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GUIDELINES FOR THE PREPARATION AND GRADING OF NDT PROCEDURES AND INSTRUCTIONS IN PCN EXAMINATIONS

ASSOCIATED DOCUMENTS:

PCN/GEN: General requirements for the certification of personnel engaged in non-destructive testing.

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INTRODUCTION

CP25 provides guidance to British Institute of NDT Authorised Qualifying Bodies (AQB) concerning the content of NDT instructions given to level 1 candidates, and the content of NDT procedures given to level 2 candidates together with the relevant standard, code or specification for reference during practical examinations.

This document, which is in two parts, also provides candidate guidance in the preparation of:

- NDT Instructions - level 2 sector specific practical examination.
- NDT procedures - level 3 examination part F.

CP25 may be provided by AQBs to level 2 candidates in the sector specific practical (NDT instruction writing) examination, and to level 3 candidates for use during the part F (open book) examination, together with the appropriate code, specification or standard relevant to the examination.

DEFINITIONS

NDT Procedure: An inspection procedure is a written description of all essential parameters and precautions to be observed when applying an NDT technique to a specific test, following an established standard, code or specification.

NDT Instruction: An NDT instruction is a detailed and unambiguous written description of the precise steps to be followed in testing to an established standard, code, specification or NDT procedure.

The British Institute of Non-Destructive Testing is an accredited certification body offering personnel and quality management systems assessment and certification against criteria set out in international and European standards through the PCN Certification Scheme.

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PART 1: GUIDELINES FOR LEVEL 3 EXAMINATION PART F - NDT PROCEDURE

Table 1 Guidance on the grading of PCN level 3 examination part F (drafting of an NDT procedure)

Subject	% maximum
Part 1: General	
a) Scope: introductory statement, NDT method and technique(s), material or component, thickness range, test area, etc.	2
b) Document control: Compiled by, revision, status, authorisation.	1
c) Normative references and complementary information: A list of relevant standards and reference documents, including source (e.g. ASME, EN, ISO, etc.), number and title.	1
d) Abbreviations and terminology: A statement on the use of standard definitions, including source(s), together with definitions of non-standard terms used which, if not defined, could lead to ambiguity, and a list of abbreviations used in the text of the procedure.	1
e) Attachments: additional materials provided to assist the operator, e.g. drawings, equipment schedules, sample radiographs etc.	1
f) non-compliance: actions to be taken by the operator in the event of an inability to comply with the procedural requirements	2
Sub-total	8
Part 2 : NDT Personnel:	
a) Qualifications: The minimum requirements for training (including whether job-specific training if necessary), certification and authorization of NDT operators and supervisors.	1
b) Safety: general statement covering the need for personnel to be familiar with the relevant regulations covering health & safety and hazardous substances, both local and statutory, appropriate to the test method.	1
Sub-total	2
Part 3 : Equipment and consumables	
a) Main NDT equipment (including defining calibration status and pre-test serviceability checks)	10
b) Ancillary equipment (reference and calibration blocks, consumables, measuring equipment, viewing aids, etc.)	10
Sub-total	20
Part 4 : Test piece	
a) Physical condition & surface preparation (temperature, access, removal of protective coatings, roughness, etc..)	1
b) Description of area or volume to be tested, including reference datum	1
c) Discontinuities sought: the minimum size, or type of indication to be recorded	3
Sub-total	5

Subject	% maximum
Part 5 : Performance of the test	
a) NDT method(s) and technique(s) to be used	10
b) Setting up the apparatus	10
c) Conducting the test (including reference to NDT instructions)	10
d) Characterisation of discontinuities	10
Sub-total	40
Part 6 : Acceptance criteria	
a) the minimum size, or type of indication to be recorded	3
b) the defect classification and sizing method(s) to be employed.	4
Sub-total	7
Part 7 : Post test procedure	
a) Disposition of non-conforming product (labelling, segregation)	2
b) Restoration of protective coatings (where required)	1
Sub-total	3
Part 8 : Production of the test report	
Essential data for the report, e.g.: procedure reference, component, equipment data, settings/sensitivity, location of defects, status of defects, e.g. accept, reject or simply record, against agreed standard code or specification, operator name and qualification, date of test, operator's and /or supervisor's signature. N.B. The above is not an exhaustive list and will vary according to the NDT method and product tested.	
Sub-total	5
Part 9 : Overall presentation	
Lay-out, clarity, completeness, ease of reading and technical accuracy. Poor grammar and spelling is not penalised – unless it leads to lack of clarity and/or inaccuracy.	
Sub-total	10
Grand Total	100

PART 2: GUIDELINES FOR THE LEVEL 2 PRACTICAL EXAMINATION - NDT INSTRUCTION

Table 2 Guidance on the grading of PCN level 2 drafting of an NDT instruction for level 1 personnel

Subject	Marks
1. Foreword, status and authorisation	0.5
Should include: Document reference and status; Purpose of the test; Originator's details; Authorising person's details; safety requirements	
2. Personnel	0.5
The minimum requirements for training (including job-specific training if necessary), certification and authorization of NDT operators.	
3. Apparatus to be used	2.5
Equipment to be used, together with settings	
4. Product/area to be tested	0.5
Component identification, brief description and a drawing if appropriate.	
5. Test conditions	2
Pre-test preparation of the test area; Post test cleaning and preservation of test object.	
6. Detailed instructions for application of test	6
Step by step instructions in the application of the NDT technique, with reference to sketches if appropriate; A statement instructing the operator on actions to be taken in the event that the instruction cannot be applied.	
7. Recording and classifying results	2.5
Action to be taken when defects are detected.	
8. Reporting the results	0.5
Essential data for the report, e.g.: procedure reference, component, equipment data, settings/sensitivity, location of defects, status of defects, e.g. accept, reject or simply record, against agreed standard code or specification, operator name and qualification, date of test, operator's and /or supervisor's signature.	
Maximum marks attainable	15