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Assessment effort



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Assessment effort

This information paper should be read together with the various documents covering the Classes of Test (however named) available from the NATA website.

Introduction

NATA has defined a process which enables its lead assessors to identify the minimum range of activities needing to be reviewed at assessment in order to confirm the technical competence of a facility for its given scope of accreditation.

The aim of this process is to ensure the comprehensive review of the scope of accreditation without duplicating assessment effort that does not add to NATA's confidence in the competence of a facility.

Assessing the scope of accreditation

The assessment process is based on the review of core competencies (or competency areas) which have been identified in each field and program of accreditation that NATA offers. These competencies relate to the skills necessary to perform activities and (dependent on the field or program) may be defined by principles, techniques, modalities, examinations, matrices, materials/products, sample types, or a combination of two or more of these parameters. In many cases, the identified competencies align with the classes of test (and/or subclasses) for the given accreditation field or program.

Identifying the competencies relating to activities covered by a scope of accreditation allows assessments to be structured around the sampling of activities falling under each competency.

It is to be expected that every competency area covered by the scope of accreditation will be reviewed at every scheduled visit. As a minimum, at least one activity within each competency will be discussed or its performance witnessed.

Where competency elements overlap between activities (within a competency area) these will be assessed once to remove duplication of the assessment effort.

Where a competency covers more than one activity, it will be ensured that different activities are selected at successive scheduled visits. For example, if a single competency covers more than one test method, then a different test method will be selected at each visit.

Prior to each scheduled NATA visit, a sampling plan will be developed by the lead assessor. When the visit is an initial assessment or reassessment, the sampling plan will be discussed and confirmed with the technical assessor(s).

The sampling plan will take into account the assessment history of an accredited facility including performance in proficiency testing programs, and any regulatory requirements which may necessitate the assessment of specific activities which preclude a sampling approach. If, at an assessment or surveillance visit, concerns are raised with a facility's competence or compliance with the requirements for accreditation, the sampling plan shall be extended i.e. further activities shall be reviewed either at the current visit if time permits or at a specially scheduled additional visit.

The sampling of the scope of accreditation at assessment has been undertaken at scheduled visits since 1 January 2012. Since that time, experience gained has been used to refine the defined competencies and improve NATA's application of the approach. It is expected that revisions and improvements will be ongoing.

Further explanation of how the competencies are defined by each field and program of accreditation is detailed in the following pages.

Competencies

Calibration Sector

Calibration

The competency areas cover grouped measurement types. NATA Technical Circular 7 provides a list of these groupings.

Information and Communications Technology Testing (ICTT)

The classes of test represent the areas of competencies (which align industry groups).

Performance and Approval Testing (PAT)

The classes of test represent the areas of competencies.

Reference Materials Producers (RMP)

The areas of competencies are defined at the subcategory level under the following broad categories:

- Category A: Chemical composition
- Category B: Biological and clinical properties
- Category C: Physical properties
- Category D: Engineering properties

The assessment sampling plan is determined by the subcategory of reference material (RM) and the associated testing, calibration or measurement activities that affect the validity and uncertainty of the assigned property of the RM. Where there is more than one reference material produced under each subcategory, the degree of overlap in the activities involved shall determine the effort required in assessing each individual reference material produced.

Clinical Services Sector

Medical Imaging

Competencies areas are represented by the subclass of modality/examination type.

Infrastructure Sector

The competency areas are based on broad groups for which there would be significant common knowledge applying to all methods/techniques within each group. Assessment is based on sampling test methods under each class to ensure that the elements forming part of the competency area are covered.

Construction Materials Testing (CMT)

The subclasses of test represent the areas of competencies.

Mechanical Testing

The classes of test represent the areas of competencies.

Non-Destructive Testing (NDT)

The elements covered by each competency area are as follows:

Surface methods	<ul style="list-style-type: none"> • Method (MT/PT) • Technique (magnetisation type and/or media type)
Ultrasonics	<ul style="list-style-type: none"> • Analytical technique (d-meter/A-Scan/PA/TOFD/LRUT) • Type of determination (corrosion/thickness, general examination) • Product (weld type, bonded metal type, castings, wrought material, non-metals)
Radiography	<ul style="list-style-type: none"> • Imaging technique (Film/Computed/Digital) • Type of determination (corrosion/thickness, general examination) • Product (welds, castings, wrought material)
Electromagnetic tests	<ul style="list-style-type: none"> • Analytical technique (ACFM, MFL, Eddy Current – high frequency, low frequency, remote field, pulsed, array) • Type of determination (corrosion/thickness, general examination, ferrite content, sorting) • Product (welds, tubes, rope)

Acoustic Emission	<ul style="list-style-type: none"> • Product (tanks, pressure vessels, booms, etc.)
Condition monitoring	<ul style="list-style-type: none"> • Analytical technique (thermo, vibration) • Product (gears, motors, shafts, piping etc.)
Ancillary or supporting methods	<ul style="list-style-type: none"> • Technique (visual, PMI, leak) • Product (based on material and/or metallurgy)

Note: Some equipment may cover more than one competency area, e.g. tube testing equipment with MFL/IRIS modes (which would require assessment in both electromagnetic and ultrasonic testing).

Inspection Sector

Competency areas are defined by the products related to an industry group (as defined by the categories of inspection) and by the code, standard or regulation (covering the nature of inspection activity e.g. design verification, in-service inspection etc.).

The sampling plan ensures that selection of inspectors covering each product and code combination shall be reviewed.

Life Sciences Sector

Biological Testing

The competency areas are broadly categorised into microbiology and non-microbiology. The sampling of methods to be assessed is determined by a combination of the techniques and matrices covered by each competency. Techniques may include, for example, ELISA, enumeration procedures, PCR, identification processes etc. Matrices may include, for example, food, water, plant material etc. as follows:

The following competency areas are covered under the two broad categories:

Microbiology:	Bacteriology
Non-microbiology:	Allergens
	Enteric protozoa
	Efficacy testing
	Ecotoxicology
	Freeliving protozoa
	Media quality control
	Macroinvertebrates
	Microinvertebrates
	Molecular testing
	Mutagenicity and cytotoxicity
	Phycology
	Plant health diagnostics
	Seed testing

Chemical Testing

The sampling of methods to be assessed is determined by a combination of the techniques and matrices/sample type covered by each core competency. In principle, there is greater overlap in competencies for instrumental techniques per activity than classical techniques. Overlap in competencies means that economies in assessment effort can be gained to cover a broader range of methods employed. For example, the analyses of cereals in both the *Foods* and *Agricultural* classes of test, or ICP-MS analyses of both soils and water in *Environment and environment residues*. It should be noted, however, that the preparation of the different matrices/sample types may vary (e.g. soils versus water samples) and thus these aspects must be taken into account when the assessment plan is developed.

Forensic Science

The classes of test represent the areas of competencies.

Assessments also include the review of case files and reporting officers for each class of test covered by the scope of accreditation. In principle, for each class of test, one reporting officer and one to two case records are reviewed for every five reporting officers. An exception to this is for parentage testing conducted in accordance with the Australian Family Act 195 Regulation 21N(5). For such testing, all reporters nominated by the facility shall be reviewed at each assessment.

Medical Testing and Veterinary Testing

The subclasses of test are considered to represent the areas of competencies. Accordingly, the assessment effort is directed at sampling test methods using the techniques under each subclass.

Other programs

Good Laboratory Practice (GLP)

For each study type covered by a facility's notification of recognition, compliance with the OECD principles is reviewed and a study audit (which involves reproducing a study using archived records and checking information in the final report) is undertaken at each assessment.

Proficiency Testing Scheme Providers (PTSP)

Scopes of accreditation reference the "field of testing" covered by the PT schemes offered which currently are defined by the classes and subclasses of tests (as per NATA's laboratory accreditation program i.e. ISO/IEC 17025). Scopes may provide further clarity by including free text, where necessary, with regard to the specific proficiency testing items, sample types etc. offered.

Assessment effort is directed at reviewing PT schemes at the class/subclass level (as noted above). The degree of overlap between schemes covered by the scope of accreditation will reduce the assessment effort. Overlap activities may include, for example, the statistics involved, laboratory based testing where these are performed (characterisation, stability testing, homogeneity testing) etc.

Research & Development (R&D)

R&D activities are project based in nature. Accordingly, it is not possible to define a sampling approach applicable to all R&D facilities. However, in principle, assessment involves the conduct of vertical audits of projects covering the range of techniques and processes adopted by the facility. Where projects overlap, it is to be expected that duplication in assessment will not occur.

In addition to the vertical audit(s), horizontal audits are also conducted of the test methods employed and their validation.