

HOW TO ASSESS THE COMPETENCE OF STAFF

Background

Most of the requirements of ISO 17025 [1] upon competence are detailed in its § 5 and 6, expressing requirements for:

- personnel qualification and competence and their documentation including requirements for education, qualification, training, technical knowledge, skills and experience;
- responsibility, authority and interrelationship of all personnel who manage, perform or verify work affecting the results of laboratory activities;
- appointed personnel responsible for handling the management system;
- additional personnel;
- job descriptions;
- procedures and records for determining competence requirements, selection of personnel, training of personnel, supervision of personnel, authorisation of personnel and monitoring of competence of personnel.

Like any conformity assessment, the assessment of competence has to be done according to specifications.

Specifications

The laboratory management has to ensure the competence of and authorise all who operate specific equipment, perform tests and/or calibrations, develop methods, evaluate and analyse results, confirm conformity, provide opinions and interpretations, and sign test reports and calibration certificates.

First, the laboratory has to formulate the necessary requirements (for example, in higher-level functional or individual job descriptions) that provide information on required expertise and experience; required diploma; required qualifications and training programmes; access to knowledge databases in networks; and other topics (human behaviour, language skills...).

Examples

- It is helpful in the training program to define what is relevant for initial training and further training.
- For repetitive but not frequent activities: very detailed testing or calibration procedures can be used to reduce the training program to the verification of good understanding of the procedure before use by the staff.
- A required educational level may be accompanied by a procedure to ensure its good understanding
- interval for requalification, where applicable

Evaluation and qualification

Then, the laboratory has to evaluate the correspondence between job description and staff knowledge by reviewing the adequacy of education, training, experience and/or demonstrated skills. If evidence is available to demonstrate that a person meets all the criteria, he/she is considered qualified.

If not, training measures have to be taken and the training program has to include the evaluation of the new competence (conducting a test with a supervisor, using questionnaires, recorded interviews, internal comparisons with reference materials,) and supporting evidence of these evaluations have to be recorded. These evidences can consist, where applicable, of:

- technical degree, certificate, diploma;
- involvement in publications;
- records of the involvement in calibration or testing operations and assessment of the participation;
- record of involvement in internal or external comparisons;
- record of involvement in research partnership/research networks;

- record of involvement in standardization work;
- records of specific evaluation;
- for non-frequent activities (>12 month), records of the performance of “reference” tests;
- others.

The use of a database can improve the laboratory’s capability to quickly identify the right person for a particular job.

Review and improvements

Both specifications and qualifications have to be reviewed on a regular basis, taking into account the current needs of the laboratory and its customers as well as future needs. This may require a re-evaluation of competence. Training and qualification programs can be outputs of research and technical development activities of a laboratory.

Review of the assessment of the competence process:

Internal audits are conducted to verify that the operations continue to comply with the requirements of the management system and ISO/IEC 17025.

Conclusions

The assessment of the competence of staff has to be fit for purpose that is to determine if the staff is capable of generating technically valid results. The better the competence specifications are defined, the easier will it be to demonstrate the fulfilment of these competence requirements. It is the responsibility of the laboratory to find a good balance between competence assessment of the staff and other quality requirements that have an impact on the test result. The assessment and the competence of staff have to be continuously improved for the benefits of the laboratories and their clients.

References

[1] ISO/IEC 17025:2017, “General requirements for the competence of testing and calibration laboratories”