THE NELAC INSTITUTE

National Laboratory Accreditation Essential to Ensure Reliable Environmental Data

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Each year, hundreds of millions of measurements are performed by over 5,000 US environmental testing laboratories to determine whether or not a regulated entity is in or out of compliance, evaluate the extent and nature of environmental contaminants in air, soil and water, and to collectively provide information used to protect human health and the environment.

For example, homeowners may seek testing of their well water to see if it is safe to drink, a wastewater treatment plan may test its discharge to demonstrate compliance with a permit limit, the Federal Government may test soil at facilities to determine if a site can be redeveloped, or a town may contract to test its air to determine the impact of a new industrial activity that has moved into the area.

Many of these measurements are performed without adequate surveillance to ensure they are reliable. Without this surveillance, government agencies and the public often make decisions that may be based on incomplete or inaccurate information. Such decisions:

- Increase the anxiety over environmental contamination where no such anxiety is justified, or provide assurance of no risks when such assurances cannot be proven.
- Promote unnecessary expenditure of funds to remedy a non-existent environmental concern, or taking insufficient actions when such remedies are needed.
- Result in devaluation of property based on inaccurate measurements.
- Lead to over-regulation of some industries when such regulation is not required.

The NELAC Institute (TNI), a non-profit organization whose mission is to "foster the generation of environmental data of known and documented quality", administers the National Environmental Laboratory Accreditation Program (NELAP) that ensures the competency of all laboratories that measure environmental contaminants in environmental media (e.g., air, soil, water). TNI's program contains a number of fundamental attributes:

- Laboratories are periodically inspected by an authoritative, independent organization, called an Accreditation Body (AB), to ensure they have the staff, facilities, equipment, and professional practices to generate reliable data.
- Laboratories are held accountable to an internationally-recognized standard supplemented by requirements specific to environmental testing that are essential for ensuring reliable data.
- Laboratories are periodically evaluated using proficiency test (PT) samples to gauge the accuracy of laboratory results.

- PT sample providers are evaluated to ensure they are qualified to make available and grade these test samples.
- ABs that inspect laboratories are monitored by TNI to ensure they have the resources for operating an accreditation program.
- Laboratory assessors have access to professional training to conduct laboratory assessments.

No other organization in the United States has developed requirements specific for environmental testing that have an equal level of rigor that ensure their consistent application by multiple state agencies and users. No other organization has established a system whereby government agencies may have confidence that participating laboratory assessors and ABs manage and implement reliable accreditation programs. No other organization has established a comprehensive PT program encompassing as many analytes and media.

Over 2000 laboratories have been accredited in TNI's National Environmental Laboratory Accreditation Program (NELAP). TNI's NELAP is governed by consensus standards that incorporated input from all stakeholders, including state and federal agencies, regulated industry, small and large laboratories and that represent the best professional practices in the industry.

NELAP benefits the public by:

- Establishing a uniform set of standards by which environmental data is produced, promoting the comparability and defensibility of information across various states, agencies and regulatory programs.
- Being more cost effective, through the use of the accreditation status of a laboratory by multiple stakeholders and consequently reducing the number of assessments performed by accreditation bodies.
- Presenting greater opportunities for consensus by pooling the expertise of multiple agencies, states and the private sector in developing standards.
- Improving the quality of laboratory assessments by establishing uniform requirements for training assessors and facilitating opportunities for information exchange.
- Expanding the scope of accreditation programs to include emerging contaminants, field sampling activities, and additional environmental media.
- Reducing the amount of effort needed to define environmental project requirements.

Laboratories benefit because accreditation to NELAP standards:

- Replaces redundant and often contradictory on-site assessments with comprehensive standardized inspections.
- Increases the acceptability of data by regulators and customers.
- Reduces significantly the substantial indirect costs associated with redundant accreditation activities.
- Enhances the credibility of data generated.
- Establishes a level playing field for laboratory operations across the industry.

Participating ABs benefit from NELAP by:

- Saving the resources and efforts that would be incurred in creating local or state accreditation standards.
- Reducing the number of on-site assessments to perform through the reciprocal recognition of accredited laboratories.
- Having access to a global accreditation database, uniform curricula for training assessors, and a national forum for exchanging information.
- Having representatives participate in an accreditation council composed of peer accreditors.
- Receiving rigorous evaluations to confirm the quality of their operations.

For more Information about NELAP, contact TNI at:

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