

National Aerospace NDT Board Fachkommission Luft- und Raumfahrt



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A E N D E R U N G E N / R E V I S I O N					
Rev.	Page	Paragraph	Kürzbegründung / Explanation	Date	Sign
00	1 - 13	1 - 11	Audit procedure, German & English language and checklist in English version	28. Jan. 2020	wahg
01	1 - 13	1 - 11	8.0 Training Course Outlines and Materials modified 9.0 Numbering system corrected	16. Sept. 2020	wahg

INHALT

1. Allgemein
2. Referenzdokumente
3. Auditverfahren
4. Unternehmensinformation
5. Qualitätsmanagement
6. Sicherheitsrichtlinien
7. Zulassungsvorschrift
8. Schulungspläne und Material
9. Qualifizierung, Prüfung und Bewertung
10. Zertifizierung
11. Aufbewahrung von Dokumenten

CONTENT

1. *General*
2. *Reference Documents*
3. *Audit Procedure*
4. *Facility Information*
5. *Quality Management*
6. *Safety Policy*
7. *Written Practice*
8. *Training Outlines and Material*
9. *Qualification, Examination and Scoring*
10. *Certification*
11. *Record Keeping & Archiving*

1. Allgemein

1.1 Zweck

Mit dem vorliegenden Auditverfahren wird überprüft und dokumentiert, dass externe/interne NDT Ausbildungsstellen ein System in Übereinstimmung mit den Dokumenten EN4179; ANDTBF/08 und /14 zur Qualifikation und Zulassung von NDT-Personal in der Luft- und Raumfahrt etabliert haben.

1.2 Anwendungsbereich

Das vorliegende Auditverfahren Verfahren ist im Zusammenhang mit dem SSNT Qualitätsmanagementhandbuch (QHB), den allgemeinen Auditverfahren und den Auditkriterien anzuwenden. Das Dokument ist für Erteilung und Aufrechterhaltung der Zulassung als externen/interne Stelle anzuwenden. Das Auditverfahren ist für Audits nach dem 31. Okt. 2019 anzuwenden.

2. Referenzdokumente

Die referenzierten Dokumente sind in der jeweils gültigen Revision / Ausgabe zu verwenden.

2.1 Standard Dokumente

- EN4179 Qualifizierung und Zulassung des Personals für zerstörungsfreie Prüfungen

2.2 ANDTBF Dokumente

- ANDTBF/08 Organisation, Duties and Responsibilities of NANDTB's as Member of ANDTBF
- ANDTBF/14 Audit Criteria for Auditing NANDTBs

ANDTBF Dokumente sind hier verfügbar:
<http://www.efndt.org/Services/Document-Store>

2.3 SGZP / NANDTB Dokumente

Dokumente der SGZP und des NANDTB sind hier verfügbar:
<http://www.sgzp.ch>

3. Auditverfahren

Dieses Auditverfahren ist für die Prüfungszentren mit einer Zulassung als interne oder externe Vertragsstelle zur Qualifizierung von Personal der Zerstörungsfreien Prüfung gem. EN4179 verbindlich anzuwenden. Dieses Auditverfahren steht in direktem Zusammenhang mit dem SGZP Qualitätsmanagement Handbuch und dem darin beschriebenen Auditverfahren.

3.1 Audit Planung

Die Organisation, welche die Genehmigung als interne oder externe Vertragsstelle initial beantragt oder aufrechterhält, ist für die Auditplanung verantwortlich. Der formelle Antrag auf Auditierung ist schriftlich an die NADNTB zu richten. Der detaillierte Auditplan soll 30 Tage vor dem Audit festgelegt sein.

1. General

1.1 Purpose

The present audit procedure shall be used to verify and document that systems are in place to ensure that outside/inside NDT training agencies are operated in accordance with EN4179; ANDTBF/08 /14 to control qualification and approval of NDT personnel within the aerospace industry.

1.2 Range of Application

The present audit procedure shall be used in conjunction with the SSNT Quality Management Handbook (QHB), general audit procedures and audit criteria's. The procedure is applicable to obtain and to maintain outside / inside agency approval. The audit procedure shall be used for audits after 31. October 2019.

2. Reference Documents

Referenced Documents shall be respectively applied in the current revision / issue.

2.1 Standard Documents

- EN4179 Qualification and approval of personnel for non-destructive testing

2.2 ANDTBF Documents

*- ANDTBF/08 Organization, Duties and Responsibilities of NANDTB's as Member of ANDTBF
- ANDTBF/14 Audit Criteria for Auditing NANDTBs*

*ANDTBF documents available on web page:
<http://www.efndt.org/Services/Document-Store>*

2.3 SSNT / NANDTB Documents

*SSNT and NADNTB documents are available on web page:
<http://www.sgzp.ch>*

3. Audit Procedure

The present audit procedure applies mandatory for training facilities with approval as inside / outside agency to qualify Non-Destructive Testing personnel in accordance with EN4179. This audit procedure is directly related to the SGZP Quality Management handbook and the audit procedure described therein.

3.1 Audit Schedule

The organization requesting initial approval or to maintain approval as inside/outside agency is responsible to set-up an audit schedule. The formal request for audit shall be submitted in a written form to the NADNTB. The detailed audit schedule shall be fixed 30 days prior to the audit.

3.2 Audit Bericht

Das Auditteam stellt den Auditbericht innerhalb von 5 Werktagen zur Verfügung. Zur Nachvollziehbarkeit enthält der Bericht alle relevanten Informationen. Positive Aspekte die im Audit beobachtet wurden und Verbesserungspotenziale sind aufzuzeichnen. Alle im Audit festgestellten Abweichungen sind aufzuzeichnen. Die ausgefüllte Checkliste wird als Anhang beigefügt.

3.3 Aktivitäten nach dem Audit

Die Aktivitäten nach dem Audit, einschliesslich der Ursachenanalyse, Sofortmassnahmen, Korrektur- und der Vorbeugemassnahmen sind dem Auditteam innerhalb von 21 Kalendertagen mitzuteilen. Für alle umgesetzten Korrektur- und Vorbeugungsmassnahmen sind die entsprechenden Nachweise zu führen.

3.4 Korrekturmassnahmen

Um die Zulassung als Trainingsanbieter zu erhalten oder zu erneuern, müssen alle Abweichungen behoben werden. Die Organisation, welche die Genehmigung als interne/externe Stelle beantragt, ist für die termingerechte Behebung der Abweichungen verantwortlich. Die Behebung der Beanstandungen erfordert Nachweise.

3.5 Audit Abschluss

Das Audit Team verfolgt die termingerechte Behebung der Abweichungen. Ist die Umsetzung nachgewiesen, wird die Abweichung geschlossen. Die Wirksamkeit der Umsetzung ist im Folgeaudit intern/extern zu prüfen.

Das Nationale Aerospace NDT Board wird die interne/externe Vertragsstelle als Zentrum für die Ausbildung und Qualifizierung von NDT-Personal gemäss der EN4179 autorisieren. Die Autorisierung beinhaltet die auditierten NDT-Methoden und Qualifikationsstufen.

3.6 Audit Ausfall

Das Audit ist ausgefallen, wenn die Reaktion zur Behebung der Abweichungen verzögert oder unzureichend ist. Der Zeitrahmen für die erste Antwort beträgt 21 Tage. Zur Vorbereitung und Einreichung einer zweiten oder dritten Antwort wird der Stelle eine Frist von 7+7 Tagen gegeben. Für Reaktionen später als 21+7+7 Tage werden keine Verlängerungen gegeben.

3.7 Beschwerdeverfahren

Das Beschwerdeverfahren ist im SGZP Qualitätsmanagement Handbuch unter Kapitel 10 beschrieben.

3.2 Audit Report

The audit team provides an audit report within 5 working days. The report includes relevant information to provide traceability. Positive aspects observed during the audit and improvements opportunities shall be recorded. Any non-conformance observed during the audit shall be recorded. The filled checklist will be attached.

3.3 Audit follow up

All audit follow up activities included root cause, immediate actions, corrective and preventive actions to be taken shall be submitted to the audit team within 21 calendar days. For all corrective and preventive actions implemented, the corresponding evidence must be provided.

3.4 Corrective Action

In order to obtain or maintain approval as training provider all non-conformance must be addressed. The organization requesting inside/outside agency approval is responsible for the timely closure out of the deviations. Evidence must be provided for the resolution of complaints.

3.5 Audit closure

The audit team pursues the timely closure out of deviations. Deviation will be closed, when implementation is proven. Effectiveness shall be verified during the next internal/external audit.

The National Aerospace NDT board will authorize the inside/outside agency as approved center for training and qualification of NDT personnel in accordance with EN4179. The authorization reflects the audited NDT methods and level.

3.6 Audit failure

The audit will be identified as failure, if the response to closure out of deviations is delayed or insufficient. The time frame for initial response will be 21 days. To prepare and submit a second or third response an extension period of 7+7 days will be warranted to the auditee. No extensions shall be granted for response due dates later than 21+7+7 days.

3.7 Compliant Procedure

The complaint procedure is detailed within SSNT Quality Management Handbook, chapter 10.

4.0 General information

4.1 Auditees are requested to provide audit related information:

NANDTB SWITZERLAND Representative contact:
AGENCY Representative contact:
Address where the audit is conducted:
Telephone:
E-mail:
Date of Audit:
Lead & Co-Auditor:

4.2 Identify the scope of training. Identify the NDT method and level.

Method and Level taught
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.....
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4.3 Identify the scope or nature of other NDT business.

Training Provider:
Testing Facility:
Level 3 Services:
Others:

5.0 Quality Management (Inside / Outside Agency)

5.1 Identify the quality organization and/or approval status as maintained by the outside/inside agency. A certified Quality System isn't required to obtain or maintain approval as NDT training centre.

NAA Approval Number, if available:
Quality Mgmt. Standard, if available:
Testing Facility, if available:
PRI/NADCAP Certification, if available:
Quality Policy or Handbook:

5.2 Does the quality system ensure that the required changes and corrective action are implemented and effective? YES NO NA

Compliance Assessment Guidance:

Verification of corrective actions taken as a result of non-conformances identified during the previous audit will be conducted by the auditor. In addition, the auditor shall verify corrective actions associated with a previous audit that resulted in "failure". The auditor shall use investigative means to assure these are implemented.

Evidence shall be provided as following:

- root cause analysis
- immediate corrective actions
- preventive actions to prevent recurrence
- relevant documentation to support the close out of the non-conformance.

NA is acceptable for initial audit or there were no non-conformances identified during the previous audit

Evidenced by:

5.3 Does the quality system define the general requirements to retain the business related documents, procedures or records? YES NO

Compliance Assessment Guidance:

Training, qualification, and examination records shall be archived in accordance with the quality system and shall be made available for audit on request.

Evidenced by:

5.4 Does the quality system identify a designated Responsible Level 3? YES NO

Compliance Assessment Guidance: The Responsible Level 3 shall be certified in accordance with this standard (EN4179) as a Level 3 in one or more NDT methods and shall have a thorough knowledge of the written instructions, codes, specifications and standards used by outside/inside agency.

Evidenced by:

5.5 Does the quality system ensure that personnel involved in training and examination is appropriately qualified? YES NO

Compliance Assessment Guidance: Instructors and examiners shall have the skills and knowledge to conduct classroom training and practical exercises in accordance with approved training outlines. Instructors and examiners shall be designated by the Responsible Level 3.

Evidenced by:

5.6 Does the quality system ensure that training and qualification relevant codes, standards and specifications were available? YES NO

Compliance Assessment Guidance:

This includes codes, standards, and other contractual documents that control the applicable method(s).

Evidenced by:

5.7 Does the quality system include an evaluation of contract review? YES NO

Compliance Assessment Guidance: This is required to ensure that clients' requirements were fully specified, recorded and understood by the outside/inside agency.

Evidenced by:

6.0 Safety Policy

6.1 Is a safety policy established to provide accident prevention and safe working practices? YES NO

Compliance Assessment Guidance: Safety related policy shall be established in accordance with local codes and regulations and in respect to the method trained e.g. x-ray protection, environment and so on.

Evidenced by:

6.2 Are health, safety and fire protection ensured to provide safely working practices? YES NO

Compliance Assessment Guidance: Depends on the method, auditor shall identify a potential of risk and risk prevention. Fire extinguishers and warning labels shall be present. Safety cabinets shall be available for storage of hazard and flammable materials.

Evidenced by:

6.3 Are protective aids available for all candidate's to prevent any impact by hazardous substances or radiation or magnetism? YES NO NA

Compliance Assessment Guidance: Safety depends on the method trained. Suitable aids shall be available such as protective gloves, eyeglasses to prevent UV, warning pictograms and controlled areas.

Evidenced by:

7.0 Written Practice (Training Center Description)

7.1 Is the Written Practice as maintained by the outside/inside agency based upon EN4179? YES NO

Compliance Assessment Guidance: Written Practice or Training Center Description is a document reflecting the relevant details of EN4179. This document shall be applicable for the area of NDT training, qualification and examination.

Evidenced by:

7.2 Is the Written Practice as maintained by the outside/inside agency approved by the Responsible Level 3? YES NO NA

Compliance Assessment Guidance: The Written Practice shall be approved in writing by the Outside/Inside Agency's Responsible Level 3. NA is applicable where the responsibility is given to clients Responsible Level 3.

Evidenced by:

7.3 Is the Written Practice as maintained by the outside/inside in compliance with clients requirements? YES NO NA

Compliance Assessment Guidance: NA is applicable where the responsibility is given to Outside/Inside Agency's Responsible Level 3.

Evidenced by:

- 7.4 Does the Written Practice identify each method, level and technique as trained by the Outside / Inside Agency? YES NO
Compliance Assessment Guidance: In exceptional case the clients Responsible Level 3 shall delegate the content of training in a written form.
Evidenced by:
- 7.5 Does the Written Practice identify duties and responsibilities for each officer involved in qualification and examination by the Outside / Inside Agency? YES NO
Compliance Assessment Guidance: As applicable for the area of training, personnel duties and responsibilities shall be defined in a written form.
Evidenced by:
- 7.6 Does the Written Practice identify the minimum training requirements as stated by EN4179 and applied by the Outside / Inside Agency? YES NO
Compliance Assessment Guidance: Verify the minimum training requirements per method and level as stated within EN4179, chapter Training and Experience
Evidenced by:
- 7.7 Does the Written Practice identify the minimum experience requirements as stated by EN4179 and applied by the Outside/Inside Agency? YES NO
Compliance Assessment Guidance: Verify the minimum experience requirements per method and level as stated within EN4179 chapter Training and Experience.
Evidenced by:
- 7.8 Does the Written Practice identify the requirements for training and examination personnel as stated by EN4179 and applied by the Outside / Inside Agency? YES NO
Compliance Assessment Guidance:
Verify requirements as stated by EN4179, chapter Training and Examination Personnel. It shall be addressed who is Examiner, Instructor or outside agency.
Evidenced by:
- 7.9 Does the Written Practice identify all requirements to provide examination? YES NO
Compliance Assessment Guidance: The technical qualifications of candidates shall consist of a general, specific and practical examination for each method in which the candidate will be certified.
Specific examinations shall be administered after a minimum of 75% of Table II requirements have been completed. Table II requirements shall be complete prior to administration of practical examination. (prEN4179:2019 paragraph 7.1.1)
Evidenced by:
- 7.10 Does the Written Practice identify the scoring requirement in compliance with EN4179, paragraph scoring? YES NO
Compliance Assessment Guidance: The candidate must achieve a minimum score of 70 % on each individual examination. In addition, the candidate must detect all discontinuities, flaws or conditions specified by the Level 3 during the practical examination. The candidate must have an average score of no less than 80 % in order to be eligible for certification.
Evidenced by:

7.11 Does the Written Practice identify the re-examination requirements as stated by EN4179? YES NO

Compliance Assessment Guidance: Candidates failing any general, specific or practical examination shall receive additional training. This shall be procedurally advised and documented in detail. Re-examination test must contain a minimum of 25% new questions.

Evidenced by:

8.0 Training Course Outlines, Syllabi and Materials

8.1 Are Training Course Outlines available to provide classroom training in accordance with approved outlines? YES NO

Compliance Assessment Guidance:

Inside/Outside Agencies may use an NANDTB or company Responsible Level 3 to provide training course outlines, training materials and test samples. Training course outlines shall be available for Level 1; 2 and 3

Evidenced by:

8.2 Are materials and test samples available to provide practical exercises in accordance with approved outlines? YES NO

Compliance Assessment Guidance: Inside / Outside Agencies may use an NANDTB or company Responsible Level 3 to provide training course outlines, training materials and test samples.

Evidenced by:

8.3 Are relevant codes, standard practices and specifications available and used for training? YES NO

Compliance Assessment Guidance: Relevant codes, standard practices, procedures and specifications shall be appropriate to the client's scope and products.

Evidenced by:

8.4 Is it verified and ensured that client's requirements are met? YES NO

Compliance Assessment Guidance: Inside/Outside Agencies may use an NANDTB or company Responsible Level 3 to confirm client's requirements.

Evidenced by:

8.5 Are client's requirements and method/level specifics reflected or referenced by all syllabi indeed for training? YES NO

Compliance Assessment Guidance: Syllabi shall be available for all methods taught and shall be differentiated in level 1; 2 and 3.

Evidenced by:

9.0 Qualification, Examination and Grading

9.1 Is it ensured that classroom and practical training, and examination were appropriate to the client's scope? YES NO

Compliance Assessment Guidance: Training and examination shall be appropriate to client's requirements, products and procedures. Inside/Outside Agencies may use Responsible Level 3 to confirm client's requirements.

Evidenced by:

9.2 Is it verified and documented by the inside/outside agency that reference materials used for training and examination are in respect to client's scope? YES NO

Compliance Assessment Guidance: Classroom and practical training and examination shall be guided by a written checklist to document the content and material as used.

Evidenced by:

- | | | | | |
|-------------|---|-----|----|----|
| 9.3 | <p>When qualification and examination covers a wider scope within the method, are supplemental examinations provided by the inside/outside agency?</p> <p><i>Compliance Assessment Guidance: NA is to be used were wider scope examinations are not used.</i></p> <p><i>Evidenced by:</i></p> | YES | NO | NA |
| 9.4 | <p>Is the general examination accomplished in compliance with EN4179, general examination requirements?</p> <p><i>Compliance Assessment Guidance: General Examination shall be administrated as closed book. For Level 1, 2 and 3 a minimum of 40 questions covering the principals of the method. For Level 1 limited minimum 10 questions.</i></p> <p><i>Evidenced by:</i></p> | YES | NO | |
| 9.5 | <p>Is the specific examination accomplished in compliance with EN4179 specific examination requirements?</p> <p><i>Compliance Assessment Guidance: The specific examination shall be an open book examination covering the requirements and use of the specifications, codes, standards, equipment, operating procedures, product knowledge and test techniques the candidate may use in the performance of his/her duties.</i></p> <p><i>Evidenced by:</i></p> | YES | NO | |
| 9.6 | <p>Is the number of specific examination in compliance with EN4179 specific examination requirements?</p> <p><i>Compliance Assessment Guidance: A minimum of 30 questions shall be administered for the specific examination at Levels 1; 2; 3. For Level 1 limited minimum 10 questions.</i></p> <p><i>Evidenced by:</i></p> | YES | NO | |
| 9.7 | <p>Are specific questions and corresponding answers sufficient to verify and to demonstrate the candidates understanding within the method and technique?</p> <p><i>Compliance Assessment Guidance:</i></p> <p><i>This does not require every single specification, code, equipment, operating procedure, and test technique that is used by the employer to be included. Specific examination shall be representative for the client's requirements within the method and technique.</i></p> <p><i>Evidenced by:</i></p> | YES | NO | |
| 9.8 | <p>Is the practical examination accomplished in compliance with EN4179, practical examination requirements?</p> <p><i>Compliance Assessment Guidance: The practical examination shall consist of a demonstration of proficiency in performing tasks that are typical of those to be accomplished in the performance of the candidate's duties. The candidate shall not be familiar with the test sample and the location of the discontinuities located therein.</i></p> <p><i>Evidenced by:</i></p> | YES | NO | |
| 9.9 | <p>Are the test samples representative to verify the candidate's practical skills within the method and technique?</p> <p><i>Compliance Assessment Guidance: Selection of samples shall be representative and shall have discontinuities and conditions to verify candidate's practical skills.</i></p> <p><i>Evidenced by:</i></p> | YES | NO | |
| 9.10 | <p>Does the outside agency ensure that all individuals involved in the administration of the examinations meet the requirements of this standard (EN4179)?</p> <p><i>Compliance Assessment Guidance: See chapter "Administration by an outside agency" in standard EN4179</i></p> | YES | NO | |

10 Certification

10.1 Is a written procedure established to describe the certification process? YES NO NA

Compliance Assessment Guidance: Personnel who have demonstrated that they possess the appropriate qualifications are eligible for certification by their employer in accordance with the employer's written practice.

NA is applicable where the certification process is detailed by a NANDTB procedure.

Evidenced by:

10.2 Is a written procedure established to outline expiration, suspension and revocation of Certification? YES NO NA

Compliance Assessment Guidance:

NA is applicable where the loss off certification detailed by a NANDTB procedure.

Evidenced by:

11 Records and Archiving

11.1 Is it procedurally advised which documents and content shall be submitted to the client's representative contact or Responsible Level 3 for review? YES NO

Compliance Assessment Guidance: Detailed procedure required to lay out the transfer of documents, test samples, examination and results to the client's representative contact or Responsible Level 3 for review.

Evidenced by:

11.2 Is a document control procedure established to ensure record keeping and record availability as stated within EN4179? YES NO

Compliance Assessment Guidance: Records shall be maintained in accordance with a written procedure such as a quality assurance instruction or written practice. This document shall be made available for audit. When an NANDTB is used, see EN4179 Annex C.

Evidenced by:

11.3 Is it procedurally advised how records shall maintained/archived and can be made available for review? YES NO

Compliance Assessment Guidance: Requirements shall be detailed within a quality assurance instruction or written practice. All training, qualification, and examination records shall be archived in accordance with the quality system and shall be made available for audit.

Evidenced by: