

## **Training Committee Meeting Summary**

**August 14, 2020**

### 1. Roll Call:

Calista Daigle, Chair, called the meeting to order at 1pm Eastern on August 14, 2020 by teleconference. The meeting was attended by 13 Voting Committee members and Associate Members (see Attachment A).

A motion was made by Jack to accept the July 10, 2020 minutes as written. The motion was seconded by Tami. Vote: For – 11 Against – 0 Abstain – 1 (Aaren). The motion passed.

### 2. Report – Competency Task Force

Jerry provided an update on the work being done by the Competency Task Force. Jerry shared a DRAFT document that is farther along than expected. The Task Force will continue to review it this month, but Jerry wanted to share it with the Training Committee to get some initial feedback (Attachment B).

How does it compare to what we are doing now? There may be gaps that don't address all of this. Jack suggested having someone attend today's class and compare it. Ilona can help with this since she assists in some of these classes.

Ilona asked if the next step is an umbrella certificate for the courses? Not sure yet.

Jack noted that basic assessor, lead assessor, and support may be different.

Jerry shared a document on badges. Ilona noted that Lynn Bradley took an overview class on badges and she can share Lynn's notes with the committee when they are ready to look at this.

Calista noted that she liked the format of the document.

### 3. Action Item Update

- Jerry will send Ilona a copy of the document that looks at the training course statistics.
- Ilona will report back on William items at the next meeting.

- Mitzi has not had a chance to contact states with needs yet. She hopes to send out emails and have phone conversations with people this next week. She will have info to report back. Mitzi is curious if this group can help provide input she can use as examples to encourage people to share.
- The Charter has been sent to Policy Committee.
- Jerry update:
  - He's been working on revising TNI's training SOP (SOP 1-110). He needs to visit with Ilona, Suzanne and William before finalizing a DRAFT.
  - He's also been looking at all the ideas people have been suggesting for training classes. He'd like this group to brainstorm list of training needed.

Jerry suggested brainstorming course related to a track.

Quality Manager Track:

Understanding Standard  
 CAR  
 Internal auditing  
 Control charts stat analysis  
 Managing PTs  
 Document Control  
 Data Review  
 Ethics – Inappropriate Practices  
 Data Flagging  
 Training Program administration  
 Working with Management  
 Working with your AB  
 Preparing and managing assessments  
 Time management and prioritization  
 DQOs and DQIs  
 Writing a Quality Manual  
 Writing SOPs  
 Working with Clients on Data Deliverables  
 Tracking Regulatory Requirements  
 Interviewing Skills  
 Conflict Management  
 Managing Multiple Accreditations and Scopes  
 Statistics  
 Combining Methods  
 Excel Tricks  
 Package of spreadsheets to track various things  
 QC Limit Updates  
 Technical Familiarity with lab technologies
 

- You don't need to be the expert, but you need to know the questions to ask.

- You can learn a lot on the internet to familiarize yourself with new technology.
- Know who to ask to get information.

How to build a network.

Effective Management Review

Risk Assessment

Pitfalls of being in the same lab your entire QA career

What are some of the tracks we could develop:

Technical Manager

Analyst – Things related to the TNI Standard. Maybe some basic skills too (balance use, rounding, significant figure.)

Client Services/Project Manager

Lab Manager/Director

Marketing/Contract and Tenders

Lab Supervisors/Group Leaders/Section Manager

#### 4. Action Items

An Action Item Summary can be found in Attachment D. This chart will help the committee track action items and status.

#### 5. New Business

None.

#### 6. Next Meeting and Close

The next meeting will be at 1pm EDT on September 11, 2020. (*Addition: The meeting was rescheduled to Friday, September 18, 2020 at 1pm EDT.*)

The meeting was adjourned at 2:04pm Eastern. (Motion: Jack. Second: Catherine Unanimous agreement.)

Attachment A

**Participants  
TNI Training Committee**

| <b>Voting Members</b>                     | <b>Represent</b> | <b>Affiliation</b>                | <b>Contact Information</b>    |
|---|------------------|-----------------------------------|-------------------------------|
| Calista Daigle<br>Chair<br><b>Present</b> | Lab              | AA Analytical                     | cdaigle@amrad.com             |
| Mark Alessandrone<br><b>Absent</b>        | Other            | Markay Consulting Group           | mark@markaycg.com             |
| Aaren Alger<br><b>Present</b>             | Other            | Alger Consulting & Technology     | aaren@alger-consulting.com    |
| Derek Chen<br><b>Present</b>              | Lab              | City of Sacramento                | cydchen@gmail.com             |
| Erin Consuegra<br><b>Absent</b>           | Lab              | ERA Labs                          | econsuegra@eralab.com         |
| Kodey Eley<br><b>Absent</b>               | Lab              | Libby Environmental               | keley@libbyenv.com            |
| Jack Farrell<br><b>Present</b>            | Other            | AEX                               | aex@ix.netcom.com             |
| David Fricker<br><b>Absent</b>            | AB               | A2LA                              | dfricker@a2la.org             |
| Salima Haniff<br><b>Present</b>           | Lab              | Bureau Veritas Laboratories       | Salima.Haniff@bvlabs.com      |
| Catherine Katsikis<br><b>Present</b>      | Other            | LDCFL – NAOS Consulting           | catherinekatsikis@gmail.com   |
| Veronika Kerdok<br><b>Present</b>         | Lab              | New York City DEP                 | VeronikaZ@dep.nyc.gov         |
| Joe Manzella<br><b>Present</b>            | Lab              | Orange County Sanitation District | JManzella@OCSD.COM            |
| Mitzi Miller<br><b>Present</b>            | Other            | NV5                               | Mitzi.Miller@nv5.com          |
| Tami Minigh<br><b>Present</b>             | Lab              | City of Daytona Beach             | MinighTami@CODB.US            |
| Georgia Moulton<br><b>Absent</b>          | Lab              | ALS Global                        | georgia.moulton@ALSGlobal.com |

| <b>Voting Members</b>                        | <b>Represent</b>         | <b>Affiliation</b>                   | <b>Contact Information</b>        |
|--|--------------------------|--------------------------------------|-----------------------------------|
| Dee Shepperd<br><b>Present</b>               |                          | DDMS                                 | ddbergere@gmail.com               |
| Jerry Thao<br><b>Present</b>                 | Lab                      | Pace Labs                            | Jerry.Thao@pacelabs.com           |
| Shirley Thomas<br><b>Absent</b>              |                          | Thomas Resource Group                | info@trgsafety.com                |
| Curtis Wood<br><b>Present</b>                | Other                    | Waters                               | curtis_wood@waters.com            |
| Jerry Parr<br>(ex-officio)<br><b>Present</b> |                          | TNI                                  | jerry.parr@nelac-institute.org    |
| Ilona Taunton<br>Present                     | Program<br>Administrator | TNI                                  | ilona.taunton@nelac-institute.org |
| <b>Associate<br/>Members:</b>                | <b>Present</b>           |                                      |                                   |
| Robin Cook                                   | X                        | City of Daytona Beach                | cookr@codb.us                     |
| Alan Ching                                   |                          | Weck Labs                            | alan.ching@wecklabs.com           |
| Wanda Harney                                 |                          | City of Cincinnati - MSD             | Wanda.Harney@cincinnati-oh.gov    |
| Mike Michaud                                 |                          | City of Abilene – Water<br>Utilities | mike.michaud@abilenetx.gov        |
| Chrystal Sheaff                              | X                        | Energy Lab                           | csheaff@energylab.com             |
| Ashley Larson                                |                          | Derby Web                            | AshleyLarsen@DerbyWeb.com         |
| Cindy Story                                  | X                        | Gulf Coast Authority                 | cstory@gcatx.org                  |
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## **Attachment B**

### **Knowledge, Skills and Abilities (KSAs) of Environmental Laboratory Assessors**

This document defines the knowledge, skills and abilities (KSAs), also called “competencies,” for assessors involved in the accreditation of environmental testing laboratories according to the 2016 TNI Standard (and future versions of that standard). The objective of this document is to enable Accreditation Bodies (ABs) and training organizations to develop training courses for assessors. The document is organized into four sections on Basic, Technical, Module, and Refresher training.

Two documents were relied upon in creating this TNI-specific document, one from the International Accreditation Forum (IAF) and the other from the International Laboratory Accreditation Cooperation (ILAC). Those are “Generic Competence for AB Assessors: Application to ISO/IEC 17011” (IAF MD 20:2016), and “Guidelines for Training Courses for Assessors Used by Laboratory Accreditation Schemes”, ILAC-G3:1994.

An Annex provides information about developing training courses that may be useful to training course providers. Material in this Annex was extracted from the 2003 NELAC Standard. Note: All training provided under the auspices of TNI must comply with TNI SOP 1-110, Educational Delivery System.

#### **1.0 The Basic Assessor Training Course**

The purpose of the Basic Assessor Training Course is to fulfill the requirement for assessors specified in TNI Standard Volume 2.

The Basic Assessor Training Course:

- Instructs assessors on the basic elements of proficiency testing and performing assessments by focusing on evaluating laboratory quality management systems.
  - Provides an overview of the TNI Standards and the NELAP laboratory accreditation process.
  - Promotes uniformity of laboratory assessments performed to obtain NELAP accreditation.
  - Facilitates information exchange among assessors.
- 2.0 Education and Training Requirements for Assessors as published in the TNI Standard

Section 1.1 contains the TNI-specific competencies for the National Environmental Laboratory Accreditation Program (NELAP) and Section 1.2 contains the generic competencies. When an assessor does not perform one or more of the tasks as delineated in this section, the AB can consider the exclusion of application of the respective competencies. The competencies in Sections 1.1 and 1.2 are required to be included in a Basic Assessor Training Course.

Sections 1.3 and 1.4 contain additional information to assist in understanding the competency profile of an individual assessor. While these competencies and associated knowledge and skills should be considered by the AB when evaluating assessors or the assessment team, the AB does not have to have documented evidence of its assessors (or assessment team) meeting every individual competence or all of the knowledge listed. Typically these competencies can be demonstrated in a variety of ways; but most commonly during interviews, personal interaction and/or during onsite evaluations.

## 1.1 TNI-Specific Competencies of Environmental Laboratory Assessors

The subsections below summarize the KSAs for assessors. After training, if an assessor does not show or demonstrate one or more of the tasks as described below, the AB can consider that the individual is not competent as a laboratory assessor.

The KSAs to be covered in Basic Assessor Training are generic assessment competencies – accreditation, planning and scheduling, document review, on-site assessment (in person or remote) and report preparation – and competencies specific to the TNI Environmental Laboratory Sector Standard – historical perspective, fundamentals of the accreditation scheme, qualifications and training of assessors, the accreditation of laboratories, proficiency testing and management system requirements. In addition to the historical perspective and specific program operations, the remaining competencies are required to assess the proficiency testing (V1M1) and Quality System (V1M2) modules of the TNI Standard.

### 1.1.1 Historical Perspective on National Accreditation

- a) The Need for National Accreditation
- b) Past Efforts toward National Consistency
- c) Genesis of the National Environmental Laboratory Accreditation Program (NELAP)
- d) TNI and its role in NELAP

### 1.1.2 Fundamentals of NELAP

- a) What is NELAP?
- b) Structure and Operation of the program
- c) Primary Accrediting Accreditation Bodies
  - i. Requirements and Functions of Primary ABs
  - ii. Process for Recognition of ABs
- d) Secondary ABs
  - i. Requirements and Functions of Secondary ABs
  - ii. Reciprocal Recognition of Accredited Laboratories
- e) National Accreditation Database
- f) Scope of Accreditation, including differences among ABs
- g) Non-Governmental ABs

### 1.1.3 Qualifications and Training Requirements for Assessors

- a) Basic Qualifications
- b) Qualification by an AB
- c) Absence of Conflict of Interest Certification
- d) Purpose of Training Assessors
- e) Types of Training – an assessor need not be qualified for every module, and would not need training in disciplines relevant to that module
  - i. Basic Assessor Training
  - ii. Technical Training in the various disciplines, which would include asbestos, chemistry (further broken down into organic, inorganic metals, inorganic non-metals), microbiology, radiochemistry, WET testing and any

others that may be developed to ensure familiarity with the analytical methods and technologies that will be assessed.

- iii. Module Training in how to assess to the different modules – asbestos, chemistry, microbiology, radiochemistry, WET testing and any others that may be added in the future.
- iv. Refresher Training

#### 1.1.4 Accreditation of Laboratories

- a) Accreditation Requirements
- b) Order of the Accreditation Process
- c) Role of the Laboratory Assessor in Accreditation of Laboratories
  - i. The AB makes the accreditation decision
  - ii. Possible need to accredit sampling
  - iii. Avoiding consultancy
- d) Laboratory Personnel Qualifications
  - i. Technical Manager
  - ii. QA Manager
  - iii. Analysts

#### 1.1.5 Proficiency Testing (V1M1 of the TNI Standard)

- a) Purpose of Proficiency Testing
- b) Definitions
- c) Mechanisms, Criteria, Current Programs, Follow- Up Actions
- d) Oversight and Delivery of Proficiency Testing Program
  - i. Proficiency Testing Providers
  - ii. Proficiency Testing Provider Accreditors
  - iii. Role of Primary ABs
- e) Laboratory Requirements for Proficiency Testing
  - i. Types of PT Samples Required to be Analyzed
  - ii. PT Fields of Testing and Fields of Proficiency Testing (FoPT) tables
  - iii. Frequency of PT Sample Analysis
  - iv. Requirements for Handling and Analyzing PT Sample
- f) Role of the Laboratory Assessor in Reviewing PT Sample Data
- g) Unique requirements for PTs (e.g., WET)

#### 1.1.6 Quality Management System Requirements for Laboratories – Management (V1M2, Section 4.0)

- a) Organization and Management
- b) Document and Records Control
  - i. Quality Manual
  - ii. Quality Assurance Policies and Procedures
  - iii. Standard Operating procedures
- c) Review of Customer Requirements and Subcontracting of Environmental Tests
- d) Purchasing Services and Supplies
- e) Service to the Client and Complaints



- f) Control of Nonconforming Work
- g) Improvement, Corrective Action, and Preventive Action
- h) Internal Audits and Management Reviews
- i) Ethics and Data Integrity
- j) Corrective Actions
- k) Data Review and Evaluation
- l) Quality System Checklist
  - i. Purpose
  - ii. Mandatory Use
  - iii. Use of the Quality Systems Checklist Before, During, and After Laboratory Assessments
  - iv. Procedure for Documentation of Findings

#### 1.1.7 Quality Management System Requirements for Laboratories – Technical (V1M2, Section 5.0)

- a) Accommodation and Environmental Conditions
- b) Selection and Validation of Methods and Analytical Uncertainty
- c) General Calibration Requirements and Calibration of Support Equipment
- d) Measurement Traceability, Reference Standards, and Reference Materials
- e) Collection and Handling Samples and Test Items
- f) Essential Quality Control
- g) Reporting

## 1.2 Generic Assessment Competencies

These competencies are based on material in “Generic Competence for AB Assessors: Application to ISO/IEC 17011” (IAF MD 20:2016), Annex 2, modified and customized to apply specifically to the TNI 2016 Standard and TNI’s recognition of ABs authorized to accredit to that Standard by either the National Environmental Laboratory Accreditation Program or the Non-Governmental Accreditation Body recognitions.

### 1.2.1 Accreditation

- a) Different types of onsite assessments
- b) Different types of organizational structures
- c) Legal entity structures and the types of documents that confirm the legal status
- d) Different management structures
- e) Accreditation standards, guidance and mandatory documents
- f) Typical management systems
- g) Technical terms associated with scopes assessor is assessing
- h) Common understanding of accreditation terms and definitions (Non-conformity [NC], Opportunity for Improvement [OFI], key activity, etc.)

1.2.2 Planning and Scheduling – most of these are Lead Assessor Skills and may not be needed by all assessors; participants recommend no separate training for Lead Assessor role

- a) Typical assessment team compositions
- b) Typical resources required during an assessment

- c) Prioritizing assessments by risk areas (not in 2016 TNI Standard but will be in upcoming revision of V2M1)
- d) Creating sampling plans
- e) Preparing assessment plans (not in 2016 TNI Standard but will be in upcoming revision of V2M1)
- f) Assigning roles and responsibilities for the assessment team
- g) Planning an Assessment
  - i. Scope of an Assessment
  - ii. Appointment of Lead Assessor and other Team Members
  - iii. Roles of Assessment Team Members
- h) Document review
  - i. PT Sample results
  - ii. Quality Manual
  - iii. Corrective Action Reports and Plans
- i) Previous Assessment Reports
- j) Preparation of Agenda and Schedule
- k) Notifications

### 1.2.3 Document Review

- a) Reviewing applications for accreditation and identifying appropriate documentation of legal status
- b) Determining the documents that will be needed for the assessment
- c) Checking the documents for completeness
- d) Determining if the documents meet the requirements
- e) Establishing investigative lines for the onsite assessment
- f) Communicating the results of the document review
- g) Confirming the readiness for an onsite assessment
- h) Determining if submitted documents are adequate to warrant proceeding to the onsite portion of the assessment
- i) Determining if sufficient evidence exists to document conformity

### 1.2.4 Onsite Assessment

#### 1.2.4.1 *Preparation and Pre-Onsite Reviews*

- a) Establishing the official channels of communication
- b) Conducting pre-assessment meetings
- c) Identifying criteria that will be used for the assessment
- d) Identifying technical areas and when additional expertise is needed
- e) Reviewing the files and records
- f) Create records to document objective evidence gathered (throughout the assessment)
- g) Creating working papers, notes and completing checklists (during review and during onsite)
- h) Assessing the laboratory against accreditation requirements (during review and during onsite)

- i) When to ask for escorts (safety issues, etc.)
- j) Assessing management systems and controls (during review and during onsite)
- k) Evaluating prior corrective actions (during review and during onsite)
- l) Assessing technical requirements (during review and during onsite)
- m) Assessing the laboratory against accreditation requirements (during review and during onsite)
- n) Sampling laboratory processes and records (protocols and AB criteria) (during review and during onsite)
- o) Managing and solving conflicts in the team (during review and during onsite)

#### 1.2.4.2 *Conducting opening meetings*

- a) Presenting the assessment team/CAB personnel
- b) Presenting an explanation of the assessment methodology
- c) Confirming assessment plans
- d) Confirming the scope of accreditation
- e) Explaining that the assessment is a sampling process (not everything was reviewed)
- f) Schedule and Agenda
- g) Assessment Appraisal Form
- h) Confidential Business Information (CBI)

#### 1.2.4.3 *During the onsite*

- a) Conducting interviews (need to consider possibility of remote assessments and conducting remote interviews when addressing this)
- b) How to determine if an assessment should be terminated
- c) Extending sampling in case of nonconformance
- d) Judging the effectiveness of corrective actions (from prior assessment, when required)
- e) Detailed Tour and Observation of Operations
- f) Calibration and Traceability of measurements
- g) Data and Document review
- h) Records retention and Reporting

#### 1.2.4.4 *At end of onsite before the closing meeting*

- a) Confirming completion of the assessment plan
- b) Confirming the objectives of the assessment were met
- c) Reviewing team member roles and responsibilities for closing meeting

#### 1.2.4.5 *Conducting closing meetings*

- a) Communicating preliminary findings to laboratory
- b) Confirming the methods of reporting
- c) Presenting and reviewing findings
- d) Determining if requirements have been met

- e) Explaining the next steps (appeal procedures, post-assessment processes, final decision schedule/timeline, potential follow-up assessments, etc.)
- f) Techniques for providing positive feedback (and throughout the process, but most important here)
- g) How to thank the participants

#### 1.2.4.6 *After the Onsite*

- a) Reviewing and finalizing the nonconformances
- b) Writing nonconformances and opportunities for improvement
- c) Describing the final assessment conclusions
- d) Retention of Assessment Documents

#### 1.2.4.7 *Evaluating the Corrective Action Response* (not all ABs have assessors involved in this, if they are contractors)

- a) Obtaining written acknowledgement of the nonconformance
- b) Evaluating adequacy of proposed corrective actions to address non-conformances

#### 1.2.5 Reporting Activities

- a) Evaluating assessment team members
- b) Demonstrating knowledge of personnel evaluation methods
- c) Producing a clear and concise report that reflects the assessment and the findings
- d) Creating a report on the performance (and conformance) of the laboratory with reference to the accreditation criteria
- e) Reporting conclusions and recommendations of the assessment that reflect the overall assessment and report content

#### 1.2.6 Ethical Conduct of Assessors

- a) Professional Conduct of Assessors
- b) Defining, Determining, and Avoiding Conflicts of Interest for Assessors

#### 1.2.7 Interviewing Techniques

- a) Utility of Interviews During Laboratory Assessments
- b) Interview Structure
- c) Verbal and Non- Verbal Communication
- d) Modes of Gathering Information
- e) Ways of Asking Questions
- f) Dealing with Difficult Interviewees

#### 1.2.8 Handling Assessment Challenges

- a) Dealing with Improper Practices
- b) Dealing with Unexpected Circumstances
- c) Technical Disagreements
- d) Absence of Key Laboratory Personnel
- e) Hostile Reception
- f) Conduct of Assessors During On- site Assessments

## 1.3 Professional Competencies

The assessor (or individual being considered for assessor position) should also demonstrate professional and foundational competencies to be further considered for the position of environmental laboratory assessor. These competencies are demonstrated in a variety of ways, during interviews, personal interaction and/or during onsite evaluations and thus do not need to be included in the training course. Professional competencies are leadership, organizational ability and behavioral/personal characteristics including interpersonal skills. Foundational competencies are basic math skills, computer skills, communication skills, administrative skills and the physical ability to perform the work of an assessor, as determined by the hiring authority's requirements.

These competencies are based on material in "Generic Competence for AB Assessors: Application to ISO/IEC 17011" (IAF MD 20:2016), Annex 2, modified and customized to apply specifically to the TNI 2016 Standard and TNI's recognition of ABs authorized to accredit to that Standard by either the National Environmental Laboratory Accreditation Program or the Non-Governmental Accreditation Body recognitions.

### 1.3.1 Leadership

- a) Meeting management – ability to manage meetings including creating the agenda (if required), facilitating the meeting and adhering to the time schedules to achieve the assessment process objectives
- b) Leader/leadership – displays the ability to guide a team or others and has the ability to mentor others

### 1.3.2 Organizational

- a) Ability to reason/good judgment – ability to assess situations or circumstances and formulate sound conclusions
- b) Accurate – draws the correct conclusion when interpreting the facts as related to a standard, rule or model. Produces results that are correct and based on fact
- c) Adaptable/flexible – displays an ability to adjust oneself to novel or different conditions throughout the assessment process
- d) Analytical – ability to synthesize and interpret data to formulate a conclusion
- e) Confidential – ability to identify information that should not be revealed. Maintains confidentiality by not disclosing confidential information
- f) Critical thinking – the process of actively and skillfully conceptualizing, applying, analyzing, synthesizing and evaluating information to reach a valid conclusion
- g) Customer focused/oriented – displays an ability to view the process from the CAB's perspective and to take into consideration the CAB's perspectives during an assessment
- h) Focused – demonstrates full attention to tasks and the assessment process. Not distracted by other external matters
- i) Safety conscious – displays an awareness of safety hazards and takes steps to prevent accidents
- j) Stress management – ability to reduce or control stress during stressful situations in order to make objective decisions
- k) Team player/cooperative – works collectively with members of a team or group to accomplish the tasks. Displays the ability to subordinate personal preference when working in a group for the good of the assessment process
- l) Work within one's expertise. Can identify when technical expertise is needed
- m) Conflict resolution - practice of recognizing and dealing with differing opinions in a rational, balanced and effective way
- n) Formulating questions/questioning techniques – ability to ask purposeful questions to elicit relevant information

- o) Ability to deliver a negative message that facilitates a positive action

### 1.3.3 Behavioral/Personal

- a) Ability to focus/concentration – does not appear distracted during an assessment
- b) Refrains from disagreeing with other assessment team members in front of the laboratory
- c) Confident/self-confident/self esteem/conviction – having self assuredness in one's personal judgment, ability and power. Does not delay or hesitate to make decision.
- d) Conscientious – demonstrates thoroughness, care and vigilance in the conduct of an assessment. Maintains a professional level of skepticism appropriate for assessments
- e) Courteous – interacts in a polite and respectful manner to the members of the laboratory and others
- f) Persuasive/convincing others – demonstrates an ability to convince others that decisions are accurate and valid
- g) Culturally sensitive/sensitive to the thoughts of others – demonstrates a knowledge, awareness and acceptance of other cultures
- h) Ethical/honest/integrity/trustworthy – follows a code of conduct. Makes the correct decision when presented with a situation. Avoids acceptance of favors or gifts (acceptable value to be determined by individual ABs). Does not accept assignments outside of one's area of expertise
- i) Good memory – ability to retain information (facts, etc.)
- j) Impartial/independent/neutral/lack of prejudice or bias/fair – Declares known or potential conflict of interest. Demonstrates objectivity (actual or perceived)
- k) Remains neutral and does not take sides during disagreements among assessment participants
- l) Initiative – demonstrates a willingness to fulfill responsibilities
- m) Objective – avoids opinions and personal biases and makes decisions based on fact (can support conclusions with objective evidence). Does not direct the laboratory to a particular corrective action
- n) Patience – does not display irritation, loss of temper or the like, and has the ability to suppress restlessness or annoyance when confronted with delay or interruption
- o) Perceptive – demonstrates the ability to notice details and pick up cues to corroborate evidence during an assessment
- p) Perseverance/diligence/persistence/conviction/assertive – demonstrates the ability to remain focused on the goals of an assessment and to complete the assessment process despite resistance, difficulties, failure or opposition
- q) Professional – does not conduct personal business (phone calls, etc.) during an assessment. Does not make negative comments about the laboratory's personnel. Refrains from negative comments about the AB. Does not recommend consultants (friends, co-workers, etc.). Refrains from selling one's own consulting services during an assessment
- r) Respectful – displays respect for others (does not make disparaging or demeaning comments, takes into account the expert opinions of other assessors)
- s) Responsible – commits the time and resources necessary to complete the assessment
- t) Self control/self discipline – does not lose temper and remains calm during assessments
- u) Tolerant – displays fairness and objectivity towards others whose opinions and practices differ from one's own
- v) Open minded - ability to evaluate alternative solutions and a willingness to consider alternative ideas or points of view to achieve the same results
- w) Willingness to learn
- x) Works well with other people
- y) Participates in professional skill development (professional education, assessor harmonization meetings, and the development of AB policies and procedures)
- z) Resists undue influence from others (demonstrates one is not intimidated by someone to make an incorrect or inaccurate decision)
- aa) Knowledge of typical human behavior characteristics (ability to read the audience)
- bb) Adaptability – ability to adapt assessment plans based on circumstances

Note: Foundational competencies can be presumed to exist in an individual who has achieved a Bachelor's degree and would be confirmed during the assessor's probationary period. While these competencies and associated knowledge and skills should be considered by the AB when evaluating assessors, the AB does not have to have documented evidence of its assessors

## **1.4 Foundational Competencies**

These competencies are based on material in "Generic Competence for AB Assessors: Application to ISO/IEC 17011" (IAF MD 20:2016), Annex 2, modified and customized to apply specifically to the TNI 2016 Standard and TNI's recognition of ABs authorized to accredit to that Standard by either the National Environmental Laboratory Accreditation Program or the Non-Governmental Accreditation Body recognitions.

### **1.4.1 Basic Math Skills**

- a) Perform simple math operations relevant to calculation of audit days/time and assessment days/time, multi-site sampling and creating sampling plans
- b) Collect information to solve a problem
- c) Compare numbers
- d) Basic understanding of finances
- e) Make rough estimates
- f) Perform simple math operations of addition, subtraction, multiplication and division
- g) Ability to use a calculator

### **1.4.2 Communication Skills**

- a) Written communication skills (concise writing skills, comprehensive writing and reporting skills)
- b) Verbal communication skills (communicating effectively regardless of language barriers, ability to explain information)
- c) Nonverbal communication skills/knowledge of body language
- d) Observation techniques
- e) Questioning techniques
- f) Listening techniques
- g) Interpersonal communication skills
- h) Reading comprehension skills
- i) Ability to analyze and synthesize information

### **1.4.3 Basic Computer Skills**

- a) Basic computer literacy
- b) Keyboarding skills

### **1.4.4 Administrative Skills**

- a) Note-taking
- b) Organized
- c) Detail oriented/attention to detail
- d) Time management
- e) Timeliness/prompt/punctual

### **1.4.5 Physical Capabilities**

- a) Talk or communicate in some manner
- b) Hear speech

- c) Personal hygiene/appropriate dress/dresses appropriately for the assessment

Notes: Professional competencies would be evaluated during the interview process and initial performance evaluations of assessors, but that these do not need to be specifically taught as assessor training. The absence of assessor competency for these items would be identified by normal personnel evaluation mechanisms, if somehow an individual managed to qualify for the assessor position without having already acquired those skills. While these competencies and associated knowledge and skills should be considered by the AB when evaluating assessors, the AB does not have to have documented evidence of its assessors meeting every individual competence or all of the knowledge listed.

## **2.0 Technical Training Courses**

The purpose of the technical training courses is to ensure consistency of technical knowledge among the assessors. Assessors should complete the Basic course before taking any technical course.

The technical courses must concentrate on the elements and details of the technology and/ or methods that are critical to assuring that the laboratory is implementing it or them properly.

The assessors successfully completing the course shall have acquired the following:

1. Knowledge sufficient to assess the implementation of the technology by the laboratory.
2. An understanding as to how the technology is used in the various methods.
3. An understanding of the key elements of data packages, and raw data to review and check effectively.

Technical training courses must address the competencies listed below. Assessor technical training courses must also focus on how to review these elements during the on- site assessment.

- a) Basic theoretical and operating principles of the analytical technology and associated instrumentation and software.
- b) Critical steps and processes of the analytical technology or technique that must be executed to ensure quality data, including critical quality control (QC) measures and QC criteria based on the technology.
- c) Major sources of error, and how to control them, for the analytical technology or technique.
- d) Inappropriate procedures or practices for the analytical technology or technique.
- e) Key information required to document completely the reported results.
- f) Essential elements for assessing data generated.
- g) Ways to detect improper practices.
- h) Exercises in the evaluation of raw data to reported results.
- i) EPA program requirements for test methods



### **3.0 Module Specific Training Courses**

Modules 3 through 7 of the TNI laboratory standard contain specific requirements based on the type of testing performed: asbestos, chemical, microbiological, radiochemistry, and whole effluent toxicity.

#### **3.1 Module 3: Asbestos Testing**

- a) Method Selection and Validation
- b) Demonstration of Capability (DOC)
- c) Instrument Calibration
- d) Quality Control (QC)
- e) Analytical Sensitivity
- f) Quality of Standards and Reagents
- g) Data Acceptance/Rejection Criteria
- h) Sample Handling

#### **3.2 Module 4: Chemical Testing**

- a) Method Selection and Validation
- b) Limit of Detection and Limit of Quantitation
- c) Evaluation of Precision, Bias, and Selectivity
- d) Demonstration of Capability (DOC)
- e) Instrument Calibration
- f) Quality Control (QC)
  - i. Method Blank
  - ii. Laboratory Control Sample
  - iii. Sample Specific Controls
- g) Reagent Quality, Water Quality, and Checks
- h) Data Acceptance/Rejection Criteria
- i) Sample Handling

#### **3.3 Module 5: Microbiological Testing**

- a) Method Selection and Validation
- b) Limit of Detection and Limit of Quantitation
- c) Evaluation of Precision, Bias, and Selectivity
- d) Demonstration of Capability (DOC)
- e) Calibration
- f) Quality Control (QC)
- g) Data Acceptance/Rejection Criteria
- h) Sample Handling

#### **3.4 Module 6: Radiochemical Testing**

- a) Method Selection and Validation
- b) Limit of Detection and Limit of Quantitation
- c) Evaluation of Precision, Bias, and Selectivity
- d) Demonstration of Capability (DOC)

- e) Instrument Set-up, Calibration, Performance Checks, and Background Measurements
- f) Quality Control (QC)
- g) Data Evaluation and Reporting
- h) Sample Handling

### 3.5 Module 7: Toxicity Testing

- a) Method Selection and Validation
- b) Demonstration of Capability (DOC)
- c) Quality Control (QC)
- d) Data Acceptance/Rejection Criteria
- e) Sample Handling

## **4.0 Refresher Training**

Refresher training is provided when a new standard is adopted. The content of each class will vary based on what changes were made.

## **Annex – Recommendations for Training Course Development**

*This material is extracted from the 2003 NELAC Standard, Chapter 4, Appendix A.*

The course subject matter and content should be organized in modules or discrete units. Although the order of instructional modules or units is not strictly prescribed, courses should be organized systematically and logically to allow the best assimilation and comprehension of their subject matter.

The course contents can be delivered in a traditional classroom, by teleconferencing, in computer on-line sessions, or by a combination of any of these media. The format for instruction modules or units must be appropriate to the subject matter and can include, but is not limited to, lectures, discussions, demonstrations, critiques, group exercises, written assignments, simulations, fictitious reenactments, or a combination of any of these. Regardless of the medium or format used for content delivery, all courses must provide opportunity for ample interaction between instructors and participants and, must include exercises designed to be completed by teams of participants.

The duration of the course will depend upon the participants' experience and the course's mode of delivery, but must be sufficient to allow fulfilling all the objectives contained in this document.

Providers of Assessor Training Courses shall ensure that the number of instructors assigned to a course is commensurate with the number of participants attending and the delivery mode of the course. Although other ratios of instructor to students may be acceptable, a typical Assessor Training Course delivered in a traditional classroom setting assigns one instructor per every 15 participants.

Instructors must maintain credentials and qualification statements and must make them available to course participants or other interested parties.

Participants must be offered an opportunity to take a written examination that quantitatively measures their knowledge of the TNI standards and the course contents. Providers shall design their own questions and grading criteria.

Course providers shall issue certificates to those participants who attend all the offered modules or instructional units and to those that successfully complete the course. A "Certificate of Attendance" containing a brief description of the course shall be issued to participants who choose not to take the final examination or who do not successfully complete the course, but who have attended all the modules or instructional units. Participants that attend all the instruction modules and who successfully complete the course shall be issued a "Certificate of Completion".

Participants shall be offered an evaluation form at the end of the course to invite feedback to providers about the course's quality and content. Such forms shall be available to Accreditation Bodies upon request.

Providers are also encouraged to include in their courses an open session where participants evaluate a course and offer direct feedback to instructors.

Providers must maintain records that identify participating students and their status (i. e. whether they have attended the course or completed one by passing an examination). Accreditation Bodies shall approve training for their assessors.

