

Report/Assessment of the NRMM regulations

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River Trust



Deliverable 3.1

Report/Assessment of the NRMM regulations

Project acronym: RIVER

NWE 553

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Abbreviations

- EU – European Commission
- JTS – Joint Technical Secretariat
- NWE : North West Europe
- PSA- Partnership Agreement
- KO- Kick off Meeting
- SCM Steering Committee
- WP – Work Package
- WPM – Work Package Leader
- IWT – Inland Waterway Transport

Outline

This report addresses Activity 3 Involving manufacturers from the marine industry to align RIVER's technology/techniques with the NRMM regulations and Working towards commitment for real-life testing. It provides **Deliverable 3.1 A report / assessment of the NRMM regulations and assessment of how manufactures from the marine industry can help ensure that RIVER's technology/techniques are aligned with the NRMM regulations**

Partners' roles:

CRT will lead the Long-Term Effects WP including this deliverable and work with CRITT-TL and CFT who will involve manufacturers from the IW or marine industry to ensure RIVER's techniques align with the NRMM regulations. STC prepare policy recommendations, linking to NRMM regulations, informed by the PROMITMENT project.

1. Introduction

1.1 What is Non-Road Mobile Machinery (NRMM)?

Compared to road vehicles, NRMM covers a very wide variety of machinery typically used off the road in many ways. It comprises, for example:

- small gardening and handheld equipment (lawn mowers, chainsaws, etc.)
- construction machinery (excavators, loaders, bulldozers, etc.)
- agricultural & farming machinery (harvesters, cultivators, etc.)
- even railcars, locomotives and ***inland waterway vessels***.

Problem - Pollutant emissions from combustion engines installed in NRMM (e.g. diesel or gasoline fuelled engines) significantly contribute to air pollution by emitting carbon dioxide (CO), hydrocarbons (HC), nitrogen oxides (NO_x) and particulate matter.

Objective - To progressively reduce pollutant emissions and to phase out equipment with the most polluting engines.

This report is split into a further two sections (2) Looks at the Regulation and condenses this to highlight where it applies to manufacturers and more relevant to the aims of RIVER. (3) Sets out some assistance RIVER can give to manufacturers and practical steps they can take to get them aligned with the regulations.

2. Regulation (EU) 2016/1628 (the ‘NRMM regulations’)

Legislation - Emissions from these engines are regulated by a new Regulation which applies as of 1 January 2017 (“NRMM Regulation”)

Regulation (EU) 2016/1628 of the European Parliament and of the Council was adopted on 14 September 2016. It sets out requirements relating to gaseous and particulate pollutant emission limits and type-approval for internal combustion engines for non-road mobile machinery,

amending Regulations (EU)1024/2012 and (EU)167/2013, and amending and repealing Directive 97/68/EC which set more stringent limits for emissions from inland waterway (IW) vessels.

Regulation 2016/1628 is supplemented by the following:

[Commission Delegated Regulation \(EU\) 2017/654](#) of 19 December 2016 supplementing Regulation (EU) 2016/1628 of the European Parliament and of the Council with regard to technical and general requirements relating to emission limits and type-approval for internal combustion engines for non-road mobile machinery.

[Commission Delegated Regulation \(EU\) 2018/236](#) of 20 December 2017 correcting the Estonian language version of Delegated Regulation (EU) 2017/654

[Commission Delegated Regulation \(EU\) 2017/655](#) of 19 December 2016 supplementing Regulation (EU) 2016/1628 of the European Parliament and of the Council with regard to monitoring of gaseous pollutant emissions from in-service internal combustion engines installed in non-road mobile machinery.

[Commission Implementing Regulation \(EU\) 2017/656](#) of 19 December 2016 laying down the administrative requirements relating to emission limits and type-approval of internal combustion engines for non-road mobile machinery in accordance with Regulation (EU) 2016/1628 of the European Parliament and of the Council.

The new NRMM Regulation defines emission limits for NRMM engines for different power ranges and applications. It also lays down the procedures engine manufacturers have to follow in order to obtain type-approval of their engines – which is a prerequisite for placing their engines on the EU market.

Impact of the new NRMM Regulation are deemed good for business and good for the environment:

- Protecting the health of EU citizens
- Protecting the environment and improves air quality in the EU
- Ensuring the good functioning of the internal market for NRMM engines, avoiding market distortions and market fragmentation in the EU - and a level playing field on global markets
- Preventing unfair competition from non-compliant low-cost products

Approval authorities and technical services

EU countries have to notify the Commission of the [approval authorities](#) and [technical services](#) for non-road mobile machinery emissions

3. Extracts from the regulations and their relevance to manufacturers

ABBREVIATIONS USED

Reg(s) = The Regulations

MS = Member States

M's = Manufacturers

AA's = Approval Authorities

TS's = Technical services

EU TA = EU type-approval

ARTICLE	DESCRIPTION	RELEVANCE TO MANUFACTURERS	COMMENTS
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CHAPTER I

SUBJECT MATTER, SCOPE AND DEFINITIONS

1	Subject matter	Low	Sets the scene
2	Scope	Med	What engines do and don't apply. Reg(s) applies to all engines falling within the categories set out in Article 4(1)
3	Definitions	High	Which definitions apply (there are 75)
4	Engine categories	High	Sets out engine categories, divided into sub-categories

CHAPTER II

GENERAL OBLIGATIONS

5	Obligations of MS's	Low	MS relevance only - not M's
6	Obligations of AA's	Low	Low relevance for M's
7	Obligations of market surveillance authorities	Med	Med relevance for M's (awareness)
8	General obligations of M's	High	Ensures engines placed on the market or modified are manufactured and approved in accordance with Reg(s) and storage or transport conditions (in their care) do not jeopardise compliance
9	Obligations of M's concerning engines that are not in conformity	High	Procedures if M's find one of their engines placed on the market is not in conformity with the Reg(s) (investigation into the nature of the suspected non-conformity and the likely extent of its occurrence)

10	Obligations of M's' representatives for market surveillance	Med	Minimum action M's' representatives should perform to ensure they can prove compliance to AA's
11	General obligations of importers	Low	Obligations and actions importers must take before placing an EU type-approved engine on the market
12	Obligations of importers concerning engines that are not in conformity	Low	Obligations and actions importers must take before placing a NON -EU type-approved engine on the market
13	General obligations of distributors	Low	Obligations distributors have regarding the requirements of Reg(s) before making an engine available on the market
14	Obligations of distributors concerning engines that are not in conformity	Low	Obligations distributors have where non-conformity with the requirements of Reg(s) is suspected before making an engine available on the market
15	Obligations of OEMs concerning the installation of engines	Med	Obligations OEM's have regarding the requirements of Reg(s) before installing EU TA engines in NRMM
16	Application of M's' obligations to importers / distributors	Med	Reminds importers/distributors they are treated the same as M's and must meet requirements set out in Articles 8 and 9
17	Notification obligation for economic operators and OEMs	Med	Reminds Operators / OEMs they must tell AA's and market surveillance authorities (for 5 years from the date of placing on the market) (a) any economic operator who has supplied them with an engine (b) any economic operator / OEM to whom they have supplied an engine.

CHAPTER III

SUBSTANTIVE REQUIREMENTS

18	Exhaust emission requirements for EU TA	High	Reminds M's; (1) engine types and engine families should comply with the requirements in Chapter II and III. (2) from dates placed on the market engines set out in Annex III, engine types and engine families shall not exceed the exhaust emission limit of Stage V and Annex II. Clarifies requirements where one engine family covers more than one power range
19	Monitoring of emissions of in-service engines	Med	Sets out how monitoring of in-service engines is carried out, who does it and on what type of engines

CHAPTER IV

EU TYPE-APPROVAL PROCEDURES

20	Application for EU TA	High	The information M's must provide and process to follow when applying for EU TA. They need to provide engine for testing and their plan for monitoring in-service engines
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21	Information folder	High	Sets out what this folder should contain
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CHAPTER V
CONDUCT OF EU TYPE-APPROVAL PROCEDURES

22	General provisions	High	Confirms approval granted if engines conform to Reg(s), and that no other approval requirements will be applied, dates Reg(s) apply from, harmonised certification system and how national AA's must co-operate with other MS
23	Specific provisions concerning the EU TA certificate	High	Information set out on and the process to follow to complete the certification
24	Tests required for EU type-approval	High	Sets the detail of tests and what M's need to do to assist designated TS's carrying out the testing
25	Conduct of measurements and tests for EU TA	High	Sets out the details of measurements and tests to calculate exhaust emission test results for engines subject to this Reg(s), referencing fuels or fuel combinations, apparatus and procedures methods for data evaluation, calculations and for establishing deterioration factors (adds detail for engines in specific categories)
26	Conformity of production arrangements	Med	Ensuring AA's take the necessary measures to verify, that adequate arrangements have been made to ensure production will be in conformity (or have procedures to withdraw approval).

CHAPTER VI
AMENDMENTS AND VALIDITY OF EU TYPE-APPROVALS

27	General provisions	High	Steps M's should take where there is any change in the particulars recorded in the info package provided to the AA
28	Revisions and extensions of EU TAs	High	Steps M's should take where there is any change in the particulars (a 'revision') recorded in the info package provided to the AA Then explains that amendments (as above) are termed an 'extension' if particulars recorded in the info package have been changed or further tests needed
29	Issue and notific'n of amendments	High	What AA's should do in the event of a revision
30	Validity of EU TA	Med	EU TAs shall be issued for an unlimited duration then sets out reasons EU TA will become invalid

CHAPTER VII
STATEMENT OF CONFORMITY AND MARKINGS

31	Statement of conformity	High	Requirements M's need to follow when issuing a 'statement of conformity' to accompany engines placed on the market,
32	Statutory marking of engines	High	Requirements of 'the statutory marking' of engines M's need to follow to conform
33	Temporary marking of engines	High	Confirms M's can put temporary marking on engines manufactured in conformity with the approved type placed on the market on the basis of wider articles.

CHAPTER VIII EXEMPTIONS

34	General exemptions	Med	Lists these and sets out details
35	Exemptions for new technologies or new concepts	Med	Lists these and sets out details
36	Subsequent adaptation of delegated and implementing acts	Low	Steps the EC takes to facilitate exemptions

CHAPTER IX PRODUCTION REPORTING AND VERIFICATION

37	Obligations of M's regarding production reporting	High	Sets out details M's need to list (no. of engines for each engine type and engine sub-category produced) and when
38	Verification measures	Med	Sets out the details of verification of identification numbers

CHAPTER X SAFEGUARD CLAUSES

39	Engines not in conformity with the approved type	Low	Sets out the steps AA's will take to address this
40	Recall of engines	Low	Sets out the steps AA's will take if engines need recalling
41	Notification of decisions and remedies available	Low	Why EU TA was refused, withdrawn, prohibited, restricted or impeded from placing or recalled from the market

CHAPTER XI INTERNATIONAL REGULATIONS AND PROVISION OF TECHNICAL INFORMATION

42	Acceptance of equivalent engine type-approvals	Low	Confirms EU can adopt Reg(s) from outside EU
43	Information and instructions intended for OEMs and end-users	Low	Confirms M's can't supply OEM's with information that diverges from Reg(s)

44	Exchange of data and information via IMI	Low	Confirms that data/information should be via Internal Market Information System (IMI)
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**CHAPTER XII
DESIGNATION AND NOTIFICATION OF TECHNICAL SERVICES**

45	Requirements relating to TS's	Low	Sets the rules for these and the need to be independent of M's
46	Subsidiaries of and subcontracting by TS's	Low	Additional rules for subcontracting services
47	Designation of TS's	Low	Categorizes activities in accordance with their competence
48	Procedures for performance standards and assessment of TS's	Low	Confirms EC is empowered to adjust tech services standards and procedures
49	Assessment of the skills of TS's	Low	Rules around how AA's assess tech services performance
50	Procedures for notification	Low	How MS notify EU of TS's that they have designated
51	Changes to designations	Low	What AA's do if TS's that they have designated no longer fulfils the requirements laid down in this Reg(s) or is failing to meet its obligations
52	Challenge to the competence of TS's	Low	EC role if it has doubts, or where doubts are brought to its attention, as to the competence of a TS
53	Operational obligations of TS's	Low	Operational obligations of TS's
54	Information obligations of TS's	Low	Information obligations of TS's

**CHAPTER XIII
DELEGATED ACTS AND IMPLEMENTING ACTS**

55	Exercise of the delegation	Low	Admin around EC power to adopt the delegated acts conferred
56	Committee procedure	Low	Procedural detail

**CHAPTER XIV
FINAL PROVISIONS**

57	Penalties	Low	penalties for infringement of this Reg(s)
58	Transitional provisions	Low	Transitional provisions incl dates & duration
59	Report	Low	Progress Report supplied by MS to EU
60	Review	Low	Review supplied by EU Commission to Parliament

61	Amendments to Dir. 97/68/EC	High	Amendments / additions to Article 9 & 10
62	Amendment EU Reg 1024/2012	Low	Administrative change
63	Amendment EU Reg 167/2013	Low	Refers to agricultural equipment
64	Repeal	Low	Administrative / legal note
65	Entry into force and application	Low	Administrative / legal note

4. Assistance RIVER can give to manufacturers and practical steps they can take to get them aligned with the regulations Fuels

4.1 Other Guidance available to manufacturers (at Oct 2018)

A document in April 2017 was produced by a collaboration of EU industry groups setting out several Frequently Asked Questions (FAQ's)

CEMA, the European association representing the agricultural machinery industry
FEM, the European Materials Handling Federation, CECE, The Committee of European Construction Equipment, CEMA, the European association representing the agricultural machinery industry, EGMF, The European Garden Machinery Industry Federation, EUnited Municipal Equipment, the European Association of Municipal Equipment Manufacturers, EUROMOT, <https://www.euromot.eu/> the European Association of Internal Combustion Engine Manufacturers and EUROPGEN, who promotes the interests of the European generating set industry

The summaries answering the questions are useful though the guidance is targeted at organisations involved in *construction, agricultural, materials handling, garden machinery, municipal equipment sectors and generator sets*

4.1 Role of Technical Services

Germany, Ireland, Netherlands and UK have by Oct 2018 already designated organisations to act as Technical Services. Of the other EU countries, France and Luxembourg have yet to do this.

Germany (as at 3/9/18)

Name	Address	Category*
DEKRA Automobil Test Center der DEKRA Automobil GmbH	Senftenberger Straße 30 01998 Klettwitz datc@dekra.com	A, B, D
Deutsche Landwirtschafts-Gesellschaft DLG e.V.- Testzentrum Technik und Betriebsmittel	Max-Eyth-Weg 1 64823 Groß-Umstadt Tech@DLG.org	B, D
DNV GL SE, DNV GL "Envilab"	Brooktorkai 18 20457 Hamburg G13engine.environmental@dnvgl.com	A, B, D
FAKT-GmbH Kraftfahrtechnisches Prüf- und Ingenieurzentrum	Grüntenstraße 5 87751 Heimertingen info@fakt.com	A, B, D
GTÜ Gesellschaft für Technische Überwachung mbH	Vor dem Lauch 25 70567 Stuttgart technischerdienst@qtue.de	B, D
SGS-TÜV Saar GmbH	Hofmannstraße 50 81379 München hom@sgs.com www.sgs-tuev-saar.com	B, D
Technischer Dienst Gesamtfahrzeug im TÜV Thüringen e.V.	Melchendorfer Straße 64 99096 Erfurt technischerdienst@tuev-thueringen.de	B, D
TÜV NORD Mobilität GmbH & Co. KG IFM - Institut für Fahrzeugtechnik und Mobilität	Schönscheidtstraße 28 45307 Essen info@tuev-nord.de	A, B, D
TÜV SÜD Auto Service GmbH, Typprüfstelle	Westendstraße 199 80686 München TypeApproval@tuev-sued.de	A, B, D
Typprüfstelle Fahrzeuge/Fahrzeugteile der TÜV Rheinland Kraffahrt GmbH	Am Grauen Stein 51105 Köln TS-M04-global@de.tuv.com www.tuv.com	B, D

Ireland (as at 19/1/18)

Name	Address	Category*
TÜV NORD Mobilität GmbH & Co. KG IFM – Institut für Fahrzeugtechnik und Mobilität	Alderstraße 7, 45307 Essen, Germany jomueller@tuev-nord.de	A, B
TÜV SÜD Automotive GmbH	Unternehmensgruppe TÜV Süddeutschland, Daimlerstrasse 11, 85748 Garching, Germany Philip.Puls@tuev-sued.de	A, B
SGS-TÜV Saar GmbH	Am Tüv 1, 66280 Sulzbach Saar, Germany bastian.babin@sgs.com	B

Netherlands (as at 19/1/18)

Name	Address	Category*
CSI S.p.A.	Viale Lombardia 20 20021 Bollate (MI) Italy Tel. +39 02383301	B, D
DEKRA Automobil GmbH Automobil Test Center	Senftenberger Straße 30 D-01998 Klettwitz Germany Tel. +49 35754 7344 500	A, B, D
IDIADA Automotive Technology S.A. Institute for Applied Automotive Research	L' Albomar, PO.box 20 E-43710 Santa Oliva (Tarragona) Spain Tel. +34 977 166000	A, B, D
RDW	Postbus 777 NL-2700 AT Zoetermeer Tel. +31 79 3458100	B, C, D
SGS-TÜV Saar GmbH	Am Tüv 1 66280 Sulzbach Saar Germany Tel. +49 89 787475 371	B, D
TNO Technical Sciences - Power Trains	Automotive Campus 30, 5708JZ Helmond Nederland Tel. +31 88 866 09 22	A, D
TÜV NORD Mobilität GmbH & Co.KG IFM - Institut für Fahrzeugtechnik und Mobilität	Schönscheidtstrasse 28, D-45307 Essen, Germany Tel. +49 201 8254174	A, B, D
TÜV Rheinland Kraffahrt GmbH Technologiezentrum Verkehrssicherheit Typprüfstelle Fahrzeuge/Fahrzeugteile	Am Grauen Stein, Köln, Germany Tel. +49 221 806 1931	B, D
TÜV Süd Auto Service GmbH	Westendstrasse 199 80686 Munchen Germany +49 89 5791-3216	B, D
UTAC S.a.S.	Autodrome de Linas-Montlhery BP-20212 91311 Montlhery-Cedex France Tel. +33 69 80 17 34	A, B, D
VCA (Vehicle Certification Agency)	1, The Eastgate Office Centre, Eastgate Road, Bristol, BS5 6XX, United Kingdom	A, B, D

UK (as at 7/3/18)

Name	Address	Category*
Vehicle Certification Agency	1 Eastgate Office Centre, Eastgate Road, Bristol BS5 6XX United Kingdom enquiries@vca.gov.uk	B, C, D

Luxembourg (as at 24/12/18) had not decided on the regulations although there are some bodies there that will probably be responsible.

The responsible authority for inland waterways in Luxembourg can be found here <https://logistics.public.lu/en/formalities-procedures/agencies/directorate-inland-navigation.html#>

The **Directorate of Inland Navigation and Logistics**, is part of the Department of Transports of the [Ministry of Sustainable Development and Infrastructure](#). It provides a link with the Navigation Service, the [Port of Mertert](#) and the other ministries. It prepares laws and regulations and legislative monitoring in the area of transport of passengers and goods by inland waterways. It also provides representation of Luxembourg on the international bodies, such as the [Moselle Commission](#), the CCNR, the CESNI and the UNECE. The Directorate works for safe, high-performance, environmentally conscious navigation. It is also in charge of cross-discipline issues concerning several types of transport such as the [Lean & Green certification](#) of the transport and logistics sector or the promotion of electronic transport documents, such as e-CMR. Homologation and vehicle certification in Luxembourg is done by the SNCH www.snch.lu

4.2 Role of Approval Authorities

Germany, Ireland, Netherlands and UK have by Oct 2018 already appointed approval authorities and market surveillance authorities in accordance with this Regulation. Listings are on the EU website (The Commission is obliged to publish a list and details of the approval authorities on its website). Of the other EU countries, France and Luxembourg have yet to do this.

Member State	Name and address
Germany	Kraftfahrt-Bundesamt Fördestraße 16 D-24944 Flensburg poststelle@kba.de
Germany	Generaldirektion Wasserstraßen und Schifffahrt Brucknerstraße 2 D-55127 Mainz Mainz. gdws@wsv.bund.de
Ireland	National Standards Authority of Ireland 1 Swift Square, Northwood, Santry, Dublin 9 info@nsai.ie
Netherlands	RDW Vehicle Technology and Information Centre Postbus 777 2700 AT Zoetermeer Nederland https://www.rdw.nl/