THE SOCIALIST REPUBLIC OF VIETNAM

QCVN 61: 2013/BGTVT

NATIONAL TECHNICAL REGULATION ON PREVENTIVE MACHINERY MAINTENANCE SYSTEMS

HANOI 2013

Preamble

National Technical Regulation on Preventive Machinery Maintenance Systems QCVN 61: 2013/BGTVT is compiled by Vietnam Register, verified by the Ministry of Science and Technology, promulgated by the Minister of Transport under Circular No. 06/2013/TT-BGTVT dated 2 May 2013.

QCVN 61: 2013/BGTVT is complied on the basis of National Standard "Rules for Preventive Machinery Maintenance Systems" TCVN 6279: 2003.

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NATIONAL TECHNICAL REGULATION ON PREVENTIVE MACHINERY MAINTENANCE SYSTEMS

I GENERAL

1.1 Application and Scope

1.1.1 Application

1 This Regulation (hereinafter referred to as the Regulation) apply to the survey and manufacture of preventive machinery maintenance systems on sea-going ships which are surveyed and classed by Vietnam Register.

2 Relevant requirements in QCVN 21: 2010/BGTVT (National technical Regulation on the Classification and Construction of sea-going steel ships) are to be applied for preventive machinery maintenance systems except otherwise stipulated in this Regulation.

1.1.2 Scope

This Regulation is to apply to organizations and individuals involving activities relating to preventive machinery maintenance systems and falling under the application as specified in 1.1.1 above, including Vietnam Register (hereinafter referred to as "VR"); ship owners; operators, designers, building yards, renovating and repairing yards of Preventive machinery maintenance systems.

1.2 References, Definitions and Explanations

1.2.1 References

1 QCVN 21: 2010/BGTVT, "National Technical Regulation - Rules for the classification and construction of sea-going steel ships" promulgated in accordance with Circular 12/2010/TT-BGTVT dated 21 April 2010.

2 Circular No.32/2011/TT-BGTVT dated 19 April 2011 of the Ministry of Transport stipulated on amendments and supplements to a number of articles of the Regulations on verification registration of ships in Vietnam, accompanying Decision No. 51/2005/QD-BGTVT dated 12 October 2005 of the Minister of Transport.

1.2.2 Definitions

1 The definitions of those terms which appear in the Regulation are specified as following (1) and (2):

(1) Condition monitoring and diagnostic systems are those systems that monitor operating conditions of main propulsion machinery, etc., with sensors and output useful information for preventive maintenance by diagnosing the performance and the conditions of any equipment or their components on the basis of monitored data.

(2) Preventive maintenance management systems are those systems that manage preventive maintenance plans on the basis of information received from condition monitoring and diagnostic systems, and include plans and execution of maintenance and inspection for each piece of equipment and its components.

II TECHNICAL REGULATIONS

CHAPTER 1 GENERAL

1.1 General

1.1.1 Equivalency

Preventive machinery maintenance systems which do not fully comply with the requirements of the Regulation may be accepted provided that they are deemed by VR to be equivalent to those specified in the Regulation.

1.1.2 Preventive Machinery Maintenance Systems with Novel Design Features

In the case of preventive machinery maintenance systems with novel design features, VR may impose, to the extent that is practically applicable, all appropriate requirements of the Regulation as well as any additional requirements made on design and test procedures other than those specified in the Regulation.

1.1.3 Modification of Requirements

VR may modify parts of any requirements specified in the Regulation after taking into consideration the national requirements of ship flag states, kinds of ships and intended service areas of ships.

CHAPTER 2 SURVEYS

2.1 General

2.1.1 Kinds of Surveys

1 Surveys are to be of the following kinds:

(1) Surveys for registration of preventive machinery maintenance systems (hereinafter referred to as registration surveys).

(2) Surveys for maintaining such registration (hereinafter referred to as registration maintenance surveys) are to be as follows:

(a) Special Surveys;

(b) Annual Surveys;

(c) Occasional Surveys.

2.1.2 Period of Surveys

1 Registration Surveys are to be carried out at the time of application for registration.

2 Registration Maintenance Surveys are to be carried out at the following intervals:

(1) Special Surveys are to be carried out at those intervals specified in 1.1.3-1(4), Part 1B, Section II QCVN 21: 2010/BGTVT.

(2) Annual Surveys are to be carried out at those intervals specified in 1.1.3-1(1), Part 1B, Section II QCVN 21: 2010/BGTVT.

(3) Notwithstanding above (1) and (2), Occasional Surveys are to be carried out independently of Special Surveys and Annual Surveys in cases where:

(a) In cases where any main parts of systems have been damaged, repaired or renewed;

(b) In cases where any systems have been modified or altered;

(c) In cases where considered necessary by VR.

2.1.3 Special Surveys and Annual Surveys carried out in advance, etc.

1 Surveys carried out in advance

The requirements for Special Surveys and Annual Surveys carried out in advance are to be in accordance with those provisions specified in 1.1.4, Part 1B, Section II QCVN 21: 2010/BGTVT.

2 Postponement of Special Surveys

The requirements for the postponement of Special Surveys are to be in accordance with those provisions specified in 1.1.5-1(1) or 1.1.5-1(2), Part 1B, Section II QCVN 21: 2010/BGTVT.

2.1.4 Preparation for Surveys

1 All preparations as required necessary for surveys are to be made by the Owners or their representatives with their responsibilities. The preparations are to include necessary

facilities and necessary records for the execution of the survey. In inspection, measuring and test equipment, which Surveyors rely on to make decisions affecting classification are to be individually identified and calibrated to a standard deemed appropriate by VR. However, the Surveyor may accept simple measuring equipment (e.g. rulers, measuring tapes, micrometers, etc.) without individual identification or confirmation of calibration, provided they are of standard commercial design, properly maintained and periodically compared with other similar equipment fitted on board a ship and used in examination of shipboard equipment (e.g. pressure, temperature or rpm gauges and meters) based either on calibration records or comparison of readings with multiple instruments.

2 The Owners or their representatives, who have knowledge of the requirements for surveys and are able to supervise the preparation for surveys are to attend the survey according to the items to be examined, and are to give necessary assistances to the Surveyor in the execution of his duty.

3 The surveys may be suspended where:

(1) Necessary preparations have not been made; or

(2) Any appropriate attendant mentioned in the previous –2 is not present; or

(3) The surveyor considers that the safety for execution of the survey is not ensured.

2.1.5 Disposition When Repairs are Considered Necessary

In cases where repairs are deemed necessary by the Surveyor or as a result of a survey, survey applicants are to make all necessary repairs to the satisfaction of the Surveyor.

2.1.6 Ships Laid-up

1 Ships laid-up are not subject to Registration Maintenance Surveys. However, Occasional Surveys may be carried out at the request of the owners.

2 When ships laid-up are about to be re-entering service, the following surveys and surveys for specific matters which have been postponed due to being laid-up, if any, are to be carried out.

(1) If the due dates for Periodical Survey have not transpired while the ship was laid-up, then the extent of survey is to be equivalent to annual survey specified in 2.3.2.

(2) If the due dates for Periodical Surveys have transpired while the ship was laid-up, then these Periodical Surveys are, in principal, to be carried out. However, where two or more kinds of Periodical Surveys are due, only special survey may be carried out.

2.2 Registration Surveys

2.2.1 Drawings and Data

1 In the case of preventive machinery maintenance systems intended for registration, three copies of the following drawings and data are to be submitted to VR for approval:

(1) Drawings and data concerning the preventive machinery maintenance systems

(a) System specifications and particulars

(b) Equipment and components monitored by such systems

(c) Drawings showing system configurations and arrangements

(d) Procedures for sea trials

(e) Any other drawings and data deemed necessary by VR

(2) Drawings and data concerning condition monitoring and diagnostic systems

(a) Instruction manuals for system functions and usage

(b) Condition monitoring and diagnostic procedures and sensor lists

(c) Kinds and contents of information to be outputted

(3) Drawings and data concerning preventive maintenance management systems

(a) Instruction manuals for system functions and usage

(b) Contents of Preventive maintenance plans

(4) Any other drawings and data deemed necessary by VR.

2.2.2 Shop Tests

1 After manufacture, preventive machinery maintenance systems are to be subjected to the following tests:

(1) Environmental tests

Fixed detectors (temperature sensors, pressure sensors, revolution sensors, piston ring surveillance sensors, etc.) are to be subjected to those environmental tests specified in 18.7.1(1), Part 3, Section II QCVN 21: 2010/BGTVT at places of manufacture. Procedures for such tests are to be as deemed appropriate by VR.

(2) Completion tests

All components of condition monitoring and diagnostic systems are to be subjected to those tests specified in 18.7.1(2), Part 3, Section II QCVN 21: 2010/BGTVT after assembly has been completed. Procedures for such tests are to be as deemed appropriate by VR.

2.2.3 Sea Trials

1 Condition monitoring and diagnostic systems are to be inspected and tested in accordance with those test procedures submitted in advance to confirm that they function satisfactorily. Such test procedures are to at least include the following items for confirmation:

(1) Condition monitoring functions and diagnostic functions of systems while ships are navigating at the output ranges of main engines;

(2) Condition monitoring functions and diagnostic functions of those systems for auxiliaries for main propulsion machinery subject to condition monitoring during normal seagoing conditions.

2 Preventive maintenance management systems are to be inspected and tested in accordance with those test procedures submitted in advance to confirm that they function satisfactorily. Such test procedures are to at least include tests to confirm that such preventive maintenance management systems are capable of functioning as planned based on data received from condition monitoring and diagnostic systems.

2.3 Registration Maintenance Surveys

2.3.1 Special Surveys

1 During Special Surveys, condition monitoring and diagnostic systems and maintenance management systems are to be subjected to general examination and performance tests to ensure that they are in good order.

2 The requirements for such general examination and performance tests may be suitably modified based on appropriate routine maintenance records and any records of previous surveys.

3 In the case of condition monitoring and diagnostic systems, sea trials may be requested after completion of any of the performance tests mentioned in -1 above in cases where considered necessary by VR.

2.3.2 Annual Surveys

During Annual Surveys, condition monitoring and diagnostic systems are to be subjected to general examination and performance tests. However, in cases where appropriate records of daily checks and periodical maintenance have been kept, parts of these tests may be omitted at Surveyor discretion.

2.3.3 Occasional Surveys

During Occasional Surveys, inspections or tests or investigation are to be carried out on necessary items according to individual cases to the satisfaction of Surveyors.

CHAPTER 3 PREVENTIVE MACHINERY MAINTENANCE SYSTEMS

3.1 General

3.1.1 Scope

The requirements of this Chapter apply to those preventive machinery maintenance systems comprising condition monitoring and diagnostic systems as well as preventive maintenance management systems.

3.2 Condition Monitoring and Diagnosis Systems

3.2.1 General

1 Condition monitoring and diagnostic systems are to comply with the following requirements (1) through (6):

(1) Condition monitoring and diagnostic systems are to be capable of diagnosing the deterioration of any equipment or equipment components either independently or integrally based on the data obtained from centralized machinery monitoring and control systems or data obtained directly from sensors monitoring the conditions of such equipment or its components. Sensors used for these systems are to be of a fixed type. However, in cases where providing fixed sensors is unpractical and VR considers portable sensors capable of providing data equivalent in quality to fixed-type sensors, the above requirement may be dispensed with.

(2) In cases where condition monitoring and diagnostic systems collect data via alarms and monitoring systems, such systems are not to have any adverse effect on these alarms and monitoring systems.

(3) Data analysis functions of condition monitoring and diagnosis systems are to satisfy requirements (a) to (c) below:

(a) Condition monitoring is to be carried out from the trend of data changes and to be capable of indicating the results of condition diagnosis in forms that are readily understandable.

(b) Trend analysis of condition monitoring data is to be suitable for easy execution.

(c) In the case of main engines, measurements at all measuring points to be scanned by condition monitoring systems for each output range are to be taken during shop trials or sea trials, they are to be taken as the initial values for condition monitoring, and these initial value data are to be used as reference values for condition monitoring. In the cases of condition-monitored auxiliaries for propulsion machinery, measurements at all measuring points under the normal sea-going conditions are to be taken during sea trials, and they are to be used as reference values for condition monitoring.

(4) Monitored condition data are to be capable of being regularly stored in memory devices of computers, recalled and displayed arbitrarily. Furthermore, trend data are to be capable of being displayed in readily visible ways either independently or in combination with other data.

(5) Condition monitoring and diagnostic systems are to be provided with suitable interface units to make back-ups of databases.

(6) Computers used for condition monitoring and diagnostic systems are to satisfy requirements (a) through (e) given below:

(a) Computers are to be configured so that the effects of any system failures in parts of any circuits or devices can be limited to a certain degree as far as possible.

(b) System components are to be protected against any overvoltage (electrical noise) likely to enter through input/output terminals.

(c) Central processing units and important peripheral devices are to have self-monitoring functions.

(d) Important programmes and data are not to be deleted in the event of any temporary failures of external power supply sources.

(e) Spare parts for important system components that require specialist services for repairs are to be supplied in readily replaceable part units.

3.2.2 Equipments and Components subject to Monitoring and Diagnosis Scheme

1 The items of equipment and their components subject to monitoring and diagnosis scheme are to include the following (1) through (4):

(1) Main diesel engines

(a) Parts around combustion chambers

(b) Main bearings

(c) Turbochargers

(2) Main turbines

(a) Turbine rotors

(b) Turbine rotor bearings

(c) Rotor thrust bearings

(3) Propulsion power transmission systems

(a) Thrust bearings of propulsion shafting systems

(b) Reduction gear bearings of propulsion shafting systems

(4) Prime movers driving generators

(a) Diesel engines

(b) Steam turbines

3.2.3 Condition Monitoring and Diagnostic Functions for Main Diesel Engines

1 Condition monitoring and diagnostic functions for main diesel engines are, at the very least, to comply with the following requirements (1) through (8):

(1) Condition monitoring sensors are to be provided for temperature, pressure and all other operating parameters given in Table 3.1.

(2) Cylinder pressure sensors, scavenging air pressure sensors and crank angle sensors are to be provided in order to monitor combustion conditions.

(3) Sensors for suitably monitoring the condition of cylinder liners and piston rings are to be provided.

(4) Sensors for suitably monitoring the condition of main bearings are to be provided.

(5) Sensors for suitably monitoring any deterioration in the performance of turbochargers are to be provided.

(6) Conditions of the lubricating oil of main engines are to be monitored.

(7) Condition monitoring and diagnostic systems are to have functions for monitoring combustion conditions in each cylinder, the condition of parts around combustion chambers as well as the condition of each main bearing and turbochargers based on data from those sensors specified in (1) through (5) above and the condition of those lubricating oils specified in (6) above.

(8) Condition monitoring and diagnostic systems are to have functions for diagnosing combustion conditions in each cylinder, the condition of parts around combustion chambers as well as the condition of each main bearing and turbochargers based on the information described in (7) above.

3.2.4 Condition Monitoring and Diagnostic Functions for Main Turbines

1 Condition monitoring and diagnostic functions for main turbines are, at the very least, to comply with the following requirements (1) through (5):

(1) Condition monitoring sensors are to be provided for temperature, pressure and other operating parameters given in Table 3.2.

(2) Sensors for directly and suitably monitoring the condition of rotor shaft bearings are to be provided.

(3) Condition of the lubricating oil of main turbines is to be monitored.

(4) Condition monitoring and diagnostic systems are to have functions for monitoring the conditions of turbine rotors and rotor bearings based on data from those sensors specified in (1) and (2) above and the condition of those lubricating oils specified in (3) above.

(5) Condition monitoring and diagnostic systems are to have functions for diagnosing the conditions of turbine rotors and rotor bearings based on the information described in (4) above.

3.2.5 Condition Monitoring and Diagnostic Functions for Power Transmission Systems

1 Condition monitoring and diagnostic functions for power transmission systems are, at the very least, to comply with the following requirements (1) through (4):

(1) Sensors for directly monitoring the condition of thrust bearings of propulsion shafting systems and each bearing of reduction gear installations are to be provided.

(2) Condition of the lubricating oil of power transmission systems is to be monitored.

(3) Condition monitoring and diagnostic systems are to have functions for monitoring the conditions of power transmission systems based on data from those sensors specified in (1) above and monitoring the temperatures of stern tube bearings.

(4) Condition monitoring and diagnostic systems are to have functions for diagnosing the conditions of power transmission systems based on the information described in (3) above.

3.2.6 Condition Monitoring and Diagnostic Functions for Prime Movers Driving Generators

1 Condition monitoring and diagnostic functions for prime movers driving generators are, at the very least, to comply with the following requirements:

(1) Diesel engines driving main generators

(a) Condition monitoring sensors are to be provided for temperature, pressure and all other operating parameters given in Table 3.3.

(b) Condition of the lubricating oil of engines is to be monitored.

(c) Condition monitoring and diagnostic systems are to have functions for monitoring the condition of engines based on data from those sensors specified in (a) and the condition of those lubricating oils specified in (b) above.

(d) Condition monitoring and diagnostic systems are to have functions for diagnosing the condition of engines based on the information specified in (c) above.

(2) Turbines driving main generators

(a) Condition monitoring sensors on temperature and pressure items etc. given in Table 3.3 are to be provided.

(b) Condition monitoring sensors for rotor bearings, lube oil temperatures of rotor bearings, rotor and casing vibrations, and axial displacements of rotors are to be provided.

(c) Condition of the lubricating oil of steam turbines is to be monitored.

(d) Condition monitoring and diagnostic systems are to have functions for monitoring the condition of steam turbines of driving main generators based on data from those sensors specified in (a) and (b) above and the condition of those lubricating oils specified in (c) above.

(e) Condition monitoring and diagnostic systems are to have functions for diagnosing the condition of steam turbines for driving main generators based on the information described in (d) above.

3.3 Preventive Maintenance Management Systems

3.3.1 General

1 Preventive maintenance management systems are to comply with following requirements (1) through (4):

(1) Preventive maintenance management systems are to have functions to draw up plans for inspection, maintenance and inspection timing for each item of equipment and equipment components subject to preventive maintenance schemes according to those inspection and maintenance time intervals recommended by manufacturers and those survey intervals specified in Part 1B QCVN 21: 2010/BGTVT in consideration of the operation schedules of ship.

(2) Preventive maintenance management systems are to have functions to update and coordinate predetermined preventive maintenance plans based on diagnostic information from condition monitoring and diagnostic systems.

(3) The following forms and records are to be able to be produced:

(a) List of items for regular maintenance service and overhaul inspections;

(b) Records of regular maintenance services, overhaul inspections and damage/failure/repair records.

(4) Preventive maintenance planning management systems are to have functions to store and manage condition monitoring and diagnostic information as well as to output all of the various information needed for acceptance surveys, inspection results and condition monitoring data.

Table 3.1 Main Propulsion Diesel Engines (and Gearing)

Monitored Variables			**Remarks**
Main propulsion diesel engines (and gearing)	Temper-ature	Cylinder cooling water outlets for each cylinder	
		Piston cooling water/oil outlets for each cylinder	
		Fuel valve cooling water/oil outlets	
		L.O. inlets	
		Thrust bearings or L.O. outlets	
		Reduction gear L.O. inlets	Not required in cases where L.O. systems are integrated with propulsion engine L.O. systems
		F.O. injection pump inlets	or viscosity, applicable in cases where viscosity control of F.O. is performed
		Exhaust gas outlets for each cylinder, or average temperature deviations of each cylinder	
		Scavenge air	applicable to two-cycle engines
		Air cooler air outlets	applicable when an automatic temperature control device is provided
	Pressu-re	Cylinder cooling water inlets	or flow
		Piston cooling water inlets	or flow
		Fuel valve cooling water/oil inlets	or flow
		Piston cooling oil inlets	or flow; however, not required in cases where L.O. systems are integrated with propulsion engine L.O. systems
		L.O. inlets	
		Pressure differences between L.O. strainer inlets and outlets	
		Turboblower L.O. inlets	Not required in cases where L.O. systems are integrated with propulsion engine L.O. systems
		Reduction gear L.O. inlets	
		F.O. injection pump inlets	
		Starting air engine inlets	Not required in cases where indicators are provided to show whether intermediate valves or automatic starting valves are open or closed
		Cooling sea water	or flow
	Others	Flow in each cylinder lubricator outlet	
		Oil mist concentrations in crankcases	or bearing temperatures

Table 3.2 Main Propulsion Turbines (and gearing condensers)

Monitored Variables			Remarks
Main Propulsion Turbines (and gearing condensers)	Temperature	L.O. inlets	
		Rotor bearings or L.O. outlets	
		Rotor thrust bearings or L.O. outlets	
		Reduction gear bearings or L.O. outlets	
		Thrust bearings or L.O. outlets	
	Pressure	L.O. inlets	
		Main condenser vacuums	
		Gland steam	
		Cooling sea water	or flow
	Others	Levels in main condensers	Applied in cases where main condensers are situated on the same horizontal plane as turbines
		Rotor vibrations or casing vibrations	
		Rotor axial displacements	

Table 3.3 Prime Movers Driving Generators

Monitored Variables			Remarks
Diesel engine	Temperature	L.O. inlets	
		Cooling water outlets	or cooling water inlet pressures (or flow)
		Exhaust gas for each turboblower inlet or each cylinder outlet	
		F.O. injection pump inlets	or viscosity, applied in cases where viscosity control of F.O. is performed
	Pressure	L.O. inlets	
		Cooling water inlets	or flow, or high temperature of cooling water outlets
	Others	Oil mist concentrations in crankcases	or bearing temperatures; however, not required for engines with maximum continuous outputs less than 2,250 kW and cylinder diameters of 300 mm or less
Steam turbine	Temperature	L.O. inlets	
	Pressure	L.O. inlets	
		Steam inlets	In the cases of steam turbine ships, applied in cases where extracted steam is used
		Exhaust steam	

III REGULATIONS ON MANAGEMENT

1.1 General

If ship has Preventive machinery maintenance systems complying with requirements in this Regulation, an additional notation “PMM” is affixed to the characters of classification as specified in Chapter 2 Part 1A Section II QCVN 21: 2010/BGTVT.

1.2 Regulations on technical supervisions

Preventive machinery maintenance systems are to be surveyed to the extent prescribed in Chapter 2 Section II of the Regulation.

1.3 Certification

1.3.1 Certificate

If the system complies with this Regulation, that system will be issued a certificate of design approval or a classification certificate together with the ship depending on particular demand.

1.3.2 Procedure for certification

Procedure for certification is to be in accordance with Circular No. 32/2011/TT-BGTVT.

IV RESPONSIBILITIES OF ORGANIZATIONS, INDIVIDUALS

1.1 Responsibilities of ship owners and operators, agency of design, manufacturing, converting, renovating and repairing the systems

1.1.1 Ship owners and Operators

1 To implement all relevant requirements in this Regulation for the system in manufacturing, converting, renovating, operating in order to ascertain and maintain good technical condition of the systems.

1.1.2 Design agency

1 To design the system in compliance with requirements of the Regulation.

2 To submit all required design documentation in accordance with requirements in the Regulation.

1.1.3 Yards of manufacturing, converting, renovating and repairing the systems

1 To be capable in terms of warehouse, manufacturing shop, building facilities etc. and competent manpower to meet requirement for new manufacture, conversions, renovations and repairs of the systems.

2 To comply with standards of quality, safety while manufacturing, converting, renovating and repairing the systems and to comply with approved design.

3 To undergo VR's supervision on the technical quality and safety of the systems.

1.2 Responsibilities of Vietnam Register

1.2.1 Design approval, technical supervision

To assign surveyors having competence and of sufficient standard to carry out the technical supervision during manufacture, conversions, renovations, repairs and operation of the systems in accordance with technical requirements specified in this Regulation.

1.2.2 To give instructions for implementation/application

To give instructions for the application of requirements of this Regulation to ship owners and operators, yards of manufacture, conversions, renovations and repair of the systems, inspection offices of Vietnam Register throughout the country.

1.2.3 To amend and supplement the Regulation

Based on the fact, Vietnam Register is to have responsibility to petition the Ministry of Transport for amendment, supplementation of the Regulation where necessary or on schedule specified in the Law of Standards and Technical Regulations.

1.3 Responsibilities of the Ministry of Transport

The Ministry of Transport (Science and Technology department) is responsible for verifying on the regular or random basis the implementation of this Regulation by relating organizations.

V IMPLEMENTATION

1.1 It is the responsibility of Vietnam Register to manage the survey system, technical supervision, classification and technical registration of Preventive machinery maintenance systems on sea-going ships. It is also to include organizing the printing, dissemination and instructions for the application of this Regulation for organizations and individuals falling within the scope of this Regulation.

1.2 In case of inconsistency between the requirements in this Regulation and those in other rules, standards or technical regulations relating to Preventive machinery maintenance systems, the requirements of this Regulation are to prevail over those of others.

1.3 In case the documents referred to in this Regulation are amended, supplemented or replaced, the latter is to prevail over the former.

1.4 This Regulation and its amendment are to apply to Preventive machinery maintenance systems registered on or after effective date of this Regulation.