

INDIAN REGISTER OF SHIPPING

CLASSIFICATION NOTES

Requirements for NDT Suppliers

July 2020



IRCLASS
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Section 1

General

1.1 Scope

1.1.1 This Classification Note provides requirements to be complied with, as a minimum, by firms providing Non-Destructive Testing (NDT) services on ships and offshore structures/ components subject to Classification.

In this document, such firms will be referred to as the 'Supplier'.

1.1.2 The requirements of this Classification Note are applicable from 1 July 2020.

1.2 Objective

1.2.1 The objective of this Classification Note is to ensure that the Supplier 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. In addition, the Supplier is to furnish appropriate equipment and facilities commensurate with providing a professional service.

1.3 Terms and Definitions

1.3.1 The following terms and definitions are applicable to this Classification Note:

.1 *NDT*: Non-destructive testing. Comprising, but not limited to the methods and techniques MT, PT, RT, RT-D, VT, UT, PAUT, TOFD, ET and/or ACFM.

.2 *Supplier*: Independent NDT company or NDT department/ section that forms a part of a company providing NDT services on ship and/or offshore components/ structures.

.3 *MT*: Magnetic Particle Testing

.4 *PT*: Penetrant Testing

.5 *RT*: Radiographic Testing

.6 *RT-D*: Digital Radiography (Several techniques within the method RT, e.g. Computed Radiography or Direct Radiography).

.7 *UT*: Ultrasonic Testing

.8 *PAUT*: Phased Array Ultrasonic Testing (Technique within the method UT).

.9 *TOFD*: Time of Flight Diffraction (Technique within the method UT).

1.4 References

1.4.1 The following referenced documents are to be used for the application of this Classification Note, as appropriate.

- ISO 9712:2012; Non-destructive testing - Qualification and certification of NDT personnel
- ISO/IEC 17020:2012; Conformity assessment – Requirements for the operation of various types of bodies performing inspection
- ISO/IEC 17024:2012; Conformity assessment – General requirements for bodies operating certification of persons
- ISO 9001:2015; Quality Management Systems – Requirements

1.4.2 Other national adoptions of the standards listed above are accepted as compliant and hence are accepted for use together with this Classification Note.

Section 2

Requirements for Suppliers

2.1 Requirements for documents

2.1.1 The following documents are to be made available to IRS, upon request:

- an outline of Supplier's organization and management structure, including any subsidiaries
- information on the structure of the Supplier's Quality Management System
- quality manual and documented procedures covering the requirements given in 2.2
- for companies with in-house certification of persons scheme; a written practice developed in accordance with a recognized standard or recommended practice (i.e. ASNT's SNT-TC-1A, 2016, ANSI/ASNT CP-189, 2016 or similar).
- operational work procedures for each NDT method including selection of the NDT technique.
- training and follow-up programmes for NDT operators including practical training on various ship and offshore products
- procedure for supervisor's authorization of NDT operators
- experience of the Supplier in the specific service area,
- a list of documented training and experience for NDT operators within the relevant service area, including qualifications and third party certification per ISO 9712:2012 based certification schemes.
- description of equipment(s) used for the services performed by the Supplier
- a guide for NDT operators to use equipment mentioned above
- record formats for recording results of the services referred to in 2.9
- information on other activities which may present a conflict of interest
- record of customer claims and corrective actions
- any legal proceedings against the company in the past/currently in the courts of law

2.2 Quality Management System

2.2.1 The Supplier is to have a documented quality management system, covering at least the following:

- work procedures for all tasks and operations, including the various NDT methods and NDT techniques for which the Supplier is involved.
- preparation, issuance, maintenance and control of documents
- maintenance and calibration of the equipment
- training programs for the NDT operators and the supervisors
- maintenance of records for NDT operators' and the supervisors' training, qualification and certification
- certification of NDT operators including re-validation and recertification
- procedure for test of operators' visual acuity
- supervision and verification of operation to ensure compliance with the NDT procedures
- quality management of subsidiaries
- job preparation
- order reference system where each engagement is traceable to when, who and where the test was carried out.
- recording and reporting of information, including retention time of records
- code of conduct for the Supplier's activities; especially the NDT activities
- periodic review of work process procedures
- corrective and preventive action
- feedback and continuous improvement
- internal audits
- the provision of accessibility to required codes, standards and procedures to assist NDT operators.

2.2.2 A documented quality system complying with the most current version of ISO/IEC 17020:2012 and including the above would be considered acceptable.

2.2.3 The Supplier is to satisfy the requirements of Type A or Type B inspection body, as described in ISO/IEC 17020:2012.

2.3 Qualification and Certification of NDT Personnel

2.3.1 The Supplier is responsible for the qualification and preferably 3rd party certification of its supervisors and operators to a recognized certification scheme based on ISO 9712:2012.

2.3.2 Personnel qualification to an employer based qualification scheme (for e.g. SNT-TC-1A, 2016 or ANSI/ASNT CP-189, 2016) may be accepted if the Supplier's written practice is reviewed and found acceptable by IRS. The Supplier's written practice is to comply with ISO 9712:2012 as a minimum, except for the impartiality requirements of a certification body and/or authorized body.

2.3.3 The supervisors' and operators' certificates and competence are to comprise all industrial sectors and techniques being applied by the Supplier.

2.3.4 Level 3 personnel are to be certified by an accredited certification body.

2.4 Supervisors

2.4.1 The Supplier is to 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.

2.4.2 The supplier is to employ, on a full-time basis, at least one supervisor independently certified to Level 3 in the method(s) concerned as per the requirements of 2.3. Level 3 personnel are to be certified by an accredited certification body.

2.4.3 It is recognized that a 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 Supplier.

2.4.4 The supervisor is to be directly involved in review and acceptance of NDT Procedures, NDT reports, calibration of NDT equipment and tools.

2.4.5 The supervisor is to, on behalf of the Supplier, re-evaluate the qualification of the operators annually.

2.5 Operators

2.5.1 The operator carrying out the NDT and interpreting indications, is to as a minimum, be qualified and certified to Level 2 in the NDT method(s) concerned and as described in 2.3.

2.5.2 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.

2.5.3 The operator is to 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.

2.6 Equipment

2.6.1 The Supplier is to maintain records of the NDT equipment used and detail information related to maintenance, calibration and verification activities. If the Supplier hires equipment, such equipment are to have updated calibration records, and the operators are to be familiar with the specific equipment type prior to using it. The Supplier is to possess sufficient equipment to carry out the services being a part of the NDT scope required by IRS.

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

2.7 Work Instructions and Procedures

2.7.1 The Supplier is to produce written procedures for the NDT being applied. These procedures are to be written, verified or approved by the Supplier's Level 3.

2.7.2 Procedures are to define all relevant information relating to the inspection including defect evaluation against acceptance criteria in accordance with the relevant standards/ rule requirements.

2.7.3 All NDT procedures and instructions are to be properly documented in such a way that the performed testing can be easily retraced and/ or repeated at a later stage. All NDT procedures are to be acceptable to IRS.

2.8 Sub-contractors

2.8.1 The Supplier is to give information of agreements and arrangements if any part(s) of the services provided are subcontracted. The Supplier, in the following-up of subcontracts is to give emphasis to the quality management system of the subcontractor.

2.8.2 Subcontractors are to meet the same requirements applicable to Suppliers for any NDT performed.

2.9 Reporting

2.9.1 All NDT is to be properly documented in such a way that the performed testing and examination can be easily retraced and/or repeated at a later stage.

2.9.2 The reports are to identify the defects present in the tested area, and provide a conclusive statement as to whether the material, weld, component or structure satisfies the acceptance criteria or not.

2.9.3 The report is to include a reference to the applicable standard, NDT procedure and acceptance criteria applied in the NDT method/ technique.

2.10 Validity Period of Approval

2.10.1 Upon satisfactory completion of initial audit, certificate of approval will be issued with a validity for three years. Subsequently certification can be renewed subject to satisfactory renewal audit every three years.

End of Classification Note