



GUIDANCE NOTES ON ISO/IEC 17020:2012

PURPOSE

This document provides guidance notes additional to ILAC P15 Application of ISO/IEC 17020:2012 for the Accreditation of Inspection Bodies. It is intended primarily to assist inspection bodies to understand issues that will be examined by accreditation bodies during assessments. It is to be used in conjunction with ILAC P15.

The commentary and interpretative material is structured in parallel with ISO/IEC 17020:2012 and is numbered with the relevant clause number of the standard, e.g. 12.2(1) is commentary number 1 on the requirements of clause 12.2 of ISO/IEC 17020:2012.

AUTHORSHIP

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2 Normative references

ISO/IEC 17020:2012 General Criteria for the operation of various types of bodies performing inspection

3 Terms and definitions

3.1(1) The definition of inspection in ISO/IEC 17020:2012 is very broad and activities that could be accredited under ISO/IEC 17020:2012 may share some features with testing (including sampling), product certification, personnel certification or management system certification.

3.1(2) It is important for accreditation bodies and inspection bodies to consider carefully what, exactly, is 'inspected' and the purpose of the inspections as accreditation is an attestation of competence and determining exactly what is inspected is a major determinant of the competencies required and therefore what the accreditation body needs to assess.

Illustrative example

Under the general heading of "pressure vessels", accreditation may be granted for any of the following inspections:

- inspection of the design of pressure vessels – for compliance with a design code or general engineering criteria
- inspection of the fabrication of pressure vessels – for compliance with approved design including materials, dimensions etc.
- inspection of the installation of pressure vessels – siting and support arrangements for compliance with plans and regulations
- inspection of the pressure vessels as part of an installation – for appropriateness of the integration of vessels into a wider process setting
- inspection of pressure vessels while in-service – including corrosion, abrasion, pitting, cracking etc. For safety assessment and assessment of remaining life.
- inspection of repairs or alterations to existing vessels – for appropriateness of materials, methods etc.
- inspection as part of accident investigation – for identification of failure modes and causes

Each of the listed inspections are related to pressure vessels; however, in each case the "item inspected" is different. In some cases it is design data, in some it is the materials, methods and dimensions, in some it is the result of processes during the use of the pressure vessel and in others it is the whole installation of which the vessel may be a small part. Each inspection requires different knowledge, experience and judgement and therefore it would be inappropriate to cover them all under a simple term such as "pressure vessel inspection".

The terms included in clause 3.1 of ISO/IEC 17020:2012 help to clarify exactly what is inspected in each case.

3.1(3) In cases of ambiguity, final determination of whether a particular activity may be included in the scope of accreditation, as an inspection activity, should be made by the accreditation body, taking into account accepted international practice, regulatory requirements, inspection scheme rules etc. where relevant.

4 General requirements

4.1.3(1) Undue pressure on personnel may be brought to bear through factors such as financial, marketing, customer relations and personal matters, in the form of threats or inducements, from internal or external sources, to influence inspection outcomes.

4.1.4(1) An effective procedure for managing impartiality normally requires personnel to report and record any perceived conflicts of interest, from any source, prior to commencing work on a job. Records should also be kept of actual incidences of undue pressure from any source and responses to them.

4.1.6(c)(1) In the case of Type C inspection bodies, potential clients should be clearly informed of the interests or activities of the inspection body or associated bodies that prevent it being classified as a Type A inspection body. This statement should be sufficiently explicit to enable potential clients to make informed decisions on the level of independence offered. This information could be included in contractual agreements or be communicated by other means.

5 Structural requirements

5.1 Administrative requirements

5.1.5(1) The conditions referred to in this clause of ISO/IEC 17020 are contractual conditions not physical conditions at inspection sites:

Items which are commonly included in conditions of contract include but are not limited to:

- access to documented inspection history
- responsibility for safe site access
- timely availability of key client personnel
- preparation of items for inspection
- response to adverse weather conditions
- level of reporting
- terms of payment
- level of and scope of liability accepted, insurance, etc .

5.2 Organisation and management

5.2.5(1) Functions of a technical manager typically include, but are not limited to, authorisation of inspection methods, establishing the competence of persons involved in inspection and technical support for inspectors.

6 Resource requirements

6.1 Personnel

6.1.10(1) Training records do not establish competence. They are a statement that the management considers the individual to be competent to perform specific inspection tasks and, where relevant, to use specific equipment.

6.1.10(2) Training records should detail competence levels assessed in all relevant technical and administrative areas and should be reviewed regularly (normally annually).

6.1.11(1) In cases where it is impossible to separate remuneration from the number of inspections done, eg. in very small inspection bodies, other means, such as recording the duration of inspections, should be established to demonstrate

that measures are in place to ensure that the quality of inspections is not compromised by financial considerations.

6.2 Facilities and equipment

6.2.7(1) The definition of measurement traceability given in ILAC P10 should be applied in understanding this clause.

6.2.7(2) Where accuracy requirements permit calibrations of working instruments to be performed in-house, traceability to national standards should be assured by the use of reference standards of measurement for which the inspection body holds current traceable calibration certificates. The calibration certificate for the reference standard should detail an uncertainty of measurement that is appropriate for the equipment that is to be calibrated by reference to the reference standard. For further information on uncertainty of measurement see ISO/IEC 17025:2017, section 7.6. See also clause 6.2.8 of ISO/IEC 17020:2012.

6.2.9(1) Records of in-service checks on equipment should be maintained.

6.2.10(1) In situations where non-certified reference materials are used, inspection reports should clearly state that the stated conclusion on conformity is based on uncertified reference materials.

6.2.13(1) In-house developed software such as spreadsheets shall be validated before use. Validation may be accomplished by processing a known data set and performing equivalent processing manually or by other means. The extent of the known data set should be such that all possible outcomes of the software manipulation can be adequately checked. Software should be protected from unauthorised alteration. Unauthorised alteration may be detected by reprocessing the known data set periodically. Records of software validations and periodic checks should be maintained.

6.2.13(b)(1) Where electronic records are the primary storage medium, appropriate methods such as regular backups and offsite storage of backups, up to date security protection, operating system and application updates, patches etc. should be implemented. The frequency of backups should be set to reduce the risk of loss to an acceptable level.

6.2.13(c)(1) All software, including proprietary products, should be controlled in an equivalent way to hard-copy or electronic documents. Records of version numbers and dates when each version was brought into or taken out of service should be maintained.

6.3 Subcontracting

6.3.4(1) To maintain consistent standards of assessment of competence (as required by international MRAs among accreditation bodies), where the assessment of a subcontractor is carried out by an inspection body, it should be able to be demonstrated that the assessment team is technically competent and knowledgeable in the application of ISO/IEC 17020 or ISO/IEC 17025, as appropriate.

7 Process requirements

7.1 Inspection methods and procedures

7.1.3(1) All non-standard methods should be authorised by the technical manager or another technically competent person. Non-standard methods should be documented, retained and referenced in relevant reports.

7.1.8(1) Checking points should be identified in operating procedures. The extent and nature of checking should also be defined, e.g. checks for completeness, for technical consistency, technical reliability or typographical and style errors.

7.1.8(2) There should be documentary evidence that checks have been done. This evidence should ideally include the identity of the checker and the date each check took place.

7.1.8(3) An inspection body that performs large numbers of routine inspections may consider performing less than 100% checking. In such cases justification of the sampling method and sample size should be documented.

7.3 Inspection records

7.3.1(1) Inspection records should be detailed and comprehensive. Satisfactory evaluation of the inspection may require more than the following types of information to be recorded:

- client instructions
- details of job review
- details of the items inspected
- inspection conditions
- information provided by the client
- identity of the person who performed the inspection
- equipment used
- equipment verification records
- the inspection procedures used
- inspection observations
- conformity decisions (with supporting justification)
- aspects not inspected, with reasons given, e.g. lack of safe access.

Additional information requirements should be considered at the times of contract review, during the inspection and subsequent reporting.

7.4 Inspection reports and inspection certificates

7.4.4(1) Accreditation cannot normally be claimed for an inspection report that relies upon material provided by a subcontractor that does not have demonstrated competence as required by clause 6.3.4 of ISO/IEC 17020. Where regulations or other authoritative requirements stipulate that a report must include a claim of accreditation, all information, critical to the inspection decision, provided by a body that does not have demonstrated competence by accreditation, should be clearly identified as such.

7.5 Complaints and appeals

7.5.1(1) Complaints should include all expressions of dissatisfaction from any party, including but not limited to clients and regulators or other stakeholders, however received.

8 Management system requirements

8.1 Options

8.1.3(1) To meet the requirements of option B an inspection body must:

- Establish (document) a management system in accordance with ISO 9001, AND
- Maintain the system up to date and relevant, AND
- Demonstrate that the system is capable of supporting fulfilment of clauses 8.2 – 8.8 of ISO/IEC 17020:2012, (some of which are more prescriptive than ISO 9001) AND
- Demonstrate consistent fulfilment of the requirements of clauses 8.2 – 8.8 of ISO/IEC 17020:2012, (some of which are more prescriptive than ISO 9001).

8.2 Management system documentation (Option A)

8.2.1(1) Policy statements are intended to demonstrate senior management commitment to the quality system. Objectives should include measurable targets, which are reviewed at least annually.

Note: In cases where an inspection body is subject to regulations, Standards or other authoritative requirements, targets in policy statements may not be less than 100% of such requirements.

8.2.3(1) In cases where an inspection body operates from a number of offices or locations, responsibility for the practical maintenance of the quality system in each office or location should be assigned to one or more named individuals.

8.3 Control of documents (Option A)

8.3.1(1) The document control system shall be documented. A statement that documents will be controlled is not sufficient.

8.3.2(d)(1) There must be a clear and authoritative means for all employees to identify the current authorised version of any controlled document.

8.5 Management review (Option A)

8.5.1.1(1) An important aspect of management review is the identification of trends in all forms of feedback that may indicate areas of the quality system that would benefit from review and possible revision. This aspect of management review need not be carried out more than once a year unless there are large volumes of feedback suggesting an urgent need for review.

8.5.1.1(2) Feedback includes internal feedback for the purposes of improvement, as well as complements, complaints, appeals and preventive action.

8.5.3(1) The outcome of a management review should include the setting of objectives for the coming period and proposed improvements to the quality system if required. If the outcome of a management review is that no changes are required, this decision should be recorded.

Note: more guidance on management review may be found in APLAC TC003.

REFERENCES

1. ILAC P10:2013 ILAC Policy on Traceability of Measurement Results
2. ISO/IEC 17020:2012 Conformity Assessment – Requirements for the operation of various types of bodies performing inspection
3. ISO/IEC 17025:2017 General requirements for the competence of testing and calibration laboratories
4. ISO/IEC 17011:2017 General requirements for accreditation bodies accrediting conformity assessment bodies