THE SOCIALIST REPUBLIC OF VIETNAM

QCVN 65: 2015/BGTVT

NATIONAL TECHNICAL REGULATION FOR ASSESSMENT OF SEA-GOING SHIP'S MANUFACTURERS AND SERVICE SUPPLIERS

HANOI - 2015

NATIONAL TECHNICAL REGULATION FOR ASSESSMENT OF SEA-GOING SHIP'S MANUFACTURERS AND SERVICE SUPPLIERS

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I GENERAL REGULATIONS

1.1 Application and Scope

1.1.1 Application

This National Technical Regulation (hereinafter referred to as “Regulation”) applies to the inspection, assessment and certification of manufacturers and service suppliers for sea-going ship classified by Vietnam Register.

1.1.2 Scope

This regulation applies to organizations, individuals involved in manufacturing and supplying services for ships which fall under the application as specified in 1.1.1 above and the Vietnam Register (hereinafter referred to as VR)

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 *“Quality system”* means a system under management in which the organizational structure, responsibilities, procedures, processes, personnel, etc. that a manufacturing works or a service supplier possesses are combined in an organic manner for the product or the service.

2 *“Quality manual”* means a document of procedures to perform and maintain a quality system.

3 *"The leader of the manufacturing or service provider"* is the top leader involved in the quality system of the manufacturer or service supplier.

4 *"Internal Audit"* is a systematic and independent audit conducted by a manager of the manufacturer or service supplier to confirm that the quality management system is set up to operate effectively and verify the suitability of the system to achieve its goals.

5 *"Applicable Regulations"* means the documents mentioned in 1.2.1.

6 *"Surveyor"* means a staff of Vietnam Register who are trained and assigned to carry out the assessment of the capability of the manufacturer or service supplier.

II TECHNICAL REQUIREMENT

PART 1 GENERAL

CHAPTER 1 GENERAL

1.1 General

1 This Regulation applies to assessment and approval of a manufacturing works of ships, to be classed or have been classed, and of machinery, materials, etc. with which the ships are to be equipped (hereinafter referred to as “the products”), and also applies to a service supplier of a repairing service, a maintaining service, an inspecting service, a measuring service for the survey, etc. to the products.

2 Assessment and approval under the Guidance are performed to confirm that a manufacturing works or a service supplier has enough capacity as follows:

(1) For a manufacturing works of products, it has enough capability to maintain such quality of new building and repairing of seagoing ships and the products installed on board a seagoing ship in accordance with the requirements of applicable Regulation and recognized standards.

(2) For a service supplier, it has enough capability to maintain the quality of the service provided to the seagoing ship in accordance with the requirements of recognized standards and applicable Regulation.

3 The assessment and accreditation in line with this Code shall be applied to manufacturer which has already manufactured the prescribed products or service supplier who providing the prescribed services.

CHAPTER 2 ASSESSMENT

2.1 General

1 In case a manufacturer or a service supplier intends to obtain approval or maintain approval as a manufacturer or a service supplier under the Regulation, the manufacturing works or the service supplier is to be assessed by VR in accordance with the provisions of this Chapter.

2 In such assessment of a manufacturing works or a service supplier, an investigation on the quality system, production or service procedures, production or service facilities, operators, etc. and, an approval test or a demonstration where necessary, are carried out, and comprehensive evaluation is made.

2.2 Kinds of Assessment

The kinds of assessment are initial assessment, annual assessment, renewal assessment and occasional assessment.

2.3 Initial Assessment

In initial assessment, a manufacturing works or a service supplier will be assessed by VR, based upon the results of document examination and field examination as specified for in the following:

1 Document examination

(1) For manufacturing works of products intended to be approved under the Regulation, 1 copy of the following documents are to be submitted to VR for the document examination.

(a) A written request for assessment and approval for the manufacturer.

(b) Outline of the works intended to be approved (location, history, capital, organization diagram, number of employees, main products, standard production output, etc.)

(c) Manufacturing facilities (a summary of main manufacturing facilities and inspection equipment, outline of workshops and facilities for storing materials and parts, a list of orders to the subcontractors and the subcontracted products, etc.)

(d) A list of subcontractors and expected work performed by the subcontractor.

(e) Outline of the products

(g) Quality manual and its supplementary documents

(h) Quality plan for each product

(i) List of technical staff and supervisors (qualification, training program).

(k) Copies of approval certificates issued by competent organizations or other classification societies, if any

(l) Any other data deemed necessary by VR

(2) For service suppliers intended to be approved under the Guidance, 1 copy of the following documents is to be submitted to VR for the document examination.

(a) A written request for assessment and approval for the service suppliers.

(b) Outline of the firms intended to be approved (location, history, capital, organization diagram, number of employees, main services and their actual records, etc.)

(c) Description of equipment used for the service (measuring equipment, outline of workshops and facilities for storing materials and parts, a list of orders to the subcontractors, etc.)

(d) A list of subcontractors and expected work performed by the subcontractor

(e) Quality manual and its supplementary documents, or documented procedures (work procedures, verification procedures, recording and reporting procedures, training procedures, control procedures of measuring equipment, etc..

(g) List of operators documenting name, qualifications, training and experience within the relevant service area, and training programmes for operators

(h) Checklists of the relevant services and reporting formats to VR

(i) Copies of approval certificates issued by competent organizations or other classification societies, if any

(k) A copy of the certificate of authorization to provide related services provided by the manufacturer, if any.

(l) Other documents deemed necessary by VR

(3) In the document examination, the documents submitted under the requirement in (1) or (2) above are reviewed to confirm that the documented quality system is in conformity with the Regulation.

2 Field examination

(1) In the field examination, based on the documents that have been submitted and reviewed, the quality system, etc. of the manufacturing works or the service supplier is investigated on site to confirm that the quality system, etc. is in conformity with the Guidance.

(2) For manufacturing works to which Chapter 4, Part 2 of the Guidance applies, approval tests on the products intended to be approved are to be carried out with satisfactory results.

(3) For service suppliers to which Part 3 of the Guidance applies, demonstrations of the

service performances intended to be approved are to be carried out with satisfactory results.

2.4 Periodical Assessment

1 Periodical assessment is carried out to the approved manufacturing works or service supplier. The date of periodical assessment is to be within 30 months since the issued date of the certificate. Periodical assessment is to be carried out within 6 months either way of an anniversary date.

2 In the periodical assessment, it is confirmed by VR that the approved quality system, etc. of the manufacturing works or service supplier are maintained satisfactorily.

2.5 Renewal Assessment

1 Renewal assessment is to be carried out to the approved manufacturing works or service supplier within 3 months before the expiry date of the approval certificate, in case where the manufacturer's or supplier's management intends renewal of the approval.

2 In the renewal assessment, assessment is made in accordance with the requirements for the initial assessment specified in 2.3 above. However, if VR considers acceptable, the assessment may be modified.

2.6 Occasional Assessment

1 Occasional assessment is carried out to the approved manufacturing works or service supplier as the occasion demands, in case the manufacturer's or supplier's management intends to make alternations and some change in the approved contents at a time other than that of periodical or renewal assessment. The occasional assessment also is carried out to verify the unconformity of the previous assessment.

2 In the occasional assessment, it is confirmed by VR that all the necessary items are in a satisfactory condition.

2.7 Preparations for Assessment and Others

1 All such preparations as required for assessment specified in 2.3 through 2.6 are to be made by the manufacturing works or the service suppliers. On such occasions, the management representative as specified in 2.2.1-2, Part 2 for the manufacturing works or the person familiar with the quality system for the service suppliers is also to be present at the assessment.

2 In case necessary preparations have not been made or in case no responsible person specified in -1 above is present at the assessment, VR may suspend the assessment.

3 As a result of assessment, in case rectification is considered necessary, VR will notify the management accordingly. The manufacturer's or supplier's management who has received such notification is to perform corrective actions subject to confirmation by VR.

CHAPTER3 APPROVAL

3.1 Issuance of Approval Certificates and Official Announcement

1 As a result of initial assessment or renewal assessment, if the quality system, etc. of a manufacturing works or a service supplier is found in conformity with the requirements of National Technical, the manufacturing works or the service supplier is approved and an approval certificate (see annex) be issued to the manufacturer's (MS.C) or supplier's management(SS.C).

2 VR officially announces a list of the approved manufacturing works and service suppliers.

3.2 Issuance of Assessment Record

As a result of the assessment mentioned in 2.2, all the documents, , an assessment record stating corrective action requests on the quality system, etc. is issued to the manufacturing works or the service supplier as following format (see annex):

(1) For manufacturing works

(a) Report on assessment of manufacturer (Form MS.R).

(b) Assessment checklist of manufacturer (Form MS.CL).

(2) For shipbuilding, conversion, restoration and repair of ships, in addition to the documents referred to in (1), the following documents:

(a) Survey on technological conditions and quality control of ship building / repairing (form DT-01).

(b) Field evaluation report (form DT-02).

(3) For service supplier

(a) Report on assessment of service supplier (Form SS.R).

(b) Assessment checklist of service supplier (Form SS.CL).

3.3 Valid Term of Approval Certificates

The valid term of an approval certificate is 5 years from the date of the initial or the renewal approval.

3.4 Cancel the Approval

In case an approved manufacturing works or service supplier falls under one of the following items (1) though (5), VR may cancel the approval. Upon such a cancellation, VR notifies the manufacturer's or supplier's management accordingly.

(1) In case where a quality of the products or a result of the services is in doubt.

(2) In spite of request from VR for rectification, in case appropriate corrective actions

have not been taken by the date designated by VR.

(3) In case where the approved condition has not complied with the technical requirements concerned due to alteration of the requirements.

(4) In case assessment specified for in 2.4 and 2.6 of chapter 2 this part is not carried out.

(5) In case the manufacturer’s or supplier’s management proposes to cancel application to the Regulation.

PART 2 REQUIREMENTS FOR APPROVAL OF MANUFACTURERS

CHAPTER 1 GENERAL REQUIREMENT

1.1 General

1.1.1 Application

1 This Part applies to manufacturing works of products.

2 Manufacturing works are to comply with the requirements in this Part as well as the requirements in Part 1.

1.1.2 Facilities and Personnel of the Works

1 The works is to be provided with necessary manufacturing facilities to secure quality required of the products. Appropriate environmental facilities, carrying appliances, etc. are to be maintained in workshops, also.

2 In the works, necessary inspection and test equipment together with its supplementary equipment to thoroughly perform the inspection and tests of the products are to be maintained.

3 Welder should be examined and certificated (Form WQC) in compliance with the requirement of Chapter 5, Part 6 of QCVN 21: 2010/BGTVT. Welding procedure should be established in compliance with Chapter 4, Part 6 of QCVN 21: 2010/BGTVT.

4 3 In the works, the assignment of personnel is to be appropriate to maintain the quality required of the products.

1.1.3 Equivalency

Even in case it is difficult to conform to the provisions in this Part, if VR admits a matter as equivalent to the provisions in this Part, the matter may be regarded as conforming to this Part.

CHAPTER 2 ESTABLISHMENT OF QUALITY SYSTEM

2.1 General

To maintain quality required of the products, the manufacturer's management is to clearly define its policy and objectives for, and commitment to the quality and is to establish and maintain a quality system that is in conformity with the requirements in 2.2 and Chapter 3 hereunder. The manufacturer's management is to also prepare a documented quality manual indicating the procedures for implementing the above established quality system.

2.2 Organization and its Functions

2.2.1 Responsibility and Authority

1 The manufacturer's management is to clearly define the responsibility, authority and the inter-relation of all personnel who manage, perform and verify work affecting quality of the products. In particular, it is necessary to clearly define the above for the persons who take charge of the tasks related to the testing and inspection required by this Regulation.

2 The manufacturer's management is to appoint a person responsible for quality management (hereinafter referred to as the "management representative"). The management representative is to have the organizational responsibility and authority necessary to perform and maintain the quality system, not having anything to do with any responsibility for other sections. The management representative is also to have authority to stop production in case a serious quality problem arises with the products.

2.2.2 Verification Resources

1 The manufacturer's management is to verify the quality of the products by inspection, testing, etc. For this purpose, if necessary, persons who are not affected by the production groups shall be assigned. And these persons are to be under control of the management representative.

2 The manufacturer's management or the person authorized by him is periodically to perform the internal quality audits. As to the results of such audits, the following (1) to (3) are to be ensured.

(1) The audit results are to be reported to the manufacturer's management and departments.

(2) Based on the audit results, the manufacturer's management is to review the quality system when necessary.

(3) The audit results and the records of review of the quality system are all to be maintained.

CHAPTER 3 QUALITY SYSTEM REQUIREMENTS

3.1 General

The manufacturer's management is, to secure quality required of the products, to establish and maintain an appropriate quality control method in accordance with the requirements in Chapter 2 and this Chapter.

3.2 Quality System Elements

3.2.1 Contract Review

1 Upon receiving an order, the contents of the order received are to be thoroughly reviewed, confirmed and adjusted, and the results are to be notified properly to the related sections.

2 In review of the contents of an order received, compatibility with the Rules of VR is to be confirmed concerning construction, testing and inspection, etc. of the products.

3.2.2 Design Control

1 Requirements to be input for designing the products are to be clearly defined.

2 Personnel functions competent to verify the design are to be established and the design output is to be verified to meet all of the design input requirements.

3 The design is to be approved by VR in case conformity with the Rules of VR is necessary.

4 Alternations and amendments to the design are to be made appropriately and to be notified promptly to the related sections.

3.2.3 Document Control

1 Procedures for issuing, altering, abolishing, approval, distribution, etc. of the documents (quality manual, technical standards, design and manufacturing drawings, specifications, production procedures, etc.) are to be established and maintained appropriately.

2 The documents are to be controlled so that only the latest editions are available and necessary documents for surveys are to be easily presented at the request of the surveyor of VR.

3.2.4 Purchased and Subcontracted Products Control

1 Supplier's and subcontractor's works are to be thoroughly examined and evaluated on their quality control to verify that the purchased and subcontracted products are produced in a way that satisfies the specified requirements of the orders. VR may examine the supplier's and subcontractor's works if necessary. However, in case purchased and subcontracted products are made subject to survey by VR and supplied

together with the product certificates issued by VR, the above examination may be dispensed with for such suppliers and subcontractors.

2 In purchasing documents to suppliers and subcontractors, the following are to be included as the occasion demands:

(1) Specifications of the article (including technical data)

(2) Names and numbers of documents such as drawings applied to the article

(3) Manufacturing methods, procedures, installations and the personnel qualifications to be required

(4) Manufacturing processes and inspection and testing method of the articles

(5) Whether it is necessary or not to conform to the Rules of VR

(6) Disposal method for nonconforming articles

(7) Requirements for identification of articles

(8) Requirements for storage, packaging and shipment of the articles

(9) Requirements for maintenance and presentation of quality records.

(10) Certificates of manufacturers and certificates of Classification Society if available

3 Concerning handling, storage, maintenance and others of purchased and subcontracted products after receipt, proper control is to be exercised.

4 Purchaser supplied articles to be incorporated into the products are to be properly verified, stored and maintained.

3.2.5 Identification of Products

The products and their important parts and materials are to be identified so that they can be traceable to the related documents such as drawings, specifications, etc. of the product during the whole process.

3.2.6 Production Process Control

1 In processes affecting quality of the products, the work is to be carried out in accordance with the appropriate quality plans, work instructions, and others. And these quality plans, work instructions and others shall be capable of assuring the quality required of the products.

2 The processes in -1 above are to be under controlled conditions as appropriate.

3 In case of welding or heat treatment is carried out to the products, the following are to be satisfied as applicable:

(1) The procedures for welding or heat treatment to the products are to be approved by VR.

(2) The welders are to have the qualification as a welding operator approved by VR depending on the materials, welding procedures, etc.

4 Manufacturing methods of the products are to be approved otherwise by VR, if required under the Rules of VR.

5 Maintenance and inspection for manufacturing facilities is to be carried out appropriately.

3.2.7 Inspection and Testing Control

1 Receiving inspection and testing

Purchased and subcontracted products are to be inspected or otherwise verified to conform to the requirements specified at the time of orders, before they are used or processed.

2 In-process inspection and testing

(1) Inspection, tests and identification of the products are to be carried out appropriately during the processes. The inspection and tests during the process are especially to include all items that can not be verified by the subsequent inspection and testing.

(2) The product is to be held in principle until the specified inspection and tests have been completed and the quality of the product been verified.

3 Final inspection and testing

The final inspection and tests are to be carried out to verify that the completed product is in conformity with the specified requirements. On such an occasion, it is to be confirmed that the results of specified inspection, tests, etc. in receiving and in-process inspection and testing have all been acceptable.

4 Inspection and testing required by the Rules of VR

(1) In in-process and final inspection and testing of the products, all inspection and tests required by the Rules of VR are to be included, and the inspection and testing methods as well as the evaluation criteria are subject to approval of VR. The results of such inspection and tests are also to be confirmed by the surveyors of VR. On these occasions the surveyors will be present at the inspection and tests considered necessary by VR.

(2) Necessary preparations are to be made for the inspection or tests as specified in (1) above, in case the Surveyor of VR is present. On such an occasion, a personnel who has full knowledge of the inspection or tests and can supervise these preparations is also to be present at the inspection or tests.

(3) In case non-destructive inspection is required by the Rules of VR, the operator is to have a qualification considered appropriate by VR.

3.2.8 Control of Inspection, Testing and Measuring Equipment

1 Inspection, testing and measuring equipment which can affect quality of the products, is to be properly selected and controlled. And this equipment is to be calibrated to the appropriate standards.

2 Tensile testing machines, impact testing machines and hardness testers are to be in conformity with the relevant standards.

3.2.9 Control of Nonconforming Products

1 Control of nonconforming products

To prevent use of products which do not conform to the specified requirements, the nonconforming products in receiving, in-process and final inspection and testing are to be properly identified, recorded, evaluated, segregated and disposed of, of which at the same time are to be notified to the relevant sections.

2 Nonconformity review and disposition

In case the following measures are taken with non-conforming products, the methods as well as the authority and the responsibility for such measures are to be clearly defined subject to approval by VR, if necessary.

(1) In case they are reworked or repaired to meet the specified requirements.

(2) In case they are accepted without repair by concession.

(3) In case they are re-graded for alternative applications.

(4) In case they are rejected or scrapped.

3 Corrective actions

Investigation and study of the cause of nonconforming products are to be thoroughly made, and the corrective actions are to be taken to prevent recurrence.

3.2.10 Quality Records

Quality records for the results in receiving, in-process and final inspection and testing, the disposition of nonconforming products, etc. are to be identifiable to the products involved and are to be kept in order, maintained and stored in such a way that they can be readily retrieval. In such records, the quality records for purchased and subcontracted products are also to be included.

3.2.11 Control of Handling, Storage, Packing and Delivery of Products

To prevent damage, staining, deterioration or misapplication of the products, handling, storage, packaging and shipment of the products are to be properly controlled.

3.2.12 Training

All personnel who are engaged in the activities which can affect quality of the products are to be properly trained. On such occasion, for persons who are engaged in specific assigned tasks such as welding, non-destructive inspection, etc., special consideration is to be given to maintaining and improving their abilities through recognition of qualifications etc.

3.2.13 Servicing

1 In case assembly, installation, trial, etc. are required after shipping the products out of the works, each requirement in this Part, as the occasion demands, is to correspondingly apply.

2 If necessary, informative instructions concerning technical data, handling, maintenance, repairs, etc. of the products are to be presented to users.

3 Customer complaints concerning problems in using the products are to be collected and analyzed and appropriate counter-measures are to be taken as the occasion demands.

3.2.14 Statistical Technique

To maintain quality of the products, an appropriate statistical technique is to be adopted when necessary.

3.2.15 Improvement of Quality

The manufacturer’s management is to take the necessary steps to realize stable and improved quality of the products.

CHAPTER 4 ADDITIONAL REQUIREMENTS FOR MANUFACTURERS OF MASS PRODUCED PRODUCTS

4.1 General

4.1.1 Scope

1 This chapter applies to approval assessment of machinery and equipment, which are manufactured by a mass production system (hereinafter referred to as “mass produced products”), intended to be examined and certified in accordance with a procedure suited to their production method.

2 Manufacturing works of mass produced products are to comply with the provisions in this Chapter as well as the provisions in Part 1, and Chapter 1, Chapter 2 and Chapter 3 of this Part.

4.1.2 Initial Assessment

1 Document examination

Manufacturing works is to submit 3 copies each of the following documents in addition to the documents specified in 2.3-1, Part 1.

(1) Data showing the principal particulars and specification of mass produced products, and sectional assembly drawings and drawings of major components

(2) Production records covering the last 2 years

(3) For mass produced products of novel design, documents showing the tests with their results for research and development

2 Approval tests

(1) The approval tests on the mass produced products deemed necessary by VR are to be carried out in the presence of VR’s surveyor. The approval test procedures are to be in accordance with the requirements of 4.2 through 4.8 for each kind of the product. However, modification or omission of the tests may be accepted in consideration of the service records of the products and their construction or function.

(2) When the approval test is completed, manufacturing works is to submit 3 copies of the test result to VR.

4.1.3 Subsequent to the Approval

1 Manufacturing and examination

The manufacturing works is to manufacture (including purchase and subcontract control, process control, measuring equipment control, etc.) and examine the mass produced products in accordance with the quality system approved by VR.

2 Stamping or marking

The quality representative of the manufacturing works is to identify each mass produced product which has passed the examination in -1 by stamping or marking the serial number, the last date of examination and VR's brand "VR". For this purpose, VR may entrust the quality representative with keeping VR's stamp "VR" beforehand.

3 Issuance of certificate

The quality representative of the manufacturing works is to submit a test report describing the serial number, the last date of examination, principal particulars and examination results on the mass produced product, which has passed the examination in -1, to VR's survey office. After checking the submitted examination report, VR's survey office issues a certificate on each product to the manufacturing works.

4 Major Components

In case where major components are delivered by themselves, the components may be dealt with by -1 through -3 provided that the components are manufactured and examined under the same quality system of the completed products.

5 Alteration of the approved products

In case where a type, a specification, etc. of the approved mass produced product is altered, Occasional assessment specified in 2.6, Part 1 is to be carried out.

4.2 Diesel Engines

4.2.1 General requirements

1 Scope

(1) The requirements in this 4.2, in general, apply to diesel engines having a cylinder bore not exceeding 320 mm manufactured at the same manufacturing works.

(2) The requirements specifically prescribed in this 4.2 supersede those specified in 4.1.

2 Definitions

(1) Mass produced diesel engines to which this 4.2 applies are supposed to be manufactured in accordance with (a) through (e) below:

(a) Those mass produced under the strict quality control on materials and parts in accordance with the programme agreed by VR

(b) Those manufactured through the use of jigs or automatic machines designed to machine parts to close tolerances for interchangeability, and which are to be verified on a regular inspection basis.

(c) Those parts taken from the stock after manufacture requiring little or no manual adjustments or finishing work in the assembly process.

(d) Those subjected to a trial run at the manufacturer for individual engines under the established testing programme.

(e) When engines selected at random are subjected to detailed tests for performance evaluation after completion of the trial run at the manufacturer specified in the (d) above.

(2) The major components referred to in this 4.2 are as follows:

Cylinder cover, cylinder liner, piston, piston pin, connecting rod, cylinder block, bed plate, crankshaft, cam, camshaft, camshaft driving gears, bearing (top and bottom bearings of connecting rod, main bearing), bolt (small end bolt and big end bolt of connecting rod, tension bolt, main bearing bolt, coupling bolt),pumps attached to engine(lubricating oil, cooling water, fuel oil), pipings attached to engine (starting air system, fuel injection system), coolers attached to engine (lubricating oil, cooling water, supercharged air), exhaust gas turbocharger, reduction gear, power transmission shaft and flexible coupling.

3 Equivalency

The major components produced by subcontractors who undergo the quality system of the manufacturing works or give full information about their quality control may be dealt with by this 4.2, when deemed appropriate by VR.

4.2.2 Initial Assessment

1 Field examination

In the field examination, it is confirmed that the manufacturing facilities and overall quality system of the manufacturing works are satisfactory, and in addition, the quality of major components are verified satisfactory. The verifications are to be made either by random sampling during the manufacturing process, by checking the examination records or by overhaul inspection after the trial run of the engine.

2 Approval tests

(1) Trial run and overhaul inspection

The trial run and the overhaul inspection are to be carried out under the test conditions as specified in the following (a) through (e). In this case, reduction gears and flexible couplings to which 4.2.1-3 applies, as a standard, are to be subjected to the trial run after being assembled into the engine.

(a) Selection of test engine

One set of test engine is to be selected from the production line.

(b) Testing programme

The testing programme is, in principle, to be as follows:

Maximum continuous output test 80 hours

110% overload test 8 hours

1/4, 2/4, 3/4 and 9/10 partial load test 10 hours

Intermittent load test 2 hours

Starting test

Reverse running test (direct reversing engine only) Performance test of overspeed protection device

Performance test of low L.O. pressure alarm and automatic stopping system Exhaust gas turbocharger out of action test

Minimum speed test (main engine only) Idling speed test (auxiliary engine only)

The tests at the above-mentioned outputs are to be combined together in working cycle which are to be repeated subsequently with the whole duration within the limits indicated. The overload is to be alternately carried out with followings.

110% output and 100% rpm of the maximum continuous output

110% output and 103% rpm of the maximum continuous output

(c) Condition of tests

The following items are to be recorded at time of test:

Ambient air temperature

Ambient air pressure

Atmospheric humidity

External cooling water temperature

Fuel and lubricating oil characteristics

(d) Measurements and records

The following values of measurement are to be recorded at test:

Rotational speed of engine

Brake horsepower Torque

Maximum combustion pressure

Indicated pressure diagrams (if practicable)

Exhaust smoke

Lubricating oil pressure and temperature

Exhaust gas temperature in exhaust manifold

Cooling water pressure and temperature (for each cylinder, if practicable)

The following items are to be added for engines with a turbocharger.

Rotational speed of exhaust gas turbocharger

Air temperature and pressure before and after air cooler

Exhaust gas temperature and pressure before and after exhaust gas turbocharger

Cooling water temperature at cooler inlet

(e) Examination after test

After testing, overhaul inspection is to be carried out on main parts.

Notes:

(i) For engines that are to be approved for different purpose (multipurpose engines), and that have different performance for each purpose. The programme and duration of test will be modified to cover the whole range of the engine performance taking into account the most severe values.

(ii) The maximum continuous output for which the engine is to be tested is the output corresponding to that declared by the manufacturer and agreed by VR, i.e. actual maximum power which the engine is capable of delivering continuously between the normal maintenance intervals stated by the manufacturer at speed and under the stated ambient conditions.

(2) Additional tests

Notwithstanding the requirements of (1), tests such as torsional vibration measurement considered necessary may be additionally required for the engine, and special tests may be carried out for reduction gears, flexible couplings and turbochargers.

4.2.3 Subsequent to the Approval

1 Trial run on individual engines

Notwithstanding the requirements in 4.1.3-1, VR's surveyor may attend a trial run on individual engines in case where the number of production of the engine is small.

2 Test report

The test report required in 4.1.3-3 is to be made for each engine and is to state the following items. However, no entry may be made on components in item (5) when VR's surveyor considers it unnecessary.

(1) Intended service

(2) Serial No. of engine

(3) Type of engine

(4) Principal particulars (maximum continuous output and rpm, normal and reversing rating, number of cylinders, cylinder bore, piston stroke, indicated mean effective pressure, brake mean effective pressure, maximum pressure in cylinder, etc.)

(5) Date of the inspection and inspection records on the major components (material inspection, finishing inspection, hydrostatic test, welding inspection and others)

(6) Records of the trial

4.3 Purifiers

4.3.1 General

1 Scope

(1) The requirements in this 4.3, in general, apply to centrifugal cylinder type or centrifugal disc type fuel oil or lubricating oil purifiers (hereinafter referred to as the purifier in this 4.3) manufactured at the same manufacturing works.

(2) The requirements in this 4.3 are not applicable to the driving electric motors and their accessories.

(3) The requirements specifically prescribed in this 4.3 supersede those specified in 4.1.

2 Definitions

The major components referred to in this 4.3 are as follows:

(1) Cylinder type

Frame, bowl, cover, safety device, attached pump

(2) Disc type

Frame, bowl, vertical spindle, horizontal spindle, main gear, safety device, attached pump

4.3.2 Initial Assessment

Approval tests

(1) The approval tests are to be carried out on the purifier randomly selected one for each type from the production line.

(2) The items of the approval tests are, in general, to be as follows:

(a) Manufacturing inspection

(b) Leakage test and pressure test

(c) Operational performance test

i) Starting test

ii) Stopping test

iii) Performance test

iv) Over-speed test

v) Continuous running test

vi) Operation test of accessories

(d) Overhaul inspection

(e) Other tests as deemed necessary by VR

4.4 Hydraulic Motors and Hydraulic Pumps

4.4.1 General

1 Scope

(1) The requirements in this 4.4, in general, apply to hydraulic motors and hydraulic pumps, intended for steering gears, windlasses, cargo winches and other deck machinery, opening/closing appliances of watertight doors, side thrusters, and other auxiliaries for essential use, manufactured at the same manufacturing works.

(2) The requirements specifically prescribed in this 4.4 supersede those specified in 4.1.

2 Definitions

The major components referred to in this 4.4 are as follows:

(1) Hydraulic motors and hydraulic pumps to which this 4.4 applies are those of the gear type, screw type, vane type and piston type.

(2) The major components referred to in this 4.4 are as follows:

(a) Gear type and screw type;

Casing, cover, gear, screw, shaft, bearing and relief valve

(b) Vane type;

Casing, cover, vane, rotor, bush, cam ring, driving shaft, bearing and relief valve

(c) Axial piston type;

Driving shaft, bearing piston, rod, cylinder block, valve plate, cam plate, pump casing, bearing casing, cover, flexible shaft coupling, controller and servo system

(d) Radial piston type;

Driving shaft, crankshaft, bearing, piston, rod, side guide, cam curve, pump casting, slide block, cylinder casting, cover, relief valve and servo system

4.4.2 Initial Assessment

1 Approval tests

(1) The approval tests are to be carried out on the hydraulic motor and hydraulic pump randomly selected one for each type from the production line.

(2) The items of the approval tests are, in general, to be as follows:

(a) Examination of construction

(b) Pressure test

(c) Operational performance test

i) Performance test

ii) Continuous test

iii) Operation test of relief valve

(d) Overhaul inspection

(e) Other tests considered necessary by VR

4.5 Electrical Equipment

4.5.1 General

1 Scope

(1) The requirements in this 4.5, in general, apply to electrical equipment having a capacity of 500 kW (or kVA) or less manufactured at the same manufacturing works.

(2) The requirements in this 4.5 may apply to electrical equipment small in production number but has a sufficient past production record.

(3) The requirements in this 4.5 may apply to electrical equipment of novel design provided that the equipment is ensured, by thorough development tests, to have enough reliability equivalent to that of equipment having a sufficient past production record.

(4) The requirements specifically prescribed in this 4.5 supersede those specified in 4.1.

4.5.2 Initial Assessment

1 Approval tests

(1) The approval tests are to be carried out on the electrical equipment randomly selected one for each frame number or type from the production line to verify that the equipment complies with the requirements in Part 4 of the Rules for the Classification and Construction of Steel Ships.

(2) The items of the approval tests are, in general, to be as follows. However, additional test items or number of test samples may be required in case where VR specifically deems necessary.

(a) Generators

i) Construction inspection

ii) Running test;

Temperature test, overload test, overcurrent test, commutation test, overspeed test

iii) Characteristics test;

Voltage regulation characteristics test, instantaneous voltage regulation characteristics test

iv) Insulation resistance test

v) High voltage test

vi) Vibration measurement, noise level measurement, and hydraulic test for air

cooler

(b) Electric motors

i) Construction inspection

ii) Operational test;

Temperature test, overload test, overtorque test, commutation test and overspeed test

iii) Characteristics test;

Load characteristics test

iv) Insulation resistance test

v) High voltage test

(c) Control gears for electric motors

i) Construction inspection

ii) Temperature test

iii) Operational test (including circuit inspection)

iv) Insulation resistance test

v) High voltage test

(d) Power and lighting transformer

i) Construction inspection

ii) Temperature test

iii) Insulation resistance test

iv) High voltage test

v) Induced high voltage test

(e) Switchboards

i) Construction inspection

ii) Temperature test

iii) Operational test (for main circuits)

iv) Insulation resistance test

v) High voltage test

(f) Axial flow fan driven by motor built in casing

i) Construction inspection

ii) Combined running tests;

Temperature test, air flow and static air pressure measurements, shaft

power measurements, vibration and noise level measurements

iii) Insulation resistance test

iv) High voltage test

Notes:

(1) Testing and inspection procedures are to be in accordance with the requirements ofJIS, JEC, JEM or other standards or codes as deemed appropriate by VR.

(2) Overload test is to be carried out with 110 % of rated load for the period of 2 hours from after the temperatures of each part being saturated. No limit will be imposed for temperature rise.

(3) On test items other than electrical equipment listed in (a) through (f) above, they are to be determined in a negotiation with the manufacturer.

4.5.3 Subsequent to the Approval

1 Stamping or marking

The electrical equipment which has passed the examination specified in 4.1.3-1 is to be identified as the equipment complying with the Guidance by a label indicating the serial number, the examination date, the approval number and VR's brand "VR".

2 Operation test on individual equipment

Notwithstanding the requirements of 4.1.3-1, VR's surveyor may attend an operation test on individual equipment with a capacity of 100 kW (or kVA) or more and produced in a small lot.

4.6 Exhaust Gas Turbochargers

4.6.1 General

1 Scope

(1) The requirements in this 4.6, in general, apply to exhaust gas turbochargers (hereinafter referred to as "the turbochargers" in this 4.6) manufactured at the same manufacturing works.

(2) The requirements specifically prescribed in this 4.6 supersede those specified in 4.1.

4.6.2 Initial Assessment

1 Approval tests

(1) The approval tests are to be carried out on the standard turbocharger randomly selected one for each type from the production line.

(2) The test items of the approval tests are, in general, to be as follows.

(a) Hot running test for 1 hour under maximum permissible speed and maximum permissible temperature

(b) Overspeed test

(c) Performance test

(d) Overhaul inspection (carrying out after the running test)

(e) For manufacturers who have facilities in their works for testing the turbochargers on an engine for which the turbocharger is intended, the hot running test prescribed in (2)(a) may be replaced by a trial run on the engine for 1 hour at 110% of the maximum continuous output of the engine.

4.6.3 Subsequent to the Approval

1 Examination on individual turbochargers

(1) For cooling space of each gas inlet and outlet casings, a hydraulic test, at a pressure of 0.4 MPa or 1.5 times the maximum working pressure whichever is the greater, is to be carried out.

Note:

The hydraulic test is, in general, to be carried out as indicated in the above. Special consideration, however, will be given by VR, where design or testing feature necessitates modification of the test requirement.

(2) For rotating parts such as rotor shafts, bladed wheels, etc. or their complete rotating assembly, a dynamic balancing test is to be carried out in accordance with the approved procedure for the quality control.

(3) For impellers and inducers, an overspeed test for the duration of 3 minutes, at 120% of the maximum speed under a room temperature or at 110% of the maximum speed under the working temperature, is to be carried out.

(4) As for forged impellers and inducers which are subjected to the quality control through the approved non-destructive test method, the overspeed test may be dispensed with.

(5) Trial run

(a) A mechanical running test for 20 minutes at the maximum speed is to be carried out. However, VR may reduce the duration of the test taking the result of the developing tests into consideration.

(b) In case where the turbochargers are produced under an approved quality system and the type of the turbochargers has sufficient test records, the test in (a) may be carried out on a sample basis.

(c) For manufacturers who have facilities in their works for testing the turbochargers on an engine for which the turbocharger is intended, the trial run may be replaced by a trial.

4.7 Air Compressors

4.7.1 General

1 Scope

(1) The requirements in this 4.7, in general, apply to air compressors manufactured at the same manufacturing works.

(2) The requirements specifically prescribed in this 4.7 supersede those specified in 4.1.

2 Definitions

(1) Air compressors to which this 4.7 applies are those used for compressing air for starting diesel engines, controlling machinery and equipment, power sources and general service, and are of the piston type or vane type.

(2) The major components referred to in this 4.7 are as follows:

Cylinder head, cylinder, piston, piston pin, connecting rod, crankshaft, bearing (small end and big end bearing, main bearing), crankcase, suction valve, discharge valve, intercooler, after cooler, attached pump (lubricating oil and cooling water), outlet non-return valve, relief valve

4.7.2 Initial Assessment 1

Approval tests

(1) The approval tests are to be carried out on the air compressor randomly selected one for each type from the production line.

(2) The items of the approved tests are, in general, to be as follows:

(a) Examination of construction

(b) Pressure test and air-tightness test

(c) Operational test

i) Continuous running test (for 1 hour)

ii) Performance test

iii) Operational test of safety devices

(d) Overhaul inspection

(e) Other tests as deemed necessary by VR

4.8 Water Pumps and Oil Pumps

4.8.1 General

1 Scope

(1) The requirements in this 4.8, in general, apply to water pumps and oil pumps manufactured at the same manufacturing works.

(2) The requirements specifically prescribed in this 4.8 supersede those specified in 4.1.

2 Definitions

(1) Water pumps to which this 4.8 applies are those used for transferring or supplying sea water, fresh water, feed water, bilge, etc., and oil pumps to which this 4.8 applies are those used for transferring and supplying fuel oil, lubricating oil. thermal oil, waste oil, etc.

(2) The major components referred to in this 4.8 are as follows:

(a) Centrifugal type;

Casing, cover, impeller, shaft, bearing, sealing device

(b) Rotating type;

Casing, cover, connecting rod, liner, vane, shaft, bearing, sealing device

(c) Reciprocating type;

Casing, cover, piston, plunger, cylinder, crankshaft, bearing, control valve, sealing device

4.8.2 Initial Assessment

1 Approval tests

(1) The approval tests are to be carried out on the water pump or the oil pump randomly selected one for each type from the production line.

(2) The items of the approval tests are, in general, to be as follows:

(a) Examination of construction

(b) Pressure test

(c) Operation test

(d) Continuous running test

(e) Overhaul inspection

(f) Other tests as deemed necessary by VR

PART 3 REQUIREMENTS FOR APPROVAL OF SERVICE SUPPLIERS

CHAPTER 1 GENERAL

1.1 General

1.1.1 Application

1 This part applies to service suppliers listed as follows:

(1) Firms engaged in thickness measurements on ships

(2) Firms carrying out in-water survey of ships

(3) Radio firms engaged in services on ships

(4) Firms engaged in performance tests of Voyage Data Recorders (VDR) or Simple Voyage Data (S-VDR).

(5) Firms engaged in services of firefighting equipment and systems

(6) Firms engaged in services of life-saving appliances

(7) Firms engaged in services of life-saving boat, rescue boat and their lifting

(8) Firms engaged in tightness testing of hatches with ultrasonic equipment

(9) Firms engaged in coating testing

(10) Firms engaged in non-destruction testing (NDT).

(11) Firms engaged in destruction testing (DT) and other testing.

2 Firms listed in -1(1) through (11) are to comply with the provisions in this Part as well as the provisions in Part 1.

3 Firms listed in -1(11) are to comply with the requirements deemed appropriate by VR as well as the requirements in Part 1 of this Regulation.

1.2 Quality System

1.2.1 General

To maintain quality required to the services to be provided, the supplier's management is to establish and maintain a documented quality system that is in conformity with the requirements in 1.2.2 through 1.2.7.

1.2.2 Training

1 The supplier's management is to provide the training of all personnel who are engaged in the activities which can affect quality of the relevant services.

2 The supplier's management is to establish and maintain a documented procedure for implementing the training specified in -1.

3 The supplier's management is to establish and maintain a list of operators and supervisors documenting name, qualifications, training and experience within the relevant service area.

1.2.3 Measuring and Testing Equipment

1 Measuring and testing equipment to maintain quality of the relevant services is to be provided at the supplier.

2 The supplier's management is to establish and maintain a documented procedure to control, calibrate and maintain the equipment specified in -1.

1.2.4 Work Procedure

The supplier's management is to establish and maintain a documented work procedure for the services to be provided.

1.2.5 Subcontracting Control

1 In case where any parts of the services provided are sub-contracted, the supplier's management is to examine and evaluate the subcontractor's quality system and works to verify that the subcontractor has enough capability to provide subcontracted services with required quality.

2 Ordering documents are to contain data clearly necessary for the subcontracting.

3 The supplier's management is to establish and maintain a documented procedure for implementing the subcontracting control specified in -1 and the order specified in -2**.**

1.2.6 Verification Resources

1 The supplier's management is to verify quality of the services provided**.**

2 The supplier's management is to perform the internal quality audits periodically. As to the results of the audits, the following (1) though (3) are to be ensured.

(1) The audit results are to be reported to the supplier's management and the sections audited.

(2) Based on the audit results, the supplier's management is to review the quality system when necessary.

(3) The audit results and the records of the management review are all to be maintained.

3 The supplier's management is to establish and maintain a documented procedure for implementing the verification specified in -1 and the internal quality audit specified in -2.

1.2.7 Reporting to VR

The supplier's management is to establish and maintain a documented procedure for reporting the results of the services provided to VR.

CHAPTER 2 FIRMS ENGAGED IN THICKNESS MEASUREMENTS ON SHIPS

2.1 Quality System

2.1.1 Work Procedure

A documented work procedure required in 1.2.4 is at least to contain information on items listed in the following (1) through (6).

(1) Survey preparation

(2) Selection and identification of test locations

(3) Surface preparation and protective coating preservation

(4) Calibration checks

(5) Measure and inspection

(6) Reporting the results of the measurements by documents and computerized data and the verification by VR's surveyor

2.2 Operators and Supervisors

2.2.1 Training

Operators carrying out thickness measurements and supervisors are to have sufficient knowledge as to following (1) through (4). A documented training procedure required in 1.2.2 is at least to contain information on them.

(1) Outline of hull structures and structural members

(2) Midship sections of typical ship type

(3) Typical damages and positions where corrosions are liable to occur, of typical ship types

(4) Outline of VR’s Guidance on thickness measurements

2.2.2 Qualification

1 Operators carrying out thickness measurements are to be qualified in accordance with a recognized industrial NDT standard.

2 In general, operators and supervisors listed in the following are to be attached to the supplier.

(1) 1 or more who have experiences on thickness measurements for 05 years or over

(2) 3 or more who have experiences on thickness measurements for 02 years or over

(3) 1 or more who have enough knowledge of hull structures, i.e. naval architects, and can act as instructors and supervisors

2.3 Thickness Measuring Equipment

Ultra-sonic gauging equipment is, in general, to be used for thickness measurements.

2.4 Demonstration

1 On board demonstration is to be carried out at the presence of VR's surveyor to verify that the supplier provides thickness measurements specified in the documents submitted. The ship used for the demonstration is preferably to be a large sized tanker, a bulk carrier or an ore carrier.

2 Structural members to be measured are directed by VR's surveyor at the demonstration in order to ascertain that the operators and the supervisors have sufficient knowledge about the structural members. The surveyor may ask some questions in damages of typical ships to ascertain that the operators and supervisors have sufficient knowledge about the damage.

3 In case where the supplier has been approved by other classification societies, a part of or the whole of the demonstration may be dispensed with.

CHAPTER 3 FIRMS CARRYING OUT IN-WATER SURVEY OF SHIPS

3.1 Quality System

3.1.1 Work Procedure

1 A documented work procedure required in 1.2.4 is at least to contain information on items listed in the following (1) through (5).

(1) Survey preparation

(2) Guidance to divers along the hull parts to be surveyed

(3) Two-way communication between divers and VR's surveyor

(4) Video recording and closed circuit television operation

(5) Reporting the results of the survey and the verification by VR's surveyor

2 Establishments using remote controlled diving equipment (ROV) to conduct inspections of marine oil and gas projects must have the following procedures:

(1) plans and procedures for underwater inspection of marine oil and gas works;

(2) Operation of remote controlled diving equipment (ROV).

3.2 Divers and Supervisors

3.2.1 Training

1 Divers carrying out in-water survey and supervisors are to have sufficient knowledge as to following (1) through (8). A documented training procedure required in 1.2.2 is at least to contain information on them.

(1) Ship's underwater structure and appendages (including propeller shaft, propeller, rudder and its bearings, etc.)

(2) Ship's terminology in English

(3) Underwater thickness measurements and non-destructive testing

(4) Bearing clearance measurements on rudders and propeller shafts

(5) Underwater video operation as well as still picture work

(6) Operation of underwater communication system

(7) Other Special equipment and tools used for in-water survey

(8) Outline of VR's Guidance on in-water survey

2 For supplier using remote controlled diving equipment (ROV) to conduct inspections of marine offshore, employees must be trained on:

(1) Underwater structures of marine oil and gas offshore;

(2) Use and operate a remote controlled diving device (ROV).

3.2.2 Qualification and number of employee

1 Divers carrying out in-water survey should have appropriate certificate to the related standard.

2 In general, divers and supervisors listed in the following are to be attached to the supplier.

(1) 1 or more who have experiences on in-water survey for 2 years or over

(2) 3 or more who have experiences on in-water survey for 1 years or over

3 For ROV supplier that performs inspections of offshore petroleum projects, the minimum requirements for ROV control personnel and supervisors include:

(1) At least one supervisor with at least two years of experience in inspection of petroleum works;

(2) At least one driver for a ROV and have experience in inspecting a petroleum project for one year or more

4 Supervisors must have the following skills and knowledge:

(1) Understand activities, diving and ROV;

(2) Know the purpose of the inspection;

(3) Identify and verify the accuracy of the test data and the criteria for nonconformity to evaluate the results;

(4) Understand the limits for divers in the work environment;

(5) Ability to communicate clearly and effectively;

(6) Ability to plan inspection and control the implementation.

3.3 Equipment Used for In-water Survey

1 The supplier is to have equipment listed in the following (1) through (6).

(1) Closed circuit colour television with sufficient illumination equipment

(2) Still photography camera

(3) Video recording device connected to the closed circuit television

(4) Two-way communication between diver and surface staff

(5) Equipment for carrying out thickness measurements, non-destructive testing and measurements,e.g. clearances, indents, etc.

(6) Equipment for cleaning of the hull

2 For supplier using ROV for underwater inspection of marine oil and gas offshore:

(1) Automatic diving equipment (ROV) and related equipment.

3.4 Demonstration

1 Demonstration to the actual ship is to be carried out at the presence of VR's surveyor to verify that the supplier provides in-water survey specified in the documents submitted.

2 Where other means e.g. video tapes, which enable VR to verify the in-water survey operation of the supplier in lieu of the demonstration, are available, the demonstration may be dispensed with.

CHAPTER 4 FIRMS ENGAGED IN SERVICING AND TESTING OF RADIO COMMUNICATION EQUIPMENT

4.1 Quality System

4.1.1 Work Procedure

A documented work procedure required in 1.2.4 is at least to contain information on items listed in the following (1) through (3).

(1) Preparation of radio inspections

(2) Carrying out radio inspections

(3) Reporting the results of the inspections and the verification by VR s surveyor

4.2 Radio Inspectors and Supervisors

4.2.1 Training

1 Radio inspectors carrying out inspections of radio installations and supervisors are to have sufficient knowledge as to following (1) through (4).

(1) Radiotelephony

(2) Global Maritime Distress and Safety System

(3) Outline of VR’s Rules on radio installations

(4) Latest SOLAS Convention (International Convention for the Safety of Life at Sea), Radio Regulations of the International Telecommunication Union and IMO (International Maritime Organization) Assembly Resolution concerning performance standards

(5) Requirement of flag state of the ship

2 A documented training procedure required in 1.2.2 is at least to contain information on items listed in -1. And the supplier is to provide latest reference documents.

3 In accordance with the procedure specified in -2, inspection instructions issued by VR are to be furnished to radio inspectors without fail.

4.2.2 Qualification and number of employee

1 Radio inspectors carrying out inspections of radio installations are to satisfy the requirements in the following

(1) An engineer in the field of electronic radiology, who has been trained and granted a certificate of use of the GOC or equivalent radio communication equipment;

(2) Have at least one year of experience in maintenance, repair, installation and testing of radio equipment and navigation of ships;

(3) Minimum English proficiency is required to communicate and make test reports in English

2 In addition to satisfying the qualification and experience requirements for radio inspectors, the supervisor must have at least two years of work experience from a radio operator.

3 The minimum requirements for the number of radio inspectors and supervisors of a radio and navigation communications,

(1) a radio inspection officer;

(2) A supervisor.

4.3 Equipment Used for Radio Inspections

1 The supplier must have a transceiver antenna system to test and test the equipment

2 The supplier is to have equipment listed in the following (1) through (5).

(1) Equipment for measuring frequency, voltage, current and resistance

(2) Equipment for measuring output, reflect effect and modulation on VHF and MF/HF

(3) Oscilloscope

(4) Acid tester for checking specific gravity of lead batteries

(5) Tester for checking of correct output from free-float satellite EPIRB

4.4 Demonstration

On board demonstration is to be carried out at the presence of VR’s surveyor to verify that the supplier provides radio inspections specified in the documents submitted.

CHAPTER 5 FIRMS ENGAGED IN PERFORMANCE TESTS OF VDR AND VDRS

5.1 Quality System

5.1.1 Work Procedure

A documented work procedure specified in 1.2.4 is at least to contain information on items listed in the following (1) through (4).

(1) Preparation of performance tests of VDR/S-VDR

(2) Implementation of performance tests of VDR/S-VDR

(3) Reporting the results of performance tests of S-VDR and verification by VR's surveyor

(4) Issue annual functional test certificate for VDR / S-VDR.

5.2 Firms engaged In Performance Tests of VDR and VDRS

5.2.1 Education and training

1 Firms responsible for the carrying out of performance tests on VDRs are to maintain those up-to- date versions of the books and documents referred to in the following (1) through (3):

(1) The requirements of VDR/S-VDR and the inspection instructions issued by VR

(2) The latest SOLAS (Safety of life at sea), IMO (International Maritime Organization) Assembly Resolution concerning performance standards, and IEC (International Electrotechnical Commission) standards

(3) The following reference documents concerning VDR/S-VDR in question

(a) Installation manual

(b) Operation and maintenance manual

(c) Information for use by an investigation authorities

2 The documented training procedures specified in 1.2.2 are to contain the followings.

(1) Procedures to learn the knowledge specified in -1 above

(2) Procedures for the continuous education and training of suppliers

5.2.2 Qualification and number of employee

1 VDR / S-VDR inspector must meet the following qualification and experience requirements:

(1) Being trained and accredited by the manufacturer to carry out the testing of the equipment;

(2) At least one year of experience in equipment testing;

(3) Have a minimum of English proficiency in communicating and making reports in English.

2 Supervisors, in addition to satisfying the qualification and experience requirements for VDR / S-VDR testers, must have at least two years of experience in testing the equipment.

3 Minimum requirement for the number of functional inspectors and supervisors of a VDR / S-VDR functional testing supplier:

(1) A functional inspector;

(2) A supervisor.

5.3 Equipment for the performance tests of VDR/S-VDR

Firms are to have the equipment specified in the following (1) through (3) available for the carrying out of performance tests on VDR/S-VDR:

(1) Instruments for measuring frequency, voltage, current and resistance

(2) Playback hardware of recorded data, speakers, printers and memories

(3) Playback software of recorded data

5.4 Demonstration

On board demonstration is to be carried out in the presence of VR's surveyor to verify that the supplier has appropriate competence for the performance tests specified in the documents submitted.

CHAPTER 6 FIRMS ENGAGED IN SERVICES OF FIRE FIGHTING EQUIPMENT AND SYSTEMS

6.1 General

6.1.1 Aplication

This Chapter applies to firms engaged in services of fire fighting equipment and systems listed below:

(1) Fixed fire-extinguishing systems

(2) Portable fire extinguishers

(3) Self-contained breathing apparatus (SCBA);

(4) Self contained breathing apparatus (EEBD);

(5) Fire detection and alarm systems

6.2 Quality System

6.2.1 Work Procedure

A documented work procedure required in 1.2.4 is at least to contain information on items listed in the following (1) through (4).

(1) Preparation and implementation of the services of fire fighting equipment and systems

(2) Records of conditions of defects found during the services

(3) Reporting the results of the services and the verification by VR’s surveyor

(4) Issue of service record certificates

6.3 Operators and Supervisors

6.3.1 Training

1 Operators and supervisors performing maintenance services for fire fighting equipment and systems must have the knowledge required (1) to (5) below:

(1) Structure and use of fire fighting systems and equipment

(2) Operational methods of the equipment used for servicing of fire fighting equipment and systems

(3) The latest version of the SOLAS (International Convention for the Safety of Life at Sea), as amended, and IMO (International Maritime Organization) Maritime Safety Committee Circular

(4) Flag Administration requirements

(5) The requirements and inspection instructions for fire fighting equipment and systems

issued by VR

2 A documented training procedures required in 1.2.2 are to contain the procedures to learn the knowledge specified in -1.

6.3.2 Qualification and number of employees

1 As for the competence and experience, operators carrying out the services of fire fighting equipment and systems are to comply with the requirements specified in the following (1) and (2).

(1) Operators are to have qualifications for the services of fire fighting equipment and systems approved by the authorities concerned.

(2) Operators are to have at least 1 year experience of on-the-job training for the services of fire fighting equipment and systems.

2 Supervisors carrying out the services of fire fighting equipment and systems are to have at least 2 year experience as an operator.

3 Minimum requirements for the number of maintenance operators and supervisors of a maintenance supplier for fire systems and equipment:

(1) one maintenance operator;

(2) one supervisor.

6.4 Equipment for Services of Fire Fighting Equipment and Systems

1 The suppliers are to have the equipment for services of fire fighting equipment and systems specified in the following (1) through (5).

(1) General

(a) Reflecting mirrors and lighting to inspect inside of the fire extinguishers

(b) Pressure gauges

(c) Cylinder dryers

(d) Gases (carbon dioxide, halon and nitrogen) filling equipment

(e) Contents of filling

(f) Spare parts

(2) Fixed fire-extinguishing systems

(a) Gas level meters or measuring scales

(b) Tools for ventilation test

(3) Portable fire extinguishers

(a) Equipment for fixing fire extinguishers, such as a clamp

(b) Spanners to open and close caps

(c) Caps of fire extinguishers for the pressure test

(d) Pumps for the hydraulic pressure test

(4) Air compressors for the self contained breathing apparatus

(5) Fire detection and alarm systems

(a) Equipment for the operation test

(b) Tools for inspections of electrical equipment, such as a tester

6.5 Demonstration

1 On board demonstration is to be carried out in the presence of VR's surveyor to verify that the suppliers have appropriate competence for the services of fire fighting equipment and systems. However, as for the fire fighting equipment and systems, which are difficult to carry out the demonstration, the submission of the service record certificates may be accepted as substitution.

2 In case where the supplier has been approved by other classification societies, a part of or the whole of the demonstration may be dispensed with.

CHAPTER 7 FIRMS ENGAGED IN SERVICES OF LIFE-SAVING APPLIANCES

7.1 General

7.1.1 Application

This chapter applies to firms engaged in services of life-saving appliances listed below:

(1) Inflatable liferafts

(2) Inflatable lifejackets

(3) Hydrostatic release units

(4) Inflated rescue boats

(5) Marine evacuation system;

(6) Swimsuits for protection against heat loss.

7.2 Quality System

7.2.1 Work Procedure

A documented work procedure required in 1.2.4 is at least to contain information on items listed in the following (1) through (4).

(1) Preparation and implementation of the services of life-saving appliances

(2) Records of conditions of defects found during services

(3) Reporting the results of the services and the verification by VR s surveyor

(4) Issue of service record certificates

7.3 Operators and Supervisors

7.3.1 Training

1 Operators and supervisors carrying out services of life-saving appliances are to have sufficient knowledge as to the following (1) through (5).

(1) Construction and services of life-saving appliances

(2) Operational methods of the equipment used for services of life-saving appliances

(3) The latest version of the SOLAS (International Convention for the Safety of Life at Sea), as amended, LSA Code (Life-Saving Appliances Code) and IMO (International Maritime Organization) Resolution Assembly 761(18)

(4) Flag Administration requirements (where required)

(5) The requirements and inspection instructions for life-saving appliances issued by VR

2 A documented training procedures required in 1.2.2 are to contain the procedures to learn the knowledge specified in -1.

7.3.2 Qualifications, etc.

1 Lifesaving equipment maintenance operators must meet the requirements of qualifications and experience as follows:

(1) Have completed the training program on maintenance of life-saving equipment by the manufacturer or the competent authority;

(2) Have at least one year of experience in maintenance of life-saving equipment.

2 Supervisors, in addition to satisfying the requirements for qualifications and experience of maintenance personnel, must have at least two years of experience in maintenance of life-saving equipment.

3 Minimum requirement for the number of maintenance operators and supervisors of a life support equipment:

(1) One maintenance officer;

(2) One supervisor.

7.4 Equipment for Services of Life-Saving Appliances

The suppliers are to have the equipment for services of life-saving appliances specified in the following (1) through (6).

(1) Pressure gauges

(2) Thermometers

(3) Barometers

(4) Air pumps with functions of air cleaning and drying (including the necessary high-pressure hoses and adapters)

(5) A weight scale for inflation gas cylinders

(6) Inflation gases

7.5 Demonstration

1 On board demonstration is to be carried out in the presence of VR's surveyor to verify that the suppliers have appropriate competence for the services of life-saving appliances. However, as for the life-saving appliances, which are difficult to carry out the demonstration, the submission of the service record certificates may be accepted as substitution.

2 In case where the supplier has been approved by other classification societies, a part of or the whole of the demonstration may be dispensed with.

CHAPTER 8 FIRMS ENGAGED IN MAINTENANCE AND TESTING OF LIFEBOATS, RESCUE BOATS AND RELATED LIFTING EQUIPMENT OF SHIPS

8.1 General

This Chapter applies to the assessment and accreditation of facilities for the maintenance of the following equipment:

(1) Lifeboats;

(2) Rescue boats (for inflatable rescue boats and maintenance suppliers also comply with the requirements of Chapter 7 of this Regulation);

(3) Liferafts, lifeboats and rescue boat lifting equipment;

(4) Release mechanism of the loaded boat.

8.2 Quality System

8.2.1 Work Procedure

A documented work procedure in 1.2.4 Chapter 1 This section must cover at least the following:

(1) Prepare and implement maintenance and testing of lifeboats, rescue boats, lifting and release mechanism equipment;

(2) Records of defects detected during maintenance;

(3) Reporting the test results and the verification by VR’s surveyor

(4) Issue the maintenance certificate.

8.3 Operators and Supervisors

8.3.1 Training

1 Operators and supervisors involved in the maintenance and testing of lifeboats, rescue boats, lifting equipment and release mechanisms should be trained in items (1) through (6) as following:

(1) Structure and use of lifeboats, rescue boats, lifting equipment and release mechanisms;

(2) Operational methods of equipment used for lifeboat maintenance, rescue boats, lifting equipment and release mechanisms;

(3) The latest incorporation text of the International Convention for the Safety of Life at Sea 1974 (SOLAS 74), the International Act on Life-saving Equipment (LSA), and relevant instruments of the International Maritime Organization (IMO);

(4) Requirements of flag state of vessels;

(5) Requirements of related Regulation and Standards for maintenance of lifeboats, rescue boats, lifting equipment and release mechanisms;

(6) How to use equipment for maintenance lifesaving equipment.

2 The written training process as required in 1.2.2. Chapter 1 This section shall include procedures for learning the knowledge provided in -1

8.3.2 Qualification, experience and number of employees

1 The operators engage in maintenance of lifeboat, rescue boats, lifting equipment and release mechanisms should meet the requirements of qualifications and experience as follows:

(1) The training program on maintenance and testing of lifeboats, rescue boats, lifting equipment and release mechanisms has been completed by the manufacturer or the competent authority;

(2) Have at least one year of experience in the field of maintenance and related testing.

2 Supervisors, in addition to satisfying the qualification and experience requirements for maintenance personnel and testers, must have at least two years of experience in the field of maintenance and related testing.

3 Minimum requirements for the number of maintenance and test operators and supervisor of a lifeboat rescue boats, lifting equipment and release mechanisms maintenance supplier:

(1) One maintenance operator;

(2) One supervisor

8.4 Equipment used for maintenance and testing of lifeboats, rescue boat and related lifting equipment:

The supplier must have equipment to perform the maintenance and test as follows:

(1) Specimens and tools for testing;

(2) Mechanical appliances for repair and adjustment of boat engines;

(3) Equipment and supplies for repair of damaged boat structures, lifting equipment, etc.;

(4) Spare parts.

8.5 Demonstration

1 On board and workshop demonstration is to be carried out in the presence of VR’s surveyor to verify that the suppliers have appropriate competence for maintenance and testing of lifeboats, rescue boats, lifting equipment and release mechanisms in accordance with documents submitted to VR.

2 In cases where the lifeboat, rescue boat, lifting equipment and release mechanism maintenance suppliers have been recognized by a competent authority or other Classification society, a part of or the whole of the demonstration may be dispensed with.

CHAPTER 9 FIRMS ENGAGED IN TIGHTNESS TESTING OF HATCHES WITH ULTRASONIC EQUIPMENT

9.1 Quality System

9.1.1 Work Procedure

1 A documented work procedure required in 1.2.4 is at least to contain information on items listed in the following (1) through (6).

(1) Preparation of tightness testing of hatches with ultrasonic equipment

(2) Manuals for the construction of hatches

(3) Adjustment and operations of the ultrasonic equipment

(4) Maintenance of the ultrasonic equipment

(5) Criteria for the test results

(6) Reporting the test results and the verification by VR's surveyor

9.2 Operators and Supervisors

9.2.1 Training

1 Operators and supervisors carrying out tightness testing of hatches with ultrasonic equipment are to have sufficient knowledge as to the following (1) through (5).

(1) Operation of the ultrasonic equipment

(2) Different hatch designs, function and sealing features

(3) Theoretical and practical operation onboard in using ultrasonic equipment

(4) Safety operation onboard

(5) The requirements and inspection instructions for tightness testing of hatches with ultrasonic equipment issued by VR

2 A documented training procedures required in 1.2.2 are to contain the procedures to learn the knowledge specified in -1.

9.2.2 Qualification, experience and number of employees

1 Operators carrying out the tightness testing of hatches with ultrasonic equipment are to comply with the requirements specified in the following:

(1) Operators are to have appropriate qualifications approved by the authorities concerned or those considered equivalent thereto.

(2) Operators are to have experience carrying out the operation and the maintenance of different hatches.

(3) Operators are to have at least 1-year experience of on-the-job training for tightness

testing of hatches with ultrasonic equipment.

2 Supervisors carrying out the tightness testing of hatches with ultrasonic equipment are to have at least 2-year experience as an operator.

3 The minimum requirement for the number of operators and supervisors of a supplier to carrying out tightness testing of hatches with ultrasonic equipment shall include:

(1) One operator who performs the test;

(2) One supervisor.

9.3 Equipment used for tightness testing of hatches with ultrasonic equipment

1 The suppliers are to have the ultrasonic equipment in compliance with the requirements specified in the following (1) through (3).

(1) The transmitter is to indicate a uniform value at any points of a tested area, under the condition which the hatch cover is completely open.

(2) The measurement sensitivity of the receiver is to be adjustable.

(3) The receiver is to be provided with an audible signal and a visual readout in decibel.

2 The ultrasonic equipment is to be deemed appropriate by VR.

9.4 Demonstration

1 On board demonstration is to be carried out in the presence of VR’s surveyor to verify that the suppliers have appropriate competence for the tightness testing of hatches with ultrasonic equipment listed in the documents submitted.

2 In case where the supplier has been approved by recognized authorities and other classification societies, a part of or the whole of the demonstration may be dispensed with.

CHAPTER 10 FIRMS ENGAGED IN TESTING OF COATING SYSTEMS

10.1 Quality System

10.1.1 Work Procedure

1 A documented work procedure required in 1.2.4 is at least to contain information on items listed in the following (1) through (4).

(1) Preparation of the testing of coating systems

(2) Implementation of the testing of coating systems

(3) Criteria for the test results of coating systems

(4) Issue of statement of compliance

10.2 Initial Assessment

1 Initial Assessment

Firms engaged in testing of coating systems is to submit 3 copies each of the following documents in addition to the documents specified in 2.3-1, Part 1. Report forms for the test procedures for coating qualification and crossover tests are to be as referred to Form 9-1 and 9-2.

(1) A detailed list of the Laboratory test equipment for the IMO Resolution MSC.215(82) as may be amended coating approval

(2) A detailed list of reference documents comprising a minimum those referred to in MSC.215(82) as may be amended that are available in the laboratory

(3) Details of testing panel preparation, procedure of test panel identification, coating application, test procedures and a sample test report

(4) Details of exposure method and site for weathering primed test panels

(5) A sample daily or weekly log/form for recording test condition and observations including unforeseen interruption of the exposure cycle with corrective actions

(6) Details of any sub-contracting agreements

(7) Comparison test report with an approved coating system or laboratory if available

10.3 Operators and Supervisors

10.3.1 Training

1 Operators and supervisors carrying out testing of coating systems are to have sufficient knowledge as to the following (1) and (2).

(1) MSC.215(82) as may be amended

(2) Operational methods of the equipment used for the testing of coating systems

2 A documented training procedures required in 1.2.2 are to contain the procedures to learn the knowledge specified in -1. And the supplier is to provide latest reference documents.

10.4 Equipment for Testing of Coating Systems

The suppliers are to have the equipment for testing of coating systems specified in the following (1) through (5).

(1) Tank for testing on simulated ballast tank coating (Equipment for wave movement simulation is not necessary for firms only engaged in cross over testing)

(2) Condensation chamber (Not necessary for firms only engaged in cross over testing)

(3) Infrared (IR) identification equipment

(4) Detector

(5) Tensile testing machines

10.5 Demonstration

1 Demonstration is to be carried out in the presence of VR's surveyor to verify that the suppliers have appropriate competence for the services of testing of coating systems. However, the submission of the comparison test report specified in 9.2.1-1(7) and deemed appropriate by VR may be accepted as substitution.

2 In case where the supplier has been approved by administration and other classification societies, a part of or the whole of the demonstration may be dispensed with.

CHAPTER 11 FIRM ENGAGE IN NON DESTRUCTIVE TESTING (NDT)

11.1 General

11.1.1 Scope

1 This Chapter applies to the assessment and accreditation of the supplier engage in non-destructive testing using the following methods:

(1) Penetration testing (PT);

(2) Magnetism testing (MT);

(3) Ultrasound testing (UT);

(4) Radiographic testing (RT);

(5) Eddy current testing (ET).

11.2 Quality system

11.2.1 Work Procedure

The work procedure is documented in 1.2.4. Chapter 1 This part should cover at least the following:

(1) The work procedure includes the preparation for inspection, the inspection and recording of defects detected and supervised by the surveyor;

(2) To prepare, publish, maintain and control the documents;

(3) Certification and re-certification of NDT operator;

(4) Inspection procedures for visually inspecting of NDT operators.

(5) Inspect and supervise to ensure compliance with the approved process;

(6) Information about the report and the record including the length of record keeping;

(7) Principle of performance of NDT.

11.3 Training and certification of NDT operators

11.3.1 Training

NDT operators and supervisors must be trained and certified by a third party under accredited certification. NDT level III operator must be certified by an recognized organization.

The training process is documented in 1.2.2 Chapter 1 this Part shall include information on training for these persons.

11.3.2 Qualification and number of employees

(1) Supervisor.

Supplier must have a supervisor responsible for supervising the performance of the NDT testing and professional standards for operators including business management of work processes.

Supervisors must have at least a level III qualification certified under a certification program accredited by an accredited certification body (e.g. ASNT, PCN, CINDE, AINDT, etc.).

The supervisor is responsible for reviewing and approving NDT procedures, NDT reports, calibration of NDT equipment, NDT operator certification and willingness to work with VR upon request.

In the case where a NDT supplier does not have an independent level III certified, they may use the external human resources as agreement.

The training, qualifications, experience and certifications of the supervisor must be periodically re-evaluated in accordance with the provisions of the original Accredited Certification Body (usually 5 years)

(2) NDT operators

There must be two employee performance NDT work. Employees must at least be assessed and certified of level II in accordance with Internationally, National standard or equivalent (eg EN 473, ASNT, PCN CSWIP etc.).

The NDT operator must have sufficient knowledge of NDT materials, structures, parts, and limited of NDT equipment to appropriately apply each NDT method.

In cases where NDT service providers do not have level III certified operator, level II operators should be certificated by recognized training institutions or institutes such as TAFE, professional colleges, ASTN, PCN, CSWIP etc.

Supervisors of NDT service supplier must re-evaluate the training, skills and experience of level II NDT operators annually through work experience or tests, including confirmation on their certificates. NDT operators should be re-certified after a maximum of 3 years.

11.3.3 NDT operator's profile

Service suppliers are responsible for keeping records of NDT operators and supervisors. Records must include information such as; age, qualifications, test, evaluation, training, certification, re-certification and experience in the NDT field.

Records of the NDT staff will be reviewed by the Surveyors before commencing a specific inspection work.

11.4 NDT Equipments

Records of equipment used for NDT must be kept. Records must include information on maintenance and calibration. In the case of renting out equipment, such equipment must also have calibration records.

In the case of special equipment, the NDT staff must be trained in the operation and use of the equipment prior to performing the NDT.

11.5 Verification

The NDT service suppliers must have a system to verify services provided under the approved procedures. The verification should be made in writing.

The NDT service suppliers must submit a report to VR to prove that the requirements of VR have been fully complied with before the end of the work. This may have to be done through the customer base of the NDT service suppliers based on the requirements of the contract between them.

11.6 NDT Report

1 The report must show defects that are not acceptable at the test site, and whether any material, weld, detail or structure is satisfied with the standards.

The test report specifies the applicable standards, NDT procedures and acceptance criteria. The following information must be included in the report:

(1) Company name, customer, project / ship, number of certificate;

(2) Name and level of the NDT operators and supervisor;

(3) Information about the testing subjects or reference drawings;

(4) Location and date of inspection;

(5) Type of material and size;

(6) Information on the object and test conditions such as: heat treatment if applicable, location of the test site, type of joints, welding process, surface conditions, sample temperature;

(7) Details of inspection results such as the number of defects to be repaired (if repaired), location sketches and disability information found, expanded inspection;

(8) Equipment used for inspection;

(9) Describe the specification of each method, specific to each test method as follows:

(a) Eddy Current Testing - ET:

- Type of probe and frequency;
- Phase, e.g. 180°, 360°;
- Block calibration reference;
- Calibration report;
- Reporting level, if any, with the acceptance criteria.

(b) Magnetic Testing - MT:

- Magnetic type;

- Type of electric current;
- Manufacturers Name;
- Image conditions;
- Degauss, if required.

(c) Penetration testing - PT:

- Application system (dye or fluorescent);
- Method of application;
- Time of penetration;
- Image conditions;
- The materials used include the batch number.

(d) Radiographic testing- RT:

- Image Quality Indicator (IQI);
- Distance from source to film (FFD);
- Not sharp geometry;
- Sensitivity;
- Resolution;
- Films, rays and filters;
- Type of source, size of source, operation of source, voltage and current;
- Shooting techniques include shooting time.

(e) Ultrasonic Testing - UT:

- Angle of probe and frequency;
- Block calibration reference;
- Noise level;
- Reporting level, if any, with the acceptance criteria.

11.7 Demonstration

1 Demonstration is to be carried out in the presence of VR's surveyor to verify that the suppliers have appropriate competence for the services of NTD in comply with submitted documents.

2 Types of NDT should be specified by VR's surveyor to ensure that operators and supervisors are competent for the job.

3 In case where the supplier has been approved by other Recognized classification societies, the demonstration may be dispensed with.

CHAPTER 12 FIRM ENGAGE IN DESTRUCTIVE TESTING AND OTHER TESTING

12.1 General

12.1.1 Scope

This Chapter applies for assessment and approval for the firm engage in destructive testing and other testing.

12.2 Quality system

12.2.1 Working procedure

1 The work process is documented in 1.2.4. Chapter 1 This section must cover at least the following:

(1) Procedures for the preparation of the type of test, sampling and testing;

(2) Preparing, issuing, maintaining and control of documents;

(3) Maintenance and calibration of equipment;

(4) Training programs for operators and supervisors;

(5) Supervise and inspect to ensure the operation compliance with approved procedures;

(6) Quality management of subsidiaries, if relevant;

(7) Preparation work;

(8) Report measurement results in the form of data to be computerized;

(9) Code of Conduct for Activities;

(10) Periodically review work procedure procedures, complaints, corrective actions, release, maintenance and control of documents;

(11) Other documents deemed necessary by VR.

12.3 Training and certification

12.3.1 Training

The service supplier must be responsible for the training of their supervisors and operators. The training process is documented in 1.2.2 Chapter 1 This Part shall include information on training for these persons.

(1) Knowledge of the appropriate technology for the manufacture of materials, products, etc., tested or how it is used or intended to be used, samples, materials and products used and must be aware of defects and deviations that may occur during use;

(2) Knowledge of general requirements required by law and regulations;

(3) Understand the significance of the detected deviations in relation to the normal use of objects, materials, products, etc.;

(4) Understand the structure and operation principle of the test equipment; trained using equipment; Be sure to follow the operating instructions of the manufacturer.

12.3.2 Qualification and number of employees

1 Operator performing the test must meet the requirements for qualifications and experience as follows:

(1) Completion of external or internal training courses within the scope of the test method required by the equipment manufacturer or the competent authority;

(2) Have at least 6 months of relevant field experience.

2 Supervisors, in addition to satisfying the qualification and experience requirements for the test operator, must have at least one year of relevant experience in the field.

3 The minimum requirement for the number of operators and supervisors of a supploer must include:

(1) One operator who performs the test;

(2) One supervisor.

12.4 Testing equipment

12.4.1 Requirement for testing equipment

1 Suppliers must be adequately equipped with all the necessary equipment for sampling, measurement and testing to accurately perform the testing work (including sampling, sample preparation, processing and analysis). test data) in accordance with National Technical Regulations and related standards.

2 In cases where the supplier needs to use equipment outside the regular control, they should ensure that the requirements of the technical regulations and standards are met.

3 The equipment and software of the equipment used for testing, calibration and sampling shall be capable of achieving the required accuracy and shall be in accordance with the relevant technical regulations. Before the equipment is put into use (including equipment used for sampling), it must be calibrated or inspected to confirm that the equipment meets the technical requirements of the service provider and complies with the National Technical regulation and adequate standards.

4 The equipment must be inspected and calibrated by authorized organization before use.

5 A record of the equipment and software used must be kept. That record should contain information on the manufacturer and type of equipment, and the maintenance and calibration records. The software used along with the test is fully described and verified.

12.5 Demonstration

1 Demonstration is to be carried out in the presence of VR's surveyor to verify that the suppliers have appropriate competence for the services of testing in comply with submitted documents.

2 Types of testing should be specified by VR's surveyor to ensure that operators and supervisors are competent for the job.

3 In case where the supplier has been approved by other Recognized classification societies, the demonstration may be dispensed with.

III REGULATION ON MANAGEMENT

1.1 General

If assessed as satisfying the relevant requirements of this Regulation, the manufacturing and service providers shall be granted the certificates of approval for manufacturer and the certificate of approval for service supplier respectively.

1.2 Certificates of approval for manufacturer and the Certificate of approval for service supplier

1.2.1 Manufacturer will be granted the ”Certificates of approval for manufacturer” (MS.C) after having been audited and assessed by VR in compliance with the specified requirements in this Regulation.

1.2.2 The service supplier will be granted the ”Certificate of approval for service supplier” (SS.C) after having been audited and assessed by VR in compliance with the specified requirements in this Regulation.

1.3 The validation of Certificates

1.3.1 Certificates of approval for manufacturer and the Certificate of approval for service supplier will be valid for maximum of 5 years from the date of issuance after successful completed the in Initial and Renewal assessment.

1.3.2 Both above certificates need to periodical assessment mentioned in Chapter II Part 1 of this Regulation.

IV RESPONSIBILITIES OF ORGANIZATIONS AND INDIVIDUALS

1.1 Responsibilities of manufacturers and service suppliers

1.1.1 To fully comply with the provisions of the manufacturer and service supplier assessment set out in 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

1.1.4 The manufacturer and service supplier shall be responsible for the payment of fees for assessment and certification in accordance with relevant Regulations.

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 IMPLEMENTATION

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

SUPPLEMENT - ATTACHED FORMS

1. CERTIFICATE OF APPROVAL FOR MANUFACTURER (MS.C).
2. CERTIFICATE OF APPROVAL FOR SERVICE SUPPLIER (SS.C).
3. REPORT ON ASSESSMENT OF MANUFACTURER (MS.R).
4. ASSESSMENT CHECKLIST OF MANUFACTURER (MS.CL).
5. REPORT ON ASSESSMENT OF THE SERVICE PROVIDER (SS.R).
6. CHECKLIST OF ASSESSMENT SERVICE STATION (SS.CL).
7. INVESTIGATION OF QUALITY CONTROL CONDITIONS OF SHIPYARD (ĐT-01).
8. CERTIFICATE OF WELDER'S QUALIFICATION APPROVAL (ĐT-02).
9. CERTIFICATE OF WELDER'S QUALIFICATION APPROVAL (WQC)

MẪU GIẤY CHỨNG NHẬN
CÔNG NHẬN NĂNG LỰC CƠ SỞ CHẾ TẠO

MS.C

CỤC ĐĂNG KIỂM VIỆT NAM

VIETNAM REGISTER

GIẤY CHỨNG NHẬN CÔNG NHẬN NĂNG LỰC CƠ SỞ CHẾ TẠO

CERTIFICATE OF APPROVAL FOR MANUFACTURES

Số:.....

No:

CỤC ĐĂNG KIỂM VIỆT NAM CHỨNG NHẬN

VIETNAM REGISTER CERTIFIES THAT

Cơ sở *IService Supplier***:**

Địa chỉ:
Address:

Đã được đánh giá và công nhận năng lực để chế tạo (các) sản phẩm sau đây phù hợp với QCVN 65: 2015/BGTVT "Quy chuẩn kỹ thuật quốc gia về đánh giá năng lực cơ sở chế tạo và cung cấp dịch vụ tàu biển" (sau đây gọi là "Quy chuẩn"):
Has been assessed and approved to manufacture the following product(s)in compliance with the QCVN 65: 2015/BGTVT "National Technical Regulation on the assessment sea-going ship's manufatures and service suppliers". (hereinafter refer to as "the Regulation"):

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:
Issued at

Ngày:
Date

CỤC ĐĂNG KIỂM VIỆT NAM
VIETNAM REGISTER

MS.C

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.

MẪU GIẤY CHỨNG NHẬN
CÔNG NHẬN NĂNG LỰC CƠ SỞ CUNG CẤP DỊCH VỤ

SS.C

CỤC ĐĂNG KIỂM VIỆT NAM

VIETNAM REGISTER

GIẤY CHỨNG NHẬN
CÔNG NHẬN NĂNG LỰC CƠ SỞ CUNG CẤP DỊCH VỤ

CERTIFICATE OF APPROVAL FOR SERVICE SUPPLIER

Số:.....

No:

CỤC ĐĂNG KIỂM VIỆT NAM CHỨNG NHẬN

Vietnam Register certifies that

Cơ sở */Service Supplier*:

Địa chỉ:
Address:

Đã được đánh giá và công nhận năng lực để cung cấp (các) dịch vụ sau đây phù hợp với QCVN 65: 2015/BGTVT "Quy chuẩn kỹ thuật quốc gia về đánh giá năng lực cơ sở chế tạo và cung cấp dịch vụ tàu biển" (sau đây gọi là "Quy chuẩn"):
Has been assessed and approved to provide the following service(s) in compliance with the QCVN 65: 2015/BGTVT "National Technical Regulation on the assessment sea-going ship's manufatures and service suppliers". (hereinafter refer to as "the Regulation"):

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

SS.C

XÁC NHẬN CHU KỲ
PERIODICAL ENDORSEMENT

Căn cứ vào kết quả đánh giá chu kỳ, xác nhận tình trạng của cơ sở cung cấp dịch vụ được duy trì phù hợp với Quy chuẩn.
Based on the periodical assessment, the condition of the service supplier 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 Certificate may be cancelled in cases:

- Cơ sở thực hiện cung cấp dịch vụ không đúng các yêu cầu hoặc kết quả ghi sai.
  The service provided is improperly carried out or the results are improperly reported.
- 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 Service Supplier.
- Cơ sở không thông báo những thay đổi lớn trong hệ thống hoạt động của Cơ sở tới VR.
  The Service Supplier fails to inform of any alteration in the system to Vietnam Register

MẪU BÁO CÁO ĐÁNH GIÁ NĂNG LỰC CƠ SỞ CHẾ TẠO

CỤC ĐĂNG KIỂM VIỆT NAM

MS.R

BÁO CÁO ĐÁNH GIÁ NĂNG LỰC CƠ SỞ CHẾ TẠO

REPORT ON ASSESSMENT OF MANUFACTURERS

Số: _____
No

Loại hình đánh giá: Kind of Assessment	☐ Lần đầu Intitial	☐ Chu kỳ Periodical	☐ Cấp mới Renewal	☐ Bất thường Occassional
Tên cơ sở chế tạo: Name of Manufacturer:				
Địa chỉ: Adress				
Sản phẩm: Product				
Số GCN đã cấp (nếu có): No. of Certificate of Approval (if any):			Ngày cấp: Date of Issue:	
Ngày bắt đầu đánh giá: Date of Assessment Commencement:			Ngày kết thúc đánh giá: Date of Assessment Completion:	

Kết quả đánh giá:

☐ Thoả mãn các yêu cầu của Quy định về đánh giá và công nhận năng lực cơ sở sản xuất
Satisfaction without Recommendations

☐ Thoả mãn với khuyến nghị được đưa ra
Satisfaction with Recommendations

☐ Không thoả mãn
Un-satisfaction

Ghi chú:
Notes:

Đăng kiểm viên hiện trường đề nghị:

☐ Cấp GCN công nhận năng lực cơ sở chế tạo chính thức có hiệu lực đến:
Issuance of a Fullterm Certificate of Approval valid until:

☐ Cấp GCN công nhận năng lực cơ sở chế tạo tạm thời có hiệu lực đến:
Issuance of an Interim Certificate of Approval valid until:

☐Xác nhận GCN công nhận năng lực cơ sở chế tạo đã cấp
Endorsement of the Existing Certificate of Approval:

☐ Thu hồi GCN công nhận năng lực cơ sở chế tạo đã cấp (lý do:
Withdrawal of the Existing Certificate of Approval (Reason:

Đăng kiểm viên Surveyor	**Đăng kiểm viên** Surveyor	**Đăng kiểm viên** Surveyor

Cấp tại: Ngày
Issued at: On

CỤC ĐĂNG KIỂM VIỆT NAM
VIETNAM REGISTER

Mô tả khuyến nghị (có thể đính kèm báo cáo riêng) Description of Recommendation(s)

Hành động khắc phục (có thể đính kèm báo cáo riêng)

Corrective Actions

☐ Hành động khắc phục phải được thực hiện trong thời gian 3 tháng Corrective actions shall be carried out within 3 months		☐ Hành động khắc phục phải thực hiện ngay Corrective actions shall be carried out immediately	
Họ tên người đề xuất hành động khắc phục Name of person proposing corrective actions		Họ tên Đăng kiểm viên chấp nhận hành động khắc phục Name of surveyor accepting corrective actions	
Chữ ký Signature		Chữ ký Signature	
Ngày tháng Date		Ngày tháng Date	

DANH SÁCH NHỮNG NGƯỜI THAM GIA ĐỢT ĐÁNH GIÁ
LIST OF ATTENDERS

Họ tên Name	Chức vụ Position	Chữ ký Signature	
		Lúc khai mạc Opening Meeting	Lúc khai mạc Opening Meeting
CƠ SỞ CUNG CẤP DỊCH VỤ ĐƯỢC ĐÁNH GIÁ FIRM			
VR			

MẪU DANH MỤC ĐÁNH GIÁ NĂNG LỰC CƠ SỞ CHẾ TẠO

MS.CL

CỤC ĐĂNG KIỂM VIỆT NAM
VIETNAM REGISTER

DANH MỤC ĐÁNH GIÁ NĂNG LỰC CƠ SỞ CHẾ TẠO
ASSESSMENT CHECKLIST OF MANUFACTURER

Số:_____
No:

Tên và địa chỉ Cơ sở chế tạo Name and Address of Manufacturer	**Sản phẩm thuộc phạm vi đánh giá** Product Coverage

Loại đánh giá Kind of Assessment	☐ **Lần đầu** Initial	☐ **Chu kỳ** *Periodical*	☐ **Cấp mới** Renewal	☐ **Bất thường** Occassional

Số và ngày cấp Giấy chứng nhận công nhận năng lực Number and Issuing Date of Certificate of Approval	

Danh mục đánh giá - Checklist		**Kết quả* - Results***			**Nhận xét**
TT No.	**Yêu cầu** Requirement	Có Yes	Không No	Không áp dụng N/A	Remarks
1	**Phương tiện sản xuất** **Manufacturing facilities**				
1.1	Có đủ nhà xưởng, các phương tiện sản xuất thích hợp cần thiết để đảm bảo chất lượng yêu cầu đối với sản phẩm? Are there appropriate workshops and manufacturing facilities necessary to secure quality required of the products?				
1.2	Có đủ các phương tiện môi trường cần thiết cho nhà xưởng? Are there appropriate environmental facilities in the workshops?				
1.3	Có đủ các phương tiện vận chuyển cần thiết cho nhà xưởng? Are there appropriate carrying appliances in the workshops?				
1.4	Các thiết bị kiểm tra và thử cần thiết dùng cho việc kiểm tra và thử sản phẩm được duy trì ở tình trạng thoả mãn? Is necessary inspection and test equipment for performing the inspection and tests of the products properly maintained?				
2	**Thiết lập hệ thống chất lượng** **Establishment of Quality System**				

Danh mục đánh giá - Checklist		Kết quả* - Results*			Nhận xét
TT No.	**Yêu cầu** Requirement	Có Yes	Không No	Không áp dụng N/A	Remarks
2.1	Lãnh đạo của cơ sở sản xuất xác định chính sách, mục tiêu và cam kết cụ thể về chất lượng? Has the manufacturer's management clearly defined its policy and objectives for, and commitment to the quality?				
2.2	Hệ thống chất lượng được thiết lập và duy trì phù hợp? Has the appropriate quality system established and maintained?				
2.3	Có sổ tay chất lượng được lập thành hồ sơ nêu ra các quy trình để thực hiện hệ thống chất lượng được thiết lập? Has the documented quality manual indicating the procedures for implementing the established quality system prepared?				
2.4	Có quy trình kiểm soát đối với sổ tay chất lượng? Has the control procedure for the quality manual established?				
2.5	Sổ tay chất lượng luôn có sẵn ở mỗi bộ phận? Is the quality manual readily available in each department and section?				
3	**Quyền và trách nhiệm** **Responsibility and Authority**				
3.1	Quyền, trách nhiệm và mối quan hệ giữa tất cả những người, bộ phận quản lý, thực hiện và giám sát công việc ảnh hưởng đến chất lượng của sản phẩm được thiết lập? Has the responsibility, authority and the inter-relation of all personnel, sections that manage, perform and verify work affecting quality of the products clearly defined?				
3.2	Những người, bộ phận chịu trách nhiệm đối với việc kiểm tra và thử theo quy định của Quy phạm của VR được chỉ định? Have persons, sections that take charge of the tasks related to the testing and inspection required by the Rules of VR clearly defined?				
3.3	người chịu trách nhiệm đối với việc quản lý chất lượng ("người đại diện lãnh đạo") được chỉ định? Has a person responsible for quality management ("management representative") appointed?				
3.4	Người đại diện lãnh đạo không được có bất kỳ công việc gì liên quan đến trách nhiệm của các bộ phận khác? Does management representative have nothing to do with any responsibility for other sections?				
3.5	Người đại diện lãnh đạo có trách nhiệm về mặt tổ chức và quyền cần thiết để thực hiện và duy trì hệ thống chất lượng? Does the management representative have the organizational responsibility and authority necessary to perform and maintain the quality system?				
3.6	Người đại diện lãnh đạo có quyền dừng công việc sản xuất trong trường hợp có vấn đề nghiêm trọng về chất lượng đối với sản phẩm? Does the management representative have authority to stop production in case a serious quality problem arises with the product?				
2.3	Có sổ tay chất lượng được lập thành hồ sơ nêu ra các quy trình để thực hiện hệ thống chất lượng được thiết lập? Has the documented quality manual indicating the procedures for implementing the established quality system prepared?				

Danh mục đánh giá - Checklist		Kết quả* - Results*			Nhận xét
TT No.	**Yêu cầu** Requirement	Có Yes	Không No	Không áp dụng N/A	Remarks
2	**Thiết lập hệ thống chất lượng (tiếp)** **Establishment of Quality System (cont.)**				
2.4	Có quy trình kiểm soát đối với sổ tay chất lượng? Has the control procedure for the quality manual established?				
2.5	Sổ tay chất lượng luôn có sẵn ở mỗi bộ phận? Is the quality manual readily available in each department and section?				
3	**Quyền và trách nhiệm** **Responsibility and Authority**				
3.1	Quyền, trách nhiệm và mối quan hệ giữa tất cả những người, bộ phận quản lý, thực hiện và giám sát công việc ảnh hưởng đến chất lượng của sản phẩm được thiết lập? Has the responsibility, authority and the inter-relation of all personnel, sections that manage, perform and verify work affecting quality of the products clearly defined?				
3.2	Những người, bộ phận chịu trách nhiệm đối với việc kiểm tra và thử theo quy định của Quy phạm của VR được chỉ định? Have persons, sections that take charge of the tasks related to the testing and inspection required by the Rules of VR clearly defined?				
3.3	người chịu trách nhiệm đối với việc quản lý chất lượng ("người đại diện lãnh đạo") được chỉ định? Has a person responsible for quality management (“management representative”) appointed?				
3.4	Người đại diện lãnh đạo không được có bất kỳ công việc gì liên quan đến trách nhiệm của các bộ phận khác? Does management representative have nothing to do with any responsibility for other sections?				
3.5	Người đại diện lãnh đạo có trách nhiệm về mặt tổ chức và quyền cần thiết để thực hiện và duy trì hệ thống chất lượng? Does the management representative have the organizational responsibility and authority necessary to perform and maintain the quality system?				
3.6	Người đại diện lãnh đạo có quyền dừng công việc sản xuất trong trường hợp có vấn đề nghiêm trọng về chất lượng đối với sản phẩm? Does the management representative have authority to stop production in case a serious quality problem arises with the product?				
4	**Kiểm tra xác nhận** **Verification**				
4.1	Lãnh đạo của cơ sở sản xuất hoặc người được chỉ định thẩm tra xác nhận chất lượng của sản phẩm thông qua việc kiểm tra, thử,...? Does the manufacturer’s management or the person assigned by the manufacturer’s management verify the quality of the product by inspection, testing, etc..?				
4.2	Người được chỉ định thực hiện việc thẩm tra xác nhận chất lượng của sản phẩm không liên quan đến các bộ phận sản xuất? Is the person assigned by the manufacturer’s management to verify the quality of the product not affected by the production groups?				

Danh mục đánh giá - Checklist		Kết quả* - Results*			Nhận xét
TT No.	**Yêu cầu** Requirement	Có Yes	Không No	Không áp dụng N/A	Remarks
4.3	Người được chỉ định thực hiện việc thẩm tra xác nhận chịu sự kiểm soát của người đại diện lãnh đạo? Is the person assigned by the manufacturer's management to verify the quality of the product under control of the management representative?				
4.5	Kết quả đánh giá chất lượng nội bộ được báo cáo lên Lãnh đạo của cơ sở sản xuất và các bộ phận liên quan? Are the results of the internal quality audits reported to the manufacturer's management and the concerned departments?				
4.6	Căn cứ vào kết quả đánh giá, Lãnh đạo của cơ sở sản xuất xem xét lại hệ thống chất lượng, nếu cần thiết? Based on the internal quality audit results, does the manufacturer's management review the quality system when necessary?				
4.7	Các báo cáo về kết quả đánh giá nội bộ và các báo cáo xem xét hệ thống chất lượng được lưu trữ thích hợp? Are the internal quality audit results and the records of review of the quality system properly maintained?				
5	**Xem xét hợp đồng** **Contract Review**				
5.1	Nội dung yêu cầu chế tạo sản phẩm được xem xét kỹ lưỡng và điều chỉnh, xác báo thích hợp? Are the contents of the order received thoroughly reviewed, confirmed and adjusted?				
5.2	Kết quả xem xét yêu cầu được thông báo cho các bộ phận liên quan? Are the results of the order review notified properly to the related sections?				
5.3	Nội dung yêu cầu chế tạo sản phẩm được xem xét để xác nhận sự phù hợp với Quy phạm của VR? Are the contents of the order investigated to verify compliance with the Rules of VR?				
6	**Kiểm soát thiết kế** **Design Control**				
6.1	Yêu cầu đầu vào đối với việc thiết kế sản phẩm được xác định rõ ràng? Are the requirements to be input for designing the products clearly defined?				
6.2	Nhiệm vụ của những người có thẩm quyền thẩm tra thiết kế được quy định rõ ràng? Have personnel functions competent to verify the design been clearly established?				
6.3	Đầu ra của thiết kế được thẩm tra để xác nhận thoả mãn các yêu cầu đầu vào của thiết kế? Is the design output verified to meet all of the design input requirements?				
6.4	Thiết kế được VR duyệt theo Quy phạm của VR, nếu quy phạm có yêu cầu? When compliance with the Rules of VR is required, is the design approved by VR?				

Danh mục đánh giá - Checklist		Kết quả* - Results*			Nhận xét
TT No.	**Yêu cầu** Requirement	Có Yes	Không No	Không áp dụng N/A	Remarks
6.5	Các sửa đổi và bổ sung đối với thiết kế được thực hiện một cách phù hợp và được thông báo ngay cho các bộ phận liên quan? Are alternations and amendments to the design made appropriately and notified promptly to the related sections?				
7	**Kiểm soát tài liệu** **Document Control**				
7.1	Các quy trình về ban hành, sửa đổi, loại bỏ, duyệt, cấp phát, ... tài liệu (sổ tay chất lượng, tiêu chuẩn kỹ thuật, thiết kế và bản vẽ thi công, các thông số của sản phẩm, các quy trình sản xuất, ...) được thiết lập và duy trì một cách thích hợp? Have procedures for issuing, altering, abolishing, approval, distribution, etc. of the documents (quality manual, technical standards, design and manufacturing drawings, specifications, production procedures, etc.) been established and maintained appropriately?				
7.2	Các tài liệu được kiểm soát sao cho luôn chỉ có các phiên bản mới nhất? Are the documents controlled so that only the latest editions are available?				
7.3	Luôn có sẵn sàng các tài liệu cần thiết cho việc kiểm tra để trình cho đăng kiểm viên của VR khi có yêu cầu? Are necessary documents for surveys easily presented at the request of the surveyor of VR?				
8	**Kiểm soát sản phẩm mua vào và do nhà thầu phụ cung cấp** **Purchased and Subcontracted Products Control**				
8.1	Các công việc của nhà cung cấp và nhà thầu phụ liên quan đến việc kiểm soát chất lượng được kiểm tra và đánh giá kỹ lưỡng để xác nhận rằng các sản phẩm mua vào và do nhà thầu phụ cung cấp được sản xuất thoả mãn các yêu cầu đưa ra trong đơn đặt hàng? Is supplier's and subcontractor's work thoroughly examined and evaluated on their quality control to verify that the purchased and subcontracted products are produced in a way that satisfies the specified requirements of the orders?				

Danh mục đánh giá - Checklist		Kết quả* - Results*			Nhận xét
TT No.	**Yêu cầu** Requirement	Có Yes	Không No	Không áp dụng N/A	Remarks
8.2	Trong tài liệu đặt hàng đối với nhà cung cấp và nhà thầu phụ bao gồm các mục dưới đây, nếu cần thiết? Are the following items included as appropriate in the order sheets to the supplier and subcontractor? (a) Thông số của sản phẩm (bao gồm các số liệu kỹ thuật) Specifications of the articles (including technical data) (b) Tên và ký hiệu của các tài liệu (ví dụ như các bản vẽ) áp dụng cho sản phẩm Names and numbers of documents such as drawings applied to the articles (c) Phương pháp sản xuất, các quy trình, việc lắp đặt và yêu cầu về trình độ của người thực hiện Manufacturing methods, procedures, installations and the personnel qualifications to be required (d) Quá trình sản xuất, phương pháp kiểm tra và thử sản phẩm Manufacturing processes and inspection and testing method of the articles (e) Việc áp dụng quy phạm của VR Whether it is necessary or not to conform to the Rules of VR (g) Phương pháp loại bỏ sản phẩm không phù hợp Disposal method for non-conforming articles (h) Yêu cầu về nhận biết sản phẩm Requirements for identification of articles (i) Yêu cầu về cất giữ, đóng gói và vận chuyển sản phẩm Requirements for storage, packaging and shipment of the articles (k) Yêu cầu về duy trì và xuất trình hồ sơ chất lượng Requirements for maintenance and presentation of the quality records				
8.3	Việc kiểm soát thích hợp được thực hiện liên quan đến việc vận chuyển, cất giữ, bảo quản, … sản phẩm mua vào và do nhà thầu phụ cung cấp sau khi tiếp nhận? Is proper control exercised concerning handling, storage, maintenance and others of purchased and subcontracted products after receipt?				
8.4	Các sản phẩm mua vào và do nhà thầu phụ cung cấp được hợp nhất vào sản phẩm của cơ sở sản xuất được thẩm tra, cất giữ và bảo quản thích hợp? Are purchased and subcontracted products to be incorporated into the products properly verified, stored and maintained?				
9	**Việc nhận biết sản phẩm** **Identification of Products**				
9.1	Sản phẩm và các bộ phận, vật liệu quan trọng của sản phẩm được nhận biết sao cho có thể xác định được nguồn gốc theo các tài liệu liên quan như bản vẽ, thông số kỹ thuật, ... của sản phẩm trong suốt toàn bộ quá trình? Are the product and their important parts and materials identified so that they can be traceable to the related documents such as drawings, specifications, etc. of the product during the whole process?				
10	**Kiểm soát quá trình sản xuất** **Production Process Control**				

Danh mục đánh giá - Checklist		Kết quả* - Results*			Nhận xét
TT No.	**Yêu cầu** Requirement	Có Yes	Không No	Không áp dụng N/A	Remarks
10.1	Trong quá trình sản xuất ảnh hưởng đến chất lượng của sản phẩm, công việc được thực hiện phù hợp với kế hoạch chất lượng, hướng dẫn công việc và các tài liệu khác thích hợp? In processes affecting quality of the products, is the work carried out in accordance with the appropriate quality plans, work instructions, and others?				
10.2	Kế hoạch chất lượng, hướng dẫn công việc và các tài liệu liên quan khác có khả năng đảm bảo chất lượng yêu cầu đối với sản phẩm? Are quality plans, work instructions and others shall be capable of assuring the quality required of the products?				
10.3	Quá trình tại 10.1 trong điều kiện được kiểm soát thích hợp? Are the processes in 10.1 above under controlled conditions as appropriate?				
10.4	Nếu thực hiện hàn hoặc xử lý nhiệt đối với sản phẩm, các điều kiện sau được đáp ứng thoả mãn, nếu thích hợp? In case of welding or heat treatment is carried out to the products, are the followings satisfied as applicable? (a) Quy trình hàn hoặc xử lý nhiệt được VR duyệt. The procedures for welding or heat treatment are approved by VR. (b) Thợ hàn được cấp chứng chỉ theo quy định của Quy phạm phù hợp với loại vật liệu, quy trình hàn, ... The welders are quailified in accordance with the Rules depending on the materials, welding procedures, etc.				
10.5	Nếu Quy phạm yêu cầu, phương pháp sản xuất sản phẩm phải được VR duyệt? If required by the Rules, have manufacturing methods of the products been approved by VR?				
10.6	Việc bảo dưỡng và kiểm tra các phương tiện sản xuất được thực hiện một cách thích hợp? Is maintenance and inspection for manufacturing facilities carried out appropriately?				
11	**Kiểm soát việc kiểm tra và thử** **Inspection and Testing Control**				
11.1	Kiểm tra và thử khi tiếp nhận sản phẩm mua vào và do nhà thầu phụ cung cấp: Receiving inspection and testing: Trước khi được sử dụng hoặc chế biến, sản phẩm mua vào và do nhà thầu phụ cung cấp được kiểm tra, thử hoặc thẩm tra để xác nhận phù hợp với các yêu cầu được nêu ra trong đơn đặt hàng? Before being used or processed, are purchased and subcontracted products inspected or otherwise verified to conform to the requirements specified at the time of orders?				

Danh mục đánh giá - Checklist		Kết quả* - Results*			Nhận xét
TT No.	**Yêu cầu** Requirement	Có Yes	Không No	Không áp dụng N/A	Remarks
11.2	Kiểm tra và thử trong quá trình sản xuất: In-process inspection and testing: (a) Việc kiểm tra, thử và nhận biết sản phẩm được thực hiện một cách thích hợp trong quá trình sản xuất? Are inspection, tests and identification of the products carried out appropriately during the processes? (b) Việc kiểm tra và thử trong quá trình sản xuất bao gồm các hạng mục không thể thẩm tra được bằng việc thử và kiểm tra được thực hiện sau đó? Are inspection and tests during the process especially included all items that cannot be verified by the subsequent inspection and testing? (c) Về nguyên tắc, sản phẩm được giữ nguyên hiện trạng cho đến khi hoàn thành việc kiểm tra và thử theo quy định, và chất lượng của sản phẩm đã được thẩm tra? Is the product held in principle until the specified inspection and tests have been completed and the quality of the product verified?				
11.3	Kiểm tra và thử hoàn chỉnh: Final inspection and testing: (a) Kiểm tra và thử hoàn chỉnh được thực hiện để xác nhận là sản phẩm hoàn chỉnh tuân thủ các yêu cầu đã được đặt ra? Are the final inspection and tests carried out to verify that the completed product is in conformity with the specified requirements? (b) Trong quá trình kiểm tra và thử hoàn chỉnh, xác nhận tất cả các đợt kiểm tra và thử khi tiếp nhận sản phẩm mua vào và do nhà thầu phụ cung cấp, và kiểm tra và thử trong quá trình sản xuất theo quy định đã được thực hiện đầy đủ với kết quả thoả mãn? During final inspection and testing, is it confirmed that the results of specified inspection, tests, etc. in receiving and in-process inspection and testing have all been acceptable?				
11.4	Kiểm tra và thử theo quy định của Quy phạm của VR: Inspection and testing required by the Rules of VR: (a) Trong quá trình kiểm tra và thử trong quá trình sản xuất, cũng như kiểm tra và thử hoàn chỉnh, tất cả các công việc kiểm tra và thử theo quy định của Quy phạm được thực hiện? Phương pháp thực hiện việc kiểm tra và thử theo quy định của Quy phạm cũng như tiêu chuẩn đánh giá được VR duyệt? In in-process and final inspection and testing of the products, are all inspection and tests required by the Rules included, and the inspection and testing methods as well as the evaluation criteria subject to approval of VR? (b) Kết quả của việc kiểm tra và thử được đăng kiểm viên của VR xác nhận? Are the results of such inspection and tests confirmed by the Surveyor?				

Danh mục đánh giá - Checklist		Kết quả* - Results*			Nhận xét
TT No.	**Yêu cầu** Requirement	Có Yes	Không No	Không áp dụng N/A	Remarks
	(c) Đăng kiểm viên có mặt tại các đợt kiểm tra và thử theo quy định của VR? Is the Surveyor present at the inspection and tests considered necessary by VR? (d) Các công việc chuẩn bị cần thiết cho các đợt kiểm tra hoặc thử được thực hiện, khi đăng kiểm viên của VR có mặt tại đợt kiểm tra hoặc thử đó? Are necessary preparations made for the inspection or tests, in case the Surveyor is present? (e) Nhân viên chuyên môn có hiểu biết đầy đủ về việc kiểm tra hoặc thử, và có thể giám sát các công việc chuẩn bị liên quan, tham gia vào việc kiểm tra hoặc thử liên quan? Are personnel who has full knowledge of the inspection or tests and can supervise these preparations present at the inspection or tests? (g) Nếu Quy phạm của VR yêu cầu việc kiểm tra không phá huỷ, nhân viên thực hiện công việc này có đủ năng lực thực hiện công việc được VR chấp nhận? In case non-destructive inspection is required by the Rules of VR, does the operator have a qualification considered appropriate by VR?				
12	**Kiểm soát thiết bị đo, kiểm tra và thử** **Control of Inspection, Testing and Measuring Equipment**				
12.1	Các thiết bị đo, kiểm tra và thử có thể ảnh hưởng đến chất lượng của sản phẩm được lựa chọn và kiểm soát một cách thích hợp? Is inspection, testing and measuring equipment which can affect quality of the products properly selected and controlled?				
12.2	Các thiết bị đo, kiểm tra và thử được kiểm chuẩn theo các tiêu chuẩn được công nhận? Is inspection, testing and measuring equipment calibrated to the appropriate standards?				
13	**Kiểm soát sản phẩm không phù hợp** **Control of Non-conforming Products**				
13.1	Để ngăn ngừa việc sử dụng sản phẩm không phù hợp với yêu cầu đã được đặt ra, sản phẩm không phù hợp được phát hiện trong quá trình kiểm tra và thử (bao gồm kiểm tra và thử khi tiếp nhận sản phẩm mua vào và do nhà thầu phụ cung cấp, kiểm tra và thử trong quá trình sản xuất, kiểm tra và thử hoàn chỉnh) được nhận biết, ghi nhận, đánh giá, cách ly và loại bỏ một cách thích hợp? To prevent use of products which do not conform to the specified requirements, are the non-conforming products in receiving, in-process and final inspection and testing properly identified, recorded, evaluated, segregated and disposed of?				
13.2	Các thông tin thích hợp về sản phẩm không phù hợp được thông báo ngay cho các bộ phận liên quan? Is relevant information of non-conforming products notified promptly to the relevant sections?				

Danh mục đánh giá - Checklist		Kết quả* - Results*			Nhận xét
TT No.	**Yêu cầu** Requirement	Có Yes	Không No	Không áp dụng N/A	Remarks
13.3	Khi thực hiện các biện pháp sau đây đối với sản phẩm không phù hợp, phương pháp thực hiện cũng như quyền và trách nhiệm của các bộ phận liên quan đối với các biện pháp này được xác định rõ ràng với sự phê duyệt của VR, nếu cần thiết? In case the following measures are taken with non-conforming products, are the methods as well as the authority and the responsibility for such measures clearly defined subject to approval by VR, if necessary? (a) Sản phẩm không phù hợp được chế tạo lại hoặc sửa chữa để đáp ứng yêu cầu đã được đặt ra. In case they are reworked or repaired to meet the specified requirements. (b) Sản phẩm không phù hợp được chấp nhận theo sự nhân nhượng mà không cần phải sửa chữa. In case they are accepted without repair by concession. (c) Sản phẩm không phù hợp được hạ cấp để dùng cho việc khác. In case they are re-graded for alternative applications. (d) Sản phẩm không phù hợp được loại bỏ hoặc cắt phá. In case they are rejected or scrapped.				
13.4	Việc điều tra và nghiên cứu kỹ lưỡng nguyên nhân của sản phẩm không phù hợp, và hành động khắc phục thích hợp được thực hiện để ngăn ngừa sự tái diễn? Are investigation and study of the cause of non-conforming products thoroughly made, and the corrective actions taken to prevent recurrence?				
14	**Hồ sơ chất lượng** **Quality Records**				
14.1	Hồ sơ chất lượng về kết quả của việc kiểm tra và thử khi tiếp nhận sản phẩm mua vào và do nhà thầu phụ cung cấp, kiểm tra và thử trong quá trình sản xuất, kiểm tra và thử hoàn chỉnh, việc xử lý các sản phẩm không phù hợp, … được nhận biết đối với sản phẩm liên quan? Are the quality records for the results in receiving, in-process and final inspection and testing, the disposition of non-conforming products, etc. identifiable to the products involved?				
14.2	Hồ sơ chất lượng được cất giữ, bảo quản sao cho có thể được phục hồi một cách dễ dàng? Are the quality records kept in order, maintained and stored in such a way that they can be readily retrieval?				
14.3	Hồ sơ chất lượng nói trên cũng phải bao gồm hồ sơ chất lượng đối với sản phẩm mua vào và do nhà thầu phụ cung cấp? Are the quality records for purchased and subcontracted products included in the above-mentioned records?				
15	**Kiểm soát việc vận chuyển, cất giữ, đóng gói và bàn giao sản phẩm** **Control of Handling, Storage, Packing and Delivery of Products**				
15.1	Để ngăn ngừa sự hư hỏng, xuống cấp hoặc sử dụng sai sản phẩm, công tác kiểm soát việc vận chuyển, cất giữ, đóng gói và bàn giao sản phẩm được thực hiện một cách thích hợp? To prevent damage, staining, deterioration or misapplication of the products, are handling, storage, packaging and shipment of the products properly controlled?				

Danh mục đánh giá - Checklist		Kết quả* - Results*			Nhận xét
TT No.	**Yêu cầu** Requirement	Có Yes	Không No	Không áp dụng N/A	Remarks
16	**Đào tạo** **Training**				
16.1	Tất cả những người tham gia vào các hoạt động có thể ảnh hưởng đến chất lượng sản phẩm được đào tạo một cách thích hợp? Are personnel who are engaged in the activities which can affect quality of the products properly trained?				
16.2	Những người tham gia vào các công việc như hàn, kiểm tra không phá huỷ, …, có sự xem xét đặc biệt để duy trì và cải tiến năng lực của họ thông qua việc công nhận các chứng chỉ chuyên môn, các khóa đào tạo bổ sung, …? For persons who are engaged in specifically assigned tasks such as welding, non-destructive inspection, etc., is special consideration given to maintaining and improving their abilities through recognition of qualifications, refresher training courses etc.?				
17	**Cung cấp dịch vụ** **Servicing**				
17.1	Có sẵn các hướng dẫn cần thiết, nếu việc lắp ráp, lắp đặt, thử, … được thực hiện sau khi đã đưa sản phẩm ra khỏi nhà xưởng? In case assembly, installation, trial, etc. of the products are required after taking the products out of the workshops, is the necessary guidance available?				
17.2	Nếu cần thiết, các hướng dẫn chi tiết liên quan đến số liệu kỹ thuật, việc vận chuyển, bảo quản, sửa chữa, … sản phẩm được cung cấp cho người sử dụng sản phẩm? If necessary, are informative instructions concerning technical data, handling, maintenance, repairs, etc. of the products presented to users?				
17.3	Khiếu nại của khách hàng liên quan đến các vấn đề phát sinh khi sử dụng sản phẩm được tập hợp, phân tích và xử lý thích hợp? Are customer complaints concerning problems in using the products collected and analyzed and appropriate counter-measures taken?.				
18	**Kỹ thuật thống kê** **Statistical Technique**				
18.1	Kỹ thuật thống kê thích hợp, nếu cần thiết, được áp dụng để duy trì chất lượng của sản phẩm? When necessary, is the appropriate statistical technique adopted to maintain quality of the products?				
19	**Cải tiến chất lượng** **Improvement of Quality**				
19.1	Lãnh đạo của cơ sở sản xuất thực hiện các biện pháp cần thiết để không ngừng cải tiến chất lượng của sản phẩm? Is the manufacturer's management take the necessary steps to realize stable and improved quality of the products?				

Danh mục các yêu cầu cần cải tiến - List of requirements for improvement	
TT No.	**Các hạng mục yêu cầu cải tiến** **Items requiring improvement**

Đánh giá chung – Overall appraisal

Ngày đánh giá
Date of Assessment ----------

Đăng kiểm viên
Surveyor(s)

(Chữ ký - Signature)

MẪU BÁO CÁO ĐÁNH GIÁ NĂNG LỰC CƠ SỞ CUNG CẤP DỊCH VỤ

CỤC ĐĂNG KIỂM VIỆT NAM

SS.R

BÁO CÁO ĐÁNH GIÁ NĂNG LỰC CƠ SỞ CUNG CẤP DỊCH VỤ
REPORT ON ASSESSMENT OF THE SERVICE PROVIDER

Số: _____

Loại hình đánh giá:. Kind of Assessment	☐ Lần đầu Intitial	☐ Chu kỳ Periodical	☐ Cấp mới Renewal	☐ Bất thường Occassional
Tên cơ sở: Name of firm				
Địa chỉ: Adress				
Dịch vụ cung cấp: Services supply				
Số GCN đã cấp (nếu có): Certificate No. of Approval (if any):		Ngày cấp: Date of Issue:		
Ngày bắt đầu đánh giá: Date of Assessment Commencement:		Ngày kết thúc đánh giá: Date of Assessment Completion:		
Kết quả đánh giá: ☐ Thoả mãn các yêu cầu của Hướng dẫn đánh giá và công nhận năng lực cơ sở cung cấp dịch vụ Satisfaction without Recommendation ☐ Thoả mãn với khuyến nghị được đưa ra; Satisfaction with Recommendations ☐ Không thoả mãn. Un-satisfaction				
Ghi chú: Notes:				

Đăng kiểm viên hiện trường đề nghị:

☐ Cấp GCN công nhận năng lực chính thức có hiệu lực đến: _____
Issuance of a Fullterm Certificate of Approval valid until

☐ Cấp GCN công nhận năng lực tạm thời có hiệu lực đến: _____
Issuance of an Interim Certificate of Approval valid until:

☐Xác nhận GCN công nhận năng lực đã cấp _____
Endorsement of the Existing Certificate of Approval:

☐ Thu hồi GCN công nhận năng lực đã cấp (lý do): _____)
Withdrawal of the Existing Certificate of Approval (Reason):

Đăng kiểm viên Surveyor	**Đăng kiểm viên** Surveyor	**Đăng kiểm viên** Surveyor

Cấp tại _____ Ngày _____
Issued at: On

CỤC ĐĂNG KIỂM VIỆT NAM
VIETNAM REGISTER

Mô tả khuyến nghị (có thể đính kèm biên bản riêng) Description of Recommendation(s)	
Hành động khắc phục (có thể đính kèm biên bản riêng) Corrective Actions	
☐ Hành động khắc phục phải được thực hiện trong thời gian 3 tháng Corrective actions shall be carried out within 3 months	☐ Hành động khắc phục phải thực hiện ngay Corrective actions shall be carried out immediately

Họ tên người đề xuất hành động khắc phục Name of person proposing corrective actions		Họ tên Đăng kiểm viên chấp nhận hành động khắc phục Name of surveyor accepting corrective actions	
Chữ ký Signature		Chữ ký Signature	
Ngày tháng Date		Ngày tháng Date	

DANH SÁCH NHỮNG NGƯỜI THAM GIA ĐỢT ĐÁNH GIÁ
LIST OF ATTENDERS

Họ tên Name	Chức vụ Position	Chữ ký	
		Lúc khai mạc Opening Meeting	Lúc kết thúc Closing Meeting
CƠ SỞ ĐƯỢC ĐÁNH GIÁ AUDITED FIRM			
VR			

MẪU DANH MỤC ĐÁNH GIÁ NĂNG LỰC CƠ SỞ CUNG CẤP DỊCH VỤ

CỤC ĐĂNG KIỂM VIỆT NAM

SS.CL

DANH MỤC ĐÁNH GIÁ NĂNG LỰC CƠ SỞ CUNG CẤP DỊCH VỤ

CHECKLIST OF ASSESSMENT SERVICE STATION

Số:_____
No.

1. Tên và địa chỉ Cơ sở Name and Address of Service station	**2. Dịch vụ cung cấp** Servicing

3. Mô tả quy định riêng của quốc gia tàu mang cờ đối với cơ sở cung cấp dịch vụ cho tàu mang cờ của họ Describe the rule of flag State for the service provider of the flag state's vessel	☐ **Có** Yes ☐ **Không** No

4. Cơ sở đã được công nhận bởi cơ quan có thẩm quyền hoặc tổ chức được công nhận khác Firm have been recognized by another recognized agency or other agency	☐ **Có** Yes ☐ **Không** No
Mô tả/ Description**:**	

5. Cơ sở đã được nhà sản xuất uỷ quyền thực hiện việc bảo dưỡng, thử và kiểm tra The Firm has been authorized by maker	☐ **Có** Yes ☐ **Không** No
Mô tả/ Description**:**	

6. NHÂN SỰ/ PERSONNEL

HỌ VÀ TÊN Name	**Người có giấy chứng nhận chuyên môn** Persons with professional certificates		
	Năm đào tạo Year of training	Số GCN Certificate No.	Hạn hiệu lực Valid until
	Nhân viên khác - Nhiệm vụ / Other staff - Tasks		

7. **HỆ THỐNG CHẤT LƯỢNG / QUALITY SYSTEM**						
TT No.	**Hạng mục** Item	**Yêu cầu** Request	**Có** yes	**Không** No	**Không áp dụng** Don't request	**Nhận xét** Note
a	Đào tạo Education	Tất cả những người tham gia vào các hoạt động có thể ảnh hưởng đến chất lượng của các dịch vụ liên quan được đào tạo đầy đủ. All those involved in the activities can affect the quality of the services concerned are adequately trained.				
		Quy trình đào tạo được lập thành hồ sơ được thiết lập và duy trì The training process is documented and maintained				
		Hồ sơ đào tạo của các nhân viên kỹ thuật và cán bộ giám sát bao gồm các thông tin về trình độ chuyên môn, chương trình đào tạo đã tham gia và kinh nghiệm đối với dịch vụ liên quan được thiết lập và duy trì. Training records of technical staff and supervisors include information on the level of expertise, training programs involved and experience with related services established and maintained.				
b	Thiết bị đo và thử Measuring and testing equipment	Cơ sở có các thiết bị đo và thử để đảm bảo chất lượng của các dịch vụ liên quan. The facility is equipped with measuring and testing equipment to ensure the quality of the related services.				
		Liệt kê các thiết bị: List of equipment				
		Hồ sơ kiểm soát, hiệu chuẩn và duy trì các thiết bị đo và thử Record control, calibration and maintenance of measuring and test equipment				
c	Quy trình làm việc Working process	Quy trình làm việc để cung cấp các dịch vụ liên quan được thiết lập và duy trì				
		Liệt kê các quy trình làm việc: Workflow to provide related services is established and maintained				

d	Kiểm soát nhà thầu phụ Control subcontractors	Trong trường hợp một phần dịch vụ được cung cấp bởi nhà thầu phụ, Lãnh đạo của cơ sở cung cấp dịch vụ phải kiểm tra và đánh giá hệ thống quản lý chất lượng và sự thực hiện công việc của nhà thầu phụ để xác nhận là nhà thầu phụ có đủ năng lực cung cấp một phần dịch vụ như vậy với chất lượng phù hợp. In the event that part of the service is provided by a subcontractor, the service provider's leader must inspect and evaluate the quality management system and work performance of the subcontractor to confirm Subcontractors have the capacity to provide such services with appropriate quality.				
		Hợp đồng của cơ sở cung cấp dịch vụ và nhà thầu phụ bao gồm các quy định cụ thể đối với phần dịch vụ do nhà thầu phụ cung cấp. Contracts of service providers and subcontractors include specific provisions for services provided by subcontractors.				
		Lãnh đạo của cơ sở cung cấp dịch vụ phải thiết lập và duy trì quy trình được lập thành hồ sơ để thực hiện việc kiểm soát nhà thầu phụ và hợp đồng nêu. Managers of service providers must establish and maintain a documented process for the control of subcontractors and contracts.				

7. **HỆ THỐNG CHẤT LƯỢNG (tiếp)/** QUALITY SYSTEM (Cont.)

TT No.	**Hạng mục** Item	**Yêu cầu** Request	**Có** yes	**Không** No	**Không áp dụng** Don't request	**Nhận xét** Note
e	Kiểm tra xác nhận Verification confirmation	Lãnh đạo của cơ sở cung cấp dịch vụ thực hiện thẩm tra xác nhận chất lượng của dịch vụ được cung cấp. The leader of the service provider provides verification of the quality of the service provided.				
		Lãnh đạo của cơ sở cung cấp dịch vụ thực hiện việc đánh giá chất lượng nội bộ theo chu kỳ: Service providers conduct periodical internal quality reviews:				
		Kết quả đánh giá phải được báo cáo lên Lãnh đạo của cơ sở cung cấp dịch vụ và các bộ phận được đánh giá. The results of the assessment must be reported to the service provider's leadership and the parts to be evaluated.				

		Căn cứ vào kết quả đánh giá, Lãnh đạo của cơ sở cung cấp dịch vụ xem xét lại hệ thống chất lượng, nếu cần thiết. Based on the results of the assessment, the leader of the service provider shall review the quality system, if necessary.				
		Thiết lập và duy trì quy trình được lập thành hồ sơ đối với việc thực hiện kiểm tra xác nhận và đánh giá chất lượng nội bộ. Establish and maintain a documented process for the performance of internal quality assurance and verification.				
h	Báo cáo cho VR Report to VR	Lãnh đạo của cơ sở cung cấp dịch vụ thiết lập và duy trì quy trình lập thành hồ sơ về việc báo cáo kết quả các dịch vụ được cung cấp cho VR (biểu mẫu báo cáo kết quả bảo dưỡng, kiểm tra, thử và các giấy chứng nhận liên quan). Managers of service providers establish and maintain a documented process for reporting the results of services provided to VR (maintenance report form, inspection, test and related certificates)				
		Liệt kê các biểu mẫu: List of forms				
		Báo cáo (Report):				
		Danh mục (Checklist):				
		Giấy chứng nhận (certificate):				

8. NHÀ XƯỞNG VÀ PHỤ TÙNG THAY THẾ / MANUFACTURERS AND ACCESSORIES						
TT No.	**Hạng mục Item**	**Yêu cầu** Request	**Có Yes**	**Không No**	**Không áp dụng** Don't apply	**Nhận xét Note**
a	Nhà xưởng Factory	Cơ sở phải có nhà xưởng làm việc, đủ điều kiện cất giữ, bảo quản, sửa chữa, bảo dưỡng và thử thiết bị liên quan. Nhà xưởng phải đảm bảo điều kiện vệ sinh công nghiệp, có đủ diện tích phục vụ cho công việc, được chiếu sáng, thông gió đầy đủ, thoả mãn các quy định về an toàn lao động và phòng chống cháy nổ. The facility must have a working workshop, which is capable of storing, maintaining, repairing, maintaining and testing related equipment. The workshops must ensure industrial hygiene conditions, have enough space for work, are illuminated and fully ventilated, satisfying the regulations on labor safety and fire and explosion prevention.				
b	Phụ tùng thay thế Spare parts	Cơ sở có đủ các phụ tùng thay thế cần thiết cho dịch vụ cung cấp Service Station has all the spare parts needed for the service provided				

9. THIẾT BỊ PHỤC VỤ CHO VIỆC BẢO DƯỠNG, KIỂM TRA VÀ THỬ EQUIPMENT FOR MAINTENANCE, INSPECTION AND TEST						
TT No.	**Hạng mục** Item	**Yêu cầu** Request	**Có** yes	**Không** No	**Không áp dụng** Don't request	**Nhận xét** Note
a	Thiết bị phục vụ cho việc cung cấp dịch vụ Equipment for servicing	Cơ sở có đủ các thiết bị phục vụ cho việc bảo dưỡng, kiểm tra và thử theo quy định liên quan đến dịch vụ cung cấp. Các thiết bị được bảo dưỡng và kiểm chuẩn đầy đủ: The facility has adequate equipment for maintenance, inspection and testing in accordance with the provisions relating to the service provided. Fully cared and maintained equipment:				
		Liệt kê thiết bị: List of equipment				

10. CHỨNG MINH NĂNG LỰC CERTIFICATE OF CAPACITY	☐**Có/ YES** ☐ **Không/NO**
Ngày thực hiện Date of implementation	
Tên và số phân biệt của tàu sử dụng để chứng minh năng lực he name and number of the vessel used to demonstrate competence	
Dịch vụ được chứng minh năng lực Demonstrated services provider	
Kết quả Result	

Lưu ý/ Note:

Ngày đánh giá ..... **Đăng kiểm viên**

Date of audit **Surveyors**

.....

.....

..... *(Chữ ký)/ Signature*

CỤC ĐĂNG KIỂM VIỆT NAM
VIETNAM REGISTER

INVESTIGATION OF QUALITY CONTROL CONDITIONS OF SHIPYARD

No.----------

1 GENERAL INFORMATION

(1) Name of shipyard:

(2) Address:

(3) Telephone/Fax number:

(4) ISO Certificates (Version, certifyed by, date of isued)**:**

(5) Has investigated and audited by VR or not? (☐ Not ☐ Yes, in the year of)

(6) Investigation and audit date:

(7) Investigation and audit persions:

2 MAIN PRODUCTS (SHIPS) DELIVERED

No.	Name of ship	Year of build	L x B x D (m)	Remark

3. CONSTRUCTION EQUIPMENT

3.1 Building Berth (B) or Dock (D)

B / D	Name	Length (m)	Width (m)	Depth* (m)	Building Capacity (GT)	Crane (Ton x No.)

(* In case of berth, Depth is not applicable.)

3.2 OUTFITTING QUAYS

Name	Length (m)	Width (m)	Depth* (m)	Building Capacity (GT)	Crane (Ton x No.)

3.3 MAIN FABRICATION FACILITIES

(1)	Marking and cutting of steel plates (including internal members) -Marking method (Manual, Photo x _____, EPM x _____, NC x _____) -NC cutting machine (Gas x _____, Plasma x _____, Laser x _____) Control procedure of NC (On-line, Floppy disk) -Cutting equipment (Edge planer x _____, Roll-shear x _____)
(2)	Marking and cutting of section bar -Marking method (Manual, NC) -Marking of reference curved line (Manual, NC) -Cutting method (Manual, NC) -In case of NC (Gas x _____, Plasma x _____)
(3)	One-side automatic welding machine (Yes, No) -Type of welding machine (Flax Backing x _____, Flux and Copper Backing x _____) -Existence of special surface plate for plate welding (Yes, No)
(4)	Fillet welding machine (Gravity, Automatic) Percentage of automatization except gravity: about _____ % -Line welder (No, Yes: Union melt x _____ heads, CO2 x _____ heads) -Small automatic fillet welding machine (No, Yes: Name: _____ × _____) -Welding robot (No, Yes: Portal × _____, Rectangular × _____, Articulated × _____)
(5)	Painting equipment -Plate shot blasting/primer coating machine (No, Yes: Max. Width _____ m, Length _____ m)

-Section bar shot blasting/primer coating machine (No, Yes: Max. Length _____ m) -Special coating factory (No, Yes: _____ m x _____ m x _____ sections)
(6) Vertical automatic welding machine (No, Yes: EG x _____ , SEG x _____ , ES x _____) EG: Electrogas SEG: Simplified Electrogas ES: Electroslag
(7) Other main fabrication facilities _____ _____ _____ _____ _____

4. NUMBER OF QUALIFUED WELDERS

4.1 Normal steel

		Assembly work	Erection work	Other works	Total
Shipyard workers (persons)	Manual welding				
	Semi-automatic welding				
Subcontracted workers (persons)	Manual welding				
	Semi-automatic welding				
Total					

4.2 SPECIAL MATERIALS (stainless steel, aluminum)

		Assembly work	Erection work	Other works	Total
Shipyard workers (persons)	Manual welding				
	Semi-automatic welding				
Subcontracted workers (persons)	Manual welding				
	Semi-automatic welding				
Total					

5. FEATURE OF CONSTRUCTION PROCEDURE

(1) Subcontract of hull blocks -Sub members (No, Yes: Ratio of subcontracted works _____ %, No. of subcontractors_____) -Blocks (No, Yes: Ratio of subcontracted works _____ %, No. of subcontractors_____) -Built-up longitudinals (No, Yes: Ratio of subcontracted works _____ %, No. of subcontractors_____)
(2) Method of plate block assembly -Method fitting and welding longitudinals and transverse webs on jointed panels -Method welding longitudinals on jointed panels prior to fitting and welding transverse webs -Method fitting and welding a frame consists of longitudinals and transverse webs on jointed panels -Method jointing panels with pre-assembled longitudinals by welding prior to fitting and welding transverse webs
(3) Method of erection at building berth/dock -Max. weight of loading block: _____ ton -Shifting of hull aft part at building berth/dock (No, Yes: lengthwise, breadthwise Max. shifting hull weigh _____ ton) -Construction method in building dock (1 ship, 1.5 ships: Semi-tandem, dual entrance) -Block loading process (single starting block, multi starting blocks, inserting block : No, Yes)
(4) Final dock (No, Yes: In-house, Other place of the same company, Use other company)
(5) Other feature of construction procedure

6. QUALITY CONTROL SYSTEM **(Refer to Quality Manual, if available.)**

Investigation item and description	Investigation results	Remarks
(1) Existence of the organization chart including the departments of design, purchasing, manufacturing and quality assurance -Are the function, responsibility and competence of the organization clear?		
(2) Quality control organization -Existence of quality control organization -Number of employees in this organization -Existence of procedures or plans related to tests and inspections	_____ persons including the chief	
(3) Self-inspection system of shipyard -Is self-inspection carried out prior to shipyard inspection? -Are self-inspectors assigned? (check the list) -Number of self-inspectors (related to hull only) -Are inspection results marked on the object	_____ persons	

and/or recorded in the checklist?		
(4) Records of inspections and tests -Are records made and kept properly? -Does the responsible person verify the records? -Can the adoption of necessary corrective actions against non-conformity happened be checked?		
(5) Condition at the time of the surveys in the presence of VR's surveyors -Is the schedule of the surveys changed often? -Are self-inspection, shipyard inspection and repairs completed beforehand? -Are the sufficient preparations for surveys such as scaffoldings, lighting, cleaning made?		

7. MEASURE FOR SAFETY AND HEALTH

Investigation item and description	Investigation results	Remarks
(1) Are conditions of scaffolding, nets, safety belt, lighting and ventilation good?		
(2) Does sufficient attention paid for radiographic examination and operation of cherry picker?		

8. CONTROL SYSTEM OF NON-DESTRECTIVE TEST (NDT)

Investigation item and description	Investigation results	Remarks
(1) Number of NDT supervisors in shipyard (including persons responsible for judging results)	_____ persons	
(2) Dependence on subcontracted NDT work -Dependence on photography -Dependence on judgement	 about _____ % about _____ %	
(3) NDT sub-contractor company's name and official technical qualifications (e.g. qualifications recognized by Welding Association, etc.)	Name _____ (approved by) _____ Name _____ (approved by) _____	
(4) Grade and number of NDT employees with official technical qualifications in shipyard (qualifications of Non-destructive Inspection Association)		

Specialized in radiography Specialized in ultrasonic Specialized in Specialized in	_____ Grade _____ persons _____ Grade _____ persons _____ Grade _____ persons _____ Grade _____ persons	
(5) If non-destructive inspections are subcontracted, the grade and number of officially qualified persons (qualifications of Non-destructive Inspection Association) Specialized in radiography Specialized in ultrasonic Specialized in Specialized in	 _____ Grade _____ persons _____ Grade _____ persons _____ Grade _____ persons _____ Grade _____ persons	
(6) Non-destructive inspection equipment (in-house) -Number of radiographic equipment -Number of ultrasonic equipment -Number of	 _____ _____ _____	

9. QUALITY CONTROL ON PRODUCTION LINE

Investigation item and description	Investigation results	Remarks
9.1 Preventive measures for misuse of materials		
(1) Job title of supervisor and person in charge of collating ordered steel and received steel, and checking of mill sheet	Title of supervisor: _____ Title of person in charge: _____	
(2) Are means for checking the material grade in hand prescribed for high-grade steels (other than grade A)?		
(3) Are regulations prescribed for checking the material grade for high-tensile steel and steel for low-temperature applications? Are there regulations for inscribing high tensile steel on the surface of the high tensile steel and special indication for steel for low temperature applications?		
(4) Are regulations prescribed for re-using of remaining cut-off mild steel?		
(5) Are there regulations for re-using of remaining cut-off high-tensile steel?		
(6) In the case of (4) and (5) above, can a collation be made with the mill sheet?		

(7) Section of controlling the lists of remaining cut-off steel	Name of section: _____	
9.2 Shot blasting/Primer coating		
(1) Existence of surface preparation standards.		
(2) Existence of coating thickness control standards. -Existence of thickness measurement records.		

Investigation item and description	Investigation results	Remarks
9.3 Marking and cutting		
(1) Existence of standards for accuracy and periodical inspection of tape measures, tapes, stencils, etc.		
(2) Existence of standards for accuracy of cut dimensions and edge preparation.		
(3) Existence of standards for finish of cutting face.		
(4) What is the degree of maintenance and inspection carried out for ensuring accuracy of NC cutter and/or flame planer?		
(5) In case floppy disks are used for operation, are the floppy disks maintained in good condition?		
(6) What are the measures adopted and guidance given to make the worker fully conversant with cutting work standards for maintaining accuracy?		
9.4 Bending and strain free		
(1) Existence of standards for maximum heating temperatures during water cooling and at the time of bending and distortion removal of steel by quick heating and cooling.		
(2) Are the standards of (1) above accepted by VR?		
(3) Existence of regulations for plate thickness		

and bending radius for flange processing.		
(4) What are the measures adopted and guidance given to make the worker fully conversant with maintaining quality and accuracy during the bending process?		

Investigation item and description	Investigation results	Remarks
9.5 Control of Welding Procedure		
# (1) Are all welding procedures applied to the ships approved by VR?		
(2) Are the approved welding procedures maintained separately from the ones that are abolished?		
9.6 Treatment of serious non-conformities		
# (1) Are repair plans submitted to VR when serious non-conformities happened?		
(2) Were the NDT(RT/UT) plans submitted at appropriate timing?		
(3) Was the extent of tests extended considering the results of the test?		
9.7 Hydrostatic and Watertight Tests		
(1) Is the test plan submitted to VR?		
(2) Are vacuum tests applied to?		
(3) Are local air injection tests during sub-assembly works applied to?		
(4) If (2) or (3) above is applied to, are the test procedures approved by VR?		

CỤC ĐĂNG KIỂM VIỆT NAM
VIETNAM REGISTER

INVESTIGATION OF QUALITY CONTROL CONDITIONS OF SHIPYARD

(RECORD FORM ĐT-02)

No. ----------

Name of Shipyard	Name of VR Office	Investigation Team	Investigation Date

Investigation item and description	Investigation results/ Actions taken
1. During in-shop fabrication (1) Are the followings inscribed? -Name of members -Identification of high grade steel, high tensile steel, steel for low-temperature applications (2) Is leg length and throat thickness of fillet welding as per the drawings? (3) Are edge preparations of members appropriate?	Hull No.: _____ Name of inspected blocks: _____
2. During panel fabrication (1) Are high grade steel, high tensile steel, steel for low-temperature applications, etc. distinguishable by primer coating, color code or other means? # (2) Are type and thickness of the above-mentioned steels as per the drawings? (3) Are edge preparations as per the approved welding procedures? (4) Are welding process, welding material, welding condition as per the approved welding procedures? # (5) In case of one side automatic welding methods (e.g. flux and copper backing process, flax backing process), are the both ends examined by non-destructive test?	Hull No.: _____ Name of inspected blocks: _____
3. During block assembly (including grand assembly) # (1) Are type and thickness of steel plates and other members as per the drawings? # (2) Are alignment and gap within the standards? (3) Are edge preparations of joints as per the approved welding procedures? # (4) Are specially required edge preparations of fillet welding as per the approved welding procedures?	

#	(5) Are welding materials used as per the approved welding procedures?	Hull No.: _____ Name of inspected blocks: _____
#	(6) Are welding materials kept in a satisfactory dry condition?	
#	(7) Is back gauging carried out properly?	
	(8) Are run-off-tabs attached to the ends of important welding joints?	

Investigation item and description		Investigation results/ Actions taken
4.	During block loading on building berth	
	(1) Are the measures (e.g. marking of reference line) taken to prevent misalignments of important structural members such as connection of Longitudinal Bhd, Transverse Bhd and tank top?	
#	(2) Are alignment and gap within the standards?	
	(3) Are edge preparations for erection joints as per the approved welding procedures?	
#	(4) Are specially required edge preparations of fillet welding as per the approved welding procedures?	
	(5) If edge preparations are in improper condition, are the repairs of them carried out prior to commencement of welding?	
	(6) Is tack welding in groove in satisfactory condition and free from cracking?	
	(7) Are run-off-tabs attached in accordance with the standards?	
	(8) Are welding process, welding material and welding condition as per the approved welding procedures? (Especially automatic welding processes such as submerged arc welding, electroslag welding, electrogas welding)	
#	(9) Are welding materials used as per the approved welding procedures?	
#	(10) Are welding materials kept in a satisfactory dry condition?	
	(11) Is repair welding of starting and ending parts of vertical automatic welding carried out? (e.g. elecrogas welding, simplified electrogas welding, electroslag welding for shell plates)	
	(12) Are arc strike, short beads, preheating and line heating as per Table 6/2.2.6-1 of Part 6 of the Guidance.	
#	(13) Is back gauging carried out properly?	Hull No.: _____ Name of inspected blocks: _____
	(14) When it rains, are measures such as rain shelters, covering, drying grooves carried out?	
	(15) In a strong wind, are measures against the wind carried out?	

SURVEYOR TO VR

Note:

1. In case where deficiencies/non-conformities to be corrected or improved are found as a result of investigation, Form NBR (Report for Survey Result) is to be made up.
2. Deficiencies and non-conformities considered serious related to the items indicated by sign "#" are to be reported to the Sea-going Ship Classification and Registry Department with a copy of the investigation records upon completion of the investigation.
3. Where investigation item and description of which works are not conducted to the ship classed by VR during investigation period are to be deleted by being lined through with a single line.
4. Record From ĐT-02 can be used as a record form of patrol survey. In this case, the following points are to be kept in mind:
   a. Investigated dates and names of investigated blocks and compartments are to be added in the blank where necessary.
   b. Item and description which are not investigated are to be deleted by being lined through with a single line.
   c. As a same manner with 1. above, Form NBR (Report for Survey Result) is to be made up in case where deficiencies/non-conformities are found.

MẪU GIẤY CHỨNG NHẬN CÔNG NHẬN THỢ HÀN

CỤC ĐĂNG KIỂM VIỆT NAM
VIETNAM REGISTER

WQC 1/2

GIẤY CHỨNG NHẬN CÔNG NHẬN THỢ HÀN

CERTIFICATE OF WELDER'S QUALIFICATION APPROVAL

Số: ……
No:

CỤC ĐĂNG KIỂM VIỆT NAM CHỨNG NHẬNthợ hàn sau đây đã được kiểm tra và thử phù hợp với. .....

VIETNAM REGISTER CERTIFIES THAT*the follwing welder have been inspected and tested are found in compliance with the*.....

Tên thợ hàn: .....
Welder's name

Năm, nơi sinh .....
Date, Place of Birth

Mã số thợ hàn .....
Welder's ID

Nơi công tác .....
Employer

ẢNH MÀU

3X4

đã được kiểm tra và đạt trình độ Loại:..... /Bậc:...../Cấp: .....(theo QCVN)
has been qualified and permitted for carrying out:

Tiêu chuẩn công nhận/Approval Standards:

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

Các đặc tính/Particulars:

Thử/Tests caried out: