

**Request for Proposal (RFP)
Handbook and Training**

**TNI Educational Delivery System (EDS)
Webinars and Webcasts**

June 2017

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.

Attachment 1.

Handbook Table of Contents

- 1 INTRODUCTION – HISTORY OF ENVIRONMENTAL MONITORING (COMPLETE)**
- 2 REGULATORY OVERVIEW (COMPLETE)**
- 3 IMPORTANCE OF QUALITY CONTROL (COMPLETE)**
- 4 LABORATORY SERVICES**
- 5 SAMPLE HANDLING AND PREPARATION**
- 6 INSTRUMENT SELECTION (COMPLETE)**
- 7 GLASSWARE**
- 8 REAGENTS, SOLVENTS, AND GASES**
- 9 QUALITY CONTROL FOR ANALYTICAL PERFORMANCE**
- 10 DATA HANDLING AND REPORTING (INCLUDING STATISTICS)**
- 11 SPECIAL REQUIREMENTS FOR TRACE ORGANIC ANALYSIS**
- 12 SKILLS AND TRAINING**
- 13 SAMPLE COLLECTION**
- 14 MICROBIOLOGY**
- 15 LABORATORY SAFETY**
- 16 WASTE MANAGEMENT**
- 17 AQUATIC BIOLOGY**

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 of 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