

ENVIRONMENTAL LABORATORY APPROVAL PROGRAM CERTIFICATION MANUAL

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For laboratories accredited under the National Environmental Laboratory Accreditation Program (NELAP), proficiency testing is conducted in compliance with the TNI Proficiency Testing Standard.

Proficiency test (PT) samples are distributed by category and discipline semi-annually by the NYSDOH Wadsworth Center PT Program. The categories and disciplines offered include the following:

Potable Water Chemistry
Potable and Non-Potable Water Bacteriology
Asbestos in Bulk Material and Fiber in Air
Non-Potable Water
Asbestos in Water, Air and Solid Waste by TEM

Chemistry proficiency testing consists of one sample for each analyte in the test series. Not all analytes offered for accreditation are required to be proficiency tested. Bacteriological proficiency testing consists of one (for Non-Potable Water) to ten samples (for Potable Water). Samples are offered in bacteriology for standard plate count in Potable Water, Enterococci in Non-potable Water, Total Coliforms and Fecal Coliforms in Non-potable Water, and E. coli enumeration in Potable Water. Refer to Item 316 for a complete listing of samples and analytes.

Although supplied by the NYSDOH Wadsworth Center PT Program, PT samples may also be obtained from another organization accredited by a Proficiency Testing Provider Accreditor (PTPA) that meets the TNI requirements. Other organizations that are accredited to provide PT samples are listed on this website: <http://www.nelac-institute.org/ptproviders.php>.

For lead in dust wipes, lead in paint and lead in air, proficiency testing results from AIHA are accepted by NYS ELAP to meet PT requirements.

The laboratory must authorize the PT provider to release all results used for accreditation to ELAP.

~~Close dates of successive PT samples for fields of proficiency testing must be at least five (5) months apart and no longer than seven (7) months apart from the prior PT study.~~

Fields of Proficiency Testing (FoPT)

~~Laboratories are required to test PT samples by each technology used in the laboratory for the particular analyte in the particular matrix.~~
Except for drinking water analytes in 40 CFR 141, laboratories can analyze and report a single method to represent a technology in a PT study for a particular analyte.

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If the laboratory analyzes and reports PT studies for a technology, the score obtained for the reported method will be applied to all methods in that technology/matrix/analyte.

As an example, assume a laboratory is accredited for the following Fields of Accreditation:

Non-Potable Water -- EPA 200.9 -- Lead
Non-Potable Water -- EPA 200.7 -- Lead
Non-Potable Water -- EPA 6010 -- Lead

The laboratory would be required to analyze the sample and report a result by method EPA 200.9 (GFAAS technology) and either EPA 200.7 or EPA 6010 (both methods being ICP-AES technology). ~~The same PT sample can be used for all technologies.~~ A listing of technologies may be found in [Certification Manual](#) item 180.6.

Proficiency Testing Requirements

To be accredited initially, laboratories must participate in two (2) successful, ~~out of the most recent three (3),~~ PT studies for each FoPT. ~~At least one of the scores must be less than six (6) months old.~~ To maintain accreditation, the laboratory must ~~participate in a minimum of two (2) PTs per year for each accreditation FoPT and~~ achieve a passing score, on an on-going basis, in two (2) out of three (3) successive PT studies. ~~At least one of the scores must be less than six (6) months old.~~ Close dates of successive PT samples for fields of proficiency testing must be no longer than seven (7) months apart from the prior PT study.

~~Laboratory must analyze and report a PT study at least twice per year for each accreditation FoPT for which it seeks to maintain accreditation. The closing dates of subsequent PT study samples for a particular accreditation FoPT shall be no more than seven (7) months apart. For Whole Effluent Toxicity Testing, one (1) PT study per calendar year is required to maintain accreditation.~~

Each unsatisfactory analytical result requires that the laboratory's management investigate the root cause of laboratory's performance and establish a corrective action report. The corrective action report must be on file and available for review during an on-site assessment. Also, the laboratory must provide a corrective action report to ELAP within thirty (30) calendar days of a request by the program.

Laboratories failing to maintain a passing score on an on-going basis in two (2) out of three (3) successive PT studies will be suspended ~~on an individual analyte basis.~~

Laboratory accreditation can be reinstated for the analyte by successfully analyzing PT samples from a PT provider that meets TNI requirements, provided such supplemental PT studies are performed at least seven (7) days apart from the close date of one study to the opening date of another study. The laboratory must authorize the PT provider to release all results used for accreditation and/or remediation of failed studies to ELAP.

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The laboratory's management and analysts must ensure that all PT samples are managed, analyzed and reported in the same manner as real environmental samples (i.e., using the same staff, methods, calibration and QC procedures, replicates, equipment, facilities, and frequency of analysis).

The NYSDOH Wadsworth PT Program does not provide PT samples to be used as QC samples. Laboratories that do not report the NYSDOH Wadsworth PT Program PT sample results will be recorded as non-participants.

PT – Drinking Water Requirements in EPA Regulation

The following ~~are~~ additional requirements for Potable Water proficiency testing ~~have been imposed by the EPA Office of Water~~, where successful PT performance is graded for groups of regulated analytes.

- ~~1. A PT sample must be successfully analyzed by every method once per year. Typically, this requirement can be met by alternating methods between the two PT rounds conducted in a given year.~~
2. Excluding vinyl chloride, a laboratory accredited for ALL regulated Volatile Organic Compounds (VOC)¹ or ALL regulated Organic Disinfection Byproducts² must also satisfy the "80% Rule". If the laboratory fails to maintain a passing score on at least 80% of the analytes ~~in any proficiency test~~, accreditation for all the analytes in the group is suspended. Repeated failures for the same analyte will also result in loss of accreditation. For vinyl chloride and trihalomethanes (THMs)³, laboratories must maintain a passing PT score (100%). ~~If the laboratory fails to maintain a passing score on 100% of the analytes, accreditation for all the analytes in the group is suspended. In addition, failure to meet 80% for VOCs will result in loss of accreditation for vinyl chloride. In order for reinstatement of accreditation for the group, the laboratory must achieve the required passing~~

¹40 CFR 141.24 (f)(17)(i)(B), Regulated VOCs are: benzene; carbon tetrachloride; chlorobenzene; 1,2-dichlorobenzene; 1,4-dichlorobenzene; 1,2-dichloroethane; cis-dichloroethene; trans-dichloroethene; dichloromethane; 1,2-dichloropropane; ethylbenzene; styrene; tetrachloroethene; 1,1,1-trichloroethane; trichloroethene; toluene; 1,2,4-trichlorobenzene; 1,1-dichloroethene; 1,1,2-trichloroethane; vinyl chloride; xylenes (total).

²Stage 1 Disinfection By Products (DBP) Rule, Regulated Organic Disinfection Byproducts are: dibromoacetic acid; dichloroacetic acid; monobromoacetic acid; monochloroacetic acid; trichloroacetic acid.

³DBP, Regulated trihalomethanes are: chloroform, dichlorobromomethane, chlorodibromomethane and bromoform.

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~~score in two successive proficiency tests conducted at least seven (7) calendar days from the close date of one study to the opening date of another study.~~

PT – Whole Effluent Toxicity Testing

One (1) PT is required for initial **and annually for maintained accreditation for** Whole Effluent Toxicity Testing (WETT). This requirement can be met by:

1. Annual participation in the Environmental Protection Agency (EPA) Discharge Monitoring Report-Quality Assurance (DMRQA) studies for WETT; or
2. If the laboratory is not participating in an EPA DMRQA study for WETT, the closing dates of subsequent PT study samples for WETT testing PT studies must be no more than fourteen (14) months apart.

Value Assignment for Analytes

Assigned values for sample analytes are selected randomly within the FoPT ranges described in the TNI FoPT tables. The assigned value is the actual chemistry analyte concentration in the sample as determined gravimetrically during manufacture and verified by in-house validation testing prior to shipment. For Asbestos and microbiology samples the assigned value is the mean of the in-house verification analyses. Sufficient homogeneity is also established through this in-house testing prior to shipment. The procedures used are adapted from the TNI Standard Volume 3 for the Environmental Sector.

Stability is confirmed after the close date of the study in accordance with the procedures adapted from the TNI Standard Volume 3 for the Environmental Sector.