

**LABORATORY CERTIFICATION**

(b) When analyzing regulatory samples, a certified environmental laboratory shall perform only those methods for which it has received certification or has received approval to use as alternate test procedures (ATPs) pursuant to N.J.A.C. 7:18-2.20. The certified environmental laboratory shall analyze only those parameters that are included in a valid annual certified parameter list (ACPL) issued pursuant to N.J.A.C. 7:18-2.6(b).

(c) The Department-Sanctioned Analytical Methods (DSAMs) are the methods approved for use by certified environmental laboratories. The designation of a method as a DSAM is described in N.J.A.C. 7:18-2.21.

(d) Under N.J.A.C. 7:18-2.6(b), a certified environmental laboratory will receive a certificate and an Annual Certified Parameter List (ACPL) from the Department. The certified environmental laboratory shall conspicuously display these documents in a location on its premises visible to the public.

**7:18-1.5 Incorporation by reference**

(a) The following regulations promulgated by the USEPA, together with all amendments and supplements, are incorporated by reference into this chapter:

1. The "National Primary and Secondary Drinking Water Regulations," 40 CFR 141 and 40 CFR 143;
2. The "Guidelines Establishing Test Procedures for the Analysis of Pollutants," 40 CFR 136; and
3. The methods listed in Subchapter I, Solid Waste, 40 CFR 260, 261.

(b) All existing CERCLA CLP methods, and all future new or modified CERCLA CLP methods, are incorporated by reference into this chapter. CERCLA CLP methods are available from: EPA Contract Laboratory Program, Sample Management Office, P.O. Box 815, Alexandria, VA 22313. All new or modified methods are incorporated when Invitation for Bid (Bid) documents containing these methods are published in the Commerce Business Daily. The Commerce Business Daily is available from U.S. Department of Commerce, Washington, DC 20230, (202) 783-3238.

(c) The Department's analytical methods for sludge analysis at N.J.A.C. 7:14 Appendix A, together with all amendments and supplements, are incorporated by reference into this chapter.

**7:18-1.6 Program information; notices; submittals**

(a) Unless otherwise specified, any questions concerning the requirements of this chapter should be directed to the Department's Office of Quality Assurance at (609) 292-3950. Written inquiries can be directed to the following address:

New Jersey Department of Environmental Protection  
Office of Quality Assurance  
CN 424  
Trenton, NJ 08625-0424

(b) Unless otherwise specified, any submittals of PE sample results, submittals of documents, notices of other communications required to be made to the Department under this chapter shall be made to the address specified in (a) above. Applications for certification and for renewals and modifications of certifications shall be submitted to the address specified in (a) above.

Administrative change.  
See: 28 N.J.R. 4098(a).

**7:18-1.7 Definitions**

The following words and terms, when used in this chapter, shall have the following meanings. If a definition in this section differs from the corresponding definition in any regulation or other document incorporated by reference under N.J.A.C. 7:18-1.5, the definition in the document incorporated by reference shall control.

"Acceptably analyze" means to analyze a sample in a manner that satisfies the requirements of N.J.A.C. 7:18-2.13(j).

"Acclimation" means, for acute toxicity testing, an organism's physiological adjustment to environmental changes including, but not limited to, changes in temperature and salinity.

"Accredited" means having the approval conferred upon schools, institutions, or programs where appropriate by a nationally recognized regional accrediting agency or association as determined by either the United States Secretary of Education, State Commissioner of Education, or State Chancellor of Higher Education.

"ACPL" means Annual Certified Parameter List and is a list that is sent annually to a certified environmental laboratory showing the regulatory programs, analytical techniques, method references and corresponding methods, specific parameters or group thereof for which the laboratory is certified to analyze regulatory samples.

"Acute MCL violation" means any violation of the maximum contaminant level (MCL) for any parameter specified by the State as posing an acute risk to human health including the presence of fecal coliform or *E. coli*, and nitrate (>10mg/L), nitrite (>one mg/L) or nitrate/nitrite (>10mg/L).

"Acute toxicity" means, for acute toxicity testing, a lethal or adverse sublethal effect to an organism exposed to a toxic substance for no more than 96 hours.

“Acute toxicity testing” means the standardized procedures for determining the quantitative lethal or sublethal effects of a toxic substance on an organism.

“Affiliate” means, with respect to any individual or entity, another individual or entity who has a controlling interest in such individual or entity; in whom such individual or entity has a controlling interest; or who is under common control with such individual or entity.

“Alternate Test Procedure (ATP)” means a procedure that:

1. Contains modifications not permitted in a method listed as a DSAM; or
2. Is a method not listed as a DSAM for the monitoring of one or more parameters of interest for the Safe Drinking Water Act, New Jersey Pollutant Discharge Elimination System, New Jersey Spill Compensation Act, New Jersey Solid Waste Management Act, Industrial Site Recovery Act, and New Jersey Underground Storage Tanks Program.

“Analytical reagent (AR) grade,” “ACS reagent grade” and “reagent grade” mean reagents that conform to the current specifications of the Committee on Analytical Reagents of the American Chemical Society.

“Analyze-immediately parameter” means a parameter for which analysis must be performed within 15 minutes after the sample is collected. Examples of analyze-immediately parameters include chlorine dioxide, dissolved oxygen with probe, pH, ozone, residual chlorine, sulfite and temperature.

“ANSP—Goulden” means, for Acute Toxicity Testing, the publication entitled “Daphnia Bioassay Workshop,” Dr. Clyde Goulden and Ms. Linda Henry; The Academy of Natural Sciences of Philadelphia, Division of Limnology and Ecology. This reference is a source for daphnid culturing and testing techniques used in N.J.A.C. 7:18-7, Acute Toxicity Testing.

“Applicant” means a laboratory applying to the Department to become a certified environmental laboratory.

“Arochlor” or “Aroclor” means the trade name for a series of commercial polychlorinated biphenyl and terphenyl mixtures, often termed PCBs or polychlorinated biphenyls.

“ASTM D1193-91” means, for chemical testing, “Standard Specifications for Reagent Water,” D1193-91 (and later revisions), American Society for Testing and Materials.

“ASTM D 4229-84” means, for acute toxicity testing, “Standard Practice for Conducting Static Acute Toxicity Tests on Waste-waters with Daphnia,” D 4229-84, American Society for Testing and Materials. This reference method is a source for daphnid culturing and testing techniques used in N.J.A.C. 7:18-7, Acute Toxicity Testing.

“ASTM E 724-80” means, for acute toxicity testing, “Standard Practice for Conducting Static Acute Toxicity Tests with Larvae of Four Species of Bivalve Molluscs,” E 724-80; American Society for Testing and Materials. This reference method is a source for standardized culturing and testing techniques in subchapter 7, Acute Toxicity Testing.

“ASTM E 729-80” means, for acute toxicity testing, “Standard Practice for Conducting Acute Toxicity Tests With Fishes, Macroinvertebrates, and Amphibians,” E 729-80, American Society for Testing and Materials. This reference method is a source for standardized culturing and testing techniques in subchapter 7, Acute Toxicity Testing.

“ASTM-31” means Annual Book of the American Society for Testing and Materials, Part 31.

“Asymptotic  $LC_{50}$ ” means, for acute toxicity testing, the toxicant concentration at which the  $LC_{50}$ , the lethal concentration at which 50 percent death of the test organisms occurs during an acute toxicity test, becomes a constant for a prolonged exposure time.

“Authorized measurement protocols” for radon/radon progeny-in-air means the DSAMs for Category RA1, radon/radon progeny-in-air, which are the approved methods for use by a certified laboratory when performing radon/radon progeny-in-air analysis. These DSAMs include the “Indoor Radon and Radon Decay Product Measurement Device Protocols,” USEPA 402-R-92-004 and the “Interim Protocols for Screening and Follow-up Radon and Radon/Decay Product Measurements,” USEPA 520/1-86-014.

“Authorized proficiency program” or “APP” means the USEPA Radon/Radon Progeny Measurement Proficiency Program, Eastern Environmental Radiation Facility, Montgomery, Alabama 36109, or other program authorized by the Department in writing as being equally stringent. The APP provides the Department with a laboratory’s radon/radon progeny results of PE samples. The Department uses the laboratory’s results and the expected acceptable limits to partially assess its analytical performance. Pursuant to N.J.A.C. 7:18-2.13, successful analysis of radon/radon progeny PE samples is necessary for obtaining and maintaining radon/radon progeny-in-air certification.

“Bioassay” means, for acute toxicity testing, a determination of the concentration or dose of a given material necessary to cause a specific response in a test organism under stated conditions. Bioassay refers to an acute toxicity test.

“Biomonitoring” means, for acute toxicity testing, all test methods that utilize a biological system, or any of its parts, to assess the presence or effects of one or more pollutants and/or environmental factors, either alone or in combination.

“Bureau” means one of the management units of the Department.

“Category” means one of the assigned designations that includes groups of parameters, their techniques of analysis, method references, and corresponding approved methods, for which certification is offered.

“CERCLA (CLP) Program” or “Contract Laboratory Program” means the USEPA contract program for the procurement of analytical data in support of its CERCLA program and the seven Categories for which a laboratory may obtain certification from the Department for its CERCLA programs.

“Certification” means a laboratory’s status as a certified environmental laboratory, or the document issued by the Department pursuant to N.J.A.C. 7:18-2.6, evidencing that status.

“Certification of Radon Testers and Mitigators” means N.J.A.C. 7:28-27.

“Certification year” means a one-year period beginning on July 1 of one year and ending on June 30 of the following year. A particular certification year is identified by the calendar year in which it ends. For example, certification year 1996 is the certification year ending on June 30, 1996.

“Certified environmental laboratory” means any laboratory, facility, consulting firm, government or private agency, business entity or other person that the Department has authorized pursuant to this chapter to perform analysis in accordance with the procedures of a given analytical method using a particular technique as set forth in a certain methods reference document, and to report the results from the analysis of environmental samples in compliance with a Departmental regulatory program.

“Certified radon environmental laboratory” means a radiochemical environmental laboratory that the Department has certified pursuant to this chapter to analyze samples for the presence of radon and/or radon progeny-in-air in a facility separate from the location in which the sample was taken, and that uses stationary measurement detection equipment.

“Certified radon measurement business” means a commercial business enterprise certified pursuant to N.J.A.C. 7:28-27 to sell devices and/or test for radon/radon progeny-in-air.

“Certified radon measurement specialist” means an individual certified pursuant to N.J.A.C. 7:28-27 to perform and/or evaluate radon/radon progeny-in-air measurements for a certified radon measurement business.

“Certified radon measurement technician” means an individual certified pursuant to N.J.A.C. 7:28-27 to perform radon/radon progeny-in-air measurement activities.

“Certified thermometer” means a thermometer that has documentation from the manufacturer showing that it has been calibrated against a National Institute of Standards and Technology (NIST), formerly National Bureau of Standards (NBS), thermometer for the temperature ranges employed by the environmental laboratory and the correction factors from that comparison.

“Chemical testing” means the chemical analysis and physical testing of environmental samples for inorganic and organic parameters and physical properties.

“Chronic toxicity” means, for acute toxicity testing, death or other adverse impacts that affect the growth, survival, or reproductive success of an organism or its progeny after a relatively long exposure period to toxic substances. Chronic toxicity is measured using intermediate-term or long-term bioassays.

“Class ‘A’ glassware” means glassware satisfying the applicable requirements for Class “A” glassware established by the National Institute of Standards and Technology (formerly the National Bureau of Standards).

“Client” means the person who requests an analysis from a laboratory.

“Cold-water fishes” means, for acute toxicity testing, those species of fish living and breeding in aquatic ecosystems with a maximum water temperature between 10 degrees Celsius and 16 degrees Celsius.

“Collector” means the person who collects a sample.

“Compliance analysis” means the analysis of a sample that is required by law, or by Departmental regulation or order.

“Composite sample” means a sample composed of several discrete samples combined in a known proportion. For NJPDES wastewater monitoring, a composite sample is a sample composed of several discrete samples collected at equal time intervals, or proportionally to the flow rate of the discharge.

“Confluent growth” means a bacterial growth that covers the entire filtration area of the filter with no discrete colonies when performing microbiological analysis by the membrane-filter techniques listed in Categories DW1, WP1, and SHW1. When confluent growth occurs, another sample must be obtained and analyzed using higher dilutions for the membrane-filter technique or using another approved technique.

“Contaminant or grouped-contaminants” means a specific analyte or group of analytes which are included in the general term “parameter” for the purposes of this chapter.

“Control” means, for acute toxicity testing, the group of test organisms in a chamber under test conditions that are

exposed to dilution water only and/or the natural water to which they are normally exposed.

“Controlling interest” means any of the following:

1. The direct or indirect beneficial ownership, by the person asserted to have a controlling interest and any of such person’s affiliates, of at least 50 percent of the voting stock or other equity interest in a person;
2. The holding of any direct or indirect beneficial interest in at least 50 percent of the income or profits of a person, by the person asserted to have a controlling interest; or
3. The existence of any other relationship between the person asserted to have a controlling interest and the person controlled, which relationship in fact constitutes control over the affairs of the person controlled.

“Criteria—1986” means, for acute toxicity testing, “Quality Criteria for Water 1986,” USEPA, Office of Water Regulations and Standards, Washington, D.C., USEPA 440/5-86-001. This reference was used to establish purity guidelines for test organism culture water in subchapter 7, Acute Toxicity Testing.

“Custodian” means an individual, designated by the laboratory manager, trained in the proper procedures to receive samples into the environmental laboratory.

“Definitive test” means, for acute toxicity testing, a short-term toxicity test used to measure the acute toxicity of effluents or materials.

“Department” means the New Jersey Department of Environmental Protection.

“Department validated methods” means analytical methods developed and validated for analysis of specified matrices by the Department or by Department sponsored research.

“Detection limit” (DL) or “instrument detection limit” (IDL) means the lowest concentration above background noise level that an instrument can detect reliably.

“Dilution factor” (DF) means, for chemical testing, a multiplication factor applied to a calculated sample result to compensate for sample dilution. The dilution factor is determined as follows:

$$DF = \text{Diluted sample volume} / \text{Original sample volume}$$

“Dilution water” means, for acute toxicity testing, unpolluted water of desired quality to be used in preparing the different test concentrations of the effluent and controls. For example, dilution water is usually collected from a point that is as close as possible to, but upstream or outside of, the effluent’s zone of impact.

“Discharge” means an intentional or unintentional action or omission resulting in the releasing, spilling, leaking, pumping, pouring, emitting, emptying, or dumping of a pollutant into the waters of the State, onto land or onto wells from which the pollutant might flow or drain into such waters, or into waters, or onto lands outside the jurisdiction of the State which pollutant enters the waters of the State, and shall include the release of any pollutant into a municipal treatment works.

“Drinking Water Program” means the Department’s program implementing the Safe Drinking Water Act, N.J.S.A. 58:12A-1 et seq.

“Drinking water sample” means a regulatory sample analyzed to determine compliance with the Drinking Water Program.

“DSAM” means Department Sanctioned Analytical Method. DSAMs are methods that laboratories may be certified to perform if they qualify under the requirements of this chapter. Mandatory methods, published or referenced in the Code of Federal Regulations, become DSAMs on their stated effective date. New or revised CERCLA CLP methods become DSAMs when new or revised CLP methods are included in Invitation for Bid documents published in the Commerce Business Daily. DSAMs that are needed for analysis of Department program regulatory samples, are designated as DSAMs by procedures described at N.J.A.C. 7:18-2.21.

“DSM” means Department Selected Method. DSMs are methods selected for designation as DSAMs. DSMs include methods that the Department has determined are necessary for the analysis of Program regulatory samples, but are not mandatory methods published or referenced in the Code of Federal Regulations and are not new CERCLA CLP methods published in Invitation for Bid documents published in the Commerce Business Daily. DSMs may include:

1. Published USEPA discretionary methods;
2. Methods published by professional organizations with recognized expertise in method development such as ASTM, APHA, and USGS; and
3. Departmental validated methods.

“EC<sub>50</sub>” means, for acute toxicity testing, the statistical estimate of the toxicant concentration that has a specified adverse effect (such as immobilization, change in respiration rate, or loss of equilibrium) on 50 percent of test organisms after a specific time of exposure.

“EDL” means an electrodeless discharge lamp used in atomic absorption spectroscopy.

“Effective concentration (EC)” means, for acute toxicity testing, the statistical estimate of the toxicant concentration that has a specified adverse effect (such as immobilization, change in respiration rate, or loss of equilibrium) in a given time.

“Effluent” means the outflow from a point source.

“EPA Acute Methods #013-1985” means, for acute toxicity testing, “Methods for Measuring The Acute Toxicity of Effluents to Freshwater and Marine Organisms,” 3rd ed, USEPA, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio 45268, USEPA-600-4-85-013.

“EPA Acute Methods #027F-1993” means, for Acute Toxicity Testing, Methods for Measuring The Acute Toxicity of Effluents for Freshwater and Marine Organisms, 4th ed., USEPA, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio 45268, EPA-600/4-90/027F.

“EPA Microbiological Methods” means, for microbiological testing, “Microbiological Methods for Monitoring the Environment,” USEPA-600/8-78-017.

“Exposure time” means, for acute toxicity testing, the time of exposure of test organisms to a test solution for parameters in the Acute Toxicity Testing Category.

“Field analyses” means those measurements taken directly at the site being sampled using portable meters or other portable instrumentation.

“Flow-through bioassay” means, for acute toxicity testing, a test in which the solution is replaced continuously in the test chambers for the test duration.

“GC” means gas chromatography.

“Grab sample” means an individual sample collected over a time period of less than 15 minutes.

“Guidelines Establishing Test Procedures for the Analysis of Pollutants” means the regulations promulgated by the USEPA at 40 CFR 136, together with all amendments and supplements.

“HASL 1973” means “HASL, Procedure Manual,” edited by John H. Harley. HASL 300, ERDA Health and Safety Laboratory, New York, NY, 1973. Pursuant to N.J.A.C. 7:18-6, a certified laboratory performing analysis of the Department’s additional radiochemical and radionuclide parameters not listed in the Safe Drinking Water Act must reference HASL 1973.

“Hazardous Waste Management System: General” means the regulations promulgated by the USEPA at 40 CFR 260, together with all amendments and supplements.

“HYICP” or “Hydride Generation Inductively Coupled Plasma—Atomic Emission Spectroscopy,” is an inductively

coupled plasma technique employing sodium borohydride ( $\text{NaBH}_4$ ) and iodine to produce volatile hydrides of antimony, arsenic, and selenium for low-concentration aqueous samples.

“ICP/MS” means Inductively Coupled Plasma/Mass Spectrometry.

“Identification and Listing of Hazardous Waste” means the regulations promulgated by the USEPA at 40 CFR 261, together with all amendments and supplements.

“Incipient  $\text{LC}_{50}$ ” means, for acute toxicity testing, “Asymptotic  $\text{LC}_{50}$ ”.

“Indicator parameter” is a parameter that is identified in a proficiency test and is used to evaluate the overall analytical performance of a laboratory on that specific method. Pursuant to N.J.A.C. 7:18-2.13, the Department uses a laboratory’s performance on analyzing an indicator parameter to determine the laboratory’s certification status on all parameters covered by that analytical method.

“Juvenile” means, for acute toxicity testing, the fishes that are greater than 20 days but less than or equal to 60 days post hatch.

“Laboratory” means any individual or other entity, including without limitation, corporations, associations, partnerships, joint ventures, and the United States, any state, any foreign country or government, and any political subdivision or agency thereof, that performs analyses of samples.

“Laboratory grade water” means a supply of water meeting or exceeding the specifications given in N.J.A.C. 7:18-7.4(b), to be used for the holding, spawning, and rearing of aquatic organisms used in toxicity testing.

“Laboratory pure water” means distilled, deionized, or charcoal treated water that meets the requirements of:

1. N.J.A.C. 7:18-4.5(e), for microbiological testing;
2. N.J.A.C. 7:18-6.2, for radiochemical testing; or
3. N.J.A.C. 7:18-7.4, for acute toxicity testing.

“Larvae” means, for acute toxicity testing, the fishes that are less than or equal to 20 days post hatch.

“Lethal concentration (LC)” means, for acute toxicity testing, the statistical estimate of the toxicant concentration producing death of the test organisms. LC is usually defined as the median (50 percent) lethal concentration,  $\text{LC}_{50}$ , i.e. concentration killing 50 percent of tested organisms at a specific time of exposure, for example 96-hour  $\text{LC}_{50}$ .

“ $\text{LC}_{50}$ ” means, for acute toxicity testing, the lethal concentration at which 50 percent of tested organisms are killed over a specific time of exposure.

“LC Method” means Lucas Cell Method, USEPA/600/2-87/082, March 1989, a DSAM for the analysis of radon in drinking water samples.

“LS Method” means Liquid Scintillation Method, USEPA/600/287/082, March 1989, a DSAM for the analysis of radon in drinking water samples.

“Macro analysis” means the determination of parameters at concentrations in the high part per million or percent range.

“Manual” means “Manual for the Certification of Laboratories Analyzing Drinking Water, Criteria and Procedures Quality Assurance,” USEPA/570/9-90/008, USEPA, Office of Water (WH-550D), Washington, DC 20460, as updated or supplemented. This reference is the Federal training and standard operating procedures manual for Federal, state, and local certification officers of drinking water laboratories for microbiological, chemical, and radiochemical testing.

“Maximum contaminant level (MCL)” means the maximum permissible level of a contaminant allowed in drinking water under the National Primary Drinking Water Regulations.

“Membrane filtration (MF) method” means a method for determining the bacterial count in a water sample. In this method, a known volume of water is filtered through a membrane filter of optimum pore size for full bacterial retention. The filter is incubated in contact with culture medium to provide nutrients for bacterial growth. After incubation at a prescribed time and temperature, the cultures are examined for bacterial colonies that are counted and recorded per 100 mL of water sample.

“Method detection limit” (MDL) means the minimum concentration of a substance that can be measured and reported with 99 percent confidence that the analyte concentration is greater than zero and is determined from analysis of a sample in a given matrix type containing the analyte according to the Guidelines Establishing Test Procedures for the Analysis of Pollutants, 40 CFR 136, Appendix B.

“Method reference” means the name, abbreviation or acronym (for example, USEPA, ASTM, USGS) of the organization that has developed an approved method or of the publication containing an approved method. The method reference, together with the method number, specifically identifies a method.

“Methods for Measuring Acute Toxicity—EPA” means “Methods for Measuring Acute Toxicity of Effluents to Aquatic Organisms,” USEPA, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio, EPA-600/4-78-012.

“Micro analysis” means the determination of trace quantities of parameters at concentrations in the low and sub part per million range.

“Modified static toxicity test” means, for acute toxicity testing, the “Renewal Toxicity Test.”

“Most probable number (MPN)” means a quantitative designation of microbial population which is determined by a statistical method. In this method, a multiple dilution tube technique is used with a standard culture medium. The tubes are incubated and observed for gas production. Results of these tubes are translated by mathematical probability tables into population numbers.

“MS” means mass spectrometry.

“mv” means millivolt or  $\frac{1}{1000}$  of a volt.

“National Primary Drinking Water Regulations” means the regulations promulgated by the USEPA at 40 CFR 141, together with all amendments and supplements.

“National Secondary Drinking Water Regulations” means the regulations promulgated by the USEPA at 40 CFR 143, together with all amendments and supplements.

“New Jersey Pollutant Discharge Elimination System rules” or “NJPDES rules” means the rules promulgated by the Department at N.J.A.C. 7:14A, together with all amendments and supplements. The NJPDES rules govern the Department’s system for issuing, modifying, suspending, revoking and reissuing, terminating, monitoring, and enforcing discharge permits pursuant to the New Jersey Water Pollution Control Act.

“New Jersey Safe Drinking Water Act Regulations” means the regulations promulgated by the Department at N.J.A.C. 7:10, together with all amendments and supplements. The rules implement the New Jersey Safe Drinking Water Act, N.J.S.A. 58:12A-1 et seq.

“NIST” means the National Institute of Standards and Technology, formerly known as the National Bureau of Standards.

“NJWPCA” or “New Jersey Water Pollution Control Act” means N.J.S.A. 58:10A-1 et seq., together with all amendments and supplements.

“nm” means nanometer, one millionth of a millimeter, in the Metric System.

“N.M.A.T. (no measurable acute toxicity) definitive toxicity test” means, for acute toxicity testing, a short-term toxicity test designed to measure compliance with NJPDES permit limitations of “no measurable acute toxicity.”

“N.O.A.E.C. (no observed adverse effect concentration) definitive toxicity test” means, for acute toxicity testing, a short-term toxicity test designed to measure compliance with NJPDES permit limitations of “no observed adverse effect concentration.”

“Non-transient non-community water system” means a public water system that is not a community water system and that regularly serves at least 25 of the same persons over six months per year.

“Office of Quality Assurance” (OQA) means the office in the New Jersey Department of Environmental Protection that administers the Department Quality Assurance Program, the Environmental Laboratory Certification Program, and the State Contract Laboratory Program which includes the Analytical Services Contracts and Memoranda of Agreements for Analytical Services.

“On-site analyses” means the analysis of samples collected at a facility or a site of environmental concern, performed at that facility or environmental site.

“Parameter” means a general term that includes, but is not limited to, terms such as contaminant, constituent, substance, metal, organic chemical, and characteristics that are used to designate an analyte, group of analytes, attribute, or physical property for which a certified environmental laboratory may be approved to perform analysis of regulatory samples and report results.

“Performance evaluation sample” or “PE sample” means a sample containing a known concentration of one or more specific parameters, used to evaluate the analytical performance of a laboratory. These materials may be provided by the USEPA, the Department, or other Department approved programs.

“Permit” means a NJPDES permit issued pursuant to the New Jersey Water Pollution Control Act, N.J.S.A. 58:10A-6.

“Person” means any individual or other entity, including without limitation, corporations, associations, partnerships, joint ventures, and the United States, any state, any foreign country or government, and any political subdivision or agency thereof.

“pH” means a numerical expression of the hydrogen ion concentration (acidity) of aqueous matrices. pH values range from 0 (high acidity-low alkalinity) to 7 (neutral), to 14 (low acidity-high alkalinity).

“Piper-1982” means, for acute toxicity testing, “Fish Hatchery Management,” by Piper et al., 1982, U.S. Fish and Wildlife Publication.

“Point source” means any discernible, confined, and discrete conveyance from a mobile or stationary source, including, but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete issue, container, rolling stock, concen-

trated animal feeding operation, vessel or other floating craft, from which pollutants are or may be discharged.

“Pollutant” means any dredge spoil, solid waste, incinerator residue, filter backwash, garbage, refuse, oil, grease, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials, thermal waste, wrecked or discarded equipment, and construction waste or runoff or other residue discharged to the land, groundwaters or surface waters of the state.

“Primary standard” means a very pure reagent of defined purity used as a reference for standardizing other reagent solutions.

“Proficiency study” means an organized program in which laboratories participate in the analysis of PE sample aliquots from homogeneous sample batches. The PE samples contain one or more parameters monitored under a regulatory program, for example, the Drinking Water Program. Data from the study are analyzed statistically, so that the acceptability of individual laboratory results are based on the performance of participating laboratories.

“Public community water system” means a public water system which serves at least 15 service connections used by year-round residents or regularly serves at least 25 year-round residents.

“Public non-community water system” means a public water system that is not a community water system.

“Quality assurance” or “QA” means the integrated system of operations and measurements performed to assure that data meets defined standards of quality with a stated level of confidence.

“Quality control” or “QC” means the practice of standardized operations or measurements which determine one or more aspects of data quality. An example is the evaluation of precision and accuracy data of an analytical method by statistical methods for the purpose of establishing control limits within which future precision and accuracy data must fall.

“Radon” means the radioactive noble gas radon-222.

“Radon Act” means N.J.S.A. 26:2D-70 et seq.

“Radon progeny-in-air” means the short-lived radionuclides formed as a result of the decay of radon-222. The short-lived radon progeny consist of polonium-218, lead-214, bismuth-214 and polonium-214.

“Radon/Radon Progeny-in-Air Program” means the Department’s program implementing the portion of the Radiation Protection Act governing radon and radon progeny, N.J.S.A. 26:2D-70 et seq.

“Range-finding toxicity test” means, for acute toxicity testing, a short-term (usually 24 hours), small-scale test to determine the approximate concentration range to be covered in full-scale definitive testing. This is especially useful with effluents or materials of unknown toxicity.

“Raw data” means the data generated during the sample preparation and analysis. The data includes analyst notebook entries, bench sheets, standards preparation, instrument calibration, method QC, strip chart graphs, computer printouts, and integrator printouts.

“Reagent water” means water used for chemical testing that meets the specifications of Type I (or better) and Type II (or better) reagent waters as defined in the current version of ASTM D1193. Type I reagent water is required for inorganics analysis. Type II reagent water is required for organics analysis and sampling equipment decontamination.

“Record” means all information and data recorded and/or stored on paper, microfilm/microfiche or computer systems.

“Regulatory program” means any of the statutes listed in N.J.A.C. 7:18-1.1(c), any regulations or orders issued pursuant to those statutes, or the Contract Laboratory Program.

“Regulatory purposes” means for the purpose of determining compliance with a regulatory program.

“Regulatory sample” means either of the following:

1. A sample taken and/or analyzed to comply with a regulatory program; or
2. A proficiency evaluation (PE) sample.

“Renewal toxicity test” means, for acute toxicity testing, a static test with periodic exposure (at least once every 24 hours) of the test organisms to a fresh test solution of the same concentration. This is accomplished either by transferring the test organisms or replacing the test solution.

“Replicate sample” means a sample prepared by dividing a homogeneous sample into separate parts so that each part is also homogeneous and representative of the original sample.

“Response” means, for acute toxicity testing, the observed biological effect of the material tested. In acute toxicity tests, the observed effect is usually death.

“Safe Drinking Water Act” or “NJSDWA” means N.J.S.A. 58:12A-1 et seq.

“Salinity” means, for acute toxicity testing, the total amount of dissolved salts in sea water expressed in parts per thousand (ppt) by weight when all the carbonate has been converted to oxide, the bromide and iodide have been replaced with chloride, and all organic matter has been completely oxidized.

“Sample handling and preservation” means those sample handling and preservation techniques listed in N.J.A.C. 7:18-9. These techniques comprise the Department’s minimum performance requirements for handling and preserving a valid sample for subsequent analysis by a certified environmental laboratory for regulatory purposes.

“Sampling point” means a particular site whose location may be specified in a permit, or otherwise, and from which samples are to be collected for testing and evaluation.

“SM14” or “Standard Methods, 14th Edition” means “Standard Methods for the Examination of Water and Wastewater,” American Public Health Association, 14th Edition, 1975.

“SM15” or “Standard Methods, 15th Edition” means “Standard Methods for the Examination of Water and Wastewater,” American Public Health Association, 15th Edition, 1980.

“SM16” or “Standard Methods, 16th Edition” means “Standard Methods for the Examination of Water and Wastewater,” American Public Health Association, 16th Edition, 1985.

“SM17” or “Standard Methods, 17th Edition” means “Standard Methods for the Examination of Water and Wastewater,” American Public Health Association, 17th Edition, 1989.

“SM18” or “Standard Methods, 18th Edition” means “Standard Methods for the Examination of Water and Wastewater,” American Public Health Association, 18th Edition, 1992.

“SOC” means a synthetic organic chemical listed in the National Primary Drinking Water Regulations. An SOC is a non-volatile organic compound for which maximum contaminant levels (MCLs) or maximum contaminant level goals (MCLGs) have been established.

“Solid/Hazardous Waste Programs” means the Department’s programs implementing the Solid Waste Management Act, N.J.S.A. 13:1E-1 et seq., the Industrial Site Recovery Act, N.J.S.A. 13:1K-6 et seq., and the Spill Compensation and Control Act, N.J.S.A. 58:10-23.11 et seq.

“Solid/hazardous waste sample” means a regulatory sample analyzed to determine compliance with one or more of the Solid/Hazardous Waste Programs.

“SOP manual” means standard operating procedure manual. This manual includes step-by-step instructions for all procedures, operations, analyses, and actions whose mechanics are thoroughly prescribed and commonly accepted as the usual method for performing routine or repetitive tasks.

“State Primary Drinking Water Regulations” means those regulations promulgated as N.J.A.C. 7:10-5.

“State Secondary Drinking Water Regulations” means those regulations promulgated as N.J.A.C. 7:10-7.

“Static-toxicity test” means, for Acute toxicity testing, a test in which solutions and organisms are placed in chambers for the duration of the test without any exchange of the test solutions.

“Subsample” means a portion of a large volume homogenized sample.

“Subsequent to graduation” means the time after receipt of a specified degree.

“SW-846” means the USEPA’s Test Methods for Evaluating Solid Waste—Physical and Chemical Methods, Third Edition, 1986, as amended or supplemented.

“Target compound” means any parameter for which quality control data are listed in the method.

“Technique” means the type of instrumental or manual procedure used to perform an analysis. For example, the potentiometric ion selective electrode determination of fluoride is one of four techniques used for the determination of fluoride in drinking water. There are three method references approved by USEPA that use this technique.

“Temporary approval” means either of the following:

1. A temporary approval for a laboratory to continue analyzing regulatory samples pending an on-site audit pursuant to N.J.A.C. 7:18-2.6(a)6; or
2. A temporary approval for a laboratory to continue analyzing regulatory samples for one or more categories in the solid/hazardous waste programs, pursuant to N.J.A.C. 7:18-2.6(c).

“Total length” means, for acute toxicity testing, the straight-line measurement from the tip of the snout of a fish to the extreme tip of the caudal fin.

“Toxicity test” means, for acute toxicity testing, a procedure in which the responses of aquatic organisms are used to detect or measure the presence or effect of one or more toxic substances or wastes, alone or in combination.

“Transient non-community water system” means a non-community water system that does not regularly serve at least 25 of the same persons over 6 months per year.

“Transport water” means, for acute toxicity testing, the fresh or salt water used to transport test organisms from an outside supplier’s facility to the certified environmental laboratory; usually it is the water used by the supplier for culturing test organisms.

“Trip blanks” means a set of sample containers filled with analyte-free water that originates in the environmental laboratory, travels to the field site and remains unopened. This blank checks for potential contamination sources in sample container preparation, method blank water, and sample transport.

“USEPA” or “EPA” means the United States Environmental Protection Agency.

“USEPA-1987” means, for acute toxicity testing, “Guidelines for the Culture of Fathead Minnows Pimephales Promelas for Use In Toxicity Tests,” USEPA, Environmental Research Laboratory, Duluth, MN, USEPA/600/3-87/001, January, 1987.

“USGS-83” means “Methods for the Determination of Organic Substances in Water and Fluvial Sediments,” Book 5, 1983.

“USGS-76” means Fishman and Brown, “Selected Methods of the U.S. Geological Survey of Analysis of Wastewater,” Open-file Report 76-177 (1976).

“VOCs” means volatile organic chemicals as listed in the National Primary Drinking Water Regulations. These are a group of purgeable organic compounds for which maximum contaminant levels (MCLs) or maximum contaminant level goals (MCLGs) have been established.

“Volatile organics” means those organic compounds that can be determined quantitatively by methods utilizing the purge and trap technique. VOCs are a subset of volatile organics.

“Volume Percent” means, for acute toxicity testing, equal to  $100 \times (\text{volume of effluent}) / (\text{volume of effluent} + \text{volume of dilution water})$ .

“Warm-water fishes” means, for acute toxicity testing, those species living and breeding in aquatic ecosystems with a maximum water temperature range of between 13 degrees Celsius and 27 degrees Celsius.

“Wastewater sample” means a regulatory sample analyzed to determine compliance with the Water Pollution Program.

“Water Pollution Program” means the Department’s program implementing the Water Pollution Control Act, N.J.S.A. 58:10A-1 et seq.

“Water purveyor” means a person who owns or operates a public water system (as that term is defined in N.J.A.C. 7:10-1.3).

“Waters of the State” means the Atlantic Ocean and its estuaries, all springs, streams, and bodies of surface or ground water, whether natural or artificial, within the boundaries of this State or subject to its jurisdiction.

“Weis-1979” means, for acute toxicity testing, “Establishment of a Statewide List of Bioassay Organisms Pursuant to the New Jersey Surface Water Quality Standards,” Judith S. Weis, Edmund Zimmerer, John Galandak, and Allen Marchinsin; Department of Zoology and Physiology, Rutgers, The State University; Revised March, 1979.

“Wide spectrum light” means light that approximates natural sunlight.

“Working level (WL)” means the concentration of short-lived radon decay products that will result in 130,000 million electron volts of potential alpha-particle energy per liter of air. Working level is a measure of radon decay product concentration in air.

“Year class” means, for acute toxicity testing, fish that originate from the same annual brood or spawning.

Administrative change.

See: 28 N.J.R. 4098(a).

Amended by R.1997 d.192, effective May 19, 1997.

See: 28 N.J.R. 4149(a), 29 N.J.R. 2275(a).

Added “N.O.A.E.C. (no observed adverse effort concentration) definitive toxicity test”.

#### 7:18-1.8 Severability

If any portion of this chapter is adjudged unconstitutional or invalid by a court of competent jurisdiction, the remainder of this chapter shall not be affected by that adjudication.

#### 7:18-1.9 Signatories

(a) In each application for an initial certification, renewal certification or modification of a certification, the applicant shall include the following certification, signed by the individual specified in (b) below:

1. “I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant civil and criminal penalties, including the possibility of a fine or imprisonment or both, for submitting false, inaccurate, or incomplete information.”

(b) The following individual shall sign the certification required under (a) above:

1. If the applicant is a corporation, a principal executive officer of at least the level of vice president;
2. If the applicant is a partnership, a general partner;
3. If the applicant is a sole proprietorship, by the proprietor;
4. If the applicant is a municipal, state, Federal or other public agency or instrumentality, by the principal executive officer or his or her designee.

## SUBCHAPTER 2. PROGRAM PROCEDURES AND REQUIREMENTS

### 7:18-2.1 Scope

(a) This subchapter establishes the following:

1. The procedure for becoming a certified environmental laboratory;
2. Requirements that a laboratory must meet to become a certified environmental laboratory;
3. The categories of analysis for which certification is available;
4. The procedure for a certified environmental laboratory to renew or modify its certification;
5. Procedures for cancellation, suspension, and revocation of certification;
6. The procedures to apply for approval of alternate test procedures; and
7. Fees for certification.

### 7:18-2.2 General prohibitions

(a) No laboratory other than a certified environmental laboratory shall analyze samples for the purpose of establishing compliance with any regulatory program.

(b) A certified environmental laboratory shall use only the methods listed on its Annual Certified Parameter List when analyzing samples for the purpose of establishing compliance with any regulatory program.

(c) Only a certified environmental laboratory may use the name “certified environmental laboratory” or any other name that is reasonably likely to lead the public to believe that a laboratory or other person is a certified environmental laboratory. Any laboratory or other person who is not a certified environmental laboratory shall not make an oral or written statement intended to mislead the public into believing that the laboratory or other person is a certified environmental laboratory.

### 7:18-2.3 Overview of the certification process

(a) A laboratory is eligible to become a certified environmental laboratory only if it completes the application requirements at N.J.A.C. 7:18-2.5, and demonstrates through the process set forth within this subchapter that it complies with the requirements in N.J.A.C. 7:18-2.6(a).

(b) If the Department determines that an applicant satisfies the requirements of (a) above, the Department shall issue the applicant a certificate and an Annual Certified Parameter List (ACLP) showing the parameters, techniques, method references, and corresponding methods for which the applicant is certified.

(c) The Department's annual certification period begins on July 1 of each year, and ends on the following June 30. A certification and an Annual Certified Parameter List expire at the end of the annual certification period for which

they are issued, unless they are renewed in accordance with N.J.A.C. 7:18-2.7. The Annual Certified Parameter List shall indicate the certification period for which it is valid.



**7:18-2.4 Categories for certification**

(a) An applicant shall apply for certification to perform methods for use in one or more of the following regulatory programs:

1. Drinking Water Program;
2. Water Pollution Program;
3. Radon/Radon Progeny-in-Air Program;
4. Solid/Hazardous Waste Programs; and
5. CERCLA (CLP) Program.

(b) An applicant shall apply for certification to perform sample analysis and to report results for one or more parameters within one or more categories listed in (c) through (g) below.

(c) The parameters for which a laboratory may be certified to perform sample analysis and to report results for purposes of determining compliance with the Drinking Water Program are organized within the following categories:

1. Category DW1, Microbiological Parameters;
2. Category DW2, Inorganic Parameters, Including Sodium & Calcium;
3. Category DW3, Analyze-Immediately Parameters;
4. Category DW4, Inorganic Parameters, Metals;
5. Category DW5, Organic Parameters, Chromatography;
6. Category DW6, Organic Parameters, Chromatography/Mass Spectrometry;
7. Category DW7, Radiochemistry: Radioactivity & Radionuclide Parameters; and
8. Category DW8, Radon in Drinking Water.

(d) The parameters for which a laboratory may be certified to perform sample analysis and to report results for purposes of determining compliance with the Water Pollution Program are organized within the following categories:

1. Category WP1, Microbiological Parameters;
2. Category WP2, Inorganic Parameters, Nutrients & Demand;
3. Category WP3, Analyze-Immediately Parameters;
4. Category WP4, Inorganic Parameters, Metals;
5. Category WP5, Organic Parameters, Chromatography;
6. Category WP6, Organic Parameters, Chromatography/Mass Spectrometry;
7. Category WP7, Individual Pesticides (GC, GC/MS, TLC);

8. Category WP8, Acute Toxicity;
9. Category WP9 Radiochemistry: Radioactivity & Radionuclide Parameters; and
10. Category WP10, Radon in Wastewater.

(e) The parameters for which a laboratory may be certified to perform sample analysis and to report results for purposes of determining compliance with the Radon/Radon Progeny-in-Air Program are organized within the following category: Category RA1, Radon/Radon Progeny-in-Air.

(f) The parameters for which a laboratory may be certified to perform sample analysis and to report results for purposes of determining compliance with the Solid/Hazardous Waste Program are organized within the following categories:

1. Category SHW1, Microbiological Parameters;
2. Category SHW2, Characteristics of Hazardous Waste;
3. Category SHW3, Analyze-Immediately Parameters;
4. Category SHW4, Inorganic Parameters;
5. Category SHW5, Organic Parameters, Preparation & Screening;
6. Category SHW6, Organic Parameters, Chromatography;
7. Category SHW7, Organic Parameters, Chromatography/Mass Spectrometry;
8. Category SHW8, Polychlorinated Dibenzo-p-dioxins and Polychlorinated Dibenzofurans;
9. Category SHW9, Miscellaneous Parameters;
10. Category SHW10, Facility-Specific Parameters;
11. Category SHW11, Incinerator Emissions; and
12. Category SHW12, Immunoassay.

(g) The parameters for which a laboratory may be certified to perform sample analysis and to report results for purposes of determining compliance with the CERCLA (CLP) Program are organized within the following categories:

1. Category CLP1, Multi-Media, Multi-Concentration Inorganic Parameters;
2. Category CLP2, Multi-Media, Multi-Concentration Organic Parameters;
3. Category CLP3, Polychlorinated Dibenzo-p-dioxins & Polychlorinated Dibenzofurans;
4. Category CLP4, Multi-Media, High Concentration, Inorganic Parameters;
5. Category CLP5, Multi-Media, High Concentration, Organic Parameters;

6. Category CLP6, Low Concentration Water for Inorganic Parameters; and

7. Category CLP7, Low Concentration Water for Organic Parameters.

(h) Table 2.1 illustrates the organization of subchapters 3 through 9 (N.J.A.C. 7:18-3 through 9).

Table 2.1 Organization of Subchapters 3 through 9

Subchapter	Title	Categories
3	General Laboratory Facilities & Equipment	All categories except DW3, WP3, SHW3
4	Microbiology	DW1, WP1, SHW1
5	Chemistry	DW2, DW4-DW6, WP2, WP4-WP7, SHW2, SHW4-SHW12, CLP1-CLP7
6	Radiochemistry & Radon/Radon Progeny-in-Air	DW7, DW8, WP9, WP10, RA1
7	Acute Toxicity	WP8
8	Analyze Immediately	DW3, WP3, SHW3
9	Sample Requirements	All

Administrative change.  
See: 28 N.J.R. 4098(a).

#### 7:18-2.5 Procedure for initial application of a laboratory seeking certification

(a) A laboratory seeking initial certification for one or more parameters in any category listed in N.J.A.C. 7:18-2.4(c) through (g) shall submit an application to the Department, at the address listed in N.J.A.C. 7:18-1.6(a).

(b) The applicant shall complete the application form supplied by the Department, including the following:

1. The name of the applicant;
  2. The mailing address and, if different, street address and municipality of laboratory location;
  3. The hours of operation;
  4. The areas in which certification is sought;
    - i. Regulatory programs;
    - ii. Categories;
    - iii. Parameters;
    - iv. Techniques; and
    - v. Method references and specific method numbers.
- A laboratory shall select only one or more method reference and corresponding method when multiple method references for a given technique are included in the DSAMs;
5. The type of environmental laboratory, identified by code listed on the application form;
  6. The names of the following individuals:
    - i. The applicant's owner;

ii. The individual designated as the manager pursuant to N.J.A.C. 7:18-2.10(a)1; and

iii. All supervisors designated pursuant to N.J.A.C. 7:18-2.10(a)2;

7. A description of the education and experience of the following individuals, and academic transcripts for each such individual:

i. The manager, if responsible for technical functions;

ii. All supervisors; and

iii. Other laboratory technical staff;

8. If the applicant has participated in the USEPA Proficiency Testing Program and/or any Department-authorized proficiency program during the 12 months immediately preceding the application, the applicant may submit the results of such proficiency testing for any parameters for which the applicant is seeking certification;

9. The certification required under N.J.A.C. 7:18-1.9(a)1, signed by the individual required under N.J.A.C. 7:18-1.9(b);

10. If the laboratory is applying for certification in any of the categories listed in N.J.A.C. 7:18-5.1(a) for which published MDLs are available, MDL data for such methods;

11. Any other information included on the form, which is reasonably necessary to enable the Department to determine whether the applicant should be certified; and

12. The appropriate fees, pursuant to N.J.A.C. 7:18-2.9, in the form of a check payable to "Treasurer, State of New Jersey."

(c) An application is administratively complete if it contains everything required under (b) above. The Department shall advise the applicant in writing whether the application is administratively complete. If the application is not administratively complete, the Department shall identify the deficiencies. A determination that the application is administratively complete does not authorize the laboratory to perform sample handling, preservation, and analyses and reporting of data as regulated by this chapter.

(d) In addition to the information required under (b) above, the applicant shall provide any information that the Department requests as being reasonably necessary to determine whether the applicant should be certified.

Administrative change.  
See: 28 N.J.R. 4098(a).

#### 7:18-2.6 Conditions for the granting of certification

(a) To be eligible for certification, an applicant shall satisfy all of the requirements listed in (a)1 through 8 below:

1. The applicant has submitted a complete application meeting the requirements of N.J.A.C. 7:18-2.5(b), including the fees required under N.J.A.C. 7:18-2.9;