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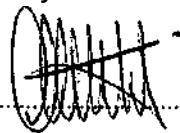
Business Process Document

Qualification and Certification of NDT Personnel

Written Practice - Ultrasonic Testing

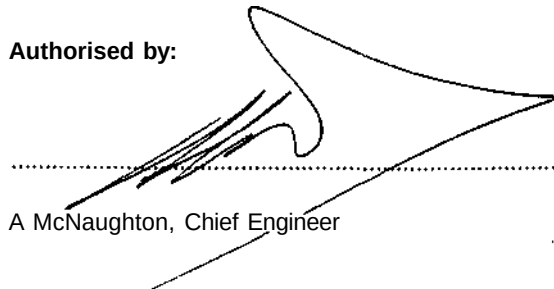
Endorsement & Authorisation

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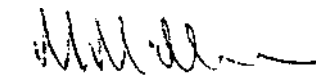
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Issue record

Issue	Date	Comments
01	Feb 2006	New Technical Specification

Implementation

4th February 2006.

Compliance

This Network Rail Specification is mandatory and must be complied with by Network Rail/Contractors from 1st June 2007.

When this Specification is implemented, it is permissible for all projects, which have formally completed GRIP Level 4, to continue to comply with the Issue of any relevant Network Rail Standards current when GRIP Level 4 was reached and not to comply with requirements contained herein unless the designated Head of Track Engineering has stipulated otherwise in the accompanying Briefing Note.

Where the Head of Track Engineering has specified that all projects will comply with the requirements, specific authority not to comply can be sought in the usual manner using the appropriate non-compliance authority processes described in Network Rail Standard, [NR/SP/STP/045](#) Managing the Process for Non-compliance Authority (formerly RT/LS/P/045).

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Ref:	NR/SP/TRK/1110
Issue:	01
Date:	February 2006

Contents

1	Purpose	5
2	Scope	5
3	Reference documentation	5
4	Definitions	5
5	Roles and Responsibilities	8
5.1	The training body shall	8
5.2	The examination body shall	8
5.3	Employer (Network Rail or an approved Agent acting on behalf of Network Rail)	9
5.4	Candidate	9
6	Levels of qualification	9
6.1	General	9
6.2	Level 1 and 2	11
7	Eligibility for Certification	12
7.1	Training	12
7.2	Industrial NDT experience	12
7.3	Vision requirements	13
8	Qualification examination	13
8.1	Examination content and grading for level 1 and level 2	13
8.2	Conduct of examinations	15
8.3	Re-examination	15
9	Certification	16
9.1	Administration	16
9.2	Certificates	16
9.3	Validity of Certification	16
10	Re-certification	17
10.1	Level 1	17
10.2	Level 2	17
11	Files	17
	Appendix A: Training and Examination Syllabus (UT): Level 1	19

Ref:	NR/SP/TRK/1110
Issue:	01
Date:	February 2006

Appendix B: Training and Examination Syllabus (UT): Level 2	21
Appendix C: Code of Ethics for NDE Operators	24
Appendix D: Responsibility Matrix	25
Appendix E: Specimen Certificate	26

1 Purpose

This Written Practice establishes the control and administration system for the training, examination and certification programme for personnel who perform non-destructive testing (NDT) on Network Rail Infrastructure.

This Written Practice meets the requirements of BS EN 473 / ISO 9712 and uses the guidelines laid down in SNT-TC-1A (2001).

2 Scope

This written practice mandates the qualification and certification requirements for personnel undertaking ultrasonic testing of rail and associated components on Network Rail infrastructure.

3 Reference documentation

BS EN 473	NDT Qualification and Certification of NDT Personnel – General Principles
ISO 9712	NDT Qualification and Certification of Personnel
Recommended Practice No. SNT-TC-1A	Personnel Qualification and Certification of NDT Personnel
RT/CE/S/055	Rail Testing – Ultrasonic Procedure and Techniques
RT/CE/S/057	Rail Failure Handbook
NR/SP/TRK/001	Inspection and Maintenance of Permanent Way

4 Definitions

Qualification

Evidence of training, professional knowledge, skill and experience as well as physical fitness to enable NDT personnel to properly perform NDT tasks.

Certification

Procedure used to demonstrate the qualification of NDT personnel in a method leading to the issue of a certificate.

Certification body

Body acting on behalf of Network Rail that administers procedures for certification of NDT personnel according to the requirements of this Written Practice.

Examination centre

Centre approved by Network Rail where qualification examinations will be carried out.

Ref:	NR/SP/TRK/1110
Issue:	01
Date:	February 2006

Examiner

A person certificated to Level 3 in the method he/she is to examine and authorised by the certification body to conduct, supervise and grade NDT qualification examinations.

Certificate

Document issued under the rules of the certification system defined in this standard indicating that adequate confidence is provided that the named person is competent to perform the NDT tasks defined on the certificate.

NDT Candidate

Individual seeking qualification and certification.

Employer

Organisation for which the candidate works on a regular basis.

Operating Authorisation

Written statement issued by the Employer, based on the individuals competence as specified within the certificate.

NDT method

Discipline applying a physical principle in non-destructive testing (for example: ultrasonic testing).

NDT technique

Specific way of utilising an NDT method (for example: ultrasonic technique U3).

NDT procedure

Written description of all essential parameters and precautions to be observed when applying an NDT technique to a specific test. An NDT procedure can involve the application of more than one NDT method or techniques.

Multiple choice examination question

Wording of a question giving rise to four potential replies, only one of which is correct, the remaining three being incorrect or incomplete.

Qualification examination

Examination administered by the certification body, which assesses the general, specific and practical knowledge and the skill of the candidate.

General examination

Examination that is concerned with the principles of a NDT method.

Ref:	NR/SP/TRK/1110
Issue:	01
Date:	February 2006

Specific examinations

Examination that is concerned with the testing techniques applied in the railway sector, knowledge of the product being tested, and of standards, codes, specifications and acceptance criteria.

Practical Examinations (Level 1 and 2)

Examination of practical skills, in which the candidate demonstrates familiarity with, and the ability to operate the test equipment and the ability to detect, record & classify rail flaws.

Industrial NDT experience

Experience in the applicable NDT method and field application concerned, which leads to the required skill and knowledge.

Significant interruption

Absence of greater than 3 months, or change of activity for a duration greater than 3 months, which prevents the certificated individual from practising the duties corresponding to his level in the method and the sector(s) for which he is certified.

Note: Legal holidays, periods of sickness or courses of less than thirty days are not taken into account when calculating the interruption.

Samples used in practical examinations

Samples should be representative of products typically tested in the applicable sector.

Trainee

A Trainee is a Candidate who has been trained in U1, U3, U15 and U16, is awaiting the assessment following a minimum 4-week period to achieve industrial NDT experience in accordance with para.7.2.

A Trainee shall be mentored by a certificated Ultrasonic Operator, who shall be responsible for overseeing and signing for the inspections carried out by the Trainee.

Re-certification Examination

An examination carried out by the Certification body at 24-month intervals.

Renewal Examination

An examination carried out by a Level 2 Supervisor at the interim 12 months, carried out every 24 months thereafter.

Levels of Certification

NDT Operators employed by Network Rail or an approved Agent acting on behalf of Network Rail shall, as a minimum, hold Level 1 certification in the relevant ultrasonic technique.

Ref:	NR/SP/TRK/1110
Issue:	01
Date:	February 2006

NDT Supervisors employed by Network Rail shall hold Level 2 certification in the relevant ultrasonic techniques held by the Level 1's under their supervision.

Level 3

A Level 3 shall be an individual assessed and certificated by a 3rd party scheme in accordance with BS EN 473 or ISO 9712 or shall be an individual (with an acceptable level of training, knowledge and experience) nominated by Network Rail.

5 Roles and Responsibilities

5.1 The training body shall

- a) Initiate, promote, maintain and administer training in accordance with this Written Practice;
- b) Have an adequately staffed and equipped training centre;
- c) Prepare and supervise training courses under the responsibility of a Level 3;
- d) Apply a documented quality management system;
- e) Ensure that training specimens are not used for examination purposes;
- f) Deliver training appropriate to the following syllabus;
 - Level 1 as per Appendix A;
 - Level 2 as per Appendix B;
- g) Establish an appropriate system for the maintenance of records, which shall be retained for a period of 5 years;
- h) Be responsible for the issue of all training certificates;
- i) Monitor, in accordance with a documented procedure, all delegated functions.

5.2 The examination body shall

- a) Work under the control of the Level 3;
- b) Apply an approved documented quality procedure;
- c) Have the resources needed to administer examinations;
- d) Prepare and conduct examinations under the responsibility of a Level 3;
- e) Ensure that examination test specimens are not in use for training purposes;
- f) Ensure that renewal examination test specimens are moved around Territories every 14 to 18 months;
- g) Have adequate qualified staff, premises and equipment to ensure satisfactory qualifications for the level, methods and sectors concerned;
- h) Use only those documents and examination questions established and approved by a level 3;
- i) Use only test specimens prepared or approved by a level 3 for the practical examinations;
- j) Maintain appropriate qualification and examination records;

Ref:	NR/SP/TRK/1110
Issue:	01
Date:	February 2006

- k) Shall be responsible for the issue of all examination certificates within 7 days of examination date.

The examination centre shall have test specimens of comparable difficulty containing similar discontinuities.

5.3 Employer (Network Rail or an approved Agent acting on behalf of Network Rail)

With regard to certificated persons, the employer shall be responsible for:

- a) Issuing the operating authorisation;
- b) The verification of the visual acuity in accordance with para.7.3;
- c) Verification of continuity in the application of the NDT method without significant interruption of periods greater than 3 months;
- d) 12 monthly renewal examinations of Level 1 Operators.

For Company Level 1 Operators, the Company Level 2 Supervisor shall carry out the above.

The Level 2's immediate Manager shall issue the Company Level 2's operating authorisation.

5.4 Candidate

The Candidate must recognise that personal integrity and professional competence are the fundamental principles on which their testing activities are founded and shall undertake to comply with the Code of Ethics as detailed in Appendix C.

6 Levels of qualification

6.1 General

- NDT Operators employed by Network Rail or an approved Agent acting on behalf of Network Rail shall, as a minimum, hold Level 1 certification in the relevant ultrasonic technique.
- In addition to the certification, operators shall also meet the following experience and surveillance requirements.
- Following a minimum of 4 weeks after initial training in techniques U1, U3, U15 or U16, and a minimum of 140hrs practical experience, operators shall be assessed on site, by a member of the examination body to ensure they are conducting inspections competently and using the appropriate documentation. All other techniques shall be assessed at the examination centre on completion of training & relevant experience.
- To maintain certification, operators shall undergo a renewal examination at 12 monthly intervals carried out by a Level 2 Supervisor in the