

NC WW/GW LC Proficiency Testing - The “Cliff Notes” Version

- Non-field laboratories must have a documented plan (this is usually detailed in the laboratory’s Quality Assurance Manual) of how they intend to cover the applicable program requirements for proficiency testing per their scope of accreditation.
 - Laboratory Standard Operating Procedures (SOPs) must address how low and high level samples will be analyzed, including concentration of the sample or adjustment of the normality of a titrant or multiple dilutions.

- The Proficiency Testing Calendar Year is **January 1 to September 30**. To renew certification each year, laboratories must submit acceptable PT sample results to the NC WW/GW LC Program for each parameter, analyte, technology and matrix (where a method is matrix-specific) by September 30.

***NOTE:** Even if a laboratory analyzes PT samples prior to September 30, it does not mean that those samples will be graded and reported to the NC WW/GW LC Program by the September 30 deadline. Laboratories must choose a study that meets all reporting and posting deadlines. Most PT studies are open for 45 days from the day the PTs are shipped to the laboratories. After a study closes, PT providers may take up to 30 days to issue reports to participating laboratories and their designated authorities. This means, that in order to meet the September 30th deadline, laboratories should participate in a PT study that begins no later than mid-July, unless using “Rapid Response” type samples.*

- Each certified laboratory must have an EPA Lab Code. **The EPA Lab Code is not the same as the NC laboratory identification number assigned to each laboratory by this Office or NPDES permit number. Do not report PT results using only the NC laboratory identification number or permit number.**
- The laboratory must obtain samples from a proficiency testing sample provider recognized by The NELAC Institute (TNI) and approved by the NC WW/GW LC program. These samples may be part of an official study, a supplemental study or quick turnaround type samples. Proficiency testing samples from providers not approved by TNI and the NC WW/GW LC program cannot be accepted. Currently, there are two Proficiency Testing Provider Accreditors that are recognized by TNI and approved by the NC WW/GW LC program – American Association for Laboratory Accreditation (A2LA) and ACLASS. Accredited vendors can be found at the following websites (check the list each time PT samples are ordered as the list changes periodically):

A2LA - <http://www.a2la.org/pt/ProficiencyTesting.cfm>. Laboratories must choose a vendor from the published list of “A2LA Accredited TNI Proficiency Testing Providers”.

ACLASS - <http://www.aiclasscorp.com/search-accredited-companies.aspx>. This link takes you to a search page where you can find a list of approved PT providers by selecting *Proficiency Test Provider - TNI Vol. 3* in the dropdown list under the *Accreditation Standard* field.

- The NC WW/GW LC program has elected to follow the **2009 TNI Standard** for PT reporting and grading. The 2009 TNI standard evaluations of less than (<) values are listed below:
 - As “Acceptable” when the assigned value is greater than “0” and the value reported with the less than (<) sign is greater than the lower acceptance limit.
 - As “Not Acceptable” when the assigned value is greater than “0” and the value reported with the less than (<) sign is less than the lower acceptance limit.
 - As “Acceptable” when the assigned value is equal to < PTRL (Proficiency Testing Reporting Limit).

- Before the close of a PT study, a laboratory must arrange with the PT provider for the study results to be sent **directly from the PT provider to the NC WW/GW LC office** before or at the same time that results are released to the laboratory. The NC WW/GW LC program will not accept PT results directly from the participant laboratories.

- A laboratory that fails a PT sample for a parameter method technology must take steps to identify the root cause of the failure, take corrective action, **report the corrective action taken to this office** and participate in a second PT study meeting the criteria listed previously in this policy. Remedial PT results and corrective action reports (CARs) are due in **90 days**. *While the NC WW/GW LC program only requires matrix-specific PTs for parameter method technologies that are matrix-specific, if an unacceptable result is obtained for a specific matrix, the remedial PT must be of same matrix.*

- For multi-analyte parameters (e.g., organic analyses), when greater than or equal to **80%** of analytes are acceptable, but one or more individual analytes are graded unacceptable, acceptable performance has been demonstrated for the parameter method technology. The laboratory must, however, analyze a remedial PT for the individual analytes that were graded unacceptable. When a remedial PT is graded unacceptable for an individual analyte (constituting a second unacceptable result), the laboratory must qualify data for those individual analytes as “estimated” (whether detected or not) until acceptable results are obtained on two consecutive remedial PTs. Notification will be sent from this office of this single analyte provisional certification outlining the effective date. Provisional Certification Forms, identifying North Carolina clients for which affected data may be reported, must be submitted within **30 days** of receipt.

- When a PT sample study for a parameter includes multiple ampules with each one containing a different concentration level or different matrix, the results reported for each level are first graded separately using the 80% rule. Once the acceptability of each level has been determined, the >50% Rule is applied to determine the overall acceptability of the study.

- For multi-analyte groups containing four or less analytes, laboratories must report acceptable results for **100%** of each of the individual analytes in the reference sample for the cumulative result to be acceptable.

- Each certified laboratory must have an EPA Lab Code. *Please note that the EPA Lab Code is not the same as the NC laboratory identification number assigned to each laboratory by the State Laboratory or NPDES permit number. Do not report PT results using only the NC laboratory identification number or permit number.*
- All PT samples are to be analyzed and the results reported in a manner consistent with the routine analysis and reporting requirements of compliance samples and any other samples analyzed. PT samples must be entered into the laboratory sample receipt log as samples and tracked through the laboratory as routine environmental samples. Their preparation must also be documented.
- The lab shall retain all records necessary to facilitate historical reconstruction of the analysis and reporting of analytical results for PT samples.
 - This means the laboratory must have available and retain for five years [pursuant to 15A NCAC 2H .0805 (a) (7) (G)] all of the raw data, including benchsheets, instrument printouts and calibration data, for all PT analyses and the associated quality control analyses conducted by all method technologies.
 - These records shall include a copy of the reporting forms used by the laboratory to report the analytical results to the PT provider. If the analytical results for the PT samples were entered or uploaded electronically to a provider website, the laboratory shall retain a copy of the on-line data entry summary or similar documentation of entry of the PT results from the PT provider website.
- For those laboratories that do not have adequate glassware for PT sample preparation, and have another lab assist with making up the PT sample, it is the participant laboratory's responsibility to retain the PT sample preparation documentation.
- Some proficiency testing providers offer known quality control samples to accompany their PT samples. Please be aware that the use of these for proficiency testing is unacceptable. Routine samples are not accompanied by known quality control samples. These may; however, be used with remedial PT samples as part of the troubleshooting process.

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