

Washington State Department of Ecology

Environmental Assessment Program

Standard Operating Procedure for the Accreditation of Environmental Laboratories

Version 1.0

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LAU001

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Signatures on File

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*Although Ecology follows the SOP in most instances, there may be instances in which Ecology uses an alternative methodology, procedure, or process.*

### SOP Revision History

Revision Date	Rev number	Summary of changes	Sections	Reviser(s)

## **1.0 Purpose and Scope**

- 1.1 This document is the Environmental Assessment Program (EAP) Lab Accreditation Unit (LAU) Standard Operating Procedure (SOP) for accreditation of environmental laboratories, including those certified for drinking water analyses.
- 1.2 Environmental laboratories that prepare data for submission to certain state agencies and programs are required to be accredited by WAC 173-50. The LAU is charged with implementing this regulation and this document lists the actions taken by unit staff to accomplish this mission.

## **2.0 Applicability**

- 2.1. These procedures are followed by LAU staff whenever an environmental laboratory requests accreditation in order to comply with requirements of state or federal regulations or policy.

## **3.0 Definitions**

- 3.1 **Analytical Method** - Written instructions describing the procedures to be followed by the analyst to obtain an analytical result.
- 3.2 **Application for Accreditation** - Document used by an environmental laboratory to request accreditation which identifies the laboratory, lists the parameters and matrices requested, and contains information on calculating fees, staff qualifications and equipment.
- 3.3 **Certification Officer** - State personnel responsible for certifying (accrediting) laboratories under the federal Safe Drinking Water Act.
- 3.4 **Critical Elements for Accreditation** - Elements of an environmental laboratory's operations which are critical to the consistent generation of accurate and defensible data. Critical elements are subject to intense scrutiny throughout the accreditation process. Functional areas that include critical elements are:
  - 3.4.1 Analytical Methods
  - 3.4.2 Equipment and Supplies
  - 3.4.3 QA/QC Records
  - 3.4.4 Sample Management
  - 3.4.5 Data Management
  - 3.4.6 The LAU Supervisor may deny, revoke, or suspend accreditation for deficiencies in critical elements.

- 3.5 Environmental Laboratory - A facility owned and managed by a single entity, situated in a single geographical locale, in which scientific data are collected on samples taken from the environment, including drinking water samples.
- 3.6 **Environmental Laboratory Accreditation Program (ELAP)** - The activities described in References 10.1 - 10.4 as implemented by the LAU.
- 3.7 **Lab Accreditation Unit (LAU)** - a unit of the Environmental Assessment Program of the Washington State Department of Ecology charged with implementing the ELAP.
- 3.8 **NELAP** - National Environmental Laboratory Accreditation Program.
- 3.9 **On-site Audit** - an on-site inspection of laboratory capabilities, records and QA practices.
- 3.10 **Parameter** - Analytes or characteristics of a sample measured using a specific analytical method. Examples of parameters are “Residual Chlorine by SM 4500-Cl G,” “Aluminum by EPA 200.7,” or “Volatile Organic Compounds by EPA 8260.”
- 3.11 **Proficiency Testing (PT)** - Analysis by an environmental laboratory of samples with concentrations unknown to laboratory staff obtained from approved providers. The results are used to evaluate ongoing capability of the laboratory to achieve accurate results for a specific parameter and matrix. Accredited labs must successfully analyze a PT samples for microbiological parameters in drinking water annually and for all other designated parameters and matrices semi-annually.
- 3.12 **Scope of Accreditation** - Document accompanying the Certificate of Accreditation that indicates the parameters for which the laboratory is accredited in each matrix category, and any applicable qualifications, such as interim or provisional accreditation.
- 3.13 **Third Party** - An accrediting authority whose accreditations are recognized and accepted as the basis for accreditation in the Washington ELAP.
- 4.0 Personnel Qualifications/Responsibilities**
- 4.1 Auditors in the LAU have education and professional experience related to analytical chemistry, microbiology and/or toxicology.
- 4.2 Auditors evaluate information submitted by environmental laboratories in support of accreditation; assess laboratory capabilities through on-site evaluations of staff, facilities, equipment and procedures; and prepare documentation of findings and accreditation actions.

4.3 Personnel assigned to assess the capability of drinking water laboratories participating in the ELAP must meet the education, training and experience requirements established in the EPA drinking water certification manual. [Reference 10.3]

## **5.0 Equipment and Supplies**

5.1. LAU staff are assigned desktop and/or laptop computers with current Microsoft Office software and are expected to be proficient in their use in support of the procedures described below. Printers, copiers, scanners and FAX machines are also used to facilitate their work.

## **6.0 Procedures**

### **6.1 INITIAL ACCREDITATION**

6.1.1 Send Application for Accreditation and Procedural Manual [Ref. 10.2] to laboratory requesting initial accreditation.

6.1.2 Respond to applicant's questions and concerns.

6.1.3 Provide estimate of travel costs for labs requiring out-of-state on-site audits.

6.1.4 Review application, fee calculation, QA Manual, PT sample results and any other documentation submitted by the laboratory in support of their application.

6.1.4.1 Determine whether laboratory meets requirements.

6.1.4.2 Provide comments as necessary within 30 days.

6.1.5 Calculate fee if requested.

6.1.6 Conduct On-site Audit of lab capabilities per SOP for On-site Audits of Environmental Laboratories.

6.1.7 Provide report to the laboratory on results of the accreditation process.

6.1.8 Issue Certificate and Scope of Accreditation for one year.

### **6.2 RENEWAL OF ACCREDITATION (Required annually)**

6.2.1 Send Application for Accreditation 60 days prior to expiration date. (See SOP for Generation and Mailing of Renewal Applications.)

6.2.2 Review application, fees, updates of QA Manual, PT sample results and any other documentation submitted by the laboratory in support of their renewal.

- 6.2.2.1 Determine whether lab continues to meet ELAP requirements.
- 6.2.2.2 Provide comments as required.
- 6.2.3 Issue Certificate and Scope of Accreditation for the next year.
- 6.3 ON-SITE AUDIT  
(Required before initial accreditation and every three years thereafter)
- 6.3.1 There is no on-site audit by Ecology when the basis for accreditation is:
  - 6.3.1.1 Accreditation by a NELAP accrediting authority.
  - 6.3.1.2 Accreditation by a recognized third party (such as A2LA or Army Corps of Engineers).
  - 6.3.1.3 Accreditation by another state with which Ecology has established a reciprocity agreement.
- 6.3.2 Conduct on-site audit according to SOP for On-site Audits of Environmental Laboratories.
- 6.3.3 A Certification Officer must participate in the on-site audit of a drinking water laboratory.
- 6.4 AUDIT REPORT  
Due within 30 days of on-site visit
- 6.5 VERIFY IMPLEMENTATION OF CORRECTIVE ACTIONS  
Review corrective action report submitted in response to the audit report.
- 6.6 WHEN FULL ACCREDITATION IS NOT WARRANTED
  - 6.6.1 Accreditation denied, revoked or suspended
    - 6.6.1.1 Deny, revoke or suspend accreditation for failure to comply with requirements of the accreditation program or for misrepresentation or other fraudulent practices.
    - 6.6.1.2 If the auditor identifies deficiencies that prevent accreditation, provide a report specifying areas of deficiency and steps necessary to upgrade the laboratory to accredited status.
    - 6.6.1.3 Based on documentation provided by the laboratory that the specified deficiencies have been corrected, determine whether accreditation is warranted.

- 6.6.1.4 Auditors notify the Washington State Department of Health (DOH) of changes in the accreditation status of a laboratory by completing a *Drinking Water Lab Accreditation Status Report* and submitting it electronically to designated DOH staff.
- 6.6.2 Interim accreditation
  - 6.6.2.1. If, for valid reasons, LAU staff can not complete the accreditation process in a reasonable time period and accreditation is otherwise warranted, grant interim accreditation.
- 6.6.3 Provisional Accreditation
  - 6.6.3.1. If the assessor identifies deficiencies that do not warrant denying accreditation but require corrective action, grant provisional accreditation.
- 6.7 THIRD PARTY ACCREDITATION
  - 6.7.1 Reciprocity
    - 6.7.1.1. Recognize accreditation of a laboratory by the state in which the laboratory is located if the department has established a reciprocity agreement with that state.
  - 6.7.2 Third-Party Accreditation
    - 6.7.2.1. Recognize accreditation of a laboratory by a third party when their accreditation process is determined to be equivalent to that of the Washington ELAP.
- 6.8 LISTING OF ACCREDITED LABORATORIES
  - 6.8.1 Maintain a list of all labs currently accredited by Ecology and post it to the web site.
  - 6.8.2 Maintain a list of DW labs currently accredited (certified) by Ecology and post it to the web site.
  - 6.8.3 Update these lists on the web site monthly.
- 7.0 Records Management**
  - 7.1 Maintain current information on all accredited laboratories in the ELAP database.
  - 7.2 Retain all records related to accreditation for a period of ten (10) years.
- 8.0 Quality Assurance**
  - 8.1 Record PT sample results on tracking sheets to ensure that all necessary results have been reported.

8.2 Submit all correspondence regarding accreditation actions to the LAU supervisor or delegate for review and signature.

## **9.0 Safety**

9.1 Follow all federal, state and local regulations related to occupational safety.

9.2 Read and comply with all information posted on the Safety Bulletin Board located in the lunch room.

9.3 Follow all safety requirements of host laboratories during on-site visits.

## **10.0 References**

10.1 Chapter 173-50 WAC, "Accreditation of Environmental Laboratories"

10.2 "Procedural Manual for the Environmental Laboratory Accreditation Program," Ecology Publication No. 02-03-055, November 2002.

10.3 "Manual for the Certification of Laboratories Analyzing Drinking Water," 5th Ed., EPA Document 815-R-05-004, January 2005.

10.4 "MEMORANDUM OF UNDERSTANDING Between the Washington State Department of Health (WDOH) and the Washington State Department of Ecology (WDOE) Related to the MANAGEMENT AND IMPLEMENTATION OF THE WASHINGTON STATE LABORATORY CERTIFICATION PROGRAM FOR REGULATORY DRINKING WATER ANALYSES," DOH #N10804, 4/02.

### **10.5 Related SOPs**

10.5.1 SOP for On-site Audits of Environmental Laboratories

10.5.2 SOP for Generation and Mailing of Renewal Applications