BACKGROUND

The NELAC Institute (TNI) is a not-for-profit scientific voluntary consensus organization engaged in research and development whose mission is to be the leader in providing systems and processes to foster the generation of environmental data of known and documented quality through an open, inclusive, and transparent process that is responsive to the needs of the community. The organization is managed by a Board of Directors and is governed by organizational Bylaws.

TNI’s vision is a true national accreditation program, whereby all entities involved in the generation of environmental measurement data within the United States are accredited to one uniform, rigorous, and robust program that has been implemented consistently nationwide and focuses on the technical competence of the entity pursuing accreditation. TNI believes such a program will improve the quality and reliability of environmental data used by federal and state agencies.

TNI is interested in contracting with individuals and organizations to provide training in specified topics (Chapters) as outlined in the “Handbook of Good Laboratory Practices” in development by TNI’s Advocacy Committee (Attachment 1). This “Handbook of Good Laboratory Practices” is based on a 38 year old EPA document on quality control practices (Handbook for Analytical Quality Control in Water and Wastewater Laboratories – EPA-600/4-79-019) and is split into 17 Chapters. TNI is seeking training for 13 Chapters - 4 Chapters have already been developed (Introduction/History, Importance of Quality Control, Regulatory Overview and Instrument Selection). The chosen trainer will be asked to develop/finalize a Chapter in the “Handbook of Good Laboratory Practices” and provide training on the Chapter. Training should impart knowledge with the goal that the person being trained will achieve some level of self-sufficiency with regard to the subject matter.

TNI is seeking trainers (contractors) to provide formal training courses that can be anywhere from an hour to a full day or even a multiple course series over a number of months. All courses will be offered online.

Proposals may be made to provide the training for only one section, or for multiple sections. Courses must be offered online using Webinar tools with TNI staff support.

FURNISHED EQUIPMENT, PROPERTY, OR INFORMATION

The following items will be provided by TNI:

- Outline and Synopsis review for suitability, not content;
- Course posted on TNI website and announcement emailed to TNI database;
- One-on-one training on use of Webinar tools;
- Set-up webinar – including invitations and uploaded documents. Set-up is based on Webinar Proposal/Application completed by trainer;
- Staff support as agreed upon in contract;
• PowerPoint slides to train attendees on use of tools at training start-up;
• Online course evaluation survey;
• Online registration and collection of fees;
• Attendance records for online courses;
• Listing of registered attendees 1 week prior to the course;
• Training certificates as purchased by attendees or negotiated at course set-up; and
• Course shown as supported by TNI, but not endorsed.

**DELIVERABLE REQUIREMENTS**

Contractor shall supply the agenda for the course, learning objectives and a copy of course materials provided to students. Contractor shall also supply a DRAFT Chapter of the “Handbook for Good Laboratory Practices” that the training is based on. Contractor shall retain all intellectual property rights for the training course materials. Contractor shall provide all travel and on-site costs and supply documentation of attendance records for on-site courses.

**PROPOSAL FORMAT**

Interested contractors should complete a proposal/application and provide the requested information. The proposal/application includes the following elements:

• A description of the training being proposed;
• Information about format (Webinar) and date(s) if known;
• Biography;
• Course outline and a synopsis; and
• A detailed cost proposal that satisfies the requirements specified in the pricing section below.

**PROPOSAL DUE DATE**

Proposals/applications must be received at TNI by midnight EDT, August 15, 2017. Proposals/applications shall be submitted online using the TNI Educational Delivery System Proposal/Application System (http://nelac-institute.org/content/eds-app.php).

**PRICE**

Nothing herein shall be construed to commit TNI to pay any costs incurred by bidders in connection with preparation of a proposal, or to guarantee the procurement of any services. All prices are to be in U.S. dollars. Contractor shall furnish and provide all material, labor, supervision, equipment, and incidentals required for accomplishing the work covered by the Contract, except the work, materials, services, or equipment to be furnished by TNI. The proposal should include any fees for instructor, materials, and instructor(s) travel being requested.

TNI and the contractor may mutually agree to cancel the class(es), if fewer than 10 students are registered 1 week before the course date.
EVALUATION CRITERIA

TNI will review all proposals that are received by the deadline in accordance with the following criteria:

- Relevance of proposal to TNI’s objectives and priorities;
- Technical merit;
- Competency of the proposed staff;
- Feasibility of the proposal;
- Adequacy of the applicant’s resources; and
- Cost.

The anticipated award date for any contracts is August 22, 2017.

PAYMENT TERMS

Payment to the contractor will be on the 15th of the month following the course.

EXCEPTIONS, EXCLUSIONS, OR SPECIAL CONDITIONS

This solicitation permits the bidder to impose exceptions, exclusions, or special conditions. However, the bidder is hereby advised that any such exception, exclusion, or special condition may render your proposal non-responsive, which would preclude an award to you. Any exception, exclusion, or special condition the bidder wishes to include or impose must be fully and completely described in a written attachment to the Bidder’s proposal.

TNI reserves the right to accept training proposals prior to the August 22, 2017 date that are outside of the course list (Attachment 1).

ACCEPTANCE OF PROPOSALS

TNI reserves the right to cancel this RFP or to not consider bids submitted in response to this solicitation.
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LABORATORY SERVICES

4.1 General
Quality control of laboratory analyses involves consideration and control of the many variables that affect the production of reliable data. The quality of the laboratory services available to the analyst must be included among these variables. An abundant supply of distilled water, free from interferences and other undesirable contaminants, is an absolute necessity. An adequate source of clean, dry, compressed air is needed. Electrical power for routine laboratory use and voltage-regulated sources for delicate electronic instrumentation must be provided. This chapter, therefore, will be devoted to describing methods of maintaining the quality of these services, as used in laboratory operations.

4.2 Distilled Water
4.3 Compressed Air
4.4 Vacuum
4.5 Hood System
4.6 Electrical Services
SAMPLE HANDLING AND PREPARATION

i. Sample Containers/Transport/Storage/Preservation techniques/Holding Times
   a. Includes a discussion of the container requirement for general analysis types
   b. Discuss general sample shipping practices.
   c. Preservation requirements, and related challenges
   d. General sample storage requirements
   e. Section will include a summary table.

ii. Sample Custody/Maintaining Sample Integrity
    a. A discussion of the motivation and importance of unbroken sample custody.
    b. Techniques for accomplishing internal chain of custody.

iii. Safety Considerations
     a. A discussion of safe handling of samples of unknown origin.
     b. Minimum safety practice when handling samples.

iv. Subsampling/Homogenization

v. Inorganic Sample Preparation

vi. Semivolatile Organic Sample Preparation considerations

vii. Volatile Organic Sample Preparation / including a discussion of 5035

viii. Sample Disposal Considerations.
GLASSWARE

7.1 General
The measurement of trace constituents demands methods capable of maximum sensitivity. This is especially true for metals and trace organics such as pesticides, as well as for the determination of ammonia and phosphorus. In addition to sensitive methods, however, there are other areas that require special consideration. One such area is that of the cleanliness of laboratory glassware. Obviously, the very sensitive analytical systems are more sensitive to errors resulting from the improper use or choice of apparatus, as well as to contamination effects due to an improper method of cleaning the apparatus. The purpose of this chapter is to discuss the kinds of glassware available, the use of volumetric ware, and various cleaning requirements.

7.2 Types of Glassware
7.3 Volumetric Analyses
7.4 Federal Specifications for Volumetric Glassware
7.5 Cleaning at Glass and Porcelain
7.6 Special Cleaning Requirements
7.7 Disposable Glassware
7.8 Specialized Glassware
7.9 Fritted Ware
REAGENTS, SOLVENTS, AND GASES

8.1 Introduction

The objective of this chapter is to provide general information and suggestions that will serve to keep the analyst conscious of his responsibilities in analytical quality control, as they relate to reagents, solvents, and gases. While the material presented here will assist the analyst in producing high-quality data, it is by no means complete. It is incumbent on the analyst to obtain details of special precautions required to insure proper selection, preparation, and storage of reagents, solvents, and gases from the descriptions of individual methods.
QUALITY CONTROL FOR ANALYTICAL PERFORMANCE

9.1 Introduction
   Background, purpose and content and relation to Quality system

9.2 Method Validation
   Initial Demonstration
   Method Selectivity
   LOD
   LOQ

9.3 Demonstration of Capability

9.4 Calibration
   Calibration Blanks
   Initial Calibration Verification
   Continuing Calibration Verification

9.5 Elements of QC and Statistical Evaluation
   9.5.1 Elements
       Blanks
       Positive /Negative Controls
       Selectivity Checks
       Lab Control Sample
       Proficiency Test Samples
       Replicates
       Standard Reference Materials/Second Source Standards
       Matrix Spikes and Matrix Spike Duplicates
       Surrogate Spikes
       Uncertainty

   9.5.2 Statistical Evaluation and Trending
       Precision
       Bias
       Accuracy
       Control Charts

9.6. Data Acceptance and Rejection Criteria
Concept of Quality System and Data quality Objectives throughout the document
DATA HANDLING AND REPORTING (INCLUDING STATISTICS)

10.1 Introduction
To obtain meaningful data, the sample collector must obtain a representative sample and then deliver it unchanged for analysis. The analyst must perform the proper analysis in the prescribed fashion, complete calculations, and convert results to final form for permanent recording of the analytical data in meaningful, exact terms. These results are transferred to a storage facility for future Interpretation and use.

10.2 The Analytical Value including detection and reporting limits and data qualifiers
10.2.1 Significant Figures
10.2.2 Rounding Off Numbers
10.3 Statistical Terms
10.4.2 Data records
10.4.8 Laboratory Information Management Systems
SPECIAL REQUIREMENTS FOR TRACE ORGANIC ANALYSIS

11.1 Introduction
11.2 Sample Handling
   8.2.1 Aqueous
   8.2.2 Soil
   8.2.3 Waste
11.3 Supplies and Reagents
   8.3.1 Reference Materials
   8.3.2 Working Standards
   8.3.3 Reagents (Solvents and Sodium Sulfate)
   8.3.4 Carrier Gas
   8.3.5 Columns
   8.3.6 Glassware
11.4 Volatile Organics
   8.4.1 Preparation
   8.4.2 Extract Handling
   8.4.3 Analysis
11.5 Semivolatile Organics
   8.5.1 Preparation
   8.5.2 Extract Handling
   8.5.3 Analysis
11.6 Quality Assurance
   8.6.1 Matrix Specific
   11.6.2 Batch Specific
   11.6.3 Instrument Specific
SKILLS AND TRAINING

Introduction
   Importance of Training
   Basic Skills
   Advanced Skills Required
   Formal Education

Use of Basic Equipment
   Measuring
   Pipettes
   Volumetric flasks
   Measuring spoons
   Etc

Weighing
   Analytical balances
   Top loading balances

Demonstration of Capability
   Non-Analytical procedures
   Analytical procedures

Internal Training

External Training
SAMPLE COLLECTION

I. Introduction
   A. Importance of Sample Collection
   B. Definitions
II. Sample Planning and Site Location
III. Equipment and Supplies
IV. Chain of Custody
V. Preservation and Sample Containers
VI. Water and Wastewater Sample Collection
   A. Microbiological
      1. Bacteria
      2. Giardia & Cryptosporidium
      3. Viruses
   B. Chemical
      1. Wet Chemistry
      2. Metals
      3. Low level mercury
      4. Organics
      5. Radiochemical
VII. Ambient Water Sampling
   A. Special Considerations
   B. Phytoplankton
   C. Macroinvertebrates
VIII. Soil Sampling

VIII. Air Sampling

IX. Quality Control
MICROBIOLOGY

14.1 Background
14.2 Specific Needs in Microbiology
14.3 Intralaboratory Quality Control
   A. Laboratory Operations
      (i) Laboratory Facilities
      (ii) Laboratory Personnel
      (iii) Laboratory Equipment and Instrumentation
      (iv) Laboratory Supplies
         - Culture Media Preparation and Storage
         - Culture Maintenance
      (v) Standard operating Procedures
      (vi) Sample Collection and Handling
      (vii) Analytical Methodology
   B. Analytical QC
      (i) Sterility Checks and Blanks
      (ii) Positive and Negative Controls
      (iii) Culture Media Qualification (pH, volumetric checks, productivity, selectivity, sterility)
      (iv) Test Variability/Reproducibility (Duplicate Analyses, Single-analyst Precision, Comparison of results between analysts, Verification of membrane filter analyses, Completion of most probable number analyses)
      (v) Method Evaluation
      (vi) Test performance
      (vii) Documentation and Record Keeping
      (viii) Data handling and Reduction

14.4 Interlaboratory Quality Control
   A. Uniform selection and criteria
      (i) Laboratory operations
      (ii) Sampling Methodology
      (iii) Analytical Methodology
      (iv) Quality Control for personnel, facilities, equipment, instrumentation, supplies, and data handling and reporting
   B. External Program Review
      (i) Onsite inspection of laboratory capabilities
   C. External Proficiency Testing
      (i) Periodic evaluation of laboratory performance on unknown samples
LABORATORY SAFETY

1) Basic guidelines: Eye Protection, etc.
2) Guidelines for Safety Program, for example monthly safety checks, safety officer designation etc.
3) Type of fire extinguishers and/or equipment required for labs with specialty equipment.
4) Hazardous Waste Disposal protocol, i.e. reportable quantities
5) Chemical Hygiene Plan guidelines
6) Emergency Evacuation Plan
7) Chemical Storage Compatibility
8) Proper Hood Use, storage, etc..
9) New Guidelines for MSDS / Global Harmonization
10) Sample of New Employee sign-off form for safety orientation
11) References
WASTE MANAGEMENT

I. Introduction
   A. Regulatory Overview
   B. Pollution Prevention & Minimization

II. Biological Waste
   A. Identification Procedures
   B. On-Site Management
   C. Disposal
   D. Documentation

III. Radioactive Waste
   A. Identification Procedures
   B. On-Site Management
   C. Disposal
   D. Documentation

IV. Hazardous Waste Determination
   A. Identification Procedures
   B. On-Site Management
   C. Disposal
   D. Documentation

V. Non-Hazardous Waste
   A. Identification Procedures
   B. On-Site Management
   C. Disposal
   D. Documentation

VI. Resources
AQUATIC BIOLOGY

I. Introduction
   A. Purpose of Monitoring
   B. Definitions
II. Phytoplankton
   A. Equipment and Supplies
   B. Summary of Methods
   C. Special Considerations
III. Macroinvertebrates
   A. Equipment and Supplies
   B. Summary of Methods
   C. Special Considerations
IV. Aquatic Toxicity
   A. Equipment and Supplies
   B. Summary of Methods
   C. Special Considerations
V. References