



RULES CHANGE NOTICE No.3
Part 1 Seagoing Ships

RULES FOR APPROVAL OF MANUFACTURERS AND SERVICE SUPPLIERS

Volume XI

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Foreword

This Rules Change Notices (RCN) No. 3 provide amendment and corrigenda to the [Rules for Approval of Manufacturers and Service Suppliers 2022 Consolidated Edition](#) along with effective date from which these changes are applicable. The amendments in this RCN refer to IACS UR W35 Rev.1.

Amendments to the preceding edition are marked by strikethrough, red color, and expanded text. These new additions and amendments are to be read in conjunction with the requirements given in RCN No.1 October 2022, RCN No.2 April 2023 and the 2022 consolidated edition of the Rules.

The summary of current amendments for each section including the implementation date are indicated in ***Table 1 - Amendments Incorporates in This Notice.***

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Any queries or comments concerning these Rules are welcomed through communication with BKI Head Office.

Rules Changes Notice No. 3 – May 2024

Table 1 – Amendments Incorporates in This Notice

These amendments will come into force as indicated in the Table

Paragraph	Title/Subject	Status/Remark
Section 3 – Requirements for Approval of Service Suppliers		
B	Firms Engaged in Thickness Measurements on Ships	<i>The amendments are effective from 1st July 2024</i>
1.	Extent of engagement	Thickness measurements were divided into 2 categories based on the type and size of the ship
3.1	Training	Changed and added references that need to be included in the training procedures
3.2.1	–	Deleted one example of the NDT standard and added information that paragraph 3.2.1 does not apply to category 2 companies
3.2.2	–	Deleted one example from the NDT standard
3.2.3	–	Added new requirements regarding personnel qualifications based on the employer-based qualification scheme
5.	Reporting	Changed the reporting requirements based on the ship categories in paragraph 1 where paragraph 5.1 is the reporting requirements for category I companies and 5.2 for category II companies
7.1	–	Changed the demonstration requirements to only be required for category I companies
S	Firms Engaged in Non-Destructive Testing (NDT)	<i>The amendments are effective from 1st January 2025</i>
1.	Extent of engagement	Changed the scope of application of subsection S., added various NDT methods included in the NDT services and also service applications where NDT services provided shall meet the requirements of this sub section
2.1	–	Changed the extent of approval
3.	Document to be submitted	Updated the edition year of the standard and added some new documents to be submitted by the service suppliers
4.	Quality management	Added the edition year behind the standard and added requirement for Type C inspection body
5.1	–	Added a few words to make it more clear
5.3	–	Added information that NDT procedures must be approved by level 3 both internally or externally

Paragraph	Title/Subject	Status/Remark
6.	Qualification and certification of NDT personnel	Changed the title to in line with IACS UR W35 para. 2.3
6.1	–	Added year behind the standard
6.2	–	Added provisions for certificate cancellation for operators certified via an employer based scheme
6.3	–	Added a few words to make it more clear and added year behind the standard
6.4	–	Added definition for industrial sector and product sector
6.5	–	Added certification method for level 3 personnel
7.1.1	–	Updated the requirements regarding supervisor responsibilities
7.1.2	–	Changed the qualification level requirements of supervisors who shall be employed by service suppliers
7.1.3	–	Replaced existing requirements by the new requirements regarding appointment of supervisor who is not NDT level 3
7.1.4	–	Replaced existing requirements by the new requirements regarding the requirement for service suppliers who do not have supervisors with level 3 certification to employ NDT level 3 on a part time or contract basis
8.1	–	Added subcontracted services that must be notified by the service supplier
9.1	–	Replaced existing requirements regarding maintenance and calibration of NDT equipment by the new requirements to be in line with IACS UR W35 para.2.6
10.4	–	Added new requirements regarding personnel who shall sign NDT reports

Section 3 Requirements for Approval of Service Suppliers

B. Firms engaged in thickness measurements on ships

1. Extent of engagement

Thickness measurement of structural material of ships ~~except:~~

- ~~1) non-ESP ships less than 500 gross tonnage and~~
- ~~2) all fishing vessels.~~

1) Category I:

- A) all types and sizes of ships (ESP and non ESP);
- B) all types and sizes of non ESP ships

2) Category II: fishing vessels of all sizes and non-ESP ships of less than 500 GT

2. Work procedure

A documented work procedure required in A.2.8 is at least to contain information on items listed in the following 1) through 5).

- 1) Inspection preparation
- 2) Selection and identification of test locations
- 3) Surface preparation and protective coating preservation
- 4) Calibration checks
- 5) Report preparation and content

3. Operators and supervisors

3.1 Training

Operators carrying out thickness measurements and supervisors are to have sufficient knowledge as to following 1) through 4) 5). A documented training procedure required in A.2.2 is at least to contain information on them.

- 1) Outline of hull structures and structural members.
- 2) Mid-ship sections of typical ship type.
- 3) Typical damages and positions where corrosions are liable to occur, of typical ship types.
- 4) Outline of BKI's ~~Guidance on thickness measurements~~ [Petunjuk Pelaksanaan Standar Pengukuran Ketebalan Konstruksi Lambung \(Pt.1 Vol.X\)](#).
- 5) **Procedure for carrying out thickness measurement as specified in Rules for Classification and Surveys (Pt.1 Vol.I), Sec. 3, D.**

3.2 Qualification **B**

3.2.1 The responsible supervisor shall be qualified according to a recognised national or international industrial NDT standard (e.g. ~~ASNT-SNT-TC-1A level II~~, EN 473 level II as amended or ISO 9712 level II as amended). **This qualification requirement does not apply to category II companies.**

3.2.2 The operators carrying out the measurements shall be certified to a recognised national or international industrial standard (e.g. ~~ASNT-SNT-TC-1A level I~~, EN 473 level I as amended or ISO 9712 level

I as amended) and shall have adequate knowledge of ship structures sufficient to elect a representative position for each measurement.

3.2.3 Personnel (supervisors and operators) qualification to an employer-based qualification scheme as SNT-TC-1A may be accepted if the employer's written practice is reviewed and found acceptable by BKI.

4. Thickness measuring equipment

4.1 In general, ultrasonic gauging equipment to be used for thickness measurements.

4.2 On coated surfaces, instruments using pulsed echo technique (either with oscilloscope or digital instruments using multiple echoes, single crystal technique) are required. Single echo instruments may be used on uncoated surfaces, which have been cleaned and ground.

5. Reporting

5.1 Category I companies

The **UTM** report shall be based on the guidelines given in UR Z7, UR Z7.1, UR Z7.2, Z10.1, Z10.2, Z10.3, Z10.4 and Z10.5, as relevant (see [Rules for Classification and Surveys \(Pt.1 Vol.I\), Annex B.13](#)). **The report shall be made in BKI's electronic reporting format. The report shall include a copy of the certificate of approval of the firm.**

Final reporting in original electronic form and in a non-editable electronic form (e.g. PDF-format) shall be presented to Surveyor within two (2) weeks after the job is terminated.

5.2 Category II companies

The operator shall report in a recognized system and may illustrate the result by sketches or on the drawings. In addition to the measured values, the original scantlings, the minimum thickness and the substantial corrosion limits, shall be included in the report.

Final reporting shall be presented to Surveyor within two (2) weeks after the job is terminated.

The report shall include a copy of the certificate of approval, containing the names of all approved operators.

6. Verification

The supplier must have the Surveyor's verification of each job, documented in the report by the attending Surveyor(s) signature.

7. Demonstration

7.1 Unless a documentary review can not be carried out as specified in [A.5.2.2.2](#), practical demonstration on actual ships shall be carried out at the presence of BKI's surveyor to verify that the supplier provides thickness measurements specified in the documents submitted. **For category I.A companies the ship used for the demonstration is preferably to shall be a large sized tanker, a bulk carrier or an ore carrier a ship with ESP notation and for category I.B companies use a non ESP ship. For category II companies the demonstration may be dispensed with.**

7.2 Structural members to be measured are directed by BKI'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.

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S. Firms engaged in Non-Destructive Testing (NDT)

1. Extent of engagement

This subsection applies to firms (i.e. independent NDT companies and internal departments of fabricators, e.g. shipyards, hull block/section fabricators) engaged in carrying out NDT and advance NDT (ANDT) on the new construction of ships and offshore units (components and structures). In this subsection, such firm will be referred to as the Service Supplier.

NDT is also known as non-destructive examination (NDE), non-destructive inspection (NDI) and non-destructive evaluation (NDE).

NDT is comprising, but not limited to the following methods and techniques:

- Magnetic Particle Testing (MT)
- Penetrant Testing (PT)
- Radiographic Testing (RT)
- Visual Testing (VT), Ultrasonic Testing (UT)
- Electromagnetic Testing (ET i.e., Eddy Current Testing and/or Alternating Current Field Measurements [ACFM])

ANDT includes advanced methods such as:

- Digital Radiography (RT-D, techniques within the method RT e.g., Computed Radiography or Direct Radiography)
- Phased Array Ultrasonic Testing (PAUT, technique within the method UT)
- Time of Flight Diffraction (TOFD, technique within the method UT)
- Automated Ultrasonic Testing (AUT, a technique by which an object is tested by ultrasound using probes operating under mechanical control and where ultrasonic data is collected automatically)

Wherever there is a reference to NDT mentioned in the following paragraphs, it also includes ANDT.

The NDT service covers the service application to the following hull structure and associated items at the fabrication stage during new construction:

- The welding of components that are integrated into the ship or offshore structure
- The fabrication of independent fuel or cargo tanks (including those intended for low flashpoint fuels, e.g. type A, B and C independent tanks as described in IMO IGC and IGF Codes).
- Items listed within the definition of hull structure, as defined in [Rules for Classification and Surveys \(Pt.1 Vol.I\) Annex A.2](#)
- Rudders of welded construction

2. Extent of approval

2.1 The Service Supplier shall demonstrate, as required in the following requirements, that it ~~has the competence and control needed to perform the specified NDT services~~ **is using appropriate procedures, has qualified and certified personnel and has implemented written procedures for training, experience, education, examination, certification, performance, application, control, verification and reporting of NDT.**

2.2 The extent of the approval shall include and be limited to the NDT methods, NDT techniques and personnel upon which approval will be granted.

3. Document to be submitted

The following documents are to be submitted in addition to those specified in [A.5.2.1](#) by the Service Supplier:

- 1) information on the structure of the Service Supplier's Quality Management System
- 2) for Service Supplier with in-house certification of ~~persons~~ **personnel** scheme; a written practice developed in accordance with a recognised standard or recommended practice (i.e. ASNT's SNT-TC-1A:~~2020, 2016~~, ANSI/ASNT CP-189:~~2020, 2016~~ or similar)
- 3) operational work procedures for each NDT method including selection of the NDT technique
- 4) procedure for supervisor's authorisation of NDT operators
- 5) any legal proceedings against the company in the past/currently in the courts of law, **where applicable**
- 6) **written statement issued by the employer, based upon the scope of certification, authorising the operator to carry out specified tasks**
- 7) **for Service Suppliers which obtain certification from an accredited certification body; a list of documented training and experience for NDT operators within the relevant NDT Service area, including qualifications and third party certification per ISO 9712:2021 based certification schemes**

4. Quality management

In addition to those specified in [A.3.1](#), The Service Supplier shall have a documented quality management system, covering at least:

- 1) work procedures for all tasks and operations, including the various NDT methods and NDT techniques for which the Service Supplier is involved
- 2) maintenance of records for NDT operators' and the supervisors' training, qualification and certification
- 3) certification of NDT operators including re-validation and recertification
- 4) procedure for test of operators' visual acuity
- 5) order reference system where each engagement is traceable to when, who and where the test was carried out
- 6) recording and reporting of information, including retention time of records
- 7) feedback and continuous improvement
- 8) internal audits
- 9) the provision of accessibility to required codes, standards and procedures to assist NDT operators.

A documented quality system complying with the most current version of ISO/IEC 17020:~~2012~~ and including the above would be considered acceptable. The Service Supplier should satisfy the requirements

of Type A or Type B or Type C inspection body, as described in ISO/IEC 17020:2012. In all cases, production staff shall not be allowed to inspect their own work in the case of Type C inspection body.

5. Work procedure

5.1 A documented work procedure required in A.2.8 is at least to contain all relevant information ~~on relating to the inspection (e.g. NDT methods, calibration checks, inspection procedure)~~ and including defect evaluation against acceptance criteria in accordance with BKI Rules.

5.2 All NDT procedures and instructions shall be properly documented in such a way that the performed testing can be easily retraced and/or repeated at a later stage.

5.3 All NDT procedures and instructions are to be written, verified or approved by the Service Supplier's Level 3 (either internal or external, as described in 7.1).

5.4 All NDT procedures are to be acceptable to BKI.

6. ~~Training and~~ Qualification and certification of NDT personnel

6.1 The Service Supplier is responsible for the ~~training~~ qualification and preferably 3rd party certification of its supervisors and operators to a recognised certification scheme based on ISO 9712:2021.

6.2 Personnel qualification to an employer based qualification scheme as e.g. SNT-TC-1A:2020 or ANSI/ASNT CP-189:2020 may be accepted if the Service Supplier's written practice is reviewed and found acceptable by BKI.

For operators holding certificates issued via an employer based scheme, the employer's certification shall be deemed revoked when employment is terminated by either party.

6.3 The Service Supplier's written practice shall as a minimum, except for the impartiality requirements of a certification body and/or authorised body, generally comply with the requirements of ISO 9712:2021.

6.4 The supervisors' and operators' certificates and competence shall comprise all industrial and product sectors and techniques being applied by the Service Supplier.

Note :

- 1) Industrial sector means section of industry or technology where specialised NDT practices are used, requiring specific product-related knowledge, skill, equipment and/or training.
- 2) Product sector means a category of component that may be defined by type of manufacturing, fabrication, and/or shape, which may have unique, and/or general manufacturing/fabrication defect characteristics. Product sector examples include (but not limited to): castings, wrought products (forgings), rolled products, extruded products, and welds. NDT personnel may hold certification in a method which is related to a product sector.

6.5 Level 3 personnel shall be certified by ~~an accredited certification body~~. one of the following means:

- 1) obtain certification from an accredited certification body.
- 2) obtain certification from an employer based scheme via the examination method, as detailed in the written practice. It is not permissible to directly appoint a level

3 without examination if the intended certification route is from an employer based scheme.

7. Operators and Supervisors

7.1 Supervisors

7.1.1 The Service Supplier shall have a supervisor or supervisors, responsible for the appropriate execution of NDT operations and for the professional standard of the operators and their equipment, including the professional administration of the working procedures. **following:**

- 1) validate NDT instructions and procedures established and reviewed by level 3 personnel;
- 2) review of NDT reporting;
- 3) supervise all tasks and NDT operations at all levels;
- 4) inspection of NDT equipment, tools and calibration;
- 5) re-evaluate the qualification of the operators annually on behalf of the Service Supplier.

7.1.2 Normally, the Service Supplier shall employ (on a full-time basis) at least one a level 3 supervisor, certified to level 3 in the applicable method(s). The supervisor(s) shall, as a minimum, be certified to Level 2 in the NDT method(s) concerned as described in 6, with minimum experiences for 5 years in the stated method (for Level 3, experience is not necessary). They must be certified by an accredited certification body. It is recognized that a Service Supplier may not directly employ a Level 3 in all the stated methods practiced. In such cases, it is permissible to employ an external, independently certified, Level 3 in those methods not held by the full-time Level 3(s) of the Service Supplier.

7.1.3 The supervisor shall be directly involved in review and approval of NDT Procedures, NDT reports, calibration of NDT equipment and tools. The supervisor shall on behalf of the Service Supplier re-evaluate the training, qualification and experience of the operators annually. **Alternatively, and by agreement with BKI, the Service Supplier may appoint an internal (full-time employed) supervisor of NDT activities, who does not hold level 3 certification. In this case, the supervisor shall be certified to a minimum of level 2.**

7.1.4 The supervisor's training, qualification, experience and certification shall be re-evaluated at regular intervals for recertification set by the accredited body that originally certified the supervisor (normally every 5 years). **For Service Suppliers operating this alternative approach, the Service Supplier shall comply with all other requirements of this Rules and shall employ (either part time or on a contract basis) Level 3 NDT Services (to carry out functions such as procedure development, procedure approval, consultancy, review etc.) from outside the Service Supplier organisation. The appointed external level 3 shall be certified by an accredited certification body in all the applicable methods appropriate to the scope of the NDT operations.**

7.2 Operators

7.2.1 The operator carrying out the NDT and interpreting indications, shall as a minimum, be qualified and certified to Level 2 in the NDT method(s) concerned and as described in 6.

However, operators only undertaking the gathering of data using any NDT method and not performing data interpretation or data analysis may be qualified and certified as appropriate, at level 1.

7.2.2 The operator shall have adequate knowledge of materials, weld, structures or components, NDT equipment and limitations that are sufficient to apply the relevant NDT method for each application appropriately.

8. Sub-contractors

8.1 The Service Supplier shall give information of agreements and arrangements if any part(s) of the NDT services provided are subcontracted, **included level 3 NDT Services (as described in 7.1)**.

8.2 The Service Supplier, in the following-up of subcontracts shall give emphasis to the quality management system of the subcontractor. Subcontractors shall meet the same requirements placed on Service Suppliers for any NDT performed.

9. Equipment

9.1 ~~Equipment is to be maintained and calibrated in accordance with recognized national or international industrial standards.~~ **The Service Supplier shall maintain records of the NDT equipment used and detail information related to maintenance, calibration and verification activities.**

9.2 Where the Service Supplier hires equipment from external resources, the equipment shall have updated calibration records and the operators shall be familiar with the specific equipment type prior to using it.

9.3 Under any circumstance, the Service Supplier shall possess sufficient equipment to carry out the NDT services being a part of the NDT scope required by BKI.

9.4 Where the equipment is of unique nature, the NDT operators shall be trained by competent personnel in the operation and use of the equipment before carrying out NDT using this equipment.

10. Reporting

10.1 All NDT shall be properly documented in such a way that the performed **testing and** examination can be easily retraced and/or repeated at a later stage. The reports shall identify the defects present in the tested area, and a conclusive statement as to whether the material, weld, component or structure satisfies the acceptance criteria or not.

10.2 The examination report shall as a minimum have a content covering the same items as listed in [Rules for Welding \(Pt.1, Vol.VI\), Sec. 10, D.2](#). Applicable standard, NDT procedure and acceptance criteria shall comply with BKI Rules.

10.3 All reports shall also include the approval number for the Service Supplier.

10.4 Reports shall be signed by the personnel with the appropriate level of certification, and the appropriate signatory status as defined in the Quality Management System.

11. Verification

The Service Supplier must have the Surveyor's verification of each separate job, documented in the report by his signature.

12. Demonstration

12.1 Unless a documentary review can not be carried out as specified in [A.5.2.2.2](#), demonstration shall be carried out in the presence of BKI's surveyor to verify that the Service Supplier has appropriate competence for the inspection specified in the documents submitted.

(IACS UR Z17 4.1.1)

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