installation into a non-road mobile machinery in a manner that adversely affects the engine's performance with regard to its gaseous and particulate emissions, that OEM shall be considered to be a manufacturer for the purposes of this Regulation and shall, in particular, be subject to the obligations laid down in Articles 8 and 9.**
- 3. OEMs shall install EU type-approved engines in non-road mobile machinery only in accordance with the exclusive use provided for in Article 4;**
 - 3a. Where the statutory marking of the engine referred to in Article 31 is not visible without removing parts, the OEM shall affix on the non-road mobile machinery, in a visible manner, a duplicate of the marking as set out in Article 31 and the relevant implementing act, provided by the engine manufacturer.**
 - 3b. Where non-road mobile machinery with an installed transition engine is placed on the market in accordance with Article 57(5), OEMs shall indicate the non-road mobile machinery production date as part of the machine marking.**

- 4. Where an engine is delivered separately from its exhaust after-treatment system to an OEM in accordance with Article 32(2), the OEM shall, where applicable, provide the manufacturer with the information relating to the assembly of the engine and its exhaust after-treatment system.**

Article 15

Application of manufacturers' obligations to importers and distributors

An importer or distributor that makes an engine available on the market under its name or trademark, or that modifies such an engine in a way that compliance with the applicable requirements may be affected, shall be considered to be a manufacturer for the purposes of this Regulation and shall, in particular, be subject to the obligations of a manufacturer laid down in Articles 8 and 9.

Article 16

Identification of economic operators

Economic operators **and OEMs** shall, **upon** request, identify **and notify** the following to the approval and market surveillance authorities, for a period of five years from the date of placing on the market:

- (a) any economic operator who has supplied them with an engine;
- (b) any economic operator **or, where identifiable, OEM** to whom they have supplied an engine.

CHAPTER III

SUBSTANTIVE REQUIREMENTS

Article 17

Exhaust emission requirements for EU type-approval

1. Manufacturers shall ensure that engine types and engine families are designed, constructed and assembled so as to comply with the requirements **laid down** in Chapter II and **this** Chapter.
2. Engine types and engine families shall not exceed, as of the date for placing on the market of engines set out in Annex III, the exhaust emission limit values referred to as “Stage V” established in Annex II.

Where, in accordance with the parameters defining the engine family laid down in the **relevant implementing** act, one engine family covers more than one power **range**, the parent engine (for the purposes of **the EU** type-approval) and all engine types within the same family (for the purposes of conformity of production) shall, with respect to the applicable power **ranges**:

- (a)** meet the most stringent emission limit values;
- (b)** be tested using the test cycles that correspond to the most stringent emission limit values;
- (c)** be subject to the earliest applicable dates for **the EU** type-approval and placing on the market set out in Annex III.

3. The exhaust emissions of engine types and engine families shall be measured on the basis of the test cycles set out in Article 23 and in accordance with the provisions on the conduct of tests and measurements set out in in Article 24.
4. Engine types and engine families shall be designed **and fitted with emission control strategies in such a way as to prevent tampering to the extent possible. The use of defeat strategies shall be prohibited.**
5. The Commission shall adopt **implementing laying down** the detailed technical specifications relating to the parameters used for the definition of the engine **types and engine families, including their operation modes,** and the detailed technical provisions to resist tampering as referred to in paragraph 4. Those **implementing** acts shall be adopted **in accordance with the examination procedure referred to in Article 54(2)** by 31 December 2016.

Monitoring of emissions of in-service engines

1. **For engine types or engine families of emission Stage V type-approved in accordance with this Regulation,** the gaseous pollutant emissions shall be monitored by testing **in-service** engines installed in non-road mobile machinery operated over their normal operating duty cycles. Such testing shall be conducted, **under the responsibility of the manufacturer in compliance with the requirements of the approval authority,** on engines that have been correctly maintained and shall comply with the provisions on the selection of engines, test procedures and reporting of results for the different engine categories.

The Commission shall conduct pilot programmes with a view to developing appropriate testing procedures for those engine categories and sub-categories for which such testing procedures are not in place.

The Commission shall conduct monitoring programmes to determine to what extent, for every engine category, the emissions measured from the test cycle correspond to the emissions measured in actual operation. Those programmes and their results shall annually be the subject of a presentation to the Member States and subsequently of a communication to the public.

2. The Commission shall be empowered to adopt delegated acts in accordance with Article 55 concerning the detailed arrangements with regard to the selection of engines, testing procedures and reporting of results referred to in paragraph 1. Those delegated acts shall be adopted by 31 December 2016.

CHAPTER IV

EU TYPE-APPROVAL PROCEDURES

Article 19

Application for EU type-approval

1. Manufacturers shall submit an application for an engine type or engine family EU type-approval to the approval authority of a Member State. Applications shall be accompanied by the information folder referred to in Article 20.

A separate application shall be submitted for each engine type or engine family to be approved.

Only one application shall be submitted in respect of a particular engine type or, where applicable, engine family, and it shall be submitted to only one Member State.

2. An engine conforming to the engine type or, in case of an engine family, to the parent engine characteristics described in the information folder shall be made available to the technical service responsible for conducting the **EU type-**approval tests.

3. In the case of an application for EU type-approval of an engine family, if the approval authority determines that, with regard to the selected parent engine as referred to in paragraph 2 **of this Article**, the application submitted does not fully represent the engine family described in the information folder **referred to in Article 20**, an alternative and, if necessary, an additional parent engine which is considered by the approval authority to represent the engine family shall be provided for **EU type**-approval.
- 3a. Manufacturers shall submit to the type approval authority that has granted approval of an engine type or, where applicable, engine family, within one month of the start of production of the approved engine type or engine family, the initial plan for monitoring in-service engines.**
4. **deleted**

Article 20

Information folder

1. The applicant shall provide the approval authority with an information folder.
2. The information folder shall include the following:
 - (a) an information document, **including a list of reference fuels and, where requested by the engine manufacturer, other specified fuels in accordance with Article 24(2) and described in accordance with the delegated act referred to in Article 24(4);**
 - (b) all relevant data, drawings, photographs and other information in relation to the **engine type or, where applicable, the parent engine;**
 - (c) any additional information requested by the approval authority in the context of the **EU type-approval** application procedure.
3. The information folder may be supplied on paper or in an electronic format that is accepted by the technical service and by the approval authority.
4. The Commission shall be empowered to lay down templates for the information document and for the information folder by means of implementing acts. Those implementing acts shall be adopted in accordance with the examination procedure referred to in Article 54(2) by 31 December 2016.

CHAPTER V

CONDUCT OF EU TYPE-APPROVAL PROCEDURES

Article 21

General provisions

1. The approval authority receiving the application shall grant EU type-approval to all engine types or engine families **complying** with all of the following:
 - (a) the particulars in the information folder;
 - (b) the requirements of this Regulation;
 - (c) the **conformity of** production arrangements referred to in Article 25.
2. Approval authorities shall not impose any other **EU** type-approval requirements with regard to exhaust emissions for non-road mobile machinery in which an engine is installed, if the engine meets the requirements specified in this Regulation.
3. **After the dates for the EU type-approval of engines referred to in Annex III for each engine sub-category,** approval authorities shall not grant an EU type-approval to an engine type or engine family that does not meet the requirements **laid down** in this Regulation.
4. EU type-approval certificates shall be numbered in accordance with a harmonized system laid down by the Commission by means of implementing acts.

5. **By means of IMI** the approval authority of each Member State shall:
- (a) **make available** to the approval authorities of the other Member States a list of the EU type-approvals it has granted **or, where applicable, extended, within one** month **of issuing the corresponding EU type-approval certificate**;
 - (aa) **make available without delay to the approval authorities of the other Member States a list of the EU type-approvals it has refused or withdrawn, together with the reasons for its decision**;
 - (b) **send within one month of receiving a request from the approval authority of another Member State, a copy of the engine type or engine family EU type-approval certificate, where this exists, together with the information package referred to in paragraph 9 for each engine type or engine family which it has approved, refused to approve or withdrawn**;
6. **deleted**
7. **deleted**
8. **deleted**

9. The approval authority shall put together an information package consisting of the information folder accompanied by the test report and all other documents added by the technical service or by the approval authority to the information folder in the course of carrying out their functions ("**the information package**").

An index to the information package shall list its contents, suitably numbered or otherwise marked so as to identify clearly all the pages and the format of each document, **in order** to present a record of the successive steps in the management of the EU type-approval, in particular the dates of revisions and updating.

The approval authority shall keep **the** information contained in the information package available for a period of **at least 25** years after the end of validity of the EU type-approval concerned.

10. The Commission shall be empowered to adopt by means of implementing acts:
- (a) the method for establishing the harmonized numbering system referred to in paragraph 4;
 - (b) the single format of the **test report** to be filled for each engine type or, **where applicable**, engine family that was EU type-approved by the approval authority of each Member State referred to in point (a) of paragraph 5;
 - (c) the templates **and data structure** for **the exchange of data** referred to in paragraph 5.

Those implementing acts shall be adopted in accordance with the examination procedure referred to in Article 54(2) by 31 December 2016.

Article 22

Specific provisions concerning the EU type-approval certificate

1. The EU type-approval certificate shall contain, as attachments, the following:
 - (a) the information package referred to in Article 21(9);
 - (b) **deleted**
 - (c) **where applicable**, the name(s) and specimen(s) of the signature(s) of the person(s) authorised to sign **statements** of conformity and an **indication** of their position in the company.
2. The Commission shall lay down a template for the EU type-approval certificate.
3. In respect of each engine **type or engine family approved**, the approval authority shall:
 - (a) complete all the relevant sections of the EU type-approval certificate **and attach** the test **report**;
 - (b) compile the index to the information package;
 - (c) issue the completed certificate, together with its attachments, to the applicant without delay.

4. **Where** an EU type-approval which, in accordance with Article 33, **has been made subject to** restrictions as to its validity, or **has been exempted from** certain **requirements** of this Regulation, the EU type-approval certificate shall specify those restrictions **or exemptions**.
5. The Commission shall be empowered to adopt by means of implementing acts the template for the EU type-approval certificate **referred to in paragraph 2**. Those implementing acts shall be adopted in accordance with the examination procedure referred to in Article 54(2) by 31 December 2016.

Article 23

Tests required for EU type-approval

1. Compliance with the technical prescriptions laid down in this Regulation shall be demonstrated by means of appropriate tests performed by designated technical services.

The measurement **and test** procedures and the specific equipment and tools prescribed to **conduct** those tests shall be those laid down in Article 24.

2. The manufacturer shall make available to the approval authority as many engines as are required under the relevant delegated acts for the performance of the required tests.

3. The required tests shall be **conducted** on engines which are representative of the **engine** type **or, where applicable, of the parent engine of the engine family** to be approved.

Notwithstanding the first sub-paragraph, the manufacturer may select, in agreement with the approval authority, an engine which, while not representative of the **engine** type **or, where applicable, of the parent engine of the engine family** to be approved, combines a number of the most unfavourable features with regard to the required level of performance. Virtual testing methods may be used to aid decision-making during the selection process.

4. For the purposes of conducting the EU type-approval tests, the cycles that apply are set out in Annex IV. The test cycles applicable to each engine type included in the EU type-approval shall be indicated in the EU type-approval information document.
5. The engine **representative of the engine type or, where applicable, of the parent engine of the engine family** shall be tested on a dynamometer using the applicable **non-road steady-state** test cycle identified in Tables IV-1 to IV-10 **of Annex IV**. At the choice of the manufacturer this test may be conducted using the discrete-mode or the ramped-modal test method. Except in the cases **referred to** in paragraphs 7 and 8, a variable-speed engine of a particular category used in a constant-speed **operation** of the same category **need not** be tested using the applicable constant-speed steady-state test cycle.
6. In **the** case of a constant-speed engine with a governor that can be set to alternative speeds, the requirements of paragraph 5 shall be **fulfilled** at each applicable constant speed and the EU type-approval information document shall indicate the speeds that apply for each engine type.
7. In **the** case of an engine of category IWP intended to be used for both variable speed and constant-speed **operation**, the requirements of paragraph 5 shall be met for each applicable steady-state test cycle separately and the EU type-approval information document shall indicate each steady-state test cycle for which **that** requirement was fulfilled.

8. In **the** case of an engine of category IWP that is intended for use in place of an engine of category IWA in accordance with Article 4(2), the requirements of paragraph 5 shall be met separately for each applicable steady-state test cycle set out in both Tables IV-5 and IV-6 of Annex IV, and the **EU** type-approval information document shall indicate each steady-state test cycle for which this requirement was fulfilled.
9. Except for engines type-approved pursuant to Article 32(4), variable-speed engines of category NRE having a net power that is greater than or equal to 19 kW but not more than 560 kW shall, in addition to fulfilling the requirements of paragraph 5 **of this Article**, also be tested on a dynamometer using the transient test cycle identified in Table IV-11 of Annex IV.
10. Engines of sub-categories NRS-v-2b and NRS-v-3 having a maximum speed **of** less than or equal to 3400 rpm shall in addition to fulfilling the requirements of paragraph 5 also be tested on a dynamometer using the transient test cycle identified in Table IV-12 of Annex IV.
11. The Commission shall be empowered to adopt delegated acts in accordance with Article 55 laying down the detailed technical specifications and characteristics of the steady-state and transient test cycles referred to in this Article, **including the corresponding method for the determination of the engine load and speed settings**. Those delegated acts shall be adopted by 31 December 2016.
12. The Commission shall be empowered to adopt by means of implementing acts the single format of the tests required for EU type-approval. Those implementing acts shall be adopted in accordance with the examination procedure referred to in Article 54(2) by 31 December 2016.

Article 24

Conduct of measurements and tests for EU type-approval

1. **The final exhaust emission test results for engines subject to this Regulation shall be calculated by applying to the laboratory test results all of the following:**
 - (a) where required by paragraph 3 and where not already included in the laboratory measurement, the emissions of crankcase gases;**
 - (b) where required by paragraph 3 and where the engine includes a regenerating after-treatment system, any necessary adjustment factor;**
 - (c) for all engines, deterioration factors appropriate to the emission durability periods specified in Annex V.**

2. An engine type or engine family shall meet the emission limits set out in this Regulation **using** the appropriate **following** reference fuels or fuel combinations:
 - (a)** diesel;
 - (b)** petrol;
 - (c)** petrol/oil mixture, for two stroke SI engines;
 - (d)** natural gas/bio methane;
 - (e)** liquid petroleum gas (LPG);
 - (f)** ethanol.

If requested by the engine manufacturer in the application for EU type-approval in accordance with Article 19 and specified in the information folder referred to in Article 20, the engine type or engine family shall meet, in addition, the exhaust emission limits set out in this Regulation for other specified fuels, fuel mixtures or fuel emulsions.

3. For the conduct of measurements and tests, the technical requirements shall be met in respect of:
- (a) apparatus **and** procedures for **the** conduct of tests;
 - (b) apparatus **and** procedures for emission measurement **and** sampling;
 - (c) methods for data evaluation **and** calculations;
 - (d) method for establishing deterioration factors;
 - (e) for engines of categories **NRE**, **NRG**, **IWP**, **IWA**, **RLR**, **NRS**, **NRSh**, **SMB and ATS** complying with “Stage V” emission limits **set out** in Annex II:
 - (i) method for accounting for emissions of crankcase gases;
 - (ii) method for **determining and** accounting for **continuous or** infrequent regeneration of **exhaust** after-treatment systems;
 - (f) for electronically controlled engines of categories **NRE**, **NRG**, **IWP**, **IWA**, **RLL** and **RLR**, complying with “Stage V” emission limits **set out** in Annex II and **using** electronic control to determine both the quantity and timing of injecting fuel or **using** electronic control to activate, de-activate or modulate the emission control system used to reduce NO_x:

- (i) technical requirements **relating to** emission control strategies including **the** documentation required to demonstrate **those** strategies;
- (ii) technical requirements **relating to** NOx control measures including the method to demonstrate **those** technical requirements;
- (iii) technical requirements **relating to** the area associated with the relevant **non-road steady-state test** cycle, within which the amount **by which** the emissions **are** permitted to exceed the **emission limits set out** in Annex II **is controlled**;
- (iv) the selection by the technical service of additional measurement points from within the control area during the emission bench test.

4. The Commission shall be empowered to adopt delegated acts in accordance with Article 55 of this Regulation setting out:

- (a) the methodology for adapting the emission laboratory test results to include the deterioration factors referred to in paragraph 1;
- (b) the technical characteristics of the reference fuels **referred to** in paragraph 2 **and, where applicable, the requirements for the description of other specified fuels, fuel mixtures or fuel emulsions**;
- (c) the detailed technical requirements and characteristics for the conduct of measurements and tests referred to in paragraph 3;

- (d) the method for the measurement of PN, taking account of the specifications given in the 06 series of UNECE Regulation No. 49;
- (e) the detailed technical requirements for the testing of **dual-fuel engines or gaseous fuelled single-fuel** engines referred to in Annex II.

Those delegated acts shall be adopted by 31 December 2016.

Article 25

Conformity of production arrangements

1. An approval authority which grants an EU type-approval shall take the necessary measures to verify, if necessary in cooperation with the approval authorities of the other Member States, that adequate arrangements have been made to ensure that the engines in production will conform to the approved type with respect to the requirements of this Regulation.
2. An approval authority which grants an EU type-approval shall take the necessary measures to verify that **statements** of conformity issued by the manufacturer conform to Article 30.
3. An approval authority which has granted an EU type-approval shall take the necessary measures in relation to that **EU type-**approval to verify, if necessary in cooperation with the approval authorities of the other Member States, that the arrangements referred to in paragraph 1 of this Article continue to be adequate so that engines in production will continue to conform to the approved type and that **statements** of conformity, **where applicable**, continue to comply with Article 30.

4. In order to verify that an engine conforms to the approved type, the approval authority which has granted the EU type-approval may carry out any of the checks or tests required for the EU type-approval on samples taken at the premises of the manufacturer, including the manufacturer's production facilities.
5. When an approval authority which has granted an EU type-approval establishes that the arrangements referred to in paragraph 1 are not being applied, deviate significantly from the arrangements and control plans agreed, have ceased to be applied or are no longer considered to be adequate, even though production is continuing, it shall **either** take the necessary measures to ensure that the procedure for conformity of production is followed correctly or withdraw the EU type-approval.
6. The Commission shall be empowered to adopt delegated acts in accordance with Article 55 laying down the detailed measures to be taken and procedures to be followed by the approval authorities to ensure that the engines in production conform to the approved type. Those delegated acts shall be adopted by 31 December 2016.

CHAPTER VI

AMENDMENTS AND VALIDITY OF EU TYPE-APPROVALS

Article 26

General provisions

1. The manufacturer shall inform without delay the approval authority that granted the EU type-approval of any change in the particulars recorded in the information package.

In such a case, that approval authority shall decide which of the procedures laid down in Article 27 is to be followed.

Where necessary, the approval authority may decide, after consulting the manufacturer, that a new EU type-approval is to be granted.

2. An application for the amendment of an EU type-approval shall be submitted only to the approval authority that granted the original EU type-approval.
3. If the approval authority finds that, for the purposes of making an amendment, inspections or tests need to be repeated, it shall inform the manufacturer accordingly.

The procedures referred to in Article 27 shall apply only if, on the basis of those inspections or tests, the approval authority concludes that the requirements for EU type-approval continue to be fulfilled.

Revisions and extensions of EU type-approvals

1. **Where** particulars recorded in the information package have changed, without requiring inspections or tests to be repeated, the amendment shall be **termed** a ‘revision’.

In such cases, the approval authority shall **establish** the revised pages of the information package as necessary, marking each of the revised pages to show clearly the nature of the change and the date of **revision, including the revised index to the information package without unjustified delay**. A consolidated, updated version of the information package, accompanied by a detailed description of the changes, shall be deemed to meet this requirement.

2. **Any** amendment **as referred to in paragraph 1** shall be **termed** an ‘extension’ **where** the particulars recorded in the information package have changed and any of the following occurs:

- (a) further inspections or tests are required;
- (b) any information on the EU type-approval certificate, with the exception of its attachments, has changed;
- (c) new requirements set out in **this Regulation or its** delegated **or implementing** acts become applicable to the approved engine type or engine family.

In the event of an extension, the approval authority shall **establish** an updated EU type-approval certificate denoted by an extension number, incremented in accordance with the number of successive extensions already granted. That **EU type-**approval certificate shall clearly show the reason for the extension and the date of **extension**.

3. Whenever amended pages or a consolidated, updated version are **established**, the index to the information package attached to the **EU type-**approval certificate shall be amended accordingly to show the date of the most recent extension or revision, or the date of the most recent consolidation of the updated version.
4. No amendment to the EU type-approval of an engine type or engine family shall be required if the new requirements referred to in point (c) of paragraph 2 are, from a technical point of view, irrelevant to that engine type or engine family with regard to its emission performance.

Article 28

Issue and notification of amendments

1. In the case of an extension **of an EU type-approval, the approval authority shall issue to the applicant without unjustified delay** the **updated** EU type-approval certificate **referred to in Article 27(2), including** the attachments thereto, and the index to the information package.
2. In the case of a revision **of an EU type-approval, the approval authority shall issue to the applicant without unjustified delay** the revised documents or the consolidated, updated version, as appropriate, including the revised index to the information package, **as referred to in the second subparagraph of Article 27(1)**.

3. The approval authority shall notify **by means of IMI** any amendment made to EU type-approvals to the approval authorities of the other Member States in accordance with the procedures set out in Article 21.

Article 29

Validity of EU type-approval

1. EU type-approvals shall be issued for an unlimited duration.
2. An EU type-approval of an engine shall become invalid in any of the following cases:
 - (a) **where** new requirements applicable to the approved engine type **or, where applicable, to the engine family** become mandatory for the **placing** on the market, and it is not possible to update the EU type-approval accordingly;
 - (b) **where** production of the approved engine type or engine family is definitively discontinued voluntarily;
 - (c) **where** the validity of the **EU type-**approval expires by virtue of a restriction in accordance with Article 33(6);
 - (d) **where** the **EU type-**approval has been withdrawn in accordance with Article 25(5), Article 37(1) or Article 38(3).

3. Where **an EU type-approval of an engine family becomes invalid in respect of** only one engine type within an engine family, the EU type-approval of the engine family in question shall lose validity only in so far as **that** particular engine type is concerned.
4. Where **re** production of a particular engine **type or, where applicable, an engine family** is definitively discontinued, the manufacturer shall notify the approval authority that granted the EU type-approval for that engine **type or engine family**.

Within one month of receiving the notification referred to in the first subparagraph, the approval authority which granted the EU type-approval for the engine **type or engine family** shall inform the approval authorities of the other Member States accordingly.

5. Without prejudice to paragraph 4, in cases where an EU type-approval of an engine type or, **where applicable, of an** engine family is due to become invalid, the manufacturer shall notify the approval authority that granted the EU type-approval.

In such cases, the approval authority that granted the EU type-approval shall without delay communicate all relevant information to the approval authorities of the other Member States.

The communication referred to in the second subparagraph shall specify, in particular, the date of production and the engine identification number of the last engine produced.

6. Requirements referred to in paragraphs 4 and 5 shall be deemed to be fulfilled through upload of the relevant information to the **IMI System**.

CHAPTER VII

STATEMENT OF CONFORMITY AND MARKINGS

Article 30

Statement of conformity

1. The manufacturer, in its capacity as the holder of an engine type or engine family EU type-approval, shall deliver a **statement** of conformity ("**statement of conformity**") to accompany engines which **are placed on the market on the basis of:**

(a) an exemption referred to in Article 32 (1), (3), (4), (4a), (4b), 4(c), 4(d) or Article 33(4); or

(b) a transitional provision referred to in Article 57(10).

Such a **statement** shall **state particular features and restrictions that shall apply to the engine and** be delivered free of charge together with the engine and shall accompany the **non-road mobile** machinery in which the engine is installed. Its delivery **shall** not be made dependent on an explicit request or on the submission of additional information to the manufacturer. **The statement of conformity may also be delivered in the form of a secure electronic file.**

For a period of 10 years after the **engine** production date, the engine manufacturer shall, at the request of the engine **end-user**, issue a duplicate of the **statement** of conformity against payment **of an amount** not exceeding the cost of issuing it. The word 'duplicate' shall be clearly visible on the face of any duplicate **statement of conformity**.

2. **deleted**
3. The **statement** of conformity shall be drawn up in at least one of the official languages of the **Institutions of the** Union. Any Member State may request **from the engine manufacturer** **that** the **statement** of conformity be translated into its own official language or languages.
4. The person(s) authorised to sign **statements** of conformity shall **belong to** the manufacturer's organisation and shall be duly authorised by the management **of that organisation** to fully engage the legal responsibility of the manufacturer with respect to the design and the construction or with respect to the conformity of the production of the engine.
5. The **statement** of conformity shall be completed in its entirety and shall not contain restrictions as regards the use of the engine other than those provided for in this Regulation.
6. **deleted**
7. The Commission shall be empowered to adopt by means of implementing acts the template for the **statement** of conformity, including the features to prevent forgery **and for** **verification of the secure electronic file**. To that end, the implementing acts shall provide the security features **used for** protecting the **statement of conformity**. Those implementing acts shall be adopted in accordance with the examination procedure referred to in Article 54(2) by 31 December 2016.

Article 31

Statutory marking of engines

1. The manufacturer shall affix a **statutory** marking to each **engine** manufactured in conformity with the approved type (**"the statutory marking"**).
 2. **deleted**
 3. **deleted**
- 3a. In respect of the following engines, the statutory marking shall include supplementary information indicating that the engine is subject to the relevant exemption or transitional provision:**
- (a) transition engines placed on the market in accordance with Article 57(8);**
 - (b) replacement engines placed on the market in accordance with Article 57(9);**
 - (c) engines placed on the market in accordance with Article 32(1);**
 - (d) engines temporarily placed on the market in accordance with Article 32(3);**
 - (e) engines placed on the market in accordance with Article 32(4);**
 - (ea) engines placed on the market in accordance with Article 32(4a);**

(f) engines for export to third countries in accordance with Article 32(-1) that are:

- **manufactured in the Union, or**
- **manufactured outside the Union and installed in non-road mobile machinery in the Union.**

4. The Commission shall be empowered to adopt by means of implementing acts the template for the **statutory** marking, including its mandatory essential information **required when the engine leaves the production line, its mandatory essential information required before the engine is placed on the market and, where applicable, the supplementary information referred to in paragraph 3 of this Article.** Those implementing acts shall be adopted in accordance with the examination procedure referred to in Article 54(2) by 31 December 2016.

5. **deleted**

Article 31a

Temporary marking of engines

1. The manufacturer shall affix a temporary marking to each engine manufactured in conformity with the approved type that is placed on the market on the basis of the exemption referred to in Article 32(2).
2. An engine that is being delivered to an engine manufacturer and, at this stage, not in conformity with the approved type shall only bear a temporary marking.
3. The Commission shall be empowered to adopt by means of implementing acts the template for the temporary markings referred to in paragraphs 1 and 2, including the mandatory essential information that shall be contained on these. Those implementing acts shall be adopted in accordance with the examination procedure referred to in Article 54(2) by 31 December 2016.

CHAPTER VIII

EXEMPTIONS

Article 32

General exemptions

-1. With the exception of point (f) of Article 31(3) engines for export to third countries shall not be subject to this Regulation.

1. With the exception of point (c) of Article 31(3), engines for use by the armed forces shall not be subject to this Regulation.

For the purposes of this paragraph fire services, civil defence services, forces responsible for maintaining public order and emergency medical services shall not be considered to be part of the armed forces.

2. Without prejudice to Article 31 **and with the consent of the OEM**, a manufacturer may deliver an engine separately from its exhaust after-treatment system to **that** OEM.

3. Notwithstanding Article 5(3), Member States shall authorise the temporary placing on the market, for the purposes of field testing, of engines that have not been EU type-approved in accordance with this Regulation.

4. Notwithstanding Articles 17(2) **and 21(3)**, Member States **shall grant** EU type-approval **for**, and **authorise the** placing on the market of, engines that meet the **gaseous and particulate** emission limit values **for special purpose engines** set out in Annex VI, **on** the condition that the engines are intended for installation in **non-road mobile machinery** to be used in potentially explosive atmospheres, as defined in **point (5) of Article 2 of** Directive 2014/34/EU of the European Parliament and of the Council¹⁹ :

4a. Notwithstanding Articles 17(2) and 21(3), Member States may, upon request, grant EU type-approval and authorise the placing on the market of engines that meet the gaseous and particulate emission limit values for special purpose engines set out in Annex VI, on the condition that the engines are intended for installation in non-road mobile machinery that is exclusively used for the launch and recovery of launched lifeboats operated by a national rescue service.

4b. Notwithstanding the requirements of Articles 5(3) and 17(2) , for engines corresponding to categories RLL or RLR and placed on the Union market on or before 31 December 2011, Member States may authorise the placing on the market of replacement engines if the approval authority of the Member State, upon examination, recognises and approves that the installation of an engine in compliance with the applicable emission limits set out in Tables II-7 and II-8 of Annex II will involve significant technical difficulties. In this case, the replacement engine shall comply with the emission limits that it would have needed to meet for placing on the Union market on 31 December 2011 or comply with more stringent emission limits.

¹⁹ Directive 2014/34/EU of the European Parliament and of the Council of 26 February 2014 on the harmonisation of the laws of the Member States relating to equipment and protective systems intended for use in potentially explosive atmospheres (OJ L 96, 29.3.2014, p. 309).

For engines corresponding to categories RLL and RLR and placed on the Union market after 31 December 2011, Member States may authorise the placing on the market of replacement engines complying with the emission limits that the engine to be replaced had to meet when originally placed on the Union market.

4c. For engines corresponding to categories RLL or RLR, Member States may authorise the placing on the market of engines that are in compliance with the latest applicable emission limits defined in the relevant legislation applicable on ...^{*}, on condition that:

(a) those engines are part of a project which is, at the date of entry into force of this Regulation, at an advanced stage of development, as defined by Directive 2008/57/EC of the European Parliament and of the Council of 17 June 2008 on the interoperability of the rail system within the Community; and

(b) the use of engines in compliance with the applicable emission limits set out in Tables II.7 or II.8 will lead to disproportionate costs.

Within one year after publication of this Regulation, each Member State shall communicate to the Commission the list of any such projects.

^{*} **[OJ: please insert date of the day before the entry into force of this Regulation]**

5. The Commission shall be empowered to adopt delegated acts in accordance with Article 55 concerning the detailed technical specifications and conditions for:
- (a) a manufacturer to deliver an engine separately from its exhaust after-treatment system to an OEM, as referred to in paragraph 2 **of this Article**;
 - (b) the temporary placing on the market, for the purposes of field testing, of engines that have not been EU type-approved **in accordance with this Regulation**, as referred to in paragraph 3 **of this Article**;
 - (c) the EU type-approval and placing on the market of engines that meet the **gaseous and particulate** emission limit values **for special purpose engines** set out in Annex VI, as referred to in paragraphs 4 **and 4a of this Article**.

Those delegated acts shall be adopted by 31 December 2016.

Article 33

Exemptions for new technologies or new concepts

1. The manufacturer may apply for a **EU** type-approval in respect of an engine type or engine family that incorporates new technologies or **new** concepts which are incompatible with one or more requirements of this Regulation.
2. The approval authority shall grant the **EU** type-approval referred to in paragraph 1 where all of the following conditions are met:
 - (a) the application states the reasons why the **new** technologies or **new** concepts make the engine type or engine family incompatible with one or more of the requirements **of** this Regulation;
 - (b) the application describes the environmental implications of the new technology **or new concept** and the measures taken in order to ensure at least an equivalent level of environmental protection as that provided by the requirements from which exemption is sought;
 - (c) test descriptions and results are presented which prove that the condition in point (b) is met.

3. The granting of such **EU** type-approval **referred to in paragraph 1** shall be subject to authorisation by the Commission.

Where appropriate, the authorisation by the Commission shall specify whether it is subject to any restrictions.

The authorisation shall be given by means of an implementing act.

4. **Pending the decision on authorisation by the Commission pursuant to paragraph 3, the approval authority may issue a provisional EU type-approval which** shall be valid:
- (a) only** in the territory of that Member State;
 - (b)** only in respect of an engine type covered by the exemption sought; **and**
 - (c) for at least 36 months.**

The approval authority shall inform the Commission and the other Member States that it has issued such a provisional **EU** type-approval without delay by means of a file containing the information referred to in paragraph 2.

The provisional nature and the limited territorial validity **of such a provisional EU type-approval** shall be apparent from the heading of the **EU** type-approval certificate and the heading of the **statement** of conformity.

5. **Where** approval authorities decide to accept the provisional **EU type-approval** referred to in paragraph 4 within their territory they **shall** inform the relevant approval authority and the Commission **thereof** in writing.
6. **deleted**

7. **Where** the Commission decides to refuse **the** authorisation **referred to in paragraph 3**, the approval authority shall immediately give notice to the holder of the provisional **EU** type-approval referred to in paragraph **4**, if such **provisional EU type-**approval has been issued, that the provisional **EU type-**approval will be revoked six months after the date of the Commission's refusal.

Notwithstanding the Commission's decision to refuse **the** authorisation, engines manufactured in conformity with the provisional **EU type-**approval before it ceases to be valid may be placed on the market in any Member State that accepted the provisional **EU type-**approval.

8. **The** requirements referred to in paragraphs 4 and 5 shall be deemed to be fulfilled through upload of the relevant information to the **IMI**.
9. The Commission shall be empowered to adopt by means of implementing acts the authorisation referred to in paragraph 3 **of this Article**. Those implementing acts shall be adopted in accordance with the examination procedure referred to in Article 54(2).
10. The Commission shall be empowered to adopt by means of implementing acts the harmonised templates for the **EU** type-approval certificate and the **statement** of conformity referred to in paragraph 4 **of this Article**, including **their** mandatory essential information. Those implementing acts shall be adopted in accordance with the examination procedure referred to in Article 54(2) by 31 December 2016.

Article 34

Subsequent adaptation of delegated and implementing acts

1. Where the Commission authorises the granting of an exemption pursuant to Article 33, it shall immediately take the necessary steps to adapt the delegated or implementing acts concerned to technological developments.

Where the exemption authorised **pursuant to** Article 33 relates to a matter that is **regulated** in a UNECE regulation, the Commission shall propose an amendment to the relevant UNECE regulation in accordance with the procedure applicable under the Revised 1958 Agreement.

2. As soon as the relevant **delegated or implementing** acts **referred to in paragraph 1** have been amended, any restriction imposed by the Commission decision authorising the exemption shall be lifted.

Where the necessary steps to adapt the delegated or implementing acts have not been taken, the Commission may, at the request of the Member State which granted the **EU type-**approval, authorise the Member State to extend the **EU** type-approval by means of a decision in the form of an implementing act, adopted in accordance with the examination procedure referred to in Article 54(2).

CHAPTER IX

PRODUCTION REPORTING AND VERIFICATION

Article 35

Specific obligations of manufacturers with regard to production reporting

- 1.** A manufacturer shall **submit** to the approval authority which granted the EU type-approval a list containing the number **of engines** for each engine type **and subcategory** produced in accordance with this Regulation and in conformity with the EU type-approval since the latest reporting was made, or since the requirements of this Regulation were first applicable.

That list shall be submitted:

- (a) within 45 days after the end of each calendar year;**
 - (b) immediately after each of the dates for placing on the market of engines referred to in Annex III; and**
 - (c) by any date that the approval authority may stipulate.**
- 2.** Where this is not identified by the engine coding system, the list referred to in paragraph **1** **shall** specify correlations of the identification numbers to the corresponding engine types or engine families and to the EU type-approval numbers.
 - 3.** The list referred to in paragraph **1** shall also indicate clearly any case **in which** the manufacturer ceases to produce an approved engine type or engine family.

4. The manufacturer shall retain **a copy** of the list **referred to in paragraph 1** for a minimum period of 20 years after the end of validity of the EU type-approval concerned.
5. **The Commission shall be empowered to adopt by means of implementing acts the format of the list referred to in paragraph 1 of this Article. Those implementing acts shall be adopted in accordance with the examination procedure referred to in Article 54(2) by 31 December 2016.**

Article 36

Verification measures

1. The approval authority of a Member State granting an EU type-approval shall take the necessary measures in relation to that **EU type-approval** to **ensure**, where appropriate in cooperation with the approval authorities of the other Member States, **that** the identification numbers **are correctly allocated to and are properly used by engine manufacturers before the type-approved engine is placed or made available on the market.**
2. An additional verification of the identification numbers may **be carried out** in conjunction with the control of conformity of production as described in Article 25.
3. With regard to the verification of the identification numbers, the manufacturer or the manufacturer's **representatives** established in the Union shall without delay **provide, upon** request, to the responsible approval authority all the information needed **relating** to the manufacturer's purchasers together with the identification numbers of the engines reported as produced in accordance with Article 35. Where engines are **made available** to **an OEM**, further information **shall** not **be** required.

4. If, **further to** a request of the approval authority, the manufacturer is not able to verify the **statutory** marking requirements, **the approval authority may withdraw** the **EU type-**approval granted in respect of the corresponding engine type or **engine** family. The information procedure shall be carried out as set out in Article **37**(4).

CHAPTER X

SAFEGUARD CLAUSES

Article 37

Engines not in conformity with the approved type

1. Where engines **bearing a statutory marking and, where applicable**, accompanied by a **statement** of conformity do not conform to the approved type or family, the approval authority which granted the EU type-approval shall take the necessary measures, including the withdrawal of EU type-approval where the action taken by the manufacturer is inadequate, to ensure that engines in production are brought into conformity with the approved type or family.

The **relevant** approval authority shall **inform the approval authorities** of the other Member States of the measures taken.

2. For the purposes of paragraph 1, deviations from the particulars set out in the EU type-approval certificate or in the information package, where these deviations have not been authorised in accordance with Chapter VI, shall be deemed to constitute failure to conform to the approved type or family.
3. **Where** an approval authority finds that engines accompanied by a **statement** of conformity, **if applicable**, or bearing a **type-approval** mark issued in another Member State do not conform to the approved type or family, it may **request** the approval authority which granted the EU type-approval to verify that engines in production continue to conform to the approved type or family. On receipt of such a request, the approval authority which granted the EU type-approval shall take the requisite action as soon as possible, and at the latest within three months of the date of the request.
4. The approval authorities of the Member States shall inform each other within one month of any withdrawal of EU type-approval and of the reasons for such measure.
5. **Where** the approval authority that granted the EU type-approval disputes the non-conformity notified to it, the Member States concerned shall endeavour to settle the dispute. The Commission shall be kept informed and, where necessary, shall hold appropriate consultations with a view to reaching a settlement.

Article 38

Recall of engines

1. Where a manufacturer **who** has been granted an EU type-approval is obliged, **as a result of the application of** Article 20(1) of Regulation (EC) No 765/2008, to recall engines placed on the market, whether installed or not in **non-road mobile** machinery, due to the fact that the engines represent a serious **risk** with regard to the protection of the environment **or public health**, that manufacturer shall immediately inform the approval authority that granted the EU type-approval.
2. The manufacturer shall propose to **that** approval authority a set of appropriate remedies to neutralise the serious **risk** referred to in paragraph 1. The approval authority shall communicate the proposed remedies to the approval authorities of the other Member States **and to the Commission** without delay.

The approval authorities shall ensure that the remedies are effectively implemented in their respective Member States.

3. **Where** the **approval authority considers the** remedies to be insufficient or not implemented quickly enough, it shall inform **without delay** the approval authority that granted the EU type-approval **to the manufacturer**.

Where the manufacturer does not **subsequently** propose and implement effective corrective measures, the approval authority which granted the EU type-approval shall take all protective measures required, including the withdrawal of the EU type-approval.

In the case of withdrawal of the EU type-approval, the approval authority shall within one month of **that** withdrawal notify the manufacturer, the approval authorities of the other Member States and the Commission **thereof** by registered letter or equivalent electronic means.

Article 39

Notification of decisions and remedies available

1. **Any** decision:
 - (a)** taken pursuant to this Regulation;
 - (b)** refusing or withdrawing **an** EU type-approval;
 - (c)** prohibiting, restricting **or impeding** the placing on the market of an engine;
 - (d)** requiring **the recall** of an engine from the market; **or**
 - (e)** **prohibiting, restricting or impeding the placing on the market of a non-road mobile machinery in which is installed an engine falling within the scope of this Regulation,**

shall state the reasons on which **it is** based.

2. **The approval authorities shall:**

(a) **notify** any decision referred to in paragraph 1 to the party concerned;

(b) **inform the party concerned** of the remedies available to it under the laws in force in the Member State concerned and of the time limits **related to those** remedies.

CHAPTER XI

INTERNATIONAL REGULATIONS AND PROVISION OF TECHNICAL INFORMATION

Article 40

Acceptance of equivalent engine type-approvals

1. The Union may acknowledge, in the framework of multilateral or bilateral agreements between the Union and third countries, the equivalence between the conditions and provisions for **EU** type-approval of engines established by this Regulation and the procedures established by international regulations or regulations of third countries.
2. Type-approvals granted and **statutory** markings in conformity with UNECE regulations or amendments thereto which the Union has voted in favour of or to which the Union has acceded as set out in the delegated act referred to in **point (a) of** paragraph 4 shall be recognised as equivalent to **EU** type-approvals granted and **statutory** marking in accordance with this Regulation.

3. **EU** type-approvals granted in conformity with Union acts as set out in the delegated act referred to in **point (b) of** paragraph 4 shall be recognised as equivalent to **EU** type-approvals granted in accordance with this Regulation.

4. The Commission shall be empowered to adopt delegated acts in accordance with Article 55 setting out:
 - (a) the list of UNECE regulations or amendments thereto, **including any requirements set out therein which relate to their application**, which the Union has voted in favour of or to which the Union has acceded which **are to** apply to EU type-approval of engine **types** and engine families to be installed in non-road mobile machinery;

 - (b) the list of Union acts granting **EU** type-approvals, **including any requirements set out therein which relate to their application**.

Those delegated acts shall be adopted by 31 December 2016.

Article 41

Information intended for OEMs and end-users

1. A manufacturer may not supply to OEMs or end-users any technical information related to the particulars provided for in this Regulation which diverges from the particulars approved by the approval authority.
2. The manufacturer shall make available to OEMs all relevant information and instructions that are necessary for the correct installation of the engine into the **non-road mobile** machinery, including a description of any special conditions or restrictions linked to the installation or use of an engine.
3. Manufacturers shall make available to OEMs all relevant information and necessary instructions intended for the end-user, notably describing any special conditions or restrictions linked to the use of an engine.
4. Notwithstanding paragraph 3, manufacturers shall make available to OEMs the value of the carbon dioxide (CO₂) emissions determined during the EU type-approval process and instruct the OEMs to communicate **that** information, **together with explanatory information on the test conditions,** to the end-user of the **non-road mobile** machinery **in which** the engine is intended to be installed.
5. The Commission shall be empowered to adopt delegated acts in accordance with Article 55 setting out the details of the information and instructions referred to in paragraphs 2, 3 and 4 **of this Article.** Those delegated acts shall be adopted by 31 December 2016.

Exchange of data and information via the IMI System

1. **The exchange of data and information related to EU type-approvals between national authorities, or between national authorities and the Commission in the framework of this Regulation shall take place in electronic format via IMI.**
2. **Any information of relevance in respect of EU type-approvals granted in accordance with this Regulation shall be centrally gathered and made accessible to the national authorities and to the Commission via IMI.**
3. **The Commission shall ensure that IMI also allows for:**
 - (a) the exchange of data and information between, **on the one hand, manufacturers or technical services and, on the other hand, national authorities or the Commission;**
 - (b) public access to certain data and information related to the results of type-approvals **and monitoring results of in-service engines;**
 - (c) **where appropriate and technically and economically feasible, facilities for automatic transfer of data between existing national databases and IMI, in agreement with the Member States concerned.**

Such use of IMI shall be optional.

4. The Commission shall be empowered to adopt by means of implementing acts the detailed technical requirements and procedures necessary for **the interconnection of IMI with existing national databases**. Those implementing acts shall be adopted in accordance with the examination procedure referred to in Article 54(2) by 31 December 2016.

CHAPTER XII

DESIGNATION AND NOTIFICATION OF TECHNICAL SERVICES

Article 43

Requirements relating to technical services

1. **A** approval authorities shall **only** designate a technical service pursuant to Article 45 that **fulfills** the requirements laid down in paragraphs 2 to 9 of this Article.
2. **A** technical service shall be established under the national law of a Member State and have legal personality.
3. **The** technical service shall be a third-party body independent of the process of design, **manufacture**, supply or maintenance of the engine it assesses.

A body belonging to a business association or professional federation representing undertakings involved in the design, **manufacture**, provision, assembly, **installation**, use or maintenance of engines which it assesses, tests or inspects may, on **the** condition that its independence and the absence of any conflict of interest are demonstrated, be considered as fulfilling the requirements of the first subparagraph.

4. Neither the technical service, nor its top-level management nor the personnel responsible for carrying out the categories of activities for which they are designated in accordance with Article 45(1) shall be the designer, manufacturer, supplier, **installer** or maintainer of the engines which they assess, nor represent parties engaged in those activities. This shall not preclude the use of assessed engines referred to in paragraph 3 of this Article that are necessary for the operation of the technical service or the use of such engines for personal purposes.

The technical service shall ensure that the activities of its subsidiaries or subcontractors do not affect the confidentiality, objectivity or impartiality of the categories of activities for which it has been designated.

5. **The** technical service shall carry out the categories of activities for which it has been designated with the highest degree of professional integrity and the requisite technical competence in the specific field and **its personnel** shall be free from all pressures and inducements, particularly financial, which might influence **their** judgment or the results of **their** assessment activities, especially such pressures or inducements emanating from persons or groups of persons with an interest in the results of those activities.
6. **The** technical service shall demonstrate **to its designating approval authority** that it is capable of carrying out all the categories of activities for which it has been designated in accordance with Article 45(1), by **ensuring** that it has:
- (a) personnel with appropriate skills and specific technical knowledge and vocational training as well as sufficient and appropriate experience to perform the task;
 - (b) descriptions of the procedures relevant to the categories of activities for which it is seeking to be designated, so ensuring the transparency and reproducibility of those procedures;

- (c) procedures for the performance of the categories of activities for which it is seeking to be designated, which take due account of the degree of complexity of the technology of the engine in question, and of whether the engine is manufactured **pursuant to** a mass or serial production process; and
 - (d) the means necessary to perform in an appropriate manner the tasks connected with the categories of activities for which it is seeking to be designated and that it has access to all the necessary equipment or facilities.
7. The impartiality of the technical service, **its** top-level management and the assessment personnel shall be guaranteed. They shall not engage in any activity that might conflict with their independence of judgment or integrity in relation to the categories of activities for which they are designated.
 8. Technical services shall take out liability insurance related to their activities unless liability is assumed by the Member State in accordance with national law, or the Member State itself is directly responsible for the assessment.
 9. The personnel of a technical service shall observe professional secrecy with regard to all information obtained in carrying out their tasks under this Regulation or any provision of national law giving effect to it, except in relation to the designating approval authority or where required by Union or national law. Proprietary rights shall be protected.

Article 44

Subsidiaries of and subcontracting by technical services

1. Technical services may subcontract some of their activities for which they have been designated in accordance with Article 45(1) or have those activities carried out by a subsidiary only with the agreement of their designating approval authority.
2. **In such cases, the technical service** shall ensure that the subcontractor or the subsidiary meet the requirements in Article 43 and shall inform the designating approval authority accordingly.
3. Technical services shall take full responsibility for the tasks performed by any of their subcontractors or subsidiaries, wherever these are established.
4. Technical services shall keep at the disposal of the designating approval authority the relevant documents concerning the assessment of the qualifications of the subcontractor or the subsidiary and the tasks performed by them.

Article 45

Designation of technical services

1. **Approval authorities shall designate** technical services for one or more of the following categories of activities, depending on their field of competence:
 - (a) category A: technical services which carry out in their own facilities the tests referred to in this Regulation;
 - (b) category B: technical services which supervise the tests referred to in this Regulation, where such tests are performed in the manufacturer's facilities or in the facilities of a third party;
 - (c) category C: technical services which assess and monitor on a regular basis the manufacturer's procedures for controlling conformity of production;
 - (d) category D: technical services which supervise or perform tests or inspections for the surveillance of conformity of production.

2. An approval authority may be designated as a technical service for one or more of the **categories of** activities referred to in paragraph 1.

3. Technical services of a third country, other than those designated in accordance with **this** Article, may be notified for the purposes of Article 49, but only if such an acceptance of technical services is provided for by a bilateral agreement between the Union and the third country concerned. This shall not prevent a technical service established under the national law of a Member State in accordance with Article 43(2) from establishing subsidiaries in third countries, provided that the subsidiaries are directly managed and controlled by the designated technical service.

Article 46

deleted

Article 47

Procedures for performance standards and assessment of technical services

The Commission shall be empowered to adopt delegated acts in accordance with Article 55 concerning:

- (a)** the standards with which the technical services have to comply; and
- (b)** the procedure for the assessment **of the technical services** in accordance with Article 48.

Article 48

Assessment of the skills of the technical services

1. The designating approval authority shall draw up an assessment report demonstrating that the candidate technical service has been assessed for its compliance with this Regulation and the delegated acts adopted pursuant to this Regulation. That report may include a certificate of accreditation issued by an accreditation body.
2. The assessment on which the report referred to in paragraph 1 **of this Article** is based shall be conducted in accordance with the provisions laid down in a delegated act adopted pursuant to Article 55. The assessment report shall be reviewed at least every three years.
3. The assessment report shall be communicated to the Commission upon request. In such cases, where the assessment is not based on an accreditation certificate issued by a national accreditation body attesting that the technical service fulfils the requirements of this Regulation, the designating approval authority shall provide the Commission with documentary evidence which attests the technical service's competence and the arrangements in place to ensure that the technical service is monitored regularly by the designating approval authority and satisfies the requirements of this Regulation and the delegated acts adopted pursuant to **it**.
4. An approval authority that intends to be designated as a technical service in accordance with Article 45(2) shall document compliance through an assessment conducted by auditors independent of the activity being assessed. Such auditors may be from the same organisation provided that they are managed separately from personnel undertaking the assessed activity.
5. **deleted**

Article 49

Procedures for notification

1. **With respect to each technical service that they have designated,** Member States shall notify to the Commission:
 - (a)** the name;
 - (b)** the address, including electronic address;
 - (c)** the responsible persons;
 - (d)** the category of activities; **and**
 - (e)** any modifications **or changes related to a designation referred to in Article 45.**
2. A technical service may conduct the activities referred to in Article 45(1) on behalf of the designating approval authority responsible for the EU type-approval only if it has been notified beforehand to the Commission in accordance with paragraph 1 of this Article.
3. The same technical service may be designated by several designating approval authorities and notified by the Member States of these designating approval authorities irrespective of the category or categories of activities it will conduct in accordance with Article 45(1).
4. **deleted**

5. Where a specific organisation or competent body carrying out an activity not included in Article 45(1) needs to be designated in application of a delegated act, the notification shall be made in accordance with this Article.
6. The Commission shall publish a list and details of the technical services notified in accordance with this Article **on its website**.

Article 50

Changes to designations

1. Where a designating approval authority has ascertained or has been informed that a technical service designated by it no longer meets the requirements laid down in this Regulation, or that it is failing to fulfil its obligations, the designating approval authority shall restrict, suspend or withdraw the designation as appropriate, depending on the seriousness of the failure to meet those requirements or fulfil those obligations. The Member State that has notified this technical service shall immediately inform the Commission accordingly. The Commission shall modify the published information referred to in Article 49(6) accordingly.
2. In the event of restriction, suspension or withdrawal of the designation **referred to in paragraph 1**, or where the technical service has ceased its activity, the designating approval authority shall take appropriate steps to ensure that the files of that technical service are either processed by another technical service or kept available for the designating approval authority or for the market surveillance authorities at their request.

Article 51

Challenge to the competence of technical services

1. The Commission shall investigate all cases where it has doubts, or **where** doubt is brought to its attention, regarding the competence of a technical service or the continued fulfilment by a technical service of the requirements and responsibilities to which it is subject.
2. The Member State of the designating approval authority shall provide the Commission, on request, with all information relating to the basis for the designation or the maintenance of the designation of the technical service concerned.
3. The Commission shall ensure that all sensitive information obtained in the course of its investigations is treated confidentially.
4. Where the Commission ascertains that a technical service does not meet or no longer meets the requirements for its designation, it shall inform the Member State of the designating approval authority accordingly, with a view to establishing, in cooperation with that Member State, the corrective measures necessary, and shall request that Member State to take those corrective measures, including the withdrawal of the designation if necessary.

Article 52

Operational obligations of technical services

1. Technical services shall carry out the categories of activities for which they have been designated on behalf of the designating approval authority and in accordance with the assessment and test procedures provided for in this Regulation and its delegated acts.

Technical services shall supervise or shall themselves carry out the tests required for **EU type-**approval or inspections as set out in this Regulation or in one of its delegated acts, except where alternative procedures are permitted. The technical services shall not conduct tests, assessments or inspections for which they have not been duly designated by their approval authority.

2. Technical services shall at all times:

- (a) allow their designating approval authority to witness the technical service during the assessment as appropriate; and

- (b) without prejudice to Article 43(9) and Article 53, provide their designating approval authority with such information on their categories of activities falling **within** the scope of this Regulation as may be requested.

3. Where a technical service finds that requirements laid down in this Regulation have not been met by a manufacturer, it shall report **that fact** to the designating approval authority **that shall require** the manufacturer to take appropriate corrective measures.

The designating approval authority shall not issue an EU type-approval certificate **until the manufacturer has taken** the appropriate corrective measures to the satisfaction of **that** approval authority.

4. Where, in the course of monitoring conformity of production following the issue of an EU type-approval certificate, a technical service acting on behalf of the designating approval authority finds that an engine no longer complies with this Regulation, it shall report this to the designating approval authority. The approval authority shall take the appropriate measures as provided for in Article 25.

Article 53

Information obligations of technical services

1. Technical services shall inform their designating approval authority of **any**:
 - (a) non-conformity encountered which might require a refusal, restriction, suspension or withdrawal of an EU type-approval certificate;
 - (b) circumstances affecting the scope of or conditions for their designation;
 - (c) request for information which they have received from market surveillance authorities regarding their activities.
2. On request from their designating approval authority, technical services shall provide information on the activities within the scope of their designation and on any other activity performed, including cross-border activities and subcontracting.

CHAPTER XIII

IMPLEMENTING ACTS AND DELEGATED ACTS

Article 54

Committee procedure

1. The Commission shall be assisted by the ‘Technical Committee – Motor Vehicles’ (TCMV) established **by** Article 40(1) of Directive 2007/46/EC. That committee **shall be** a committee within the meaning of Regulation (EU) No 182/2011.
2. Where reference is made to this paragraph, Article 5 of Regulation (EU) No 182/2011 shall apply.
3. **Where the committee delivers no opinion, the Commission shall not adopt the draft implementing act and the third subparagraph of Article 5(4) of Regulation (EU) No 182/2011 shall apply.**

Article 55

Exercise of the delegation

1. The power to adopt the delegated acts is conferred on the Commission subject to the conditions laid down in this Article.
2. The power to adopt delegated acts referred to in Article 18(2), Article 23(11), Article 24(4), Article 25(6), Article 32(5), Article 40(4), Article 41(5) and Article 47 shall be conferred on the Commission for a period of five years from ...^{*}.
3. The delegation of power referred to in Article 18(2), Article 23(11), Article 24(4), Article 25(6), Article 32(5), Article 40(4), Article 41(5) and Article 47 may be revoked at any time by the European Parliament or by the Council. A decision to revoke shall put an end to the delegation of the power specified in that decision. It shall take effect the day following the publication of the decision in the *Official Journal of the European Union* or at a later date specified therein. It shall not affect the validity of any delegated acts already in force.
- 4. Before adapting a delegated act, the Commission shall consult experts designated by each Member State in accordance with the principles laid down in the Interinstitutional Agreement on Better Law-Making of (date).**
- 5.** As soon as it adopts a delegated act, the Commission shall notify it simultaneously to the European Parliament and to the Council.

* **[OJ: please insert date of entry into force of this Regulation]**

5. A delegated act adopted pursuant to Article 18(2), Article 23(11), Article 24(4), Article 25(6), Article 32(5), Article 40(4), Article 41(5) and Article 47 shall enter into force only if no objection has been expressed either by the European Parliament or the Council within a period of two months of notification of that act to the European Parliament and the Council or if, before the expiry of that period, the European Parliament and the Council have both informed the Commission that they will not object. That period shall be extended by two months at the initiative of the European Parliament or of the Council.

CHAPTER XIV

FINAL PROVISIONS

Article 56

Penalties

1. Member States shall provide for penalties for infringement of this Regulation by economic operators or OEMs. The penalties provided for shall be effective, proportionate and dissuasive. Member States shall notify those provisions to the Commission by ...^{*} and shall notify the Commission without delay of any subsequent amendment affecting them.

Member States shall take all measures necessary to ensure that the penalties are implemented.

* **[OJ: please insert date (2 years after entry into force of this Regulation)]**

2. The types of infringements which are subject to a penalty shall include:
- (a) making false declarations, notably during **EU type-**approval procedures, procedures leading to a recall or procedures related to exemptions;
 - (b) falsifying test results for EU type-approval or **monitoring of** in-service **engines**;
 - (c) withholding data or technical specifications which could lead to recall, refusal or withdrawal of EU type-approval;
 - (d) use of defeat strategies;
 - (e) refusal to provide access to information;
 - (f) placing on the market engines subject to **EU type-**approval without such **EU type-**approval or falsifying documents or **statutory** markings with that intention;
 - (g) placing on the market transition engines and **non-road mobile** machinery in which **such** engines are installed in violation of the exemption provisions;
 - (h) being in violation of the engine restrictions set out in Article **33(3) and (4)**;
 - (i) placing on the market an engine **modified in such a way** that the engine is no longer in conformity with the specifications of its **EU** type-approval;
 - (j) installing an engine in **non-road mobile** machinery for use other than the exclusive use provided for in Article 4;

(k) placing on the market an engine under Article 32(4) **or 32(4a)** for use in **machinery** other than that foreseen in **those paragraphs**;

(ka) placing on the market an engine under Article 57(10) for use in machinery other than that foreseen in that Article;

(l) placing on the market non-road mobile machinery in which are installed engines subject to EU type-approval under this Regulation, without such approval;

(la) placing on the market non-road mobile machinery being in violation of the restrictions regarding the non-road mobile machinery set out in Article 32(4), 32(4a), 32(4b), 32(4c) or 32(4d).

Article 57

Transitional provisions

1. Without prejudice to Chapters II and III, this Regulation shall not invalidate, before the dates for placing on the market of engines **set out** in Annex III, any EU type-approval **or exemption**.
2. Approval authorities may continue to grant type-approvals **and exemptions** in accordance with the relevant legislation applicable on **...**^{*} until the mandatory dates for the EU type-approval of engines **set out** in Annex III.

* **[OJ: please insert date of the day before the entry into force of this Regulation]**

3. By way of derogation from this Regulation, engines which have received an EU type-approval pursuant to the relevant legislation applicable on ...^{*}, or which meet the requirements set out by the Central Commission for the Navigation of the Rhine (CCNR) and adopted as CCNR Stage II, in the framework of the **Revised** Convention for the Rhine **Navigation**, may continue to be placed on the market until the dates for placing on the market of engines **set out** in Annex III.

In such a case, national authorities shall not prohibit, restrict or impede the placing on the market of engines complying with the approved type.

4. Engines which on...^{**} **did not fall within the scope of Directive 97/68/EC** may continue to be placed on the market on the basis of the national rules in force, if any, until the dates for **the** placing on the market of engines **set out** in Annex III.
5. Without prejudice to Article 5(3), **Article 17(2) and, where applicable, Directive 2008/57/EC of the European Parliament and of the Council²⁰ and Commission Regulation (EU) No 1302/2014²¹**, transition engines and, where applicable, the **non-road mobile** machinery in which those transition engines are installed may continue to be placed on the market during the transition period on **the** condition that the machinery in which the transition engine is installed has a production date prior to **18 months** after the start of the transition period.

* **[OJ: please insert date of the day before the entry into force of this Regulation]**

** **[OJ: please insert date of the day before the entry into force of this Regulation]**

²⁰ **Directive 2008/57/EC of the European Parliament and of the Council of 17 June 2008 on the interoperability of the rail system within the Community (Recast) (OJ L 191, 18.7.2008, p. 1).**

²¹ **Commission Regulation (EU) No 1302/2014 of 18 November 2014 concerning a technical specification for interoperability relating to the ‘rolling stock — locomotives and passenger rolling stock’ subsystem of the rail system in the European Union (OJ L 356, 12.12.2014, p. 228).**

For engines of category NRE, Member States shall authorise an extension of the transition period and the **18**-month period referred to in the first sub-paragraph by an additional 12 months for OEM's with a total yearly production of fewer than **100** units of non-road mobile machinery equipped with **internal** combustion engines. For the purposes of the calculation of the total yearly production referred to in this paragraph, all OEM's under the control of the same natural or legal person shall be considered to be a single OEM.

For engines of category NRE used in mobile cranes, the transition period and the 18-month period referred to in the first subparagraph shall be extended by 12 months.

For engines of category NRS with engine power less than 19 kW used in snow throwers, the transition period and the 18-month period referred to in the first subparagraph shall be extended by 24 months.

6. Subject to paragraph 5 **of this Article**, transition engines **shall meet at least one of the following requirements:**
- (a) **conform to engine types or engine families whose EU type-approval is no longer valid pursuant to point (a) of Article 29(2); and are, at the time of the engines' production dates, covered by a valid EU type-approval that is in compliance with the latest applicable emission limits defined in the relevant legislation applicable on...^{*} ;**
 - (b) **belong to a power band that was not subject to pollutant emission type-approval at Union level on...^{*}; or**
 - (c) **be used or intended for use in an application that was not subject to pollutant emission related type-approval at Union level on ...^{*}.**

^{*} **[OJ: please insert date of the day before the entry into force of this Regulation]**

7. **The period for placing transition engines on the market shall be limited to:**
- (a) **24** months from the date for placing on the market of engines set out in Annex III, in the case set out in the first subparagraph of paragraph 5;
- (b) **36** months from the date for placing on the market of engines set out in Annex III, in the case set out in the second subparagraph of paragraph 5.
8. Manufacturers shall ensure that transition engines **placed on the market during the transition period** comply with the marking set out in point (a) of Article 31(2).
9. **Notwithstanding Articles 5(3), 17(2) and 21, Member States may, for a period that ends no later than ...^{*}, authorise the placing on the market of engines of category RLL with a maximum net power greater than 2000 kW that do not comply with the emission limits set out in Annex II, to be installed in locomotives which only run on a technically isolated 1520 mm railway network. During that period the engines placed on the market shall comply at least with the emission limits that engines had to meet for being placed on the market on 31 December 2011. The approval authorities of the Member states shall grant EU type-approval and authorise the placing on the market of such engines.**
- 9a. **Notwithstanding Article 5(3) and Article 17(2), Member States shall authorise the placing on the market of replacement engines, for a period not longer than 15 years, starting from the applicable dates for placing on the market of Stage V engines set out in Annex III, provided that the engines belong to a category equivalent to NRS with a reference power no less than 19 kW or belong to category equivalent to NRG, where the replacement engine and the original engine belong to an engine category and power range that was not subject to type approval at Union level on ...^{**};**

* **[OJ, please insert the date: 10 years after the date of publication of this Regulation]**

** **[Day before the date of repeal of Directive 97/68/EC]**

9b. Notwithstanding Article 5(3) and Article 17(2), Member States shall authorise the placing on the market of replacement engines, for a period not longer than 20 years, starting from the applicable dates for placing on the market of Stage V engines set out in Annex III, provided that the engines:

(a) belong to category NRE with a reference power no less than 19 kW and no greater than 560 kW and comply with an emission stage that expired not more than 20 years before the placing on the market of those engines and which is at least as stringent as the emission limits that the engine to be replaced had to meet when originally placed on the market;

(b) belong to a category equivalent to NRE and with a reference power greater than 560 kW, where the replacement engine and the original engine belong to an engine category and power range that was not subject to type approval at Union level on ...^{*};

9c. Member States may decide not to apply this Regulation, for a period ending no later than ...^{}, to engines installed in cotton harvesting machinery.**

10. Manufacturers shall ensure that replacement engines comply with the marking set out in point (b) of Article 31(2).

^{*} **[Day before the date of repeal of Directive 97/68/EC]**

^{**} **[OJ, please insert the date: 10 years after the date of publication of this Regulation]**

Article 58

Report

1. By 31 December 2021, Member States shall inform the Commission of the application of the EU type-approval procedures laid down in this Regulation.
2. **By 31 December 2022, on** the basis of the information supplied under paragraph 1, the Commission shall **submit** a report to the European Parliament and the Council on the application of this Regulation.

Article 59

Review

- 1. By 31 December 2018, the Commission shall submit a report to the European Parliament and to the Council regarding the assessment of the possibility of laying down harmonised measures for the installation of retrofit emission control devices on engines in non-road mobile machinery that has already been placed on the Union market, including technical measures and financial incentive schemes, as a means of helping Member States to comply with Union air quality legislation by assessing possible action against air pollution in densely populated areas, in due respect of the Union rules on state aid.**

1. By 31 December 2020, the Commission shall submit a report to the European Parliament and to the Council regarding:
 - (a) the assessment of further pollutant emission reduction potential, on the basis of available technologies and cost/benefit analysis; **in particular, for engines of categories IWP and IWA, the assessment of the technological and economical feasibility of a further reduction of:**
 - **the emission limit value for the PN and NOx emissions,**
 - **the A-factor for fully and partially gaseous-fuelled engines in the framework of a climate-neutral operation compared to diesel fuelled engines;**
 - **and the potential addition of PN limit values to those engine categories that do not have one set in Annex II of this Regulation;**
 - (b) the identification of potentially relevant pollutant types that do not fall within the scope of this Regulation.
2. By 31 December 2025, the Commission shall submit a report to the European Parliament and to the Council regarding the use of the exemption clauses provided for in Article 32(3) and (4), and the monitoring of results of the emission tests set out in Article 18 and the conclusions thereof.

The report shall also evaluate the tests required for EU type-approval as set out in Article 23 and 24, with a particular focus on the extent to which those tests correspond to real engine operation conditions, and the feasibility of introducing tests for particulate emissions as part of the in-service testing set out in Article 18.

3. The reports referred to in paragraphs 1 and 2 shall:
- (a) **be** based on a consultation of the relevant stakeholders;
 - (b) take into account existing related **Union** and international standards; **and**
 - (c) be accompanied, where appropriate, by legislative proposals.

Article 59a

Amendment to Directive 97/68/EC

Directive 97/68/EC is amended as follows:

(1) in Article 9(4a), the following subparagraphs are added:

"By way of derogation from the first subparagraph, Member States may authorise, on request by an OEM, the permission to place on the market engines that meet Stage IIIA emission limit values, under the condition that those engines are intended for installation in a non-road mobile machinery to be used in potentially explosive atmospheres, as defined in Directive 2014/34/EU of the European Parliament and the Council.

Manufacturers shall provide the approval authority with due evidence that the engines are exclusively installed in non-road mobile machinery certified as meeting those requirements. A label bearing the text '*Engine for restricted use in machinery manufactured by*', followed by the name of the OEM and the unique reference of the associated derogation shall be affixed to any such engines, next to the engine statutory marking set out in section 3 of Annex I.

By way of derogation from the first subparagraph, Member States may grant EU type approval and authorise the placing on the market of engines of category RLL with a maximum net power greater than 2000kW that do not comply with the emission limits set out in Annex II, that are to be installed in locomotives which only run on a technically isolated 1520 mm railway network. During that period, the engines placed on the market shall comply at least with the emission limits that engines had to meet to be placed on the market on 31 December 2011."

(2) in Article 10, the following paragraph is added:

"8. Member States may decide not to apply this Directive to engines installed in cotton harvesting machinery."

Article 59b

Amendment to Regulation (EU) No 1024/2012

In the Annex to Regulation (EU) No 1024/2012, the following point is added:

"6. Regulation (EU) 2016/...* of the European Parliament and of the Council of ... on requirements relating to gaseous and particulate pollutant emission limits and type-approval for internal combustion engines for non-road mobile machinery, amending and repealing Directive 97/68/EC and amending Regulation (EU) No 1024/2012 : Article 42.**

* **[OJ: Please insert the reference for this Regulation]**

** **[OJ: Please insert publication reference for this Regulation]**

Article 59c

Amendment to Regulation (EU) No 167/2013

Article 19 is amended as follows:

(1) paragraph 3 is replaced by the following:

"3. The provisions regarding engine categories, exhaust emission limits, test cycles, emission durability periods, exhaust emission requirements, requirements regarding monitoring of emissions of in-service engines, and conduct of measurements and tests, as well as the transitional provisions and provisions allowing for the early EU type-approval and placing on the market of Stage V engines as laid down for non-road mobile machinery in Regulation (EU) [2016/...] of the European Parliament and of the Council* and the delegated and implementing acts adopted thereunder shall apply.

For the purposes of placing on the market, registration or entry into service of tractors of categories T2, T4.1 and C2, the engines in the power range 56 – 130 kW meeting the Stage IIIB requirements shall be considered to be transition engines as defined in point (30) of Article 3 of Regulation (EU) [2016/....].

* **Regulation (EU) No 2016/... of the European Parliament and of the Council of ... on requirements relating to gaseous and particulate pollutant emission limits and type-approval for internal combustion engines for non-road mobile machinery, amending Regulations (EU) No 1024/2012 and (EU) No 167/2013 and amending and repealing Directive 97/68/EC**

(2) in paragraph 6, the following subparagraph is added:

"By way of derogation from the principle set out in the second subparagraph, the Commission shall be empowered to amend by 31 December 2016 Commission Delegated Regulation (EU) 2015/96^{*} so that:

(a) for the purposes of EU type-approval for tractors of categories T2, T4.1 and C2, the period of postponement set out in Article 11(4) of Regulation (EU) 2015/96 is four years; and

(b) under the flexibility scheme according to Article 14 of Regulation (EU) 2015/96 the flexibility allowed pursuant to point 1.1.1 of Annex V to that Regulation is increased to 150%.

**** Commission Delegated Regulation (EU) 2015/96 of 1 October 2014 supplementing Regulation (EU) No 167/2013 of the European Parliament and of the Council as regards environmental and propulsion unit performance requirements of agricultural and forestry vehicles (OJ L 16, 23.1.2015, p. 1).***

Article 60

Repeal

1. Without prejudice to Article 57 **(1) to (4) of this Regulation**, Directive 97/68/EC is repealed with effect from 1 January 2017.
2. **References to the repealed Directive shall be construed as references to this Regulation.**

Article 61

Entry into force and application

1. This Regulation shall enter into force on the twentieth day following that of its publication in the *Official Journal of the European Union*.
2. It shall apply from 1 January 2017, **with the exception of Article 59a which shall apply from ...***.

From **...*** **approval** authorities shall not refuse to grant EU type-approval for a new type of engine or engine family or prohibit **its** placing on the market where that engine **type** or engine family complies with Chapters II, III, IV and VIII **and the delegated and implementing acts adopted pursuant to this Regulation.**

This Regulation shall be binding in its entirety and directly applicable in all Member States.

Done at

* **[OJ: please insert date of entry into force of this Regulation]**

ANNEX I

Definition of engine sub-categories referred to in Article 4

Table I-1: Sub-categories of engine category NRE defined in Article 4 point (1)

Category	Ignition type	Speed operation	Power range (kW)	Sub-category	Reference power
NRE	CI	variable	$0 < P < 8$	NRE-v-1	Maximum net power
	CI		$8 \leq P < 19$	NRE-v-2	
	CI		$19 \leq P < 37$	NRE-v-3	
	CI		$37 \leq P < 56$	NRE-v-4	
	all		$56 \leq P < 130$	NRE-v-5	
			$130 \leq P \leq 560$	NRE-v-6	
			$P > 560$	NRE-v-7	
	CI	constant	$0 < P < 8$	NRE-c-1	Rated net power
	CI		$8 \leq P < 19$	NRE-c-2	
	CI		$19 \leq P < 37$	NRE-c-3	
	CI		$37 \leq P < 56$	NRE-c-4	
	all		$56 \leq P < 130$	NRE-c-5	
			$130 \leq P \leq 560$	NRE-c-6	
			$P > 560$	NRE-c-7	

Table I-2: Sub-categories of engine category NRG defined in Article 4 point (2)

Category	Ignition type	Speed operation	Power range (kW)	Sub-category	Reference power
NRG	all	variable	P>560	NRG-v-1	Maximum net power
		constant	P>560	NRG-c-1	Rated net power

Table I-3: Sub-categories of engine category NRSh defined in Article 4 point (3)

Category	Ignition type	Speed operation	Power range (kW)	Swept volume (cm ³)	Sub-category	Reference power
NRSh	SI	variable or constant	0<P<19	SV<50	NRSh-v-1a	Maximum net power
				SV≥50	NRSh-v-1b	

Table I-4: Sub-categories of engine category NRS defined in Article 4 point (4)

Category	Ignition type	Speed operation	Power range (kW)	Swept volume (cm ³)	Sub-category	Reference power
NRS	SI	variable ≥3600 rpm; or constant	0<P<19	80≤SV<225	NRS-vr-1a	Maximum net power
				SV≥225	NRS-vr-1b	
		Variable <3600 rpm		80≤SV<225	NRS-vi-1a	
				SV≥225	NRS-vi-1b	
		variable or constant	19≤P<30	SV≤1000	NRS-v-2a	Maximum net power
				SV>1000	NRS-v-2b	
	30≤P<56	any	NRS-v-3	Maximum net power		

For engines <19kW with SV<80cm³ in machinery other than hand-held machinery, engines of the category NRSh shall be used.

Table I-5: Sub-categories of engine category IWP defined in Article 4 point (5)

Category	Ignition type	Speed operation	Power range (kW)	Sub-category	Reference power
IWP	all	variable	$19 \leq P < 75$	IWP-v-1	Maximum net power
			$75 \leq P < 130$	IWP-v-2	
			$130 \leq P < 300$	IWP-v-3	
			$P \geq 300$	IWP-v-4	
		constant	$19 \leq P < 75$	IWP-c-1	Rated net power
			$75 \leq P < 130$	IWP-c-2	
			$130 \leq P < 300$	IWP-c-3	
			$P \geq 300$	IWP-c-4	

Table I-6: Sub-categories of engine category IWA defined in Article 4 point (6)

Category	Ignition type	Speed operation	Power range (kW)	Sub-category	Reference power
IWA	all	variable	$19 \leq P < 75$	IWA-v-1	Maximum net power
			$75 \leq P < 130$	IWA-v-2	
			$130 \leq P < 300$	IWA-v-3	
			$P \geq 300$	IWA-v-4	
		constant	$19 \leq P < 75$	IWA-c-1	Rated net power
			$75 \leq P < 130$	IWA-c-2	
			$130 \leq P < 300$	IWA-c-3	
			$P \geq 300$	IWA-c-4	

Table I-7: Sub-categories of engine category RLL defined in Article 4 point (7)

Category	Ignition type	Speed <u>operation</u>	Power range (kW)	Sub-category	Reference power
RLL	all	variable	P>0	RLL-v-1	Maximum net power
		constant	P>0	RLL-c-1	Rated net power

Table I-8: Sub-categories of engine category RLR defined in Article 4 point (8)

Category	Ignition type	Speed <u>operation</u>	Power range (kW)	Sub-category	Reference power
RLR	all	variable	P>0	RLR-v-1	Maximum net power
		constant	P>0	RLR-c-1	Rated net power

Table I-9: Sub-categories of engine category SMB defined in Article 4 point (9)

Category	Ignition type	Speed <u>operation</u>	Power range (kW)	Sub-category	Reference power
SMB	SI	variable or constant	P>0	SMB-v-1	Maximum net power

Table I-10: Sub-categories of engine category ATS defined in Article 4 point (10)

Category	Ignition type	Speed <u>operation</u>	Power range (kW)	Sub-category	Reference power
ATS	SI	variable or constant	P>0	ATS-v-1	Maximum net power

ANNEX II

Exhaust emission limits referred to in Article 17(2)

Table II-1: Stage V emission limits for engine category NRE defined in Article 4 point (1)

Emission stage	Engine sub-category	Power range	Engine ignition type	CO	HC	NOx	PM mass	PN	A
		kW		g/kWh	g/kWh	g/kWh	g/kWh	#/kWh	
Stage V	NRE-v-1 NRE-c-1	0<P<8	CI	8,00	(HC+NOx≤7,50)		0,40 ¹⁾	-	1,10
Stage V	NRE-v-2 NRE-c-2	8≤P<19	CI	6,60	(HC+NOx≤7,50)		0,40	-	1,10
Stage V	NRE-v-3 NRE-c-3	19≤P<37	CI	5,00	(HC+NOx≤4,70)		0,015	1x10 ¹²	1,10
Stage V	NRE-v-4 NRE-c-4	37≤P<56	CI	5,00	(HC+NOx≤4,70)		0,015	1x10 ¹²	1,10
Stage V	NRE-v-5 NRE-c-5	56≤P<130	all	5,00	0,19	0,40	0,015	1x10 ¹²	1,10
Stage V	NRE-v-6 NRE-c-6	130≤P≤560	all	3,50	0,19	0,40	0,015	1x10 ¹²	1,10
Stage V	NRE-v-7 NRE-c-7	P>560	all	3,50	0,19	3,50	0,045	-	6,00

¹⁾ 0,6 for hand-startable, air-cooled direct injection engines

Table II-2: Stage V emission limits for engine category NRG defined in Article 4 point (2)

Emission stage	Engine sub-category	Power range	Engine ignition type	CO	HC	NOx	PM mass	PN	A
		kW		g/kWh	g/kWh	g/kWh	g/kWh	#/kWh	
Stage V	NRG-v-1 NRG-c-1	P>560	all	3,50	0,19	0,67	0,035	-	6,00

Table II-3: Stage V emission limits for engine category NRSh defined in Article 4 point (3)

Emission stage	Engine sub-category	Power range	Engine ignition type	CO	HC + NOx
		kW		g/kWh	g/kWh
Stage V	NRSh-v-1a	0<P<19	SI	805	50
Stage V	NRSh-v-1b			603	72

Table II-4: Stage V emission limits for engine category NRS defined in Article 4 point (4)

Emission stage	Engine sub-category	Power range	Engine ignition type	CO	HC + NOx
		kW		g/kWh	g/kWh
Stage V	NRS-vr-1a NRS-vi-1a	0<P<19	SI	610	10
Stage V	NRS-vr-1b NRS-vi-1b			610	8
Stage V	NRS-v-2a	19≤P≤30		610	8
Stage V	NRS-v-2b NRS-v-3	19≤P<56		4,40*	2,70*

* Optionally, as alternative, any combination of values satisfying the equation $(HC+NO_x) \times CO^{0.784} \leq 8,57$ as well as the following conditions: $CO \leq 20,6$ g/kWh and $(HC+NO_x) \leq 2,7$ g/kWh

Table II-5: Stage V emission limits for engine category IWP defined in Article 4 point (5)

Emission stage	Engine sub-category	Power range	Engine ignition type	CO	HC	NOx	PM mass	PN	A
		kW		g/kWh	g/kWh	g/kWh	g/kWh	#/kWh	
Stage V	IWP-v-1 IWP-c-1	19≤P<75	all	5,00	(HC+NO _x ≤4,70)		0,30	-	6,00
Stage V	IWP-v-2 IWP-c-2	75≤P<130	all	5,00	(HC+NO _x ≤5,40)		0,14	-	6,00
Stage V	IWP-v-3 IWP-c-3	130≤P<300	all	3,50	1,00	2,10	0,10	-	6,00
Stage V	IWP-v-4 IWP-c-4	P≥300	all	3,50	0,19	1,80	0,015	1x10 ¹²	6,00

Table II-6: Stage V emission limits for engine category IWA defined in Article 4 point (6)

Emission stage	Engine sub-category	Power range	Engine ignition type	CO	HC	NOx	PM mass	PN	A
		kW		g/kWh	g/kWh	g/kWh	g/kWh	#/kWh	
Stage V	IWA-v-1 IWA-c-1	$19 \leq P < 75$	all	5,00	(HC+NO _x ≤4,70)		0,30	-	6,00
Stage V	IWA-v-2 IWA-c-2	$75 \leq P < 130$	all	5,00	(HC+NO _x ≤5,40)		0,14	-	6,00
Stage V	IWA-v-3 IWA-c-3	$130 \leq P < 300$	all	3,50	1,00	2,10	0,10	-	6,00
Stage V	IWA-v-4 IWA-c-4	$P \geq 300$	all	3,50	0,19	1,80	0,015	1x10 ¹²	6,00

Table II-7: Stage V emission limits for engine category RLL defined in Article 4 point (7)

Emission stage	Engine sub-category	Power range	Engine ignition type	CO	HC	NOx	PM mass	PN	A
		kW		g/kWh	g/kWh	g/kWh	g/kWh	#/kWh	
Stage V	RLL-c-1 RLL-v-1	P>0	all	3,50	(HC+NO _x ≤4,00)		0,025	-	6,00

Table II-8: Stage V emission limits for engine category RLR defined in Article 4 point (8)

Emission stage	Engine sub-category	Power range	Engine ignition type	CO	HC	NOx	PM mass	PN	A
		kW		g/kWh	g/kWh	g/kWh	g/kWh	#/kWh	
Stage V	RLR-c-1 RLR-v-1	P>0	all	3,50	0,19	2,00	0,015	1x10 ¹²	6,00

Table II-9: Stage V emission limits for engine category SMB defined in Article 4 point (9)

Emission stage	Engine sub-category	Power range	Engine ignition type	CO	NOx	HC
		kW		g/kWh	g/kWh	g/kWh
Stage V	SMB-v-1	P>0	SI	275	-	75

Table II-10: Stage V emission limits for engine category ATS defined in Article 4 point (10)

Emission stage	Engine sub-category	Power range	Engine ignition type	CO	HC + NOx
		kW		g/kWh	g/kWh
Stage V	ATS-v-1	P>0	SI	400	8

Specific provisions on hydro-carbon (HC) limits for fully and partially gaseous fuelled engines

1. For the sub-categories where an A factor is defined, the HC limit for fully and partially gaseous fuelled engines indicated in **Tables II-1 to II-10** is replaced by the one calculated with the following formula:

$$\text{HC} = 0,19 + (1,5 * \text{A} * \text{GER})$$

where GER is the average gas energy ratio over the appropriate cycle. Where both a steady-state and transient test cycle applies, the GER shall be determined from the hot-start transient test cycle. Where more than one steady-state test cycle applies, the average gas energy ratio shall be determined for each cycle individually.

If the calculated limit for HC exceeds the value of $0,19 + \text{A}$ the limit for HC shall be set to $0,19 + \text{A}$.

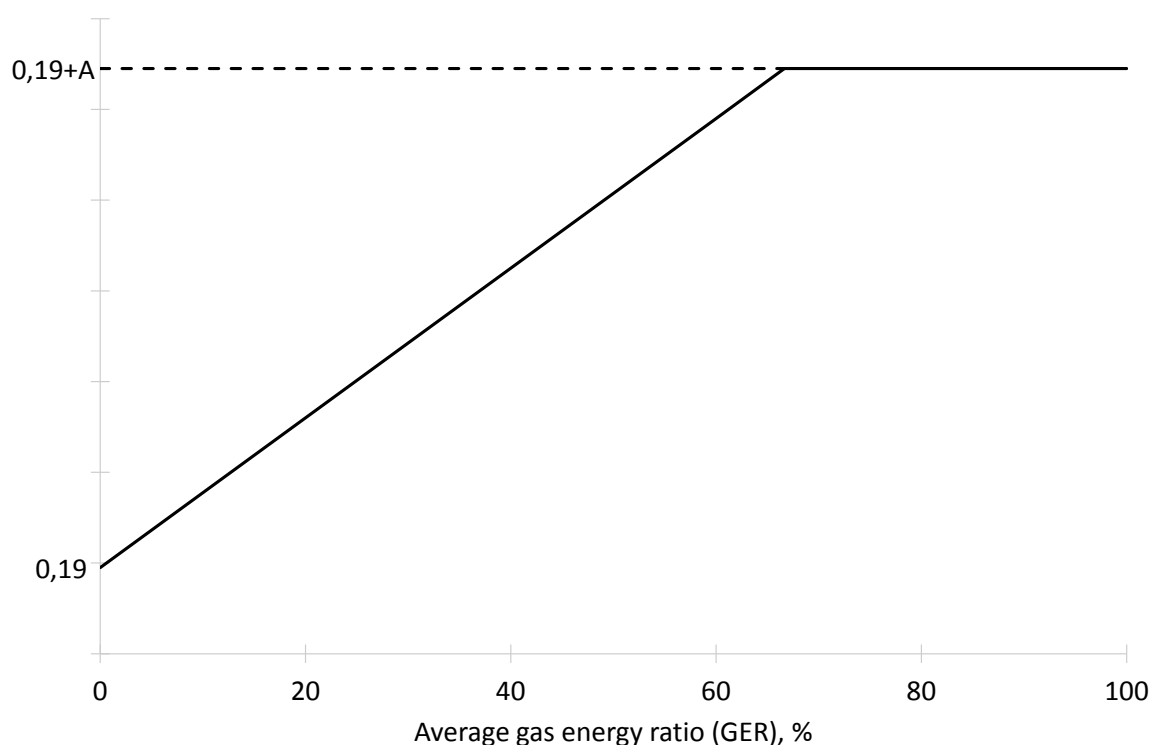


Figure 1. Schematic of HC emission limit as function of average gas energy ratio (GER)

2. For sub-categories with a combined HC and NO_x limit, the combined limit value for HC and NO_x shall be reduced by 0,19 g/kWh and apply for NO_x only.
3. For non-gaseous fuelled engines the formula does not apply.

ANNEX III

**Timetable for the application of this Regulation
in respect of EU type-approvals and placing on the market**

Table III-1: Dates of application of this Regulation for engine category NRE

Category	Ignition type	Power range (kW)	Sub-category	Mandatory date of application of this Regulation for	
				EU type-approval of engines	Placing on the market of engines
NRE	CI	0<P<8	NRE-v-1	1 January 2018	1 January 2019
			NRE-c-1		
	CI	8≤P<19	NRE-v-2	1 January 2018	1 January 2019
			NRE-c-2		
	CI	19≤P<37	NRE-v-3	1 January 2018	1 January 2019
			NRE-c-3		
	CI	37≤P<56	NRE-v-4	1 January 2018	1 January 2019
			NRE-c-4		
	all		56≤P<130	1 January 2019	1 January 2020
130≤P≤560			1 January 2018	1 January 2019	
P>560			1 January 2018	1 January 2019	

Table III-2: Dates of application of this Regulation for engine category NRG

Category	Ignition type	Power range (kW)	Sub-category	Mandatory date of application of this Regulation for	
				EU type-approval of engines	Placing on the market of engines
NRG	all	P>560	NRG-v-1 NRG-c-1	1 January 2018	1 January 2019

Table III-3: Dates of application of this Regulation for engine category NRSh

Category	Ignition type	Power range (kW)	Sub-category	Mandatory date of application of this Regulation for	
				EU type-approval of engines	Placing on the market of engines
NRSh	SI	0<P<19	NRSh-v-1a NRSh-v-1b	1 January 2018	1 January 2019

Table III-4: Dates of application of this Regulation for engine category NRS

Category	Ignition type	Power range (kW)	Sub-category	Mandatory date of application of this Regulation for	
				EU type-approval of engines	Placing on the market of engines
NRS	SI	0<P<56	NRS-vr-1a NRS-vi-1a NRS-vr-1b NRS-vi-1b NRS-v-2a NRS-v-2b NRS-v-3	1 January 2018	1 January 2019

Table III-5: Dates of application of this Regulation for engine category IWP

Category	Ignition type	Power range (kW)	Sub-category	Mandatory date of application of this Regulation for	
				EU type-approval of engines	Placing on the market of engines
IWP	all	19<P<300	IWP-v-1 IWP-c-1 IWP-v-2 IWP-c-2 IWP-v-3 IWP-c-3	1 January 2018	1 January 2019
		P≥300	IWP-v-4 IWP-c-4	1 January 2019	1 January 2020

Table III-6: Dates of application of this Regulation for engine category IWA

Category	Ignition type	Power range (kW)	Sub-category	Mandatory date of application of this Regulation for	
				EU type-approval of engines	Placing on the market of engines
IWA	all	19≤P<300	IWA-v-1 IWA-c-1 IWA-v-2 IWA-c-2 IWA-v-3 IWA-c-3	1 January 2018	1 January 2019
		P≥300	IWA-c-4 IWA-c-4	1 January 2019	1 January 2020

Table III-7: Dates of application of this Regulation for engine category RLL

Category	Ignition type	Power range (kW)	Sub-category	Mandatory date of application of this Regulation for	
				EU type-approval of engines	Placing on the market of engines
RLL	all	P>0	RLL-v-1 RLL-c-1	1 January 2020	1 January 2021

Table III-8: Dates of application of this Regulation for engine category RLR

Category	Ignition type	Power range (kW)	Sub-category	Mandatory date of application of this Regulation for	
				EU type-approval of engines	Placing on the market of engines
RLR	all	P>0	RLR-v-1 RLR-c-1	1 January 2020	1 January 2021

Table III-9: Dates of application of this Regulation for category SMB

Category	Ignition type	Power range (kW)	Sub-category	Mandatory date of application of this Regulation for	
				EU type-approval of engines	Placing on the market of engines
SMB	SI	P>0	SMB-v-1	1 January 2018	1 January 2019

Table III-10: Dates of application of this Regulation for engine category ATS

Category	Ignition type	Power range (kW)	Sub-category	Mandatory date of application of this Regulation for	
				EU type-approval of engines	Placing on the market of engines
ATS	SI	P>0	ATS-v-1	1 January 2018	1 January 2019

ANNEX IV

Non-road steady-state test cycles (NRSC)

Table IV-1: NRSC test cycles for engines of category NRE

Category	Speed operation	Purpose	Sub-category	NRSC
NRE	variable	Variable speed engine having a reference power less than 19 kW	NRE-v-1 NRE-v-2	G2 or C1
		Variable speed engine having a reference power greater than or equal to 19 kW but not more than 560 kW	NRE-v-3 NRE-v-4 NRE-v-5 NRE-v-6	C1
		Variable speed engine having a reference power greater than 560 kW	NRE-v-7	C1
NRE	constant	Constant speed engine	NRE-c-1	D2
			NRE-c-2	
			NRE-c-3	
			NRE-c-4	
			NRE-c-5	
			NRE-c-6	
			NRE-c-7	

Table IV-2: NRSC test cycles for engines of category NRG

Category	Speed operation	Purpose	Sub-category	NRSC
NRG	variable	Variable speed engine for generating set	NRG-v-1	C1
	constant	Constant speed engine for generating set	NRG-c-1	D2

Table IV-3: NRSC test cycles for engines of category NRSh

Category	Speed operation	Purpose	Sub-category	NRSC
NRSh	variable or constant	Engine having a reference power of not more than 19 kW, for use in handheld machinery	NRSh-v-1a NRSh-v-1b	G3

Table IV-4: NRSC test cycles for engines of category NRS

Category	Speed operation	Purpose	Sub-category	NRSC
NRS	variable <3600rpm	Variable speed engine having a reference power of not more than 19 kW, intended for operation <3600rpm	NRS-vi-1a NRS-vi-1b	G1
	variable ≥3600rpm; or constant	Variable speed engine having a reference power of not more than 19 kW, intended for operation ≥3600rpm; constant speed engine having a reference power of not more than 19 kW	NRS-vr-1a NRS-vr-1b	G2
	variable or constant	Engine having both a reference power between 19 kW and 30 kW and a total swept volume of less than 1 litre	NRS-v-2a	G2
		Engine having a reference power of greater than 19 kW, other than engine having both a reference power between 19 kW and 30 kW and a total swept volume of less than 1 litre	NRS-v-2b NRS-v-3	C2

Table IV-5: NRSC test cycles for engines of category IWP

Category	Speed operation	Purpose	Sub-category	NRSC
IWP	variable	Variable speed engine intended for propulsion that operates on a fixed-pitch propeller curve	IWP-v-1 IWP-v-2 IWP-v-3 IWP-v-4	E3
	constant	Constant speed engine intended for propulsion that operates with a controllable-pitch or electrically coupled propeller	IWP-c-1 IWP-c-2 IWP-c-3 IWP-c-4	E2

Table IV-6: NRSC test cycles for engines of category IWA

Category	Speed <u>operation</u>	Purpose	<u>Sub-category</u>	NRSC
IWA	variable	Variable speed engine intended for auxiliary use on inland waterway vessels	IWA-v-1 IWA-v-2 IWA-v-3 IWA-v-4	C1
	constant	Constant speed engine intended for auxiliary use on inland waterway vessels	IWA-c-1 IWA-c-2 IWA-c-3 IWA-c-4	D2

Table IV-7: NRSC test cycles for engines of category RLL

Category	Speed <u>operation</u>	Purpose	<u>Sub-category</u>	NRSC
RLL	variable	Variable speed engine for propulsion of locomotives	RLL-v-1	F
	constant	Constant speed engine for propulsion of locomotives	RLL-c-1	D2

Table IV-8: NRSC test cycles for engines of category RLR

Category	Speed <u>operation</u>	Purpose	<u>Sub-category</u>	NRSC
RLR	variable	Variable speed engine for propulsion of railcars	RLR-v-1	C1
	constant	Constant speed engine for propulsion of railcars	RLR-c-1	D2

Table IV-9: NRSC test cycles for engines of category SMB

Category	Speed <u>operation</u>	Purpose	<u>Sub-category</u>	NRSC
SMB	variable or constant	Engines for propulsion of snowmobiles	SMB-v-1	H

Table IV-10: NRSC test cycle for engines of category ATS

Category	Speed <u>operation</u>	Purpose	<u>Sub-category</u>	NRSC
ATS	variable or constant	Engines for propulsion of ATV or SbS	ATS-v-1	G1

Non-road transient test cycles

Table IV-11: Non-road transient test cycle for engines of category NRE

Category	Speed <u>operation</u>	Purpose	<u>Sub-category</u>	
NRE	variable	Variable speed engine having reference power greater than or equal to 19 kW but not more than 560 kW	NRE-v-3 NRE-v-4 NRE-v-5 NRE-v-6	NRTC

Table IV-12: Non-road transient test cycle for engines of category NRS⁽¹⁾

Category	Speed <u>operation</u>	Purpose	<u>Sub-category</u>	
NRS	variable or constant	Engine having a reference power of greater than 19 kW, other than engine having both a reference power between 19 kW and 30 kW and a total swept volume of less than 1 litre	NRS-v-2b NRS-v-3	LSI-NRTC

⁽¹⁾ Only applicable for engines with maximum test speed ≤ 3400 rpm.

ANNEX V

Emission durability periods referred to in Article 24(1)

Table V-1: Emission durability periods (EDP) for engine category **NRE**

Category	Ignition type	Speed operation	Power range (kW)	Sub-category	EDP (hours)
NRE	CI	variable	$0 < P < 8$	NRE-v-1	3000
	CI		$8 \leq P < 19$	NRE-v-2	
	CI		$19 \leq P < 37$	NRE-v-3	5000
	CI		$37 \leq P < 56$	NRE-v-4	8000
	all		$56 \leq P < 130$	NRE-v-5	
			$130 \leq P \leq 560$	NRE-v-6	
			$P > 560$	NRE-v-7	
	CI	constant	$0 < P < 8$	NRE-c-1	3000
	CI		$8 \leq P < 19$	NRE-c-2	
	CI		$19 \leq P < 37$	NRE-c-3	
	CI		$37 \leq P < 56$	NRE-c-4	8000
	all		$56 \leq P < 130$	NRE-c-5	
			$130 \leq P \leq 560$	NRE-c-6	
			$P > 560$	NRE-c-7	

Table V-2: Emission durability period (EDP) for engine category **NRG**

Category	Ignition type	Speed operation	Power range (kW)	Sub-category	EDP (hours)
NRG	all	constant	$P > 560$	NRG-v-1	8000
		variable		NRG-c-1	

Table V-3: Emission durability period (EDP) for engine category NRSh

Category	Ignition type	Speed operation	Power range (kW)	Swept volume (cm ³)	Sub-category	EDP (hours)
NRSh	SI	variable or constant	0<P<19	SV<50	NRSh-v-1a	50/125/300 ¹⁾
				SV≥50	NRSh-v-1b	

¹⁾ EDP hours correspond to the EDP categories Cat 1/Cat 2/Cat 3 as defined in the delegated acts.

Table V-4: Emission durability period (EDP) for engine category NRS

Category	Ignition type	Speed operation	Power range (kW)	Swept volume (cm ³)	Sub-category	EDP (hours)
NRS	SI	variable ≥ 3600rpm ; or constant	0<P<19	80≤SV<225	NRS-vr-1a	125/250/500 ¹⁾
		variable < 3600rpm			NRS-vi-1a	
		variable ≥ 3600rpm ; or constant		SV≥225	NRS-vr-1b	250/500/1000 ¹⁾
		variable < 3600rpm			NRS-vi-1b	
		variable or constant	19≤P<30	SV≤1000	NRS-v-2a	1000
				SV>1000	NRS-v-2b	5000
			30≤P<56	any	NRS-v-3	5000

¹⁾ EDP hours correspond to the EDP categories Cat 1/Cat 2/Cat 3 as defined in the delegated acts.

Table V-5: Emission durability period (EDP) for engine category **IWP**

Category	Ignition type	Speed operation	Power range (kW)	Sub-category	EDP (hours)
IWP	all	variable	$19 \leq P < 75$	IWP-v-1	10000
			$75 \leq P < 130$	IWP -v-2	
			$130 \leq P < 300$	IWP -v-3	
			$P \geq 300$	IWP -v-4	
		constant	$19 \leq P < 75$	IWP -c-1	10000
			$75 \leq P < 130$	IWP -c-2	
			$130 \leq P < 300$	IWP -c-3	
			$P \geq 300$	IWP -c-4	

Table V-6: Emission durability period (EDP) for engine category IWA

Category	Ignition type	Speed operation	Power range (kW)	Sub-category	EDP (hours)
IWA	all	variable	$19 \leq P < 75$	IWP-v-1	10000
			$75 \leq P < 130$	IWP -v-2	
			$130 \leq P < 300$	IWP -v-3	
			$P \geq 300$	IWP -v-4	
		constant	$19 \leq P < 75$	IWP -c-1	10000
			$75 \leq P < 130$	IWP -c-2	
			$130 \leq P < 300$	IWP -c-3	
			$P \geq 300$	IWP -c-4	

Table V-7: Emission durability period (EDP) for engine category RLL

Category	Ignition type	Speed operation	Power range (kW)	Sub-category	EDP (hours)
RLL	all	variable	$P > 0$	RLL-v-1	10000
		constant	$P > 0$	RLL-c-1	

Table V-8: Emission durability period (EDP) for engine category RLR

Category	Ignition type	Speed operation	Power range (kW)	Sub-category	EDP (hours)
RLR	all	variable	P>0	RLR-v-1	10000
		constant	P>0	RLR-c-1	

Table V-9: Emission durability period (EDP) for category SMB

Category	Ignition type	Speed operation	Power range (kW)	Sub-category	EDP (hours)
SMB	SI	variable or constant	P>0	SMB-v-1	400 ³⁾

³⁾ alternatively, an emission durability period of 8000 km is permitted

Table V-10: Emission durability period (EDP) for engine category **ATS**

Category	Ignition type	Speed operation	Power range (kW)	Sub-category	EDP (hours)
ATS	SI	variable or constant	P>0	ATS-v-1	500/1000 ²⁾

²⁾ EDP hours correspond to the following total engine swept volumes: <100 cm³ / ≥100 cm³.

ANNEX VI

Special purpose engine (SPE) emission limit values referred to in Article 32(4)

Table VI-1: **SPE** emission limit values for engine category NRE

Emission stage	Engine sub-category	Power range	Engine ignition type	CO	THC	NOx	PM mass	A
		kW		g/kWh	g/kWh	g/kWh	g/kWh	
SPE	NRE-v-1 NRE-c-1	0<P<8	CI	8	7,5		0,4	6,0
SPE	NRE-v-2 NRE-c-2	8≤P<19	CI	6,6	7,5		0,4	6,0
SPE	NRE-v-3 NRE-c-3	19≤P<37	CI	5,5	7,5		0,6	6,0
SPE	NRE-v-4 NRE-c-4	37≤P<56	CI	5,0	4,7		0,4	6,0
SPE	NRE-v-5 NRE-c-5	56≤P<130	all	5,0	4,0		0,3	6,0
SPE	NRE-v-6 NRE-c-6	130≤P≤560	all	3,5	4,0		0,2	6,0
SPE	NRE-v-7 NRE-c-7	P>560	all	3,5	6,4		0,2	6,0

Table VI-2: **SPE** emission limit values for engine category NRG

Emission stage	Engine sub-category	Power range	Engine ignition type	CO	HC	NOx	PM mass	A
		kW		g/kWh	g/kWh	g/kWh	g/kWh	
SPE	NRG-c-1	P>560	all	3,5	6.4		0,2	6,0
	NRG-v-1							

Table VI-3: **SPE** emission limit values for engine category RLL

Emission stage	Engine sub-category	Power range	Engine ignition type	CO	THC	NOx	PM mass	A
		kW		g/kWh	g/kWh	g/kWh	g/kWh	
SPE	RLL-v-1	P≤560	all	3,5	(HC+NOx≤4,0)		0,2	6,0
	RLL-c-1							
SPE	RLL-v-1	P>560 kW	all	3,5	0,5	6,0	0,2	6,0
	RLL-c-1							
SPE	RLL-v-1	P>2000 kW and SVc ¹⁾ >5 litres	all	3,5	0,4	7,4	0,2	6,0
	RLL-c-1							

¹⁾ Swept Volume per cylinder