

On-The-Job Training

Interpretation CZ NANDTB No: 1/2023

Version 1: May 18, 2023, Tomas Zavadil, Vaclav Jandura, CZ NANDTB members
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1. Preamble

- 1.1 Standards NAS410:2020 and EN4179:2021 defines on-the-job training and experience as two independent topics.
- 1.2 Demonstration of compliance with requirements related to the OJT during top-tier audits like Nadcap AC7114 or AC7108 usually involve provision of objective evidence. However, due to ambiguous definitions requests for objective evidence and the content of such objective evidence varies significantly.
- 1.3 One of the reasons is unclear requirements for the OJT compared to Experience. Exchange of one term for the other is a common issue (usually OJT being considered as equivalent term to experience), which causes compliance issues.

2. Citation from the standard

2.1 EN 4179:2021, par. 3.14 – Experience

Actual performance of an NDT method conducted in the work environment resulting in the acquisition of knowledge and skill.

This does not include formal classroom training but may include laboratory and on-the-job training as defined by the employer's written practice.

2.2 EN 4179:2021, par. 3.24 – On-the-job training

Training in the work environment to gain experience in learning instrument set-up, equipment operation, applying the process, and recognition, interpretation and evaluation of indications under appropriate technical guidance.

2.3 UG.CAO.0161-001, par. 2.8 – Experience (*EASA interpretation document for NDT qualification*)

Experience is the actual performance of an NDT task or part of a task. The experience may include processing of practical test samples in the workshop, performing equipment set-up and system performance checks, part preparation before and after inspection, recognition, interpretation and evaluation of indications under appropriate supervision. At least 30% of the experience shall be obtained by the performance of NDT tasks in the actual working environment.

3. Terminology

3.1 Experience

Actual performance of an NDT method conducted in any relevant work environment that ensure acquisition of knowledge and skill using the particular method in general. This means the experience may be gained on-the-job (i.e. on own real NDT tasks of the Employer) or through performing other NDT tasks for previous employer, or externally (e.g. if there are currently no tasks to gain experience in-house at the Employer's site).

3.2 Equivalent experience

Experience done for a previous employer or experience gained externally, that is considered as representative to the Employer based on the assessment of the RL3.

3.3 On-the-job activity

Activity performed in actual work environment, on a specific job (i.e. an official, not artificially created, NDT task), following the job-specific process (travelers, procedures, instructions, specifications), equipment, records and evaluation.

3.4 On-the-job training (OJT)

An Employer-specific training held after the formal training, that familiarizes the candidate with performance of job-specific “on-the-job” activities properly.

4. Justification

4.1 Standards NAS410:2020 and EN4179:2021 define experience in paragraphs as per 2.1 as an overall performance of NDT in the work environment to gain general knowledge and skills related to the method. This may be gained by various means including acceptance of experience from previous Employer or externally, if proven to be representative to the Employer. On-the-job training as per 2.2, on the other hand, is defined as a dedicated training in the work environment to learn specifically Employer-specific topics like instrument setup, equipment operation, interpretation etc.

4.2 Standards NAS410:2020 and EN4179:2021 admit as per 2.1 that On-the-job training may be (but therefore also does not have to be) included to the collection of experience. On-the-job training can be acceptable for the experience ONLY when defined as such in the Employer’s written practice document. It means otherwise it is a standalone mandatory part of the qualification process.

4.3 Primary source of general knowledge is the formal training. Formal and practical training (especially if held in the Outside Agency) may not sufficiently describe the practices used by the Employer and may require further assessment, that will familiarize the candidates with strictly Employer-specific topics as exact equipment and instruments used, and their setup, calibration; use of specific travelers, procedures and instructions, recording of findings to the test reports etc.

4.3.1 Qualification by Outside Agency must follow the written practice of the Employer, yet it may not cover all jobs done by the Employer and does not have to be on the same equipment or parts, just on such equipment and parts that are representative to the Employer.

4.4 Such Employer-specific training as per 4.3 requires an internally qualified personnel to show and explain (i.e. train) the testing process of individual types of jobs held by the Employer in order to make sure the candidate is duly informed on Employer’s job-specific approach for testing.

4.4.1 Such “On-the-job” training is necessarily after the formal training, except when the formal training is done directly on the Employer’s equipment and covering sufficiently the Employer’s job portfolio (e.g. if the formal training is done by an Outside Agency as per 4.3.1).

4.5 Transfer of knowledge through collection of experience is limited and the purpose of collection of experience is primarily to gain automatic skills through practice. Such practice should be supervised, but it is rather an observation of performing tasks by candidate than education and training.

4.6 EASA in its guidance UG.CAO.0161-001 recommends that at least 30% of the experience should be obtained in the ACTUAL (i.e. Employer’s) working environment. It means that up to 70% of the experience may be collected via alternative means through Equivalent experience in order to shorten the experience collection process to already somehow experienced candidates.

4.7 This Interpretation aims to clarify the requirements for the OJT and its integration to the formal training and experience collection processes.

5. Interpretation of CZ NANDTB

On-the-job training requirements

- 5.1 Responsible Level 3 shall identify the types of jobs performed by the Employer and design the On-the-job training requirement in such a manner (i.e. with such content and extent) that all types of jobs can be duly explained to the candidate.
 - 5.1.1 Only highly similar jobs maybe included under one type of job (e.g. left and right flap pair etc.).
 - 5.1.2 This will include at least a list of types of jobs, supplement documentation (travelers, instructions) and required time to train for each type of job. Equivalent or highly similar jobs or jobs does not need to be covered individually.
 - 5.1.3 On-the-job training shall include demonstration of performing the type of job. Length shall therefore be at least the same as to perform the given job itself.
 - 5.1.4 On-the-job training outlines shall be part of the written practice or directly traceable from the written practice of the Employer.
- 5.2 On-the-job training shall be performed always as a supplement to the more generalized training content (allowing teaching process to flow from general to specific). It should precede collection of experience under supervision in specific jobs and shall be always before the examination.
 - 5.2.1 On-the-job training may be performed during the practical part of the formal training ONLY IF the practical training is performed exclusively by internal staff, in-house and following the whole contents of the On-the-job training outline in addition to the content of the formal training (i.e. using complete jobs as the content of the practical training).
 - 5.2.2 In all other cases the On-the-job training shall be performed after the formal training including its practical part is completed entirely.
 - 5.2.3 On-the-job training may be performed by the Outside Agency only if the personnel performing the OJT are sufficiently familiar with the execution of individual types of jobs, e.g. if the Outside Agency also acts as the Level 3 and designed the process of those jobs.
- 5.3 On-the-job training may be split in parts (e.g. by groups of jobs), allowing the trainer to perform job-specific training on currently available jobs and add other when other types of jobs become available.
- 5.4 If a new job is incorporated into the Employer's jobs portfolio, this new job will be trained via supplemental On-the-job training (specifically for this new job).

On-the-job training and collection of experience

- 5.5 If the On-the-job training hours should be used to satisfy the experience collection requirements, it shall be explicitly allowed in the Employer's written practice.
- 5.6 On-the-job training has to be supplemented by collection of the experience on given jobs. It is recommended to follow the requirements of EASA as per 2.3 and minimal amount of hours performed on the jobs in the actual work environment should therefore be at least 30% of the total hours needed (minus the length of the On-the-job training, if allowed as such by the Employer's written practice).
 - 5.6.1 On-the-job training shall not be accepted as a part of the Equivalent experience, even if the candidate's former Employer had the same portfolio of types of jobs. The On-the-job training has to be always completed entirely.
- 5.7 Due to the nature of the On-the-job training (transfer of knowledge versus gaining skills) the maximum permissible number of experience hours waived via On-the-job training is either 10% of the total required experience hours or the length of the On-the-job training per On-the-job training outlines, whatever is LOWER.