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NATIONAL TECHNICAL REGULATION FOR INSPECTION OF SEA-GOING SHIP'S PRODUCTS

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NATIONAL TECHNICAL REGULATION FOR INSPECTION OF SEA-GOING SHIP'S PRODUCTS

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1.1 Application and Scope

1.1.1 Application

This National Technical Regulation (hereinafter referred to as “Regulation”) applies to the inspection and certification of sea-going ship’s products which are listed in the Annexes A, B and C intended for sea-going ship classified by Vietnam Register according to the requirements of International conventions.

1.1.2 Scope

This regulation applies to organizations, individuals engaged in inspection and certification of industrial products used for sea-going ships which fall under the application as specified in 1.1.1 above including the Vietnam Register (hereinafter referred to as VR); ship owners; design establishments, manufacturer, establishments for building, converting, restoring, repairing and exploiting industrial products for use on ships.

1.2 References and Definition of Terms

1.2.1 References in the Regulation

1 QCVN 21: 2010/BGTVT: National Technical Regulation on the Classification and Construction of Sea-going Ships.

2 QCVN 42: 2012/BGTVT National Technical Regulation on Safety Equipment.

3 QCVN 26: 2014/BGTVT: National Technical Regulation on Marine Pollution Prevention systems.

4 QCVN 23: 2010/BGTVT: National Technical Regulation on the Cargo Handling Appliances.

5 Circular No. 06/2013/TT-BGTVT: National Technical Regulations related to sea-going ships dated 02nd May 2013 signed by the Minister of Transport.

1.2.2 Definition of Terms

1 The following definitions of term apply for Industrial products inspected as requirement of this Regulation.

(1) *Products inspection* means the process of evaluating the compliance of the products with applicable requirements through drawing examination, prototype/type test, document examination and testing of the final products and/or during their manufacturing, including unit/batch inspection, design approval, type approval and works approval.

(2) *Unit/batch inspection* means the unit-by-unit or batch-by-batch inspection of

products by VR's Surveyor for the purpose of issuing a products certificate/equivalent document.

(3) *Design approval (DA)* means the evaluation process whereby CCS confirms that product design meets requirements of VR rules and/or other acceptable standards through drawing examination and type test.

(4) *Type approval (TA)* means the evaluation process whereby the manufacturer's ability and condition to produce consistent products in compliance with VR rules and/or other acceptable standards is confirmed by VR through drawing examination, type test and on-site audit. Depending on the ability and level of quality assurance of the manufacturer, the type approval is divided into modes A and B.

(5) *Works approval (WA)* means the evaluation process whereby the manufacturer's ability and condition of continuously producing products meeting requirements of VR rules and/or other acceptable standards are confirmed by VR through documentation review or drawing examination, type test and on-site audit.

(6) *Type test* means testing of the sample as defined in (9) below including its materials and components by a specified method for confirming compliance with all requirements of technical Regulation or designated standard(s). In special case, type test could be the destruction test.

(7) *Prototype test* means testing of the prototype as defined in (8) below including its materials and components for evaluating the product design. Prototype test could be the destruction test.

(8) *Prototype means* a model product manufactured to the design which is to be evaluated for compliance with applicable requirements.

(9) *Sample* means a representative product used for test/inspection. The selected sample is to be, in respect to performance, characteristics and manufacturing quality, capable of representing or covering the products or product series to be inspected.

(10) *Inspection* means the document review, examination and test carried out by the Surveyor for products' compliance with relevant requirements of rules, statutory regulations and standards before commencement and/or during process and/or after completion of production.

(11) *Final inspection* means acceptance inspection and test witnessed by the Surveyor at final stage.

(12) *Applicant* means an organization applying for an inspection of products by VR. An applicant may be a manufacturer, an agency or a design institute.

(13) *Audit* means a systematic and independent examination to determine whether quality activities and related results comply with planned arrangements and whether these arrangements are implemented effectively and are suitable to achieve the stated objectives.

(14) *Periodical audit* means an audit for confirming continued compliance with the certificate of type approval or the certificate of works approval.

(15) *Components* mean parts/members forming a piece of equipment and/or a system.

(16) *Design* means all relevant drawings, documents and calculation reports describing the performance, installation and manufacturing technologies of products.

(17) *Documentation* means all necessary written information regarding design, processes, products or services.

(18) *Manufacturer* means an organization producing and/or assembling final products and fully responsible for such products.

(19) *Document* means a formal document showing compliance of a design, product, service or process with specified requirements.

(20) *Manufacturer's document* means statements or certificates issued by the manufacturer as the result of exercising his inspection duty, showing that the products meet relevant requirements.

(21) *Equivalent document means* certificates, reports, etc. issued not in the name of VR, but stamped by VR and endorsed by VR Surveyor, showing that the products have been satisfactorily inspected according to VR requirements.

(22) *Applicable Regulations* include QCVN 21: 2010 / BGTVT, QCVN 42: 2012, QCVN 23: 2010 / BGTVT, QCVN 26: 2014 / BGTVT and related regulations; and the relevant international conventions provide for inspection of the industrial products.

II TECHNICAL REQUIREMENT

CHAPTER 1 GENERAL

1.1 General requirement

1.1.1 Inspection and certification of machinery, materials and equipment used for new building conversion and repair ship, (hereinafter referred to as "industrial products") is part of the ship survey, including inspections of products to be classed (hereinafter referred to as "product by law") under authorization of flag state, and the inspection of other products at the request of the customer. These inspections are to confirm that the products meet the requirements of the National regulation, rules for classification or statutory requirements or the requirements of the entrusting party.

1.1.2 Industrial products installed on board seagoing vessels by VR shall be inspected in accordance with the requirements of this Regulation and the requirements of the relevant applicable regulations. For vessels of less than 20 m in restricted maritime regional III, this subsection does not apply except shipbuilding materials and main engines; Adoption of industry products is intended for ship based on the manufacturer's records and test results.

1.1.3 The required industrial products should meet the requirements of relevant applicable Regulation, or could be applied in accordance with other standards. However, in any case, such industrial products should also be evaluated for design, inspection in manufacture and tested to ensure that they are not lower than the requirements of the applicable Regulation.

1.1.4 Where no technical requirements are specified for any products covered by the Regulation, they may be designed, manufactured and tested according to applicable standards at the discretion of the manufacturer. The confirmation of technical requirements for such products is in general to include:

(1) drawings and information;

(2) conditions for use on board;

(3) requirements for materials and welding;

(4) test items relating to safety and performance.

1.1.5 If the industrial product is manufactured abroad, in special cases, VR may consider authorizing the recognized Classification society to recognize the inspection and certification on behalf of VR.

1.1.6 In particular cases, VR may consider and accept a certificate of design approval, a type-approval certificate or a certificate of manufacture approval made by recognized Classification society.

1.2 Requirements for manufacturers

1.2.1 Manufacturers of classed products used for construction or repair of the ships

classed or intended to be classed with VR are to apply for inspection of such products by VR.

1.2.2 Unless otherwise provided by the Administration of the flag State, manufacturers of statutory products used for construction or repair of the ships, of which VR is authorized to carry out statutory surveys, are to apply for inspection of such products by VR.

1.2.3 In addition to 1.2.1 and 1.2.2, VR may carry out inspections of products for compliance with the standards provided by the applicant (e.g. rules, or SOLAS Convention, or relevant codes of IMO, or provisions of the Administration or standards provided by the applicant).

1.2.4 Manufacturers, who apply for approval and inspection by VR, are to meet appropriate conditions for production, testing, resources and quality management system in accordance with the relevant requirements of this Chapter.

1.2.5 Manufacturers are to exercise an effective control over the quality of raw materials, components and parts of their products, submit to VR for information lists of suppliers of raw materials, components and parts having direct influence on the quality of their products, and assist VR in getting necessary information of suppliers. Where VR rules and guidelines require that raw materials, components and parts should be certified, the related suppliers and their products are to be approved and/or inspected by VR.

1.3 Basic requirements for products inspections

1.3.1 The products required by relevant National regulation are, prior to their use or installation on ships classed with VR or during their manufacturing, to be inspected according to relevant requirements to confirm compliance with relevant National regulation, and an appropriate certificate as specified in 1.4.2 is to be issued.

1.3.2 VR implements the following 3 modes of products approval:

(1) design approval;

(2) type approval, as type approval A and type approval B;

(3) works approval.

1.3.3 In addition to the products to be approved as specified in applicable National regulation and/or statutory requirements, the manufacturer may apply for approval of one or more types of products for one or more of the following purposes:

(1) Providing products of which the type approval is required by applicable National regulation;

(2) Avoiding repeated drawing examination and prototype/type test for the same products;

(3) Replacing the Surveyor by the manufacturer in carrying out a part of or complete on-site inspections;

(4) Desiring that his products be entered into VR Lists of Approved Marine Products.

1.3.4 Where the products have been approved in one or more modes, the specified unit/batch inspection requirements may be replaced with the following:

(1) Reducing the inspection items requiring attendance by the Surveyor;

(2) Verifying by the Surveyor of production and quality control information provided by the manufacturer.

1.3.5 Where the manufacturer has achieved a quality assurance when manufacturing a series of products in a continuous or complete process based on the manufacturing process and technology, the work approval will be used to demonstrate the conditions and capacity to manufacture such products.

1.3.6 The manufacturer is to make preparations for inspection and provide sufficient and safe conditions for inspection so as to ensure that the Surveyor is capable of:

(1) Having access to products for carrying out the specified inspection;

(2) Witnessing specified tests of products on site;

(3) Obtaining documents, records and information necessary for the inspection, including information of suppliers of raw materials, components and parts.

1.3.7 Where required by applicable National regulation and guidelines, the raw materials, components and parts used for products are also to be certified accordingly and/or their manufacturers are to be approved by VR.

1.3.8 The products, for which type approval or works approval is granted, are to be produced at the manufacturer's production facilities stated in the approval certificate, and VR does not accept any inspection of those approved products which are subcontracted.

1.3.9 Where any harmful defect or damage is caused by raw materials or main components and parts to approved products, the manufacturer is to promptly inform VR of this and take one or more of the following measures:

(1) Suspension of the manufacturing of such products, investigation and analysis of the quality and the safety effects of such products installed onboard;

(2) Termination of their use for approved products;

(3) Re-evaluation of supplier(s);

(4) Disqualification of supplier(s).

1.3.10 The nameplate, usage identification, usage/operation instructions and quality certificate (including standards used as basis, product performance, quality assurance, liability, etc.) of the products inspected by VR are to be in a language specified by the ordering party, with at least an English translation or Vietnamese for ships engaged on international voyages.

1.4 Certificate/ Documents

1.4.1 Approval certificates

(1) An appropriate approval of the product by VR is to be certified as follows:

(a) Certificate of Design Approval - CDA) showing compliance of the design with applicable National regulation;

(b) Certificate of Type Approval - CTA) showing that the design complies with applicable National regulation and that the manufacturer has the ability to continuously produce in batches the products in compliance with applicable National regulation and/or recognized standards;

(c) Certificate of Works Approval - CWA showing that the manufacturer has the ability to produce the products required by applicable National regulation;

(2) The Design Approval Certificate, Type Approval Certificate, Works Approval Certificate and Marine Products Certificate are documents of compliance for products at different stage aiming at different requirements, and they cannot replace each other.

1.4.2 Products documents

(1) A unit/batch inspection of classed or statutory products is to be documented as follows:

(a) VR Products Certificate:

A document issued by the Surveyor to show that:

+ the product complies with rules;
+ required inspection and test have been carried out;
+ the sample is taken from the product to be inspected;
+ the product has been tested in the presence of the Surveyor or in a specially agreed condition.

(b) Equivalent document

A document issued by the manufacturer, endorsed by VR to show that:

a. the product complies with rules;
b. required inspection and test have been carried out;
c. the sample is taken from the product to be inspected;
d. the product has been tested in the presence of the Surveyor or in a specially agreed condition.

Note: Equivalent documents must satisfy the following requirements:

+ The unit of measurement must be equivalent to the unit stated in the standard or international unit.
+ Materials and specification notation (for example: tensile strength, impact strength, etc.) of the product must conform to the symbols mentioned in the standard if other symbols are used. there must be a clear explanation;

+ Must have a clear explanation of the basis for product testing;
+ Have a perception of the product (eg batch number / batch number, etc) and identify the inspection;
+ The manufacturing establishment must clearly announce "The test has been carried out satisfactorily, or the relevant Regulation are accepted by VR".

(2) The classed and statutory products of which the type approval and/or works approval is required but the products certificate is not required, are to provide type approval and/or works approval certificates and may be certified as follows:

(a) Manufacturer's document (W) is issued by the manufacturer to show that:

+ the product is type approved or works approved by VR;
+ the product complies with rules;
+ required inspection and test have been carried out;
+ the sample is taken from the product to be inspected;
+ The product has been tested in the presence of the department's representative authorized by the manufacturer

(3) Inspection of single / batch products is not a product covered by applicable regulation or statutory requirements, product's test report required:

The test report showing:

+ the product standards as determined by the applicant have been complied with;
+ the inspection and test has been witnessed by the Surveyor and/or the test report has been reviewed by him;
+ the test sample is taken from the product to be inspected.

1.4.3 The requirements for certificates of classed and statutory products are given respectively in Appendices A, B and C of this

1.4.4 If deemed necessary, the Surveyor may be required to attend the test of the products which may hold a manufacturer's document (W), or examine the control of their manufacturing quality.

1.5 Conditions for use of inspection marks

1.5.1 The marine products inspected by VR are to be stamped with an inspection mark on the body of the products and/or at their nameplates. The style of the inspection mark stamped on products is to be reflected conformably on the Products Certificate or equivalent document.

1.5.2 Where any product, which has been stamped with an inspection mark, is found unsatisfactory in the subsequent inspection, measures are to be taken to remove the mark.

CHAPTER 2 UNIT/BATCH INSPECTIONS

2.1 Application

2.1.1 The unit/batch inspection procedure of this chapter applies to the products with VR product certificate/equivalent document.

2.1.2 Appendix A of this Chapter is the List of Certification Requirements for Classed Marine Products

2.1.3 Appendix B of this Chapter is the List of Certification Requirements for Statutory Marine Products

2.1.4 Appendix 1C of this Chapter is the List of Certification Requirements for Lifting Appliances

2.2 General requirements

2.2.1 The statutory products, classed materials, and essential machinery and electrical equipment as specified in Appendices A, B and C are to be subject to unit/batch inspection after approval of such products (specific products are given in Appendices A, B and C). For the products of which the approval is not required in Appendices, VR will make an appropriate assessment of the production capability and conditions of the manufacturer, when receiving his initial application for unit/batch inspection, to determine whether or not to accept the application.

2.2.2 In general, the procedure of unit/batch inspection consists of the following process:

(1) Examination of drawings and technical documents (hereinafter referred to as “drawing approval”), or prototype/type test or measurement, for confirming compliance with applicable National regulation or other recognized standards;

(2) Inspection and test during manufacturing and/or of final products for confirming compliance with applicable National regulation and/or approved design drawings;

(3) The Marine Products Certificate or an equivalent document is issued to the products complying with relevant requirements.

2.2.3 For one or more products which have been approved by VR, the requirements in 2.2.2 (1) and (2) may be simplified for unit/ batch check items requiring the presence of a surveyor and this should comply with approved inspection plan.

2.2.4 Where type approval or equivalent information is available for the products to be inspected, VR will assess the relevant information provided by the applicant to determine whether a partial or full type test is needed.

2.2.5 Types of inspection and inspection items for special products must meet the provisions of the applicable Regulation.

2.3 Drawing approval

2.3.1 For each application for unit/batch inspection, the applicant is to prepare design drawings and/or technical documents and submit them to VR for examination or relavant information in accordance with the applicable Regulation. Design drawings and technical documentation must specify requirements for design, material, fabrication, function and use of the product.

2.3.2 Applicants must submit the following records to evaluate the suitability of the product (if applicable):

(1) Applicable technical standards;

(2) General information about the product;

(3) Design drawings and / or manufacturing drawings, including drawings, list of parts, details and materials, etc.;

(4) Calculation results of the design;

(5) First test report and / or type (if any);

(6) Test plan and / or test program, and acceptance criteria;

(7) Main technology documents;

(8) Other relevant documents.

2.3.3 After examination, if the technical documentation satisfies the relevant requirements of the applicable Regulation, VR shall issue a design approval; certificate and / or a design appraisal notice, verified a status approval on the submitted documents and sent back to the applicants.

2.4 Type test

2.4.1 The products, of which type test is required by relevant chapters of applicable Regulation and/or Appendices A, B and C of this Regulation, are subject to type test when unit/batch inspection of such products is requested.

2.4.2 The type test is to be carried out according to a test programme approved by VR.

2.4.3 The type test sample is to be manufactured according to approved drawings and/or production technology and be the prototype or a product of the same specification and manufacture taken at random from the production line. In the latter case, the sample is to be taken and specifically identified and if necessary, sealed up in the presence of the Surveyor.

Where preparation of samples is necessary, they are to be prepared, identified and their marks transferred in the presence of the Surveyor. The way of sampling is taken, the technology of preparation and the number of samples are to comply with applicable Regulation. Prior to the test, the Surveyor is to check the compliance of samples and verify the identification of the samples.

2.4.4 The items related to product performance, environment, etc., as specified in applicable Regulation or the applicable standards or the technical requirements of the manufacturer, are in general to be tested in the presence of the Surveyor.

Where the manufacturer arranges required tests at a laboratory approved by

Natonal Authorities or another foreign laboratory acceptable to VR. Upon an assessment, to comply with the requirements for testing of marine products, consideration may be given to accepting the results of such tests and if necessary, VR may require a retest.

2.4.5 Some or all of type test items may be tested under test conditions provided by the manufacturer. However, the appropriate test ability under such test conditions is to be confirmed by VR.

2.4.6 After completion of the type test, the test organization is to prepare a test report, covering at least the following:

(1) Type, specification and identification of the product;

(2) Test basis: test method and acceptance condition;

(3) Specifications of test equipment and measuring instruments (including identification number and date of last calibration);

(4) Environmental conditions of each test item, if applicable;

(5) Date and place of test;

(6) Test results.

2.4.7 The test report is to be signed by person(s) in charge from the test organization and the Surveyor. Where the Surveyor is not present at the test, he is to confirm the test report.

2.5 Material test

2.5.1 Materials are to be tested according to applicable Regulation. In general, the Surveyor is to confirm the document of material test and where required by applicable Regulation. The Surveyor is to be present at the test.

2.5.2 The test and measurement equipment is to be properly calibrated and maintained in a good condition. The calibration records are to be kept and made available to the Surveyor when he needs them.

2.5.3 The chemical composition of materials is to be determined and this composition is to be proved by the material supplier through the specified ladle analysis. The laboratory undertaking the analysis is to be provided with adequate test equipment and instrumentation, and the analysis is to be performed by qualified personnel.

2.5.4 The chemical analysis by the manufacturer is in general acceptable. However, the Surveyor may require a random check.

2.6 Inspections

2.6.1 During manufacturing, the manufacturer is to assist the Surveyor in getting access to all locations related to the inspection for confirming:

(1) Effective implementation of the production technology;

(2) Compliance of manufacturing with the approved drawings and technical

requirements;

(3) Correct application of materials and welding consumables;

(4) Correct sampling and testing.

2.6.2 The final inspection and test of the products are to be carried out in the presence of VR Surveyor and according to the approved design documents actually used and the applicable requirements specified in applicable Regulation. VR is responsible only for those inspection and test items requiring attendance by its Surveyors.

2.7 Issue of product certificate

2.7.1 The certification requirements for various products (including components and raw material) are given in Appendices A, B and C of this Regulation, except as required by the applicant otherwise. An appropriate product certificate/equivalent document is to be issued after completion of the unit/batch inspection.

2.7.2 For the type approved products or manufacturing approved products which intended to be installed on a VR class ship, these products must satisfy all relevant provisions of the applicable Regulation. If applicable, these products must be issued the certificate as follows:

(1) Only in the case of an applicable Regulation requires the presence of a surveyor, including testing of B-type products and approve for the manufacturing process at a preferential stage during the manufacturing, Surveyor will issue the product certificate after the completion of inspection and testing as required, unless otherwise specified.

(2) If the applicable Regulation specifies that the products have been recognized as A-type and obtained the approved manufacturing process which intended use on VR class ship, must have a product certificate, VR will inspect and certify the products certificate for those products. The manufacturer shall provide a list of the products to be shipped and all the relevant documentation required for the product certification. In this case, the manufacturer shall be responsible for the conformity of the product with the prescribed requirements.

2.7.3 Unless specified otherwise, a separate marine product certificate may not be required for the marine products manufactured by the shipyard and covered by the ship survey according to product inspection requirements.

CHAPTER 3 DESIGN APPROVAL

3.1 General requirements

3.1.1 The design approval applies in general to the approval of design of marine products in the category of equipment and systems. Specific products to which such approval is applicable are listed in Appendices of this Regulation.

3.1.2 The applicant for design approval is to submit to VR Application for Design Approval of Products and clearly state the purpose, type, model and main characteristic parameters of the products together with the latest versions of all standards used.

3.1.3 The design approval consists of drawing examination and prototype test.

3.2 Drawing examination

3.2.1 The following drawings (not limited in the list) are to be submitted for examination:

(1) Design drawings, including general arrangement, drawing of essential parts, main parts or materials list;

(2) Documents stating specifications;

(3) Documents stating performance and purpose;

(4) Applicable Regulation

(4) Necessary engineering calculation and analysis reports;

3.2.2 The drawing examination is primarily to confirm compliance of the design of products with applicable Regulation and guidelines, or their alternative standards as permitted. Where there are no specially required technical standards in applicable Regulation, the examination may be based on applicable industrial standards, or in the absence of applicable rules or industrial standards, the manufacturer's standards or product technical requirements or engineering calculation and analysis may also be accepted as the basis for examination. The basis for examination of product drawings will be clearly stated in the product drawing/document approval notification.

3.3 Prototype test and/or inspection

3.3.1 The prototype product, for which design approval is sought, is to be inspected and identified by the Surveyor to confirm that it is manufactured according to approved drawings and that it complies with applicable Regulation and guidelines, applicable standards or the manufacturer's technical requirements and is fit for its intended purpose on board.

3.3.2 If applicable and considered as a necessary process for design approval, the prototype test is to be conducted by the manufacturer in the presence of the Surveyor. The prototype test is to cover product performance tests, environmental tests or other tests, as specified in applicable Regulation and guidelines, applicable standards or the manufacturer's technical requirements, and the test programme is

to be submitted to VR for approval.

3.3.3 The requirements for the prototype test report are to be in accordance with 2.4, Chapter 2 of this Regulation.

3.3.4 If the required tests have been completed or are underway at an independent testing organization accepted by VR, special consideration will be given to the acceptability of any test results obtained not in the presence of VR Surveyor. For details, see also 2.4.4.

3.4 Certificate of Design Approval

3.4.1 Issue the Certificates

(1) Where the products have been assessed according to 3.2 and 3.3 of this Section and found to comply with applicable Regulation, guidelines and/or applicable standards and/or the manufacturer's technical requirements, a Certificate of Design Approval will be issued by VR. In the opposite case, the reason for not accepting the design will be notified to the applicant and the request of design approval is finished.

(2) The products, of which the design has been approved, and their designer will be entered into VR Lists of Approved Marine Products.

(3) The design approval certificate itself- does not mean that the product has been type approved. If applicant intend for type approval, the assessment of the manufacturing process shall be carried out in accordance with Chapter 4 of this Regulation.

3.4.2 Maintain the Certificate of Design Approval

(1) Any change to the design or Applicable Regulation of the product which has been approved by VR, customer shall be notified to VR by this. Depending on the nature and extent of the change, VR will determine if it is necessary to undertake new design approval. Failure to notify VR will result in the invalidation of the Certificate of Design Approval.

(2) When the applicable Regulation changes affect the validity of the Certificate of Design Approval, VR will inform the customer and ask the customer to pay attention to the necessary design changes as well as asking customer to arrange for the new evaluation.

If the new evaluation results are not satisfactory, the Certificate of Design Approval will be invalidated.

3.5 Inspection and certification of Product certificate:

Products of a approved design will be inspected by Surveyor in accordance with 2.6 Chapter 2 of this Regulation to ensure compliance with the requirements of the applicable Regulation as well as the approved design documentation and then granted Product certificates.

CHAPTER 4 TYPE APPROVAL

4.1 General requirements

4.1.1 This Chapter specifies general principles and procedures for VR type approval of products in confirming the manufacturer's ability to produce consistent products in compliance with applicable Regulation.

4.1.2 Upon application by the manufacturer, the products not required by applicable Regulation may be approved according to the standards/technical requirements agreed between VR and the manufacturer.

4.1.3 The type approval of products consists of following processes:

(1) Document examination, including:

(a) Drawing examination;

(b) prototype/type test.

(2) Audit of the manufacturing process

4.1.4 Audit of the manufacturing process include:

(1) Check of quality management system: The manufacturer's quality assurance and quality control system must be assessed to examine and verify the system's ability to consistently meet product quality requirements and applicable Regulation.

The manufacturer's control and quality assurance system will fall into one of the following categories:

a) A specialized quality management system meeting the requirements of VR. This system is suitable for accredited products and systems that ensure product conformity with applicable Regulation, guidelines and / or other standards.

b) An equivalent quality management system certified by a competent certification body that is at least compliant with ISO 9001 or equivalent quality management standards and meets the requirements of VR.

c) Ensure the quality of the product meets a) or b) above, a process that is approved by VR to ensure that examning and testing comply to applicable Regulation, guidelines and conventions.

(2) Audit the manufacturing process: The manufacturing process of the manufacturer must be assessed to verify and certify that manufacturing and inspection technology has been established with the aim of achieving the required level of quality control at the manufacturer and complied to the Regulation.

4.2 Process of type approval

4.2.1 Process of type approval is described as Figure 4.2.1

4.2.2 The applicant for type approval is to submit an application to VR, stating the requested type approval and providing information on the manufacturer and his production location as well as all other information necessary for the products to be approved.

4.2.3 While the process of type approval covers design approval (see Chapter 3 of this Regulation), a separate application for design approval need not be made in respect to the products for which type approval is sought, unless the manufacturer requests both type approval and issue of the Certificate of Design Approval.

4.2.4 Mode B certificates granted to manufacturing establishments satisfy the following requirements:

(1) Design the product in accordance with the requirements of the relevant Regulation and / or other standards;

(2) Effective specialized quality systems for products are established to ensure the level of quality control required by the manufacturing facility.

4.2.5 Mode A certificates are granted only to manufacturing establishments which are allowed to conduct the inspection and testing according to the requirements of applicable Regulation and without presence of surveyors. Manufacturers requesting Mode A certificate should meet the following requirements:

(1) Meet the requirements for Mode B accreditation and 4.1.4 (1) (c).

(2) Product quality is kept stable throughout the validity period of Mode B certificates based on the results of the inspection and assessment of the registry.

(3) The operation of a quality system specific to the product is likely to result in at least the results of the inspection and testing in the presence of the surveyors.

4.3 Design Review

4.3.1 The review of drawings shall be in accordance with 3.2 Chapter 3 of this Technical Regulation.

4.3.2 The type test shall be in accordance with 2.4 Chapter 2 of this Technical Regulation.

4.3.3 Where the products, for which type approval is requested, have been design approved by VR, the confirmation of the Design Approval Certificate will suffice. When a type test for design approval is conducted without the presence of a surveyor, the final test of the sample at the workshop shall be performed in lieu of the test.

4.4 Audit of the manufacturing process

4.4.1 Audit of quality management system

(1) A specialized quality management system for industrial products established by the manufacturer must be assessed in order to verify that the system is suitable for the recognized products and that the system ensure the conformity of the product with

other applicable standards, guidelines and / or other applicable standards. If the manufacturer has a quality management system certified by a competent certification body and at least complies with ISO 9001 or equivalent quality management standards, then the system should be assessed by VR to verify it's compliance with the requirements of VR for a specialized quality management system for industrial products.

(2) The manufacturer should demonstrate the suitability and adequacy of the following aspects to validate the capabilities of the equipment used in manufacturing, checking, testing, and the ability and the influent of staffs to product quality in order to meet the uniform level of quality of products:

(a) Capability and test conditions of checking, testing and measurement equipment;

(b) Inspecting and testing staff

(c) Technology and operators of essential processes;

(d) Tasks and qualifications of the person performing the quality control and inspection;

(e) The written purchase control procedures (if any), the preparation and maintenance of a list of suppliers of raw materials, parts and details for notification to VR;

(f) Quality control methods, including subcontractor control (if applicable).

(3) Manufacturers must maintain a quality manual consistent with quality standards. If the quality system is certified by an appropriate certification body that is assessed by VR as complying with the requirements of VR for a particular quality system, the quality manual which is certified by that organization shall be submitted to VR.

4.4.2 Audit of the manufacturing process

(1) A quality control plan for the products within the approval scope is to be established by the manufacturer and submitted to VR for approval. This quality control plan is to describe the quality assurance and control methods used in the manufacturing process according to the technical requirements or standards of the products, reflecting in particular the inspection and test requirements of applicable Regulation, guidelines and/or conventions

(2) Representative pieces or sample of the products within the approval scope are to be provided by the manufacturer to the Surveyor for verifying that they are manufactured according to the design documents.

4.5 Issue and validity of Type Approval Certificate

4.5.1 VR will issue a Type Approval Certificate –Mode B valid for not more than 5 years to a manufacturer for whom the drawing examination, type test and on-site audit have been completed according to.4.3, 4.4 respectively and satisfied conditions of

4.2.4.

4.5.2 VR will issue a Type Approval Certificate –Mode A valid for not more than 5 years to a manufacturer for whom the drawing examination, type test and on-site audit have been completed according to.4.3, 4.4 respectively and sactify with conditions of 4.2.5.

4.5.3 The products having a Type Approval Certificate and their manufacturers will be entered into VR Lists of Approved Industrial Products.

4.6 Periodical audit

4.6.1 Within the period of validity of the approval certificate, a manufacturer of Mode A type approval have to apply for a periodical verification annually to ensure maintenance of the validity of the certificate. The periodical anniversary date is 30 months from the effective date of the certificate. The periodical verification is to be carried out within 6 months before or after the anniversary date of the certificate.

The periodical audit includes (but not limit to): verification of the operation of the manufacturer's quality system, compliance of the manufacturing technology with the approved technical documentation at the time of type approval , controlling the purchase of materials, parts, details; use the checking mark, the language used in the name plate and operating instructions, feedback the product quality. If deemed necessary by VR, random inspection/test for the approved products may be carried out. The samples for inspections/ tests are to be selected in the presence of the Surveyor, with the type and number of samples being determined by the Surveyor depending on the complexity, production scale and type of the products.

4.6.2 In the case of discontinuous production, it is not necessary to assess the period during non-production. However, at least one assessment should be done at the beginning of re-production.

4.6.3 Where the manufacturer is found to comply with the conditions for maintaining the certificate at the periodical audit, a periodical audit certificate will be issued by VR.

4.7 Renewal audit

4.7.1 The renewal audit for the Type Approval Certificate is to be carried out within 3 months before the expiry date of the certificate. The manufacture is to send a written application to VR and inform VR of any change to the product design and quality system. VR is to:

(1) Confirm the drawings to check any change to the rules or standards applicable to the design or specifications of the products;

(2) Re-approve the type test programme in case of any change;

(3) Carry out on-site audit according to 4.4.

4.7.2 Where there is no change to the design, the type approval test may in general be dispensed with and if necessary, VR may require a retest.

4.7.3 Where the manufacturer is found to remain in compliance with the conditions for type approval upon check, a new Type Approval Certificate will be issued with a valid term of no more than five years.

4.7.4 If above assessment and inspection is not completed before the expiry date of the certificate, the type-approval certificate will be invalidated.

4.8 Change of approved products

4.8.1 The manufacturer is to supervise any change to the products or their manufacturing process, inform VR of any major change and receive VR assessment thereof.

4.8.2 Where any change is made to the design of the approved products and their components and parts, materials used or manufacturing method and this affects the main characteristics and features of the products or leads to any change of any performance criterion of the products, a new type approval is to be carried out.

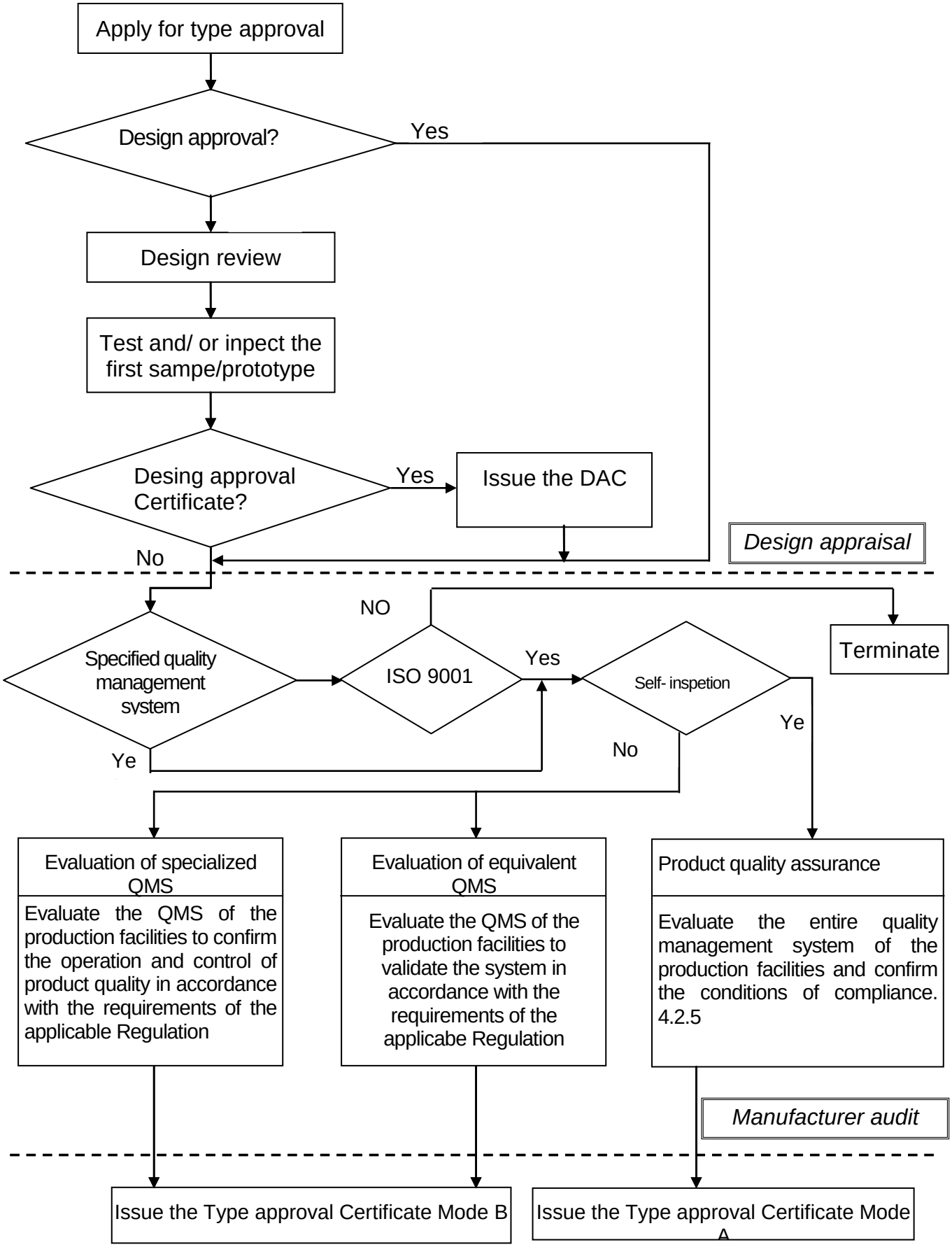

Figure 4.2.1: Type approval process

CHAPTER 5 WORKS APPROVAL

5.1 General requirements

5.1.1 This chapter regulates for the assessment of the working processes of the manufacturer in order to determine their manufacturing capabilities

5.1.2 The works approval applies to the products of which the quality assurance is achieved by means of batch production in a continuous process or completely based on production technology and process.

The products for which the works approval is required by VR are indicated in Appendix A,B and C of this Chapter.

5.1.3 VR will approve the working process and issue a Certificate of Work Approval provide that through the performance of VR's assessment, it is found that the following requirements are complied with:

(1) Technical documentations are submitted by the manufacturer to works approval and inspection of products in accordance with the level of quality prescribed;

(2) manufacturing technology or manufacturing processes that affect the quality of the requirements of the product must be ensured, with results consistent with the applicable standard;

(3) The manufacturer must establish and implement a quality management system specifically for such products that can consistently meet product quality requirements and standards or equivalent quality Regulation.

5.1.4 The procedure of works approval consists of the following three parts:

(1) document review;

(2) on-site audit;

(3) Type test.

5.2 Document review

5.2.1 The applicant is to submit a signed application for works approval, stating the products and production locations covered by the works approval, together with the following documents and information for examination:

(1) Technical characteristics of the products;

(2) Drawings and relevant technical documents of products and manufacturing technologies, including technological processes;

(3) Type test programme;

(4) Lists of suppliers of raw materials, main components and parts;

(5) Quality assurance system documents, including quality manual and quality control

procedure, information on main production, inspection and test equipment;

(6) Other valid documents, reports and certificates showing the applicant's ability to manufacture the products and control their quality within the scope of approval.

5.2.2 VR examines the documents and information submitted by the applicant, approves drawings and relevant technical documents of products and manufacturing technologies as well as type test programme and returns them to the applicant.

5.3 On-site audit

5.3.1 After when review the documents and approve the testing progamme, surveyor will carry out the assessment of quality management system at the production line of manufacturer for:

(1) Confirm that the creation and inspection of the product is in accordance with the submitted documents and applicable Regulation;

(2) Examine the organizational units within the scope of customer recognition, the relationship between these divisions, and human resources;

(3) Confirmation of the completeness of the principal manufacturing equipment used in the manufacture of the approved product;

(4) Confirm the compliance, adequacy and effectiveness of the specialized quality management system;

(5) witness the compliance of inspection and testing by the manufacturer with respect to its products;

(6) Confirm the establishment and implementation of procedures and systems for controlling the purchase, selection and evaluation of suppliers.

5.3.2 For purchased materials and components, VR may, depending on their importance level, require:

(1) an inspection at workshops of the suppliers;

(2) appropriate tests.

5.3.3 Any nonconformity found during the audit is to be notified to the manufacturer for remedial actions. Any remedial action for any nonconformity is to be followed up for verification.

5.4 Type test

5.4.1 A type test is to be carried out according to 2.4, Chapter 2 of this Regulation.

5.5 Works Approval Certificate

5.5.1 VR will issue a Works Approval Certificate valid for not more than 5 years to a manufacturer for whom the drawing examination, type test and on-site audit have been completed according to 5.2 to 5.4 respectively.

5.5.3 The products having Works Approval Certificate and their manufacturers will be

entered into VR Lists of Approved Industrial Products.

5.6 Periodical audit

5.6.1 Within the period of validity of the approval certificate, a manufacturer of Mode A type approval have to apply for a periodical verification annually to ensure maintenance of the validity of the certificate. The periodical anniversary date is 30 months from the effective date of the certificate. The periodical verification is to be carried out within 6 months before or after the anniversary date of the certificate.

The periodical audit includes (but not limit to): verification of the operation of the manufacturer's quality system, compliance of the manufacturing technology with the approved technical documentation at the time of type approval , controlling the purchase of materials, parts, details; use the checking mark, the language used in the name plate and operating instructions, feedback the product quality. if deemed necessary by VR, random inspection/test for the approved products may be carried out. The samples for inspections/ tests are to be selected in the presence of the Surveyor, with the type and number of samples being determined by the Surveyor depending on the complexity, production scale and type of the products.

5.6.2 In approval of working process, if all requirements for inspection and testing in accordance with applicable Regulation, guidelines and standards are met in the presence of the surveyor for the products used on board vessels of VR's class, all or part of the product testing may be omitted at the time of the periodical audit.

5.6.3 Where the manufacturer is found to comply with the conditions for maintaining the Works Approval Certificate upon the periodical verification, a periodical verification certificate will be issued by VR.

5.7 Renewal audit

5.7.1 Where renewal of the Works Approval Certificate is necessary at its expiry, the manufacturer is to send a written application to VR and inform VR of any change to the product design and the quality management system within 3 months before the expiry date of the certificate.

5.7.2 The document review, on-site audit, approval test and issue of the Works Approval Certificate are to be in accordance with 5.2 to 5.5.

5.8 Changes to approved products

5.8.1 The manufacturer is to supervise any change to the products or their manufacturing process, inform VR of any major change and receive VR assessment thereof.

5.8.2 After the works approval, the manufacturer is to inform VR of any significant change to product drawings, technical documents, technological specifications or quality management system. In case of any change affecting product design, main manufacturing materials, key technologies or characteristics and features of products, the associated drawings and technical documents which have been previously approved are to be submitted to VR for re-approval and if necessary, the items involved in the scope of the changes are to be inspected and tested in the presence of the Surveyor.

II REGULATION ON MANAGEMENT

1.1 General

If satisfactory to this Regulation, the industrial products for the ship, if required, will be issued with a Production Certificate with marked "VR".

1.2 Certificates

1.2.1 The Design Approval Certificate, the Type Approval Certificate, the Manufacturer Approval Certificate will be issued after VR's assessment shows that the manufacturer has satisfied the requirements of Section II of this Regulation.

1.2.2 The Production Certificate used for the ship are issued after the product has been inspected / tested in accordance with the regulations depending on the type of product specified in this Regulation.

1.2.3 Industrial products used for ships, if required, will be marked "VR" in accordance with the registration number issued by VR.

1.3 The validation of Certificates

1.3.1 The Design Approval Certificate, the Type Approval Certificate, the Manufacturer Approval Certificate will be valid not more than 5 years.

1.3.2 Conditions for invalidation, suspension and cancellation of certificates

(1) Certificates will automatically be invalidated under the following conditions:

(a) There are any unauthorized repairs on the Certificate;

(b) the Convention, law, regulation, standard or standard applicable to the product has been revoked;

(c) There is a major change in the design or the record of the product without the verification by VR;

(d) There has been a change in the method of manufacture without being examined by VR;

(e) Not accepted by VR after periodical audit, if applicable.

(2) VR shall suspend the validity of the certificate within a certain period if the manufacturer fails to satisfy one of the following conditions:

(a) The periodical assessment shall not be accepted by VR upon request, if applicable;

(b) In the process of evaluating the major non-conformance detection period for the product;

(c) The major non-conformities found during the evaluation process are not corrected as required;

(d) There is a major change to the quality system without notification to VR;

(e) There is a defect in the quality of the product caused by the quality management system of the manufacturing facility;

(f) There is a change in the materials, parts and details purchased from the outside without certification by VR;

(g) There is no timely remedy for defects in the quality of the product or non-cooperation with the investigation of the registry;

(h) Improperly using the logos of products registered by VR;

(i) Failure to pay properly and full fees and charges as prescribed;

(j) Other conditions if deemed necessary by VR.

(3) VR shall withdraw the certificate if the manufacturer fails to satisfy the following conditions:

(a) The requirements set out in 1.3.2 (2) shall not be remedied within the prescribed time;

(b) Products manufactured at establishments which are not mentioned in the certificate of accreditation without permission of VR;

(c) There is fraud, counterfeiting or hiding or other unlawful conduct during the certification process with VR;

(d) There is a substantial mismatch in the product being certified during the periodical assessment.

IV RESPONSIBILITIES OF ORGANIZATIONS AND INDIVIDUALS

1.1 Responsibilities of manufacturers and suppliers

1.1.1 To fully comply with the provisions of this Technical Regulation.

1.1.2 To be inspected and assessed by Vietnam Register in accordance with the requirements of this Regulation.

1.1.3 To submit the documents as requirement of VR's surveyor for assess in compliance with this Regulation.

1.2 VR's responsibilities

1.2.1 To arrange qualified and competency surveyors to carry out the inspection, assessment and certification in compliance with the requirements in this Regulation.

1.2.2 Implement the provisions of this Technical Regulation for manufacturer, service suppliers and ship owners; branch offices of Vietnam Register and related individuals.

1.2.3. To disseminate and propagate to concerned organizations and individuals to apply this Regulation.

1.2.4 The registry system shall be uniform throughout the country to carry out the inspection, assessment and certification of manufacturers or service suppliers in compliance with relevant requirements of this Regulation.

1.2.5 Base on the practical requirements, the Vietnam Register has the responsibility to propose the Ministry of Transport to amend and supplement this Regulation when necessary.

1.3 Audit the implementation of Ministry of transport

The Ministry of Transport (Department of Science and Technology) is responsible for periodically or irregularly audit the implementation of related units in compliance with this Regulation.

V MPLEMENTATION

1.1 Vietnam Register will organize a technical inspection and supervision system for products subject to this Regulation. Organization of the dissemination of this standard to organizations and individuals involved.

1.2 Whether the documents referred to in this Regulation are changed, addmended or replaced, the provisions of the new documents shall be applied.

PHỤ LỤC A DANH MỤC YÊU CẦU KIỂM TRA VÀ CHỨNG NHẬN ĐỐI VỚI SẢN PHẨM PHÂNCẤP

ANNEX A LIST OF CERTIFICATION AND INSPECTION REQUIREMENTS FOR CLASSED PRODUCTS

TT *No.*	Tên sản phẩm *Product name*	Hồ sơ *Document*		Kiểu công nhận *Approval mode*				Lưu ý *Remarks*
		C/E	W	DA	TA- B	TA- A	WA	
1	Vật liệu kim loại - Thân tàu Hull metal material							
1.1	Vật liệu tấm Plate	X	–	–	–	–	X	
1.2	Vật liệu định hình Section	X	–	–	–	–	X	
1.3	Vật liệu đúc Casting	X	–	–	–	–	X	
1.4	Vật liệu rèn Forging	X	–	–	–	–	X	
2	Thiết bị neo và chằng buộc Anchoring and mooring equipment							
2.1	Xích neo và các bộ phận liên quan Anchor chains and fitting	X	–	–	–	–	X	
2.2	Neo và phụ tùng Anchors and accessory	X	–	–	–	–	X	
2.3	Chặn xích Chain stopper	X	–	O	O	O	–	
2.4	Tời neo Windlass	X	–	X	O	O	–	
2.5	Tời dây Winch	X	–	X	O	O	–	
2.6	Cáp kéo và chằng buộc (Cáp phi kim loại và cáp thép) Towing and mooring ropes (fiber rope and steel wire)	X	–	–	–	–	X	
2.7	Bố trí kéo sự cố Emergency towing arrangement	O	X	X	O	O	–	
2.8	Bố trí điểm buộc đơn Single point morring arrangement	O	X	X	O	O	–	
3	Trang thiết bị Equipment and outfit							

TT *No.*	Tên sản phẩm *Product name*	Hồ sơ *Document*		Kiểu công nhận *Approval mode*				Lưu ý *Remarks*
		C/E	W	DA	TA- B	TA- A	WA	
3.1	Nắp hầm hàng Hatch cover	X	–	O	O	O	–	
3.2	Thiết bị thủy lực Hydraulic device	X	–	O	O	O	–	
3.3	Cửa húp lô có nắp thép Side scuttle and dead light	X	–	–	O	O	–	
3.4	Kính cửa sổ Window glass	O	X	–	–	–	X	(II)
3.5	Móc kéo Towing hook	X	–	X	O	O	–	
3.6	Tời kéo Towing winch	X	–	X	O	O	–	
3.7	Cửa mũi, cửa lái và cửa mạn Bow, stern and side doors	X	–	O	O	O	–	
3.8	Cửa kín nước Watertight door	X	–	O	O	O	–	
3.9	Cửa kín thời tiết Weathertight door	X	–	O	O	O	–	
3.10	Phương tiện di động phục vụ cho việc tiếp cận để kiểm tra Portable means of access for inspection	O	X	–	X	–	–	
4	Thiết bị lái và máy lái Rudder and steering gear							
4.1	Bánh lái Rudder blade	X	–	–	–	–	–	
4.2	Trục lái và chốt Rudder stock and pin	X	–	–	–	–	X	
4.3	Ổ đỡ Rudder bearing	X	–	–	–	–	X	
4.4	Đòn lái Rudder tiller	X	–	–	–	–	X	
4.5	Bu lông nối liên kết đòn lái Tiller connecting bolt	X	–	–	–	–	X	
4.6	Máy lái Steering gear	X	–	X	O	O	–	
4.7	Thiết bị chỉ báo góc lái Rudder angle indicator	O	X	–	X	O	–	(I)

TT *No.*	Tên sản phẩm *Product name*	Hồ sơ *Document*		Kiểu công nhận *Approval mode*				Lưu ý *Remarks*
		C/E	W	DA	TA- B	TA- A	WA	
4.8	Trang thiết bị hoa tiêu Pilot equipment	X	–	–	X	O –	–	
4.9	Thiết bị điện cảnh báo và kiểm soát máy lái Electrical control and alarm device of steering gear	X	–	–	X	O	–	
5	Bơm và ống Pumps and piping							
5.1	Van dùng cho hệ thống ống cấp I và II, van có đường kính từ 300 mm trở lên dùng cho hệ thống ống cấp III; van dầu hàng; van an toàn, van phòng sóng (van tự động một chiều), van thông biển, van thoát mạn và van áp suất chân không) Valves for piping of Classes I and II, valves of 300 mm in diameter and over for piping of Class III; cargo oil valves; safety valves, storm valves, sea valves, outboard valves and pressure vacuum valves)	X	–	O	X	O	–	
5.2	Ống cấp I và II Piping of Classes I and II	X	–	–	–	–	X	
5.3	Ống cấp III Piping of Class III	O	X	–	–	–	X	(II)
5.3	Van và phụ tùng khác với 5.1 Valves and fittings other than those under 5.1	O	X	–	X	O	–	
5.4	Bơm Pump	X	–	–	X	O	–	
5.5	Mối nối ống cơ khí Mechanical pipe joint	O	X	–	X	O	–	(I)
5.6	Phương tiện đóng kín ống thông hơi Air pipe closing appliance	O	X	–	X	O	–	(I)
5.7	Xi lanh, động cơ và bơm thủy lực Hydraulic fluid cylinder, hydraulic motor, hydraulic pump	X	–	O	O	O	–	
6	Nồi hơi và bình áp lực Boiler and pressure vessel							
6.1	Nồi hơi (gồm cả nồi hơi dầu nóng) Boiler (including thermal oil boilers)	X	–	–	–	–	X	
6.2	Thiết bị đốt nồi hơi	–	X	X	O	O	–	

TT *No.*	Tên sản phẩm *Product name*	Hồ sơ *Document*		Kiểu công nhận *Approval mode*				Lưu ý *Remarks*
		C/E	W	DA	TA- B	TA- A	WA	
	Boiler burner							
6.3	Bộ tiết kiệm Economizer	X	–	–	X	O	–	
6.4	Thiết bị sinh hơi (trên 0,35Mpa) Steam heated steam generator (over 0.35 MPa)	X	–	O	X	O	–	
6.5	Thiết bị dầu nóng và nước nóng (dùng phục vụ hệ động lực) Thermal oil and thermal water units (for service of propulsion machinery)	X	–	X	–	–	–	
6.6	Thiết bị tự động và an toàn (kiểm soát áp suất, kiểm soát nhiệt độ, kiểm soát mức nước và van an toàn) cung cấp theo từng tàu. Automatic and safety devices (pressure control, temperature control, water level control and safety valve) separately supplied to ship.	X	–	–	O	O	–	
6.7	Màng an toàn Safety membrane	–	X	–	–	–	X	
6.8	Van an toàn Safety valve	X	–	–	X	O	–	
6.9	Bình chịu áp lực PV-1; PV-2 Pressure vessels PV-1; PV-2	X	–	–	–	–	X	
6.10	Bình chịu áp lực PV-3 Pressure vessels PV-3	O	X	–	–	–	X	(II)
7	Máy Machinery							
7.1	Tua bin khí Gas turbine	X	–	–	X	O	–	
7.2	Tua bin hơi Steam turbine	X	–	–	X	O	–	
7.3a	Động cơ diesel (theo lô) Diesel engine (in batches)	X	–	–	X	O	–	Đường kính xylanh động cơ dưới 320 mm Engines of a cylinder diameter of below 320 mm
.1	Thân máy Entablature	X	–	–	–	–	X	

TT *No.*	Tên sản phẩm *Product name*	Hồ sơ *Document*		Kiểu công nhận *Approval mode*				Lưu ý *Remarks*
		C/E	W	DA	TA- B	TA- A	WA	
.2	Trục khuỷu Crankshaft	X	O	–	–	–	X	
.3	Xy lanh Cylinder case	X	O	–	–	–	X	
.4	Bầu hâm Heater exchanger	X	–	–	X	O	–	
.5	Thanh truyền Connecting rod	X	–	–	–	–	X	
.6	Ống dầu cao áp Fuel injection pipe	O	X	–	X	O	–	Kết cấu hàn yêu cầu kiểm tra NDT, GCN Duyệt Kiểu phải được trình cùng W Welding structure subject to NDT, Type Approval certificate to be provided for W
.7	Bơm tăng áp Supercharger	X	–	X	O	O	–	
.7.3b	Động cơ diesel (đơn chiếc) Diesel engine (single unit)	X	–	X	O	O	–	Động cơ có đường kính xy lanh từ 320 mm trở lên Engines of a cylinder diameter of 320 mm and over
.1	Bệ máy Bedplate	X	–	–	–	–	X	
.2	Thân máy Entablature	X	–	–	–	–	X	
.3	Thiết bị xả nổ trên cửa các te Crankcase door explosion relief device	O	X	O	X	O	–	(I)
.4	Xy lanh Cylinder case	X	–	–	–	–	X	

TT *No.*	Tên sản phẩm *Product name*	Hồ sơ *Document*		Kiểu công nhận *Approval mode*				Lưu ý *Remarks*
		C/E	W	DA	TA- B	TA- A	WA	
.5	Trục khuỷu Crankshaft	X	–	–	–	–	X	
.6	Thanh truyền Connecting rod	X	–	–	–	–	X	
.7	Đầu chữ thập Crosshead	X	–	–	–	–	X	Động cơ có xy lanh trên 400 mm Engines of a cylinder diameter of over 400 mm
.8	Nắp xy lanh Cylinder cover	X	–	–	–	–	X	
.9	Gu dông liên kết thân bệ máy Tie rod	X	–	–	–	–	X	
.10	Bu lông trên/dưới thanh truyền Connecting rod upper/lower bolts	X	–	–	–	–	X	
.11	Bu lông bệ máy chính Foundation bolts of main engines	X	–	–	–	–	X	
.12	Bu lông nắp xy lanh Cylinder cover bolt	X	–	–	–	–	X	
.13	Sinh hàn không khí Air cooler	X	–	–	X	O	–	
.14	Ống dầu cao áp Fuel injection pipe	O	X	–	X	O	–	Kết cấu hàn yêu cầu kiểm tra NDT, GCN công nhận kiểu phải được trình cùng W Welding structure subject to NDT, Type Approval certificate to be provided for W
.15	Vòi phun Fuel injector	O	X	O	O	O	–	
.16	Bơm dầu cao áp High pressure fuel pump	O	X	O	X	O	–	

TT *No.*	Tên sản phẩm *Product name*	Hồ sơ *Document*		Kiểu công nhận *Approval mode*				Lưu ý *Remarks*
		C/E	W	DA	TA- B	TA- A	WA	
.17	Tua bin tăng áp Turbocharger	X	–	X	O	O	–	
.18	Cảm biến hơi dầu Oil mist detector	O	X	–	X	O	–	
.19	Pít tông Piston	X	–	–	–	–	X	
.20	Bộ điều tốc Speed governor	O	X	O	X	O	–	
7.4a	Hộp số (từ 100 kW trở lên) Gearbox (100 kW and over)	X	–	O	X	O	–	
7.4b	Hộp số (dưới 100 kW) Gearbox (below 100 kW)	X	–	O	O	O	–	
7.5	Bầu hâm Heat exchanger	X	–	X	O	O	–	
7.6	Quạt gió Blower	X	–	X	O	O	–	
7.7	Máy nén khí Air compressor	X	–	X	O	O	–	
7.8	Thiết bị phân ly dầu Oil separator	X	–	X	O	O	–	
7.9	Thiết bị làm kín ống bao trục Stern tube enclosure	O	X	O	X	O	–	(I)
7.10	Thiết bị làm lạnh (sử dụng cho tàu chở hàng đông lạnh) Refrigerating plant (for refrigerated cargo carriers)	X	–	X	O	O	–	
7.11	Thiết bị cung cấp dầu đốt Oil fuel supply unit	X	–	–	–	–	–	
8	Thiết bị điện và tự động Electrical equipment and automation							
8.1	Tổ hợp máy phát (50 kVA và lớn hơn) Generating sets (50 kVA and over)	X	–	–	O	O	–	
8.2a	Máy phát (50 kVA và lớn hơn) Generators (50 kVA and over)	X	–	–	X	O	–	
8.2b	Máy phát (dưới 50 kVA) Generators (below 50 kVA)	O	X	–	X	O	–	(I)
8.3	Tổ hợp máy phát điện sự cố (50 kVA và lớn hơn) Emergency generating sets (50 kVA	X	–	–	O	O	–	

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		C/E	W	DA	TA- B	TA- A	WA	
	and over)							
8.4	Bảng điện sự cố Emergency switchboard	X	–	–	–	–	–	
8.5	Bảng điện chính Main switchboard	X	–	–	–	–	–	
8.6	Bàn điều khiển tập trung buồng máy Engine room central operating console	X	–	–	–	–	–	
8.7	Bàn điều khiển tập trung buồng lái Bridge central operating console	X	–	–	–		–	
8.8a	Biến áp (50 kVA và lớn hơn) Transformers (50 kVA and over)	X	–	O	X	O	–	
8.8b	Biến áp (dưới 50 kVA) Transformers (below 50 kVA)	O	X	–	X	O	–	(I)
8.9	Ắc quy Battery	O	X	–	X	O	O	(I)
8.10a	Công tắc phòng nổ và hộp nối Explosion-proof switch and joint box	O	X	–	X	O	–	(I)
8.10b	Đèn phòng nổ Explosion-proof light	O	X	–	X	O	–	
8.11	Nguồn cấp, hệ điều khiển và cáp điện Power, control and communication cables and wires	X	–	–	–	–	X	
8.12a	Động cơ (50 kW và lớn hơn) Motors (50 kW and over)	X	–	–	X	O	–	(I) Động cơ ngoại cỡ và động cơ dùng cho mục đích đặc biệt sẽ được xem xét riêng(I) Oversize motors and special purpose motors to be considered otherwise
8.12b	Động cơ (dưới 50 kW) Motors (below 50 kW)	–	X	–	X	O	–	(I)

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		C/E	W	DA	TA- B	TA- A	WA	
8.13	Động cơ phòng nổ Explosion–proof motor	X	–	–	X	O	–	
8.14	Tủ điện điều khiển (cho các thiết bị thiết yếu) Electrical control box (associated with essential equipment)	X	–	–	–	–	–	
8.14a	Tủ /hộp kiểm soát và cảnh báo của nồi hơi Control and alarm box/tank of boiler	X	–	–	–	–	–	Các mục 8.14a đến 8.14e chỉ là ví dụ, không bao gồm các hộp kiểm soát đối với các thiết bị thiết yếu
8.14b	Tủ /hộp kiểm soát và cảnh báo của tời Control and alarm box/tank of windlass	O	X	–	–	–	–	
8.14c	Tủ /hộp kiểm soát và cảnh báo của máy chính/phụ Control and alarm box/tank of main/auxiliary engines	X	–	–	–	–	–	
8.14d	Tủ /hộp kiểm soát và cảnh báo của thiết bị phân li Control and alarm box/tank of separators	X	–	–	–	–	–	
8.14e	Tủ /hộp kiểm soát và cảnh báo của hệ thống nghiền và khử trùng Control and alarm box/tank of comminuting and disinfecting system	X	–	–	–	–	–	
8.15	Bảng nạp và phóng Charging and discharging boards	X	–	–	–	–	–	
8.16	Hệ thống điều khiển từ xa máy chính (kể cả các cảm biến) Main engine remote control system (including sensors)	X	–	–	X	O	–	
8.17a	Hệ thống an toàn (kể cả các cảm biến) Safety system (including sensors)	O	X	–	X	O	–	(I)
8.17b	Hệ thống theo dõi và báo động Monitoring and alarm system	O	X	–	X	O	–	(I)
8.18	Tay chuông truyền lệnh Engine telegraph	O	X	–	X	O	–	(I)
8.19	Hệ thống đo mức (kể cả các cảm biến) Level measuring system (including sensors)	–	X	–	X	O	O	(I)

TT *No.*	Tên sản phẩm *Product name*	Hồ sơ *Document*		Kiểu công nhận *Approval mode*				Lưu ý *Remarks*
		C/E	W	DA	TA- B	TA- A	WA	
8.20	Hệ thống kiểm soát nhiệt độ (kể cả các cảm biến) Temperature monitoring system (including sensors)	–	X	–	X	O	O	(l)
8.21	Thiết bị đo điện Electric meter	O	X	–	X	O	–	(l)
8.22a	Thiết bị ngắt (cho mạch chính) Circuit breaker (for main switches)	X	–	–	X	O	–	
8.22b	Thiết bị ngắt (cho mạch nhánh) Circuit breaker (for branch switches)	–	X	–	X	O	–	(l)
8.23	Nguồn cung cấp điện liên tục Uninterrrupted power supply (USP)	O	X	–	X	O	–	(l)
8.24	Nguồn điện sự cố bổ sung Additional emergency power supply	X	–	–	X	O	–	
8.25	Thiết bị bảo vệ quá tải máy phát Generator overload protective device	–	X	–	X	O	–	(l)
8.26	Hệ thống hòa đồng bộ tự động hoạt động tổ máy phát Automatic parallel operation arrangement of generating sets	–	X	–	X	O	–	(l)
8.27	Bảng điện phụ Distribution box	O	X	–	–	–	–	
8.28	Cầu dao phân đoạn Isolating switch	–	X	–	X	–	–	(l)
8.29	Báo động nước xâm nhập vào khoang (gồm cảm biến) Alarm for water ingress into compartment (including sensors)	X	–	–	X	O	–	
8.30	Công tắc điện từ Contactor	–	X	–	X	O	–	(l)
8.31	Thiết bị kiểm soát cách điện Insulation monitor	–	X	–	X	O	–	(l)
8.32	Chuông gọi sỹ quan máy Engineer's call bell	X	–	–	X	O	–	
8.33	Thiết bị đồng bộ mềm Soft actuator system	–	X	–	X	O	_	(l)

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		C/E	W	DA	TA- B	TA- A	WA	
8.34	Thiết bị chỉ báo vòng quay chân vịt Propeller speed indicator	–	X	–	O	O	–	
8.35	Cầu chì Fuse	–	X	–	X	O	–	(I)
8.36	Thiết bị chiếu sáng Lighting fitting	–	X	–	O	O	–	(I)
8.37	Bảng (tủ) báo động âm thanh và ánh sáng Combined visual and audible alarm panel (box)	X	–	–	–	–	–	
8.38	Hệ thống đèn chỉ báo đường dẫn thoát hiểm thấp Low location lighting	O	X	–	X	O	–	(I)
8.39	Hệ điều khiển trung tâm Master controller	X	–	–	–	–	–	
8.40	Rơ le và phụ kiện Relay and accessories	O	X	–	O	O	–	
8.41	Hệ thống cố định phát hiện và báo động khí cháy Fixed flammable gas detection and alarm system	X	–	–	X	O	–	
8.42	Thiết bị chuyển đổi điện (bộ nạp, v.v.) Power conversion devices (charges, etc.)	X	–	–	X	O	–	
8.43	Tổ hợp bảng khởi động điện Group starter panel	X	–	–	–	–	–	
8.44	Thiết bị khởi động tự động máy phát Automatic start device of generator	O	X	–	–	O	–	
8.45	Thiết bị truyền tín hiệu nhiệt Temperature transmitter	–	X	–	X	O	–	(I)
8.46	Thiết bị truyền tín hiệu áp lực Pressure transmitter	–	X	–	X	O	–	(I)
8.47	Thiết bị truyền tín hiệu mức chất lỏng Liquid level transmitter	–	X	–	X	O	–	(I)
8.48	Hệ thống kiểm soát DP DP-control system	X	–	–	X	O	–	
9	Trục và thiết bị đẩy Shafting and thruster							
9.1	Trục đẩy Thrust shaft	X	–	–	–	–	X	
9.2	Trục trung gian và ổ đỡ Intermediate shaft and Bearing	X	–	–	–	–	X	

TT *No.*	Tên sản phẩm *Product name*	Hồ sơ *Document*		Kiểu công nhận *Approval mode*				Lưu ý *Remarks*
		C/E	W	DA	TA- B	TA- A	WA	
9.3	Trục ống bao, trục chân vịt Tube shaft, propeller shaft	X	–	–	–	–	X	
9.4	Ống bao trục Stern tube	X	–	–	–	–	X	
9.5	Ổ đỡ ống bao Stern tube bearing	X	–	–	–	–	X	
9.6	Chân vịt Propeller	X	–	–	–	–	X	
9.7	Hệ đẩy kiểu Z; Hệ đẩy kiểu phụt Z propulsion arrangement; water jet propulsion arrangement	X	–	O	O	O	–	
9.8a	Khớp nối cứng Non-elastic coupling	X	–	–	–	–	–	
9.8b	Khớp nồi mềm Elastic coupling	X	–	X	O	O	–	
9.9	Bu lông nối trục Shafting connecting bolt	X	–	–	–	–	X	
9.10	Hệ đẩy khác Other thrusters	X	–	–	O	O	–	
9.11	Chân vịt có bước điều khiển được Adjustable pitch propeller	X	–	X	O	O	–	
10	Vật liệu hàn Welding consumables							
10.1	Que hàn Electrode	O	X	–	–	–	X	(II)
10.2	Dây hàn Wire	O	X	–	–	–	X	
10.3	Thuốc hàn Flux	O	X	–	–	–	X	
11	Phương tiện chống ăn mòn Corrosion resistant means							
11.1	Sơn Paint	O	X	–	–	–	X	(II)
11.2	Lớp lót chống hà Antifouling primer	O	X	–	–	–	X	
11.3	Lớp lót đầu	O	X	–	–	–	X	

TT *No.*	Tên sản phẩm *Product name*	Hồ sơ *Document*		Kiểu công nhận *Approval mode*				Lưu ý *Remarks*
		C/E	W	DA	TA- B	TA- A	WA	
	Shop primer							
11.4	Sơn bảo vệ a nốt Anodic shielding paint	O	X	–	–	–	X	
11.5	Hệ thống bảo vệ điện hóa (ví dụ máy phát dòng) Cathodic protection system (e.g. impressed current generator)	X	–	X	O	O	–	
11.6	Kẽm chống ăn mòn Sacrificial anode	O	X	–	–	–	–	
12	Vật liệu phi kim Nonmetallic materials							
12.1	Nhựa và sợi dùng cho nhựa cốt sợi Resin and fiber for fiber–reinforced plastics	O	X	–	–	–	X	(II)
12.2	Ống nhựa Plastic pipe	O	X	–	–	–	X	
12.3	Nhựa Resin	O	X	–	–	–	X	
12.4	Cao su Rubber	O	X	–	–	–	X	
12.5	Vật liệu tổng hợp (ổ đỡ trục) Synthetic (bearing) material	O	X	–	–	–	X	
13	Sản phẩm khác Miscellaneous							
13.1	Bố trí chằng buộc container Securing arrangements of containers	X	–	O	X	O	–	
13.2	Máy tính xếp tải Loading computer	Tham khảo Quy chuẩn áp dụng liên quan						
13.3	Thiết bị chắn lửa (cột thu lôi) Spark arrester	X	–	–	X	O	–	
13.4	Cụm đấu dây di động Flexible hose assembly	X	–	–	X	O	–	
13.5	Giá đàn hồi Resilient mounting	X	–	–	X	O	–	

Ký hiệu:

1) C : Giấy chứng nhận sản phẩm do Đăng kiểm cấp; E : Giấy chứng nhận tương đương (Hồ sơ tương đương); W: Hồ sơ của nhà chế tạo;

2) X : Áp dụng; O: Không bắt buộc; " – " : Không áp dụng

3) DA: Công nhận thiết kế; TA-A: Công nhận kiểu A; TA-B: Công nhận kiểu B

WA: Công nhận quy trình chế tạo

Symbols:

1) C : Marine Products Certificate; E : Equivalent document; W : Manufacturer's document;

2) X : Applicable; O : Optional; " – " : N/A

3) DA : Design approval; TA-A : Type approval A; TA-B : Type approval B.

WA : Works approval.

Ghi chú:

(I) - GCN Công nhận kiểu phải được trình cùng W.

Type Approval Certificate to be provided for W.

(II) GCN công nhận quy trình chế tạo phải trình cùng với W.

Works Approval Certificate to be provided for W.

PHỤ LỤC B DANH MỤC YÊU CẦU KIỂM TRA VÀ CHỨNG NHẬN ĐỐI VỚI SẢN PHẨM THEO LUẬT

ANNEX B LIST OF CERTIFICATION AND INSPECTION REQUIREMENTS FOR STATUTORY PRODUCTS

TT *No.*	Tên sản phẩm *Product name*	Hồ sơ *Document*		Kiểu công nhận *Approval mode*				Lưu ý *Remarks*
		C/E	W	DA	TA- B	TA- A	WA	
1	Vật liệu và thiết bị chống cháy Fire-resisting material and equipment							
1.1	Vật liệu chống cháy Fireproof material	X	–	–	–	–	X	(II)
1.2	Cửa ra vào hoặc cửa sổ chống cháy Fire door or window	X	–	–	X	O	–	
1.3	Tấm hoặc cánh chặn lửa Fire damper or strip	X	–	–	X	O	–	
1.4	Vật liệu phủ sàn Deck covering	O	X	–	–	–	X	(II)
1.5	Bố trí xuyên boong hoặc vách Penetration on deck or bulkhead	O	X	–	X	O	–	(I)
1.6	Vật liệu có tính lan cháy thấp Low flame spread material	O	X	–	–	–	X	(II)
1.7	Chất nhồi cáp Cable stuffing	O	X	–	X	O	–	(I)
1.8	Boong cấp A Class A deck division	O	X	–	X	O	–	(I)
1.9	Vách cấp A Class A bulkhead division	O	X	–	X	O	–	
1.10	Vách cấp B Class B bulkhead division	O	X	–	X	O	–	(I)
1.11	Trần cấp B Class B ceiling division	O	X	–	X	O	–	(I)
2	Trang thiết bị và hệ thống dập cháy Fire-extinguishing system and equipment							
2.1	Hệ thống chữa cháy cố định Fixed fire-extinguishing arrangement	X	–	O	X	O	–	

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		C/E	W	DA	TA- B	TA- A	WA	
2.2	Chất chữa cháy (bọt) Fire–extinguishing medium (foam)	O	X	–	–	–	X	(II)
2.3	Bình chữa cháy (dùng bọt, bột, khí hoặc chất khác) Fire extinguishers (using foam, dry powder, gas or other media)	O	X	–	X	O	–	(I)
2.4	Ống cứu hỏa (dùng bọt hoặc bột) Fire hoses (using foam or dry powder)	O	X	–	X	O	–	
2.5	Đầu phun, thiết bị phun, thiết bị phun bọt xách tay, thiết bị phun bọt cố định, thiết bị phun bột xách tay và phun bột cố định Nozzle, monitor, foam applicator, foam monitor, dry powder applicator and dry powder monitor	X	–	–	X	O	–	
2.6	Bộ trang bị cho người chữa cháy Fireman' s outfit	–	–	–	–	–	–	Yêu cầu GCN từng bộ phận Certificate of components to be provided
.1	Thiết bị thở Breathing apparatus	X	–	–	X	O	–	
.2	Quần áo bảo vệ Protective clothing	X	–	–	X	O	–	
.3	Dây an toàn của bộ trang bị cho người chữa cháy Fireproof lifeline	O	X	–	X	O	–	(I)
2.7	Thiết bị thở thoát hiểm sự cố Emergency escape breathing device	X	–	–	X	O	–	
2.8	Vòi phun (gồm kiểu mở và kiểu đóng) Spraying nozzles (including open and closed types)	O	X	–	X	O	–	(I)
2.9	Hệ thống dập cháy cục bộ bằng nước cố định Fixed local water–based fire–extinguishing arrangement	X	–	–	X	O	–	
2.10	Thiết bị tạo bọt xách tay Portable foam applicator	X	–	–	X	O	–	
2.11	Bơm cứu hỏa, bơm cứu hỏa sự cố Fire pump, emergency fire pump	X	–	–	X	O	–	

TT *No.*	Tên sản phẩm *Product name*	Hồ sơ *Document*		Kiểu công nhận *Approval mode*				Lưu ý *Remarks*
		C/E	W	DA	TA- B	TA- A	WA	
2.12	Hệ thống khí trơ Inert gas system	X	–	–	X	O	–	
.1	Máy tạo khí trơ Inert gas generator	X		–	X	O	–	
.2	Quạt gió Blower	X	–	X	O	O	–	
2.13	Van thông gió tốc độ cao High speed venting Valve	X		–	X	O	–	
2.14	Thiết bị chặn lửa Flame arrester	X	–	–	X	O	–	
2.15	Truyền động xuyên vách Bulkhead gearing (penetration)	X	–	–	X	O	–	
3	Hệ thống báo động và phát hiện cháy Fire detector and alarm system							
3.1	Cảm biến cháy Fire detector	O	X	–	X	O	–	
3.2	Thiết bị phát hiện và báo động cháy Fire detection and alarm device	X	–	–	X	O	–	
3.3	Đèn chỉ báo lối thoát hiểm Light signal of escape route	O	X	–	X	O	–	
3.4	Chỉ báo phản quang Reflecting sign	–	X	–	X	O	–	
3.5	Hệ thống báo động xả chất dập cháy Alarm system for release of extinguishing media	X	–	X	–	O	–	
4	Trang thiết bị cứu sinh Life-saving appliances and arrangements							
4.1	Xuồng cứu sinh Lifeboats	X	–	–	X	O	–	
4.2	Xuồng cấp cứu (gồm cả xuồng cấp cứu tốc độ cao) Rescue boats (including fast rescue boats)	X	–	–	X	O	–	
4.3	Bè cứu sinh (gồm bè cứng và tự bơm hơi) Life rafts (including rigid and inflatable ones)	X	–	–	X	O	–	
4.4	Thiết bị hạ (gồm cần hạ, tời, puly, cơ cấu nhả và dây)	X	–	–	X	O	–	

TT *No.*	Tên sản phẩm *Product name*	Hồ sơ *Document*		Kiểu công nhận *Approval mode*				Lưu ý *Remarks*
		C/E	W	DA	TA- B	TA- A	WA	
	Launching arrangement (including launching rack, winch, pulley, release gear and fall)							
4.5	Cơ cấu nổi tự do Float–free arrangement	X	–	–	X	O	–	
4.6	Quần áo bơi, bộ quần áo bảo vệ kín Immersion suit, anti–exposure suit	X	–	–	X	O	–	
4.7	Áo phao Lifejacket	X	–	–	X	O	–	
4.8	Phao tròn Lifebuoy	X	–	–	X	O	–	
4.9	Đèn tự phát sáng của phao tròn Self-igniting light of lifebuoy	X	–	–	X	O	–	
4.10	Dụng cụ chống mất nhiệt Thermal protective aid	–	X	–	X	O	–	(I)
4.11	Đuốc cầm tay Distress flare	X	–	–	X	O	–	
4.12	Thiết bị phóng dây (gồm súng và đầu phóng) Line–throwing appliance (including pistol and projectile)	X	–	–	X	O	–	
4.13	Hệ thống sơ tán hàng hải Marine evacuation system	X	–	–	X	O	–	
4.14	Thang cho người lên/ xuống thiết bị cứu sinh. Embarkation ladder	X	–	–	–	–	–	
5	Thiết bị và vật liệu chống ô nhiễm Environmental protection equipment and material							
5.1	Thiết bị phân ly dầu nước 15 ppm 15 ppm bilge oily water separator	X	–	–	X	O	–	
5.2	Thiết bị báo động 15 ppm 15 ppm bilge alarm	X	–	–	X	O	–	
5.3	Thiết bị phát hiện ranh giới dầu nước Oil/water interface detector	X	–	–	X	O	–	
5.4	Hệ thống điều khiển và kiểm soát xả dầu, kể cả đo nồng độ dầu Oil discharge monitoring and control system, including oil content meter	X	–	–	X	O	–	
5.5	Máy rửa dầu thô Crude oil washing Machine	X	–	–	X	O	–	

TT *No.*	Tên sản phẩm *Product name*	Hồ sơ *Document*		Kiểu công nhận *Approval mode*				Lưu ý *Remarks*
		C/E	W	DA	TA- B	TA- A	WA	
5.6	Hệ thống xử lý nước thải Sewage treatment plan	X	–	–	X	O	–	
5.7	Thiết bị nghiền và khử trùng. Comminutor and disinfecting system	X	–	–	X	O	–	
5.8	Thiết bị đốt chất thải Incinerator	X	–	–	X	O	–	
5.9	Thiết bị xử lý và ghi sau xả Devices for processing and recording after discharge	X	–	–	X	O	–	
5.10	Phát thải NOx cho động cơ diesel trên 130 kW NOx emission of diesel engines of over 130 kW	X	–	–	X	O	–	GCN ngăn ngừa ô nhiễm không khí EIPP Certificate
6	Thiết bị hàng hải, tín hiệu và liên lạc Communication, navigation and signaling equipment							
6.1	Thiết bị VHF đàm thoại 2 chiều Two-way VHF radiotelephone apparatus	X	–	–	X	O	–	
6.2	Thiết bị định vị và tìm kiếm cứu nạn Search and rescue locating devices	X	–	–	X	O	–	
6.3	Hệ thống truyền thanh công cộng Public address system	X	–	–	–	–	–	
6.4	Máy thu NAVTEX hàng hải NAVTEX receiver	X	–	–	X	O	–	
6.5	Trạm thông tin vệ tinh INMARSAT INMARSAT ship earth Station	X	–	–	X	O	–	
6.6	Phao vô tuyến định vị sự cố Emergency position–indicating radio beacon (EPIRB)	X	–	–	X	O	–	
6.7	Thiết bị vô tuyến điện sóng trung/sóng ngắn MF/HF radio installation	X	–	–	X	O	–	
6.8	Hệ thống định vị toàn cầu - GPS GPS	X	X	–	X	O	–	
6.9	Đèn hành hải và đèn tín hiệu (đèn mất chủ động, đèn neo và đèn hạn chế hoạt động) Navigation and signaling lights (Not–under–command light, anchor light and restricted operation light)	O	X	–	X	O	–	(I)

TT *No.*	Tên sản phẩm *Product name*	Hồ sơ *Document*		Kiểu công nhận *Approval mode*				Lưu ý *Remarks*
		C/E	W	DA	TA- B	TA- A	WA	
6.9a	Bảng kiểm soát đèn hành trình Control panel of navigational light	X	–	–	X	O	–	
6.10	Thiết bị phát tín hiệu âm thanh Audible signal generator	O	X	–	X	O	–	(I)
6.10a	Còi Whistle	X	O	–	X	O	–	(I)
6.10b	Bảng kiểm soát còi Control panel of whistles	X	O	–	X	O	–	(I)
6.11	Trang bị vô tuyến điện VHF VHF radio installation	X	–	–	X	O	–	
6.12	La bàn từ (gồm vòng ngắm phương vị) Magnetic compass (including azimuth finder)	X	–	–	X	O	–	
6.13	La bàn điện (gồm vòng ngắm phương vị và bộ lặp) Gyrocompass (including azimuth finder and compass repeater)	X	–	–	X	O	–	
6.14	Ra đa (Gồm hệ thống theo dõi và đồ giải tự động) Radar (including automatic plotting and tracking)	X	–	–	X	O	–	
6.15	Thiết bị đo tốc độ và khoảng cách hành trình Speed and distance measuring devices	X	–	–	X	O	–	
6.16	Hệ thống thu nhận âm thanh Sound reception system	X	–	–	X	O	–	
6.17	Đèn tín hiệu ban ngày Daylight signaling lamp	X	–	–	X	O	–	
6.18	Thiết bị đo sâu Sounding device	X	–	–	X	O	–	
6.19	Hệ thống nhận dạng tự động (AIS) Automatic Identification System (AIS)	X	–	–	X	O	–	
6.20	Thiết bị chỉ báo vòng quay và chiều quay chân vịt (chế độ hoạt động) Thruster speed and direction indicator (operational mode)	O	X	–	O	O	–	

TT *No.*	Tên sản phẩm *Product name*	Hồ sơ *Document*		Kiểu công nhận *Approval mode*				Lưu ý *Remarks*
		C/E	W	DA	TA- B	TA- A	WA	
6.21	Hệ thống điện thoại trực tiếp Sound-powered telephone	X	O	–	X	O	–	(I)
6.22	Hệ thống thông tin và hải đồ điện tử (ECDIS) Electronic chart display and information system (ECDIS)	X	–	–	X	O	–	
6.23	Thiết bị chỉ báo tốc độ quay trở của tàu Rate–of–turn indicator	–	X	–	X	O	–	(I)
6.24	Thiết bị ghi dữ liệu hành trình (VDR/ S-VDR) Voyage data recorder (VDR/S-VDR)	X		–	X	O	–	
6.25	Hệ thống buồng lái tích hợp (IBS) Integrated bridge system (IBS)	–	X	–	X	O	–	(I)
6.26	Hệ thống hành hải tích hợp (INS) Integrated navigation system (INS)	–	X	–	X	O	–	(I)
6.27	Hệ thống báo động an ninh Ship security alert System	X	–	–	X	O	–	
6.28	Hệ thống báo động sự cố chung General emergency alarm system	X	–	–	X	O	–	
6.29	Hệ thống kiểm soát hướng Heading control system	X	–	–	X	O	–	
6.30	VHF mục đích đặc biệt (tàu liên lạc với máy bay) Special-purpose VHF (ship communicating with aircaft)	X	–	–	X	O	–	
6.31	Hệ thống truy và nhận dạng tầm xa Long-range identification and tracking system	X	–	–	X	O	–	
6.32	Thiết bị đo hàng hải (đồng hồ sơ cấp – thứ ấp) Marine chronometer (primary-secondary clock)	X	O	–	X	O	–	(I)
6.33	Hệ thống để hoa tiêu lên xuống tàu Pilot transfer Arrangement	X	–	–	–	–	–	
6.34	Hệ thống cảnh báo theo dõi lầu lái Bridge navigational watch alarm system (BNWAS)	X	–	–	X	O	–	
6.35	Thiết bị nhìn ban đêm Night-vision unit	O	X	–	X	O	–	(I)

TT *No.*	Tên sản phẩm *Product name*	Hồ sơ *Document*		Kiểu công nhận *Approval mode*				Lưu ý *Remarks*
		C/E	W	DA	TA- B	TA- A	WA	
7	Thiết bị khác Miscellaneous							
7.1	Bố trí chằng buộc Securing arrangement	X	–	–	X	O	–	
7.2	Ống bơm hàng Cargo hose	O	X	–	X	O	–	(I)

Ký hiệu:

1) C : Giấy chứng nhận sản phẩm do Đăng kiểm cấp; E : Giấy chứng nhận tương đương (Hồ sơ tương đương); W: Hồ sơ của nhà chế tạo;

2) X : Áp dụng; O: Không bắt buộc; " – " : Không áp dụng

3) DA: Công nhận thiết kế; TA-A: Công nhận kiểu A; TA-B: Công nhận kiểu B

WA: Công nhận quy trình chế tạo

Symbols:

1) C : Marine Products Certificate; E : Equivalent document; W : Manufacturer's document;

2) X : Applicable; O : Optional; " – " : N/A

3) DA : Design approval; TA-A : Type approval A; TA-B : Type approval B;

WA : Works approval.

Ghi chú:

(I) - GCN Công nhận kiểu phải được trình cùng W.

Type Approval Certificate to be provided for W.

(II) GCN công nhận quy trình chế tạo phải trình cùng với W.

Works Approval Certificate to be provided for W.

PHỤ LỤC C DANH MỤC YÊU CẦU KIỂM TRA VÀ CHỨNG NHẬN ĐỐI VỚI THIẾT BỊ NÂNG

ANNEX C LIST OF CERTIFICATION AND INSPECTION REQUIREMENTS FOR LIFTING APPLIANCES

TT No.	Tên sản phẩm *Product name*	Hồ sơ *Document*		Kiểu duyệt *Approval mode*				Lưu ý *Remarks*
		C/E	W	DA	TA-B	TA- A	WA	
1	Thiết bị nâng Lifting appliances							
1.1	Cần trục Crane	X	–	O	O	O	–	
1.2	Hệ cần trục dây giằng Derrick post	X	–	O	O	O	–	
1.3	Tời (gồm tời hàng, tời nâng cần và tời quay cần) Winch (including cargo winch, lifting winch and rotating winch)	X	–	O	O	O	–	
1.4	Dây cáp chằng buộc Rigging	X	–	–	–	–	X	
1.5	Bộ phận chuyển động (gồm cả puly và mắt xoay) Moving parts (including block and shackle)	X	–	–	–	–	X	

Ký hiệu:

1) C : Giấy chứng nhận sản phẩm do Đăng kiểm cấp; E : Giấy chứng nhận tương đương (Hồ sơ tương đương); W: Hồ sơ của nhà chế tạo;

2) X : Áp dụng; O: Không bắt buộc; " – " : Không áp dụng

3) DA: Công nhận thiết kế; TA-A: Công nhận kiểu A; TA-B: Công nhận kiểu B

WA: Công nhận quy trình chế tạo

Symbols:

1) C : Marine Products Certificate; E : Equivalent document; W : Manufacturer's document;

2) X : Applicable; O : Optional; " – " : N/A

3) DA : Design approval; TA-A : Type approval A; TA-B : Type approval B;

WA : Works approval.

Ghi chú:

(I) - GCN Công nhận kiểu phải được trình cùng W.
Type Approval Certificate to be provided for W.

(II) GCN công nhận quá trình chế tạo phải trình cùng với W.
Works Approval Certificate to be provided for W.

ANNEX D: FORM OF CERTIFICATES

MẪU GIẤY CHỨNG NHẬN SẢN PHẨM CÔNG NGHIỆP

CỤC ĐĂNG KIỂM VIỆT NAM
VIETNAM REGISTER

CP

GIẤY CHỨNG NHẬN SẢN PHẨM CÔNG NGHIỆP

CERTIFICATE OF MARINE PRODUCT

Số: ……
No.:

CỤC ĐĂNG KIỂM VIỆT NAM CHỨNG NHẬN (các) sản phẩm sau đây đã được kiểm tra và phù hợp với QCVN 64: 2015/BGTVT "Quy chuẩn kỹ thuật quốc gia về kiểm tra sản phẩm công nghiệp dùng cho tàu biển"

VIETNAM REGISTER CERTIFIES THAT *The following products have been inspected and are found in compliance with the QCVN 64: 2015/BGTVT "National Technical Regulation for Inspection of sea-going ship's products".*

SỐ LƯỢNG VÀ TÊN SẢN PHẨM
NUMBER AND NAME OF PRODUCTS

Cơ sở chế tạo: .....
Manufacturer.

Sử dụng cho: .....
Intended for

Số chứng nhận công nhận: ....Số thẩm định thiết kế: ....
Approval Certificate No *Approval design No*

Số xuất xưởng: ....
Serial No.

Hạn chế áp dụng: .....
Restriction for Application

Tiêu chuẩn kiểm tra/Inspection Standards:

Được đóng dấu ấn chỉ và số kiểm tra như sau.
For identification inspection mark and test number were stamped as follows.

Cấp tại: Ngày:
Issued at *Date*

CỤC ĐĂNG KIỂM VIỆT NAM

VIETNAM REGISTER

CP

CÁC ĐẶC TÍNH
Particulars

THỬ VÀ KIỂM TRA
Test and Inspection

MẪU GIẤY CHỨNG NHẬN CÔNG NHẬN THIẾT KẾ

CDA

CỤC ĐĂNG KIỂM VIỆT NAM
VIETNAM REGISTER

GIẤY CHỨNG NHẬN CÔNG NHẬN THIẾT KẾ

CERTIFICATE OF DESIGN APPROVAL

Số: ……
No.:

CỤC ĐĂNG KIỂM VIỆT NAM CHỨNG NHẬN thiết kế dưới đây được thiết kế bởi nhà thiết kế nêu trong giấy chứng nhận này phù hợp với QCVN 64: 2015/BGTVT "Quy chuẩn kỹ thuật quốc gia về kiểm tra sản phẩm công nghiệp dùng cho tàu biển" (sau đây gọi là "Quy chuẩn").

VIETNAM REGISTER CERTIFIES *that the following design designed by the designer statted in the certificate are found in compliance with the QCVN 64: 2015/BGTVT "National Technical Regulation for Inspection of sea-going ship's products". (hereinafter refer to as "the Regulation").*

Thiết kế được công nhận/ Design Approved:

Nhà thiết kế/Designer:

Tiêu chuẩn công nhận/Approval Standards:

Giấy chứng nhận này có hiệu lực đến ngày:
This Certificate is valid until:

Cấp tại: Ngày:
Issued at *Date*

CỤC ĐĂNG KIỂM VIỆT NAM

VIETNAM REGISTER

Đặc tính của sản phẩm/ Product description CDA

Bản vẽ được thẩm định và tính toán thiết kế/Approved Drawings and Design Calculations

Báo cáo thử mẫu đầu tiên (kiểu)/Prototype (type)Test Report

Phạm vi sử dụng/Application

Các điều kiện khác/Other conditions

MẪU GIẤY CHỨNG NHẬN CÔNG NHẬN KIỂU A

CTA-A

CỤC ĐĂNG KIỂM VIỆT NAM
VIETNAM REGISTER

GIẤY CHỨNG NHẬN CÔNG NHẬN KIỂU

CERTIFICATE OF TYPE APPROVAL
Mode A

Số: ……
No.:

CỤC ĐĂNG KIỂM VIỆT NAM CHỨNG NHẬN sản phẩm dưới đây được sản xuất bởi cơ sở sản xuất nêu trong giấy chứng nhận này phù hợp với QCVN 64: 2015/BGTVT "Quy chuẩn kỹ thuật quốc gia về kiểm tra sản phẩm công nghiệp dùng cho tàu biển" (sau đây gọi là "Quy chuẩn").

VIETNAM REGISTER CERTIFIES THAT *the following products produced by the manufacturer statted in the certificate are found in compliance with the QCVN 64: 2015/BGTVT " National Technical Regulation for Inspection of sea-going ship's products". (hereinafter refer to as "the Regulation")*

Sản phẩm được công nhận/ Product Approved:

Kiểu/Type:

Cơ sở chế tạo/ M**anufacturer:**

Phạm vi áp dụng/Application:

Tiêu chuẩn công nhận/Approval Standard:

Giấy chứng nhận này có hiệu lực đến ngày:
This Certificate is valid until:

với điều kiện phải được xác nhận chu kỳ phù hợp với Quy chuẩn.
subject to periodical endorsement in accordance with the Regulation.

Ngày ấn định đánh giá chu kỳ:
Periodical assessment date:

Cấp tại: Ngày:
Issued at *Date*

CỤC ĐĂNG KIỂM VIỆT NAM

VIETNAM REGISTER

Bản vẽ và tính toán thiết kế được thẩm định /Approved Drawings and Design Calculation: CTA-A

Thử/Tests carried out:

Đặc tính của sản phẩm/Product description

Đánh dấu trên sản phẩm/Marking of product:

Các điều kiện khác/Other conditions:

CTA-A

XÁC NHẬN CHU KỲ

PERIODICAL ENDORSEMENT

Căn cứ vào kết quả đánh giá chu kỳ, xác nhận tình trạng của cơ sở chế tạo được duy trì phù hợp với Quy chuẩn.

Based on the periodical assessment, the condition of the manufacturer is maintained in compliance with the Regulation.

Ngày: ..... **CỤC ĐĂNG KIỂM VIỆT NAM**

Date VIETNAM REGISTER

GHI CHÚ - REMARKS:

Giấy chứng nhận này mất hiệu lực khi:

The approval may be cancelled in cases:

- Chất lượng của (các) sản phẩm do cơ sở chế tạo không theo đúng quy định.
  The quality of the product(s) is in doubt .
- Đăng kiểm viên nhận thấy có những thiếu sót trong hệ thống hoạt động của cơ sở.
  The surveyor has found major deficiencies in the operating system of the Manufacturer.
- Cơ sở không thông báo những thay đổi lớn trong hệ thống hoạt động của cơ sở tới VR.
  The Manufacturer fails to inform of any alteration in the system to Vietnam Register.
- Cơ sở không thực hiện các đợt đánh giá theo quy định.
  In case the required assessment is not carried out.

MẪU GIẤY CHỨNG NHẬN CÔNG NHẬN KIỂU B

CTA-B

CỤC ĐĂNG KIỂM VIỆT NAM
VIETNAM REGISTER

GIẤY CHỨNG NHẬN CÔNG NHẬN KIỂU

CERTIFICATE OF TYPE APPROVAL
Mode B

Số: ……
No.:

CỤC ĐĂNG KIỂM VIỆT NAM CHỨNG NHẬN sản phẩm dưới đây được sản xuất bởi cơ sở sản xuất nêu trong giấy chứng nhận này phù hợp với QCVN 64: 2015/BGTVT "Quy chuẩn kỹ thuật quốc gia về kiểm tra sản phẩm công nghiệp dùng cho tàu biển" (sau đây gọi là "Quy chuẩn").

VIETNAM REGISTER CERTIFIES THAT *the following products produced by the manufacturer statted in the certificate are found in compliance with the QCVN 64: 2015/BGTVT " National Technical Regulation for Inspection of sea-going ship's products". (hereinafter refer to as "the Regulation")*

Sản phẩm được công nhận/ Product Approved:

Kiểu/Type:

Cơ sở chế tạo/ M**anufacturer:**

Phạm vi áp dụng/Application:

Tiêu chuẩn công nhận/Approval Standard:

Giấy chứng nhận này có hiệu lực đến ngày:
This Certificate is valid until:

Cấp tại:
Issued at

Ngày:
Date

CỤC ĐĂNG KIỂM VIỆT NAM
VIETNAM REGISTER

CTA -B

Bản vẽ và tính toán thiết kế được thẩm định /Approved Drawings and Design Calculation:

Thử/Tests carried out:

Đặc tính của sản phẩm/Product description

Đánh dấu trên sản phẩm/Marking of product:

Các điều kiện khác/Other conditions:

MẪU GIẤY CHỨNG NHẬN CÔNG NHẬN KIỂU QUY TRÌNH CHẾ TẠO

CỤC ĐĂNG KIỂM VIỆT NAM **CWA**
VIETNAM REGISTER

GIẤY CHỨNG NHẬN CÔNG NHẬN QUY TRÌNH CHẾ TẠO

Số: ……
No.:

CERTIFICATE OF WORKS APPROVAL

CỤC ĐĂNG KIỂM VIỆT NAM CHỨNG NHẬN

VIETNAM REGISTER CERTIFIES THAT

Cơ sở chế tạo/ M**anufacturer:**

Địa chỉ:
Address:

Đã được đánh giá và công nhận để sản xuất (các) sản phẩm sau đây phù hợp với QCVN 64: 2015/BGTVT "Quy chuẩn kỹ thuật quốc gia về kiểm tra sản phẩm công nghiệp dùng cho tàu biển" (sau đây gọi là "Quy chuẩn").

Has been assessed and approved to manufacture the following product(s) in compliance with the QCVN 64: 2015/BGTVT " National Technical Regulation for Inspection of sea-going ship's products". (hereinafter refer to as "the Regulation").

Sản phẩm được công nhận/ Product Approved:

Giấy chứng nhận này có hiệu lực đến ngày:
This Certificate is valid until:

với điều kiện phải được xác nhận chu kỳ phù hợp với Quy chuẩn.
subject to periodical endorsement in accordance with the Regulation.

Ngày ấn định đánh giá chu kỳ:
Periodical assessment date:

Cấp tại: Ngày:
Issued at *Date*

CỤC ĐĂNG KIỂM VIỆT NAM
VIETNAM REGISTER

CWA

Phạm vi áp dụng/Application:

Tiêu chuẩn công nhận/Approval Standard:

Bản vẽ và tính toán thiết kế được thẩm định/Approved Drawings and Design Calculation:

Thử/Tests carried out:

Đặc tính của sản phẩm/Product description

Đánh dấu trên sản phẩm/Marking of product:

Các điều kiện khác/Other conditions:

CTA-A

XÁC NHẬN CHU KỲ
PERIODICAL ENDORSEMENT

Căn cứ vào kết quả đánh giá chu kỳ, xác nhận tình trạng của cơ sở chế tạo được duy trì phù hợp với Quy chuẩn.

Based on the periodical assessment, the condition of the manufacturer is maintained in compliance with the Regulation.

Ngày: .....

Date

CỤC ĐĂNG KIỂM VIỆT NAM

VIETNAM REGISTER

GHI CHÚ - REMARKS:
Giấy chứng nhận này mất hiệu lực khi:
The approval may be cancelled in cases:

- Chất lượng của (các) sản phẩm do cơ sở chế tạo không theo đúng quy định.
  The quality of the product(s) is in doubt .
- Đăng kiểm viên nhận thấy có những thiếu sót trong hệ thống hoạt động của cơ sở.
  The surveyor has found major deficiencies in the operating system of the Manufacturer.
- Cơ sở không thông báo những thay đổi lớn trong hệ thống hoạt động của cơ sở tới VR.
  The Manufacturer fails to inform of any alteration in the system to Vietnam Register.
- Cơ sở không thực hiện các đợt đánh giá theo quy định.
  In case the required assessment is not carried out.