15A NCAC 2H .0802 is repealed through readoption as published in 33:12 NCR 1294 as follows:

15A NCAC 02H .0801 PURPOSE

15A NCAC 02H .0802 SCOPE

History Note: *Authority G.S. 143-215.3(a)(1); 143-215.3(a)(10);*
Eff. February 1, 1976;
Amended Eff. November 2, 1992; July 1, 1988; December 1, 1984; November 1, 1978;
Temporary Amendment Eff. October 1, 2001;
Amended Eff. August 1, 2002;
Repealed Eff. July 1, 2019.

15A NCAC 02H .0803 is readopted with changes as published in 33:12 NCR 1294 with changes as follows:

15A NCAC 02H .0803 DEFINITIONS

The following terms as used in this Section shall have the assigned meaning:

~~(1) "Analytical chemistry experience" means experience analyzing samples in a chemistry laboratory or supervising a chemistry laboratory that analyzes samples.~~

~~(2) "Certification" means a declaration by the state that the personnel, equipment, records, quality control procedures, and methodology cited by the applicant are accurate and that the applicant's proficiency has been considered and found to be acceptable pursuant to these Rules.~~

~~(3) "Certified Data" shall be defined as any analytical result, including the supporting documentation, obtained through the use of a method or procedure which has been deemed acceptable by the State of North Carolina for Laboratory Certification purposes pursuant to these Rules.~~

~~(4) "Commercial Laboratory" means any laboratory, including its agents or employees, which is seeking to analyze or is analyzing samples, including Field Parameters, for others for a fee.~~

~~(5) "Decertification" means loss of certification.~~

~~(6) "Falsified data or information" means data or information which has been made untrue by alteration, fabrication, omission, substitution, or mischaracterization. The agency need not prove intent to defraud to prove data is falsified.~~

~~(7) "Field Parameters", for the purpose of these Rules shall include Total Residual Chlorine, Conductivity, Dissolved Oxygen, pH, Settleable Residue, and Temperature.~~

~~(8) "Inaccurate data or other information" means data or information that is in any way incorrect, or mistaken.~~

~~(9) "Industrial Laboratory" means a laboratory, including its agents or employees, operated by an industry to analyze samples, including Field Parameters, from its wastewater or wastewater from its water treatment plant(s).~~

~~(10) "Municipal Laboratory" means a laboratory, including its agents or employees, operated by a municipality or other local government to analyze samples, including Field Parameters, from its wastewater or wastewater from its water treatment plant(s).~~

~~(11) "Other" laboratory means a facility that does not require laboratory certification as part of its routine operation and does not analyze samples for a fee, or is doing business as a non-profit facility.~~

~~(12) "Pretreatment Program" means a program of waste pretreatment requirements set up in accordance with 15A NCAC 02H .0900 and approved by the Division of Water Quality.~~

~~(13) "State" means the North Carolina Department of Environment and Natural Resources, or its successor.~~

~~(14) "State Laboratory" means the Laboratory Section of the North Carolina Division of Water Quality, or its successor.~~

~~(15) "Unacceptable results" means those results on performance evaluation samples that exceed the specified acceptable range as indicated by a US EPA accredited vendor.~~

~~(16) "Uncertified data" shall be defined as any analytical result, including the supporting documentation, obtained using a method or procedure which is not acceptable to the State Laboratory pursuant to these Rules.~~

(1) [~~Acceptable Proficiency Testing results~~]"Acceptable Proficiency Testing Results" means those results on Proficiency Testing [~~samples~~]Samples that are within the Vendor-specified acceptable range as indicated by a [~~State Laboratory approved Vendor~~]Vendor or Split [~~samples~~]Samples that are within the specified acceptance range as [~~indicated~~]provided by the State Laboratory.

(2) [~~Analytical chemistry experience~~]"Analytical Chemistry Experience" means experience analyzing samples in a chemistry laboratory or supervising a chemistry laboratory that analyzes samples.

(3) [~~Approved Procedure~~]"Approved Procedure" means an analytical procedure [~~developed by the State Laboratory,~~] based upon [~~relevant~~]reference methods found in Rule .0805(a)(1)(A) through (E), and approved for use for monitoring subject to G.S. 143-215.1 and 143-215.63[~~, et seq.~~]and the rules of this Section. State Laboratory Approved Procedures for Field Parameters may be obtained by request from the State Laboratory or on the State Laboratory Certification website at [~~http://portal.ncdenr.org/web/wq/lab/cert.~~]https://deq.nc.gov/about/divisions/water-resources/water-resources-data/water-sciences-home-page/laboratory-certification-branch.

(4) [~~Certification~~]"Certification" means a declaration by the State Laboratory that the personnel, equipment, records, quality control procedures, and methodology cited by the applicant comply with these Rules and that the applicant's proficiency with analytical chemistry has been considered and found to be acceptable by the State Laboratory pursuant to these Rules.

(5) [~~Certified Data~~]"Certified Data" means any analytical result, including the Supporting Records, obtained using a method or procedure pursuant to Section .0805(a)(1)(A) through (F).[~~which has been deemed acceptable by the State Laboratory for laboratory Certification purposes pursuant to these Rules.~~]

(6) [~~CFR~~]"CFR" means the Code of Federal Regulations.

(7) [~~Commercial Laboratory~~]"Commercial Laboratory" means any laboratory, including its agents or employees, which is seeking to analyze or is analyzing samples in a chemistry laboratory or in a field setting, including Field Parameters, for others for a fee.

(8) [~~Decertification~~]"Decertification" means loss of Certification.

(9) [~~Director~~]"Director" means the Director of the Division of Water [~~Resources or its successor.~~]Resources.

(10) [~~Division~~]"Division" means the Division of Water [~~Resources or its successor.~~]Resources.

(11) [~~Falsified Data or Information~~]"Falsified Data or Information" means data or information that, whether by intent or [~~reckless~~]disregard for accuracy, has been altered, fabricated, or otherwise

mischaracterized by omission or substitution, such that the value or information reported is incorrect, incomplete, or inaccurate.

(12) [~~Field Laboratory~~]"Field Laboratory" means a laboratory, including its agents or employees, that is seeking Certification to analyze or is analyzing samples in a chemistry laboratory or a field setting for Field Parameters only.

(13) [~~Field Parameters~~]"Field Parameters"[~~for the purpose of these Rules~~]shall include Total Residual Chlorine, Free Available Chlorine, Conductivity, Dissolved Oxygen, pH, Settleable Residue, Salinity, Sulfite, Turbidity, Temperature, Vector Attraction Reduction Option 5, Vector Attraction Reduction Option 6, and Vector Attraction Reduction Option 12.

(14) [~~Inaccurate Data or Other Information~~]"Inaccurate Data or Other Information" means data or information that is in any way [~~incorrect,~~]incorrect or mistaken.

(15) [~~Industrial Laboratory~~]"Industrial Laboratory" means a laboratory, including its agents or employees, operated by an industry to analyze samples in a chemistry laboratory or in a field setting under the scope of these Rules.

(16) [~~In situ~~]"In-situ" means in the original or natural place or site.

(17) [~~Matrix Spike~~]"Matrix Spike" means an additional aliquot of an environmental sample to which a known concentration of the analytes of interest is added before sample preparation, cleanup, and determinative procedures have been implemented. It is used to assess the performance of the method by measuring the effects of interferences caused by the sample matrix and reflects the bias of the method for the particular matrix in question.

(18) [~~Mobile Laboratory~~]"Mobile Laboratory" means a collection of analytical equipment and instruments contained in an environmentally controlled vehicle that can be deployed to a project site for other than Field Laboratory Certification purposes.

(19) [~~Municipal Laboratory~~]"Municipal Laboratory" means a laboratory, including its agents or employees, operated by a municipality or other local government to analyze samples in a chemistry laboratory or in a field setting under the scope of these Rules. Municipal Laboratories may cost-share among Municipal Laboratories or charge a cost recovery fee or surcharge to operate their Pretreatment Program.

[~~(20) [NPDES]"NPDES" means National Pollutant Discharge Elimination System.~~]

[~~(21)~~](20) [~~Other Laboratory~~]"Other Laboratory" means a facility that is not required to obtain State Laboratory Certification as part of its routine operation and does not analyze samples in a chemistry laboratory or in a field setting for a fee, or is doing business as a non-profit facility.

[~~(22)~~](21) [~~Parameter~~]"Parameter" means the analyte, element, compound, or property being measured.

[~~(23)~~](22) [~~Parameter Method~~]"Parameter Method" means a type of analytical technique, including materials and tools, used to measure a [~~parameter.~~]Parameter.

[~~(24)~~](23) [~~Pretreatment Program~~]"Pretreatment Program" means a program of waste pretreatment requirements set up in accordance with 15A NCAC 02H .0900, [~~et seq., ~~]and approved by the Division.

[~~(25)~~](24) [~~Proficiency Testing (PT) Sample~~]"Proficiency Testing (PT) Sample" means a performance evaluation sample whose true value is unknown to the laboratory and provided by a State Laboratory-approved Vendor to test whether the laboratory can produce analytical results within the specified acceptance criteria.

[~~(26)~~](25) [~~Recertification~~]"Recertification" means re-instating Certification at the end of the Decertification period imposed by the Division pursuant to Rule .0807 of this [~~Section by showing that it has corrected all deficiencies.~~]Section.

[~~(27)~~](26) [~~Reference Temperature measuring Device~~]"Reference [~~Temperature measuring~~] Temperature-Measuring Device" means a National Institute of Standards and Technology (NIST) traceable temperature-measuring device used only to verify the calibration of other temperature-measuring devices.

(27) "Root Cause" means the originating factor that caused a nonconformance.

(28) [~~Second Source~~]"Second Source" means reference solutions from a different manufacturer or from the same manufacturer and identified by a different lot number.

(29) [~~Split sample~~]"Split Sample" means two or more representative portions taken from a sample or subsample and analyzed by two or more laboratories approved by the State Laboratory.

(30) [~~Standard Operating Procedure (SOP)~~]"Standard Operating Procedure (SOP)" means a laboratory's analytical or operational procedures, described with [~~adequate~~]sufficient detail to allow someone similarly qualified to reproduce the procedures used to generate the test or desired result.

(31) [~~State~~]"State" means the North Carolina Department of Environmental [~~Quality or its successor.~~]Quality.

(32) [~~State Laboratory~~]"State Laboratory" means the Water Sciences [~~Section or its successor,~~]Section, including the Laboratory Certification Branch of the North Carolina Division of Water [~~Resources or its successor.~~]Resources.

(33) [~~Supporting Record~~]"Supporting Record" means any document or other source of information compiled, recorded, or stored in written form, by electronic process, or in any other manner that provides any information necessary to reconstruct or characterize a reported value.

(34) [~~Unacceptable Proficiency Testing Results~~]"Unacceptable Proficiency Testing Results" means those results on Proficiency Testing [~~samples~~]Samples that do not fall within the Vendor-specified acceptable range as [~~indicated~~]stated by a State [~~Laboratory approved~~]Laboratory-approved Vendor, or Split [~~samples~~]Samples that do not fall within the specified acceptable range as indicated by the State Laboratory, or a failure to meet a reporting deadline imposed by the Vendor or State Laboratory.

(35) [~~Uncertified Data~~]"Uncertified Data" means any analytical result, including the Supporting Records, obtained using a method or procedure [~~which~~]that is not acceptable to the State Laboratory pursuant to these Rules; analytical results produced by a laboratory for an analysis not within the [~~Scope~~]scope of [~~these~~]the Rules [~~pursuant to Rule .0802~~]of this Section; or analytical results produced by a laboratory without proper Certification.

(36) [~~US EPA~~]"US EPA" means the United States Environmental Protection Agency.

(37) [~~Vector Attraction Reduction Option~~]"Vector Attraction Reduction Option" refers to an option for demonstrating a reduction in vector attraction of sewage sludge listed in 40 CFR ~~[Part]~~503.33(b)(1) through (b)(12).

(38) [~~Vendor~~]"Vendor" means an accredited Proficiency Testing [~~sample~~]Sample provider recognized by The NELAC Institute ~~[(TNI) or its successor.]~~(TNI).

History Note: *Authority G.S. 143-215.3(a)(1); 143-215.3(a)(10);*
Eff. February 1, 1976;
Amended Eff. November 2, 1992; December 1, 1984; November 1, 1978;
Temporary Amendment Eff. October 1, 2001;
Amended Eff. August 1, 2002;
Readopted Eff. July 1, 2019.

15A NCAC 02H .0804 is readopted as published in 33:12 NCR 1294 with changes as follows:

15A NCAC 02H .0804 PARAMETERS FOR WHICH CERTIFICATION MAY BE REQUESTED

(a) Commercial ~~laboratories~~Laboratories ~~are required to~~shall obtain ~~certification~~Certification for ~~parameters~~Parameter Methods used to generate data ~~which~~that will be reported by the client to the State in accordance with ~~[Rule .0802]~~the rules of this Section. ~~comply with State surface water monitoring, groundwater, and pretreatment Rules.~~ Municipal and Industrial Laboratories ~~are required to~~shall obtain ~~certification~~Certification for ~~parameters~~Parameter Methods used to generate data ~~which~~that will be reported to the State in accordance with ~~[Rule .0802]~~the rules of this Section. ~~to comply with State surface water monitoring, groundwater, and pretreatment Rules. Commercial, Municipal, and Industrial and Other~~ Commercial Laboratories~~facilities~~ ~~are required to~~shall obtain ~~certification~~Certification for ~~field~~Field ~~parameters~~Parameter Methods used to generate data ~~which~~that will be reported by the client to the State in accordance with ~~[Rule .0802]~~the rules of this Section. ~~comply with State surface water, groundwater, and pretreatment Rules.~~Municipal and Industrial laboratories shall obtain Certification for Field Parameter Methods used to generate data that will be reported to the State in accordance with ~~[Rule .0802]~~the rules of this Section.

(b) Inorganics: Each of the inorganic, physical characteristic, and microbiological analytes listed in this ~~[paragraph]~~Paragraph shall be considered a certifiable parameter. Analytical methods shall be determined from the sources listed in Rule .0805(a)(1) of this Section. One or more analytical methods or Parameter Methods may be listed with a laboratory's certified ~~[parameters.]~~Parameters. ~~A listing of certifiable~~Certifiable ~~inorganic~~inorganic, physical characteristic, and microbiological ~~[parameters]~~Parameters are as follows:

~~(1) Alkalinity~~
~~(2) Aquatic Humic Substances~~
~~(3) BOD~~
~~(4) COD~~
~~(5) Chloride~~
~~(6) Chlorine, Total Residual~~
~~(7) Chlorophyll~~
~~(8) Coliform, Fecal~~
~~(9) Coliform, Total~~
~~(10) Color~~
~~(11) Conductivity~~
~~(12) Cyanide~~
~~(13) Dissolved Oxygen~~
~~(14) Fluoride~~
~~(15) Hardness, Total~~
~~(16) MBAS~~
~~(17) Ammonia Nitrogen~~

~~(18) Total Kjeldahl Nitrogen (TKN)~~

~~(19) Nitrate plus Nitrite Nitrogen~~

~~(20) Nitrate Nitrogen~~

~~(21) Nitrite Nitrogen~~

~~(22) Total Phosphorus~~

~~(23) Orthophosphate~~

~~(24) Oil and Grease~~

~~(25) pH~~

~~(26) Phenols~~

~~(27) Residue, Settleable~~

~~(28) Residue, Total~~

~~(29) Residue, Total Dissolved 180°C~~

~~(30) Residue, Total Suspended~~

~~(31) Salmonella~~

~~(32) Sulfate~~

~~(33) Sulfide~~

~~(34) Sulfite~~

~~(35) Temperature~~

~~(36) Total Organic Carbon (TOC)~~

~~(37) Turbidity~~

~~(38) Leachate Procedures~~

~~(39) Vector Attraction Reduction - All Options~~

(1) Acidity;

(2) Alkalinity;

(3) Biochemical Oxygen Demand;

(4) Bromide;

(5) Carbonaceous Biochemical Oxygen Demand;

(6) Chemical Oxygen Demand;

(7) Chloride;

(8) Chlorine, Free Available;

(9) Chlorine, Total Residual;

(10) Chlorophyll;

(11) Coliform, Fecal;

(12) Coliform, Total;

(13) Color;

(14) Conductivity/Specific Conductance;

(15) Cyanide;

(16) Dissolved Organic Carbon;
(17) Dissolved Oxygen;
(18) Enterococci;
(19) Escherichia Coliform (*E. coli*);
(20) Flash Point;
(21) Fluoride;
(22) Hardness, Total;
(23) Ignitability;
(24) Surfactants as Methylene Blue Active Surfactants;
(25) Nitrogen, Ammonia;
(26) Nitrogen, Nitrite plus Nitrate;
(27) Nitrogen, Nitrate;
(28) Nitrogen, Nitrite;
(29) Nitrogen, Total Kjeldahl;
(30) Oil and Grease;
(31) Orthophosphate;
(32) Paint Filter Liquids;
(33) pH;
(34) Phenols;
(35) Phosphorus, Total;
(36) Residue, Settleable;
(37) Residue, Total;
(38) Residue, Total Dissolved;
(39) Residue, Total Suspended;
(40) Residue, Volatile;
(41) Salinity;
(42) Salmonella;
(43) Silica;
(44) Sulfate;
(45) Sulfide;
(46) Sulfite;
(47) Temperature;
(48) Total Organic Carbon;
(48) Turbidity;
(49) Vector Attraction Reduction: Option 1;
(50) Vector Attraction Reduction: Option 2;
(51) Vector Attraction Reduction: Option 3;

(52) Vector Attraction Reduction: Option 4;

(53) Vector Attraction Reduction: Option 5;

(54) Vector Attraction Reduction: Option 6;

(55) Vector Attraction Reduction: Option 7;

(56) Vector Attraction Reduction: Option 8; and

(57) Vector Attraction Reduction: Option 12.

(c) Metals: Each of the metals [~~and certified leaching procedures for metals~~]listed in this Paragraph ~~following will~~shall be considered a certifiable [~~parameter.~~]Parameter. ~~Metals analyte:~~ One or more Parameter Methods shall be listed with a laboratory's certified [~~parameters.~~]Parameters. Analytical methods shall be determined from the sources listed in Rule .0805(a)(1) of this Section. [~~A listing of certifiable~~]Certifiable metals [~~and leaching procedures~~]are as follows:

(1) ~~Aluminum~~Aluminum;

(2) ~~Antimony~~Antimony;

(3) ~~Arsenic~~Arsenic;

(4) ~~Barium~~Barium;

(5) ~~Beryllium~~Beryllium;

~~(6) Cadmium~~

~~(7) Calcium~~

~~(8) Chromium, Total~~

~~(9) Chromium, Hexavalent~~

~~(10) Cobalt~~

~~(11) Copper~~

~~(12) Iron~~

~~(13) Lead~~

~~(14) Magnesium~~

~~(15) Manganese~~

~~(16) Mercury~~

~~(17) Molybdenum~~

~~(18) Nickel~~

~~(19) Selenium~~

~~(20) Silver~~

~~(21) Thallium~~

~~(22) Tin~~

~~(23) Vanadium~~

~~(24) Zinc~~

(6) Boron;

(7) Cadmium;

(8) Calcium;

(9) Chromium, Hexavalent (Chromium VI);

(10) Chromium, Total;

(11) Chromium, Trivalent (Chromium III);

(12) Cobalt;

(13) Copper;

(14) Hardness, Total (Calcium + Magnesium);

(15) Iron;

(16) Lead;

(17) Lithium;

(18) Magnesium;

(19) Manganese;

(20) Mercury;

(21) Molybdenum;

(22) Nickel;

(23) Potassium;

(24) Phosphorus;

(25) Selenium;

(26) Silica;

(27) Silver;

(28) Sodium;

(29) Strontium;

(30) Thallium;

(31) Tin;

(32) Titanium;

(33) Vanadium; and

(34) Zinc.

(d) Organics: Each of the organic [~~parameters~~]Parameters ~~analytical categories and [certified leaching procedures for organics~~] listed in this Paragraph shall be considered a certifiable ~~parameter.~~Parameter. One or more Parameter Methods shall be listed with a laboratory's certified [~~parameters.~~]Parameters. Analytical methods shall be determined from the sources listed in Rule .0805(a)(1) of this Section. ~~A listing of certifiable~~Certifiable organic ~~parameters~~Parameters [~~and leaching procedures~~]are as follows:

~~(1) Purgeable Halocarbons~~

~~(2) Purgeable Aromatics~~

~~(3) Acrolein, Acrylonitrile, Acetonitrile~~

~~(4) Phenols~~

~~(5) Benzidines~~

~~(6) Phthalate Esters~~

~~(7) Nitrosamines~~

~~(8) Organochlorine Pesticides~~

~~(9) Polychlorinated Biphenyls~~

~~(10) Nitroaromatics and Isophorone~~

~~(11) Polynuclear Aromatic Hydrocarbons~~

~~(12) Haloethers~~

~~(13) Chlorinated Hydrocarbons~~

~~(14) Purgeable Organics~~

~~(15) Base/Neutral and Acid Organics~~

~~(16) Chlorinated Acid Herbicides~~

~~(17) Organophosphorus Pesticides~~

~~(18) Total Petroleum Hydrocarbons (TPH) California GC Method Diesel Range Organics~~

~~(19) Total Petroleum Hydrocarbons (TPH) California GC Method Gasoline Range Organics~~

~~(20) Nonhalogenated Volatile Organics~~

~~(21) N Methylcarbamates~~

~~(22) 1,2, Dibromoethane (EDB)~~

~~(23) Extractable Petroleum Hydrocarbons~~

~~(24) Volatile Petroleum Hydrocarbons~~

~~(25) Chlorinated Phenolics~~

~~(26) Adsorbable Organic Halides~~

(1) 1,2-Dibromoethane (EDB); 1,2-Dibromo-3-chloro-propane (DBCP); 1,2,3-Trichloropropane (TCP);

(2) Acetonitrile;

(3) Acrolein, Acrylonitrile;

(4) Adsorbable Organic Halides;

(5) Base/Neutral and Acid Organics;

(6) Benzidines;

(7) Chlorinated Acid Herbicides;

(8) Chlorinated Hydrocarbons;

(9) Chlorinated Phenolics;

(10) Explosives;

(11) Extractable Petroleum Hydrocarbons;

(12) Haloethers;

(13) N-Methylcarbamates;

(14) Nitroaromatics and Isophorone;

(15) Nitrosamines;

(16) Nonhalogenated Volatile Organics;
(17) Organochlorine Pesticides;
(18) Organophosphorus Pesticides;
(19) Phenols;
(20) Phthalate Esters;
(21) Polychlorinated Biphenyls;
(22) Polynuclear Aromatic Hydrocarbons;
(23) Purgeable Aromatics;
(24) Purgeable Halocarbons;
(25) Purgeable Organics;
(26) Total Organic Halides;
(27) Total Petroleum Hydrocarbons – Diesel Range Organics;
(28) Total Petroleum Hydrocarbons – Gasoline Range Organics; and
(29) Volatile Petroleum Hydrocarbons.

History Note: *Authority G.S. 143-215.3(a)(1); 143-215.3(a)(10);*
Eff. February 1, 1976;
Amended Eff. November 2, 1992; December 1, 1984;
Temporary Amendment Eff. October 1, 2001;
Amended Eff. August 1, 2002;
Readopted Eff. July 1, 2019.

15A NCAC 02H .0805 is readopted with changes as published in 33:12 NCR 1294 with changes as follows:

15A NCAC 02H .0805 CERTIFICATION AND RENEWAL OF CERTIFICATION

(a) Prerequisites and requirements for Certification. The following requirements ~~must~~shall be met by all laboratories, excluding Field Laboratories, prior to ~~certification~~Certification. Once certified, failure to comply with any of the following items ~~will~~shall be a violation of ~~certification~~Certification requirements. ~~All "Field Parameter" only facility requirements are located in Paragraph (g) of this Rule.~~

~~(1) Laboratory Procedures. Analytical methods, sample preservation, sample containers and sample holding times shall conform to those requirements found in 40 CFR 136.3; Standard Methods for the Examination of Water and Wastewater, 18th Edition; or Test Methods for Evaluating Solid Waste, SW 846, Third Edition. These and subsequent amendments and editions are incorporated by reference. This material is available for inspection at the State Laboratory, 4405 Reedy Creek Road, Raleigh, North Carolina, 27607. Copies of the Code of Federal Regulations, 40 CFR Part 136, may be obtained for a cost of forty-two dollars ($42.00), from the Superintendent of Documents, U.S. Government Printing Office (GPO), Superintendent of Public Documents, Washington, DC, 20402. The publication number is 869-042-00148-6. Standard Methods for the Examination of Water and Waste, is available for purchase from the American Water Works Association (AWWA), 6666 West Quincy Avenue, Denver, CO 80235. The costs are as follows: 18th Edition - one hundred sixty dollars ($160.00), 19th Edition - one hundred eighty dollars ($180.00), 20th Edition - two hundred dollars ($200.00). Copies of Test Methods for Evaluating Solid Waste, SW 846, Third Edition may be purchased for a cost of three hundred sixty seven dollars ($367.00) from the Superintendent of Documents, U.S. Government Printing Office (GPO), Washington, DC 20402. Vector Attraction Reduction Options shall be Control of Pathogens and Vector Attraction in Sewage Sludge; EPA/625/R-92/013, Chapter 8. The document is available from US EPA; Office of Research and Development, Washington, NC 20460 at no cost. The method for Total Petroleum Hydrocarbons shall be the California Gas Chromatograph Method, Eisenberg, D.M., and others, 1985, Guidelines for Addressing Fuel Leaks: California Regional Quality Control Board San Francisco Bay Region. The method for Total Petroleum Hydrocarbons is available from the State Laboratory at no cost. The methods for Volatile Petroleum Hydrocarbons and Extractable Petroleum Hydrocarbons shall be Massachusetts Department of Environmental Protection, Method for the Determination of Volatile Petroleum Hydrocarbons (VPH) and Method for the Determination of Extractable Petroleum Hydrocarbons (EPH); January, 1998. The Director may approve other analytical procedures that have been demonstrated to produce verifiable and repeatable results and that have a widespread acceptance in the scientific community.~~

(1) Laboratory Procedures. Analytical methods, sample preservation, sample containers, and sample holding times shall conform to the requirements found in:

(A) 40 CFR Part 136 and 40 CFR Part 503;

(B) Standard Methods for the Examination of Water and Wastewater;

(C) Test Methods for Evaluating Solid Waste, SW-846, Third Edition;

(D) Control of Pathogens and Vector Attraction in Sewage Sludge; EPA/625/R-92/013;

(E) Massachusetts Department of Environmental Protection, Method for the Determination of Volatile Petroleum Hydrocarbons (VPH), February 2018, Revision 2.1, [~~et seq.~~]and Method for the Determination of Extractable Petroleum Hydrocarbons (EPH), May 2004, Revision 1.1, [~~et seq.; ~~]and

(F) The State Laboratory may develop Approved Procedures for Field Parameters based upon the methods in any of the sources referenced in Parts(a)(1)(A) through (F) of this Rule.

(G) The procedures and methods listed in this Subparagraph are incorporated by reference, including subsequent amendments and editions.

(H) The materials in this Subparagraph are[~~This material is~~] available for inspection at the State Laboratory, 4405 Reedy Creek Road, Raleigh, North Carolina, 27607 or may be obtained from:

(i) [~~Copies of the~~]The Code of Federal Regulations, 40 CFR Part 136 and 40 CFR Part 503, may be obtained from the Superintendent of Documents, U.S. Government Printing Office (GPO), Superintendent of Public Documents, Washington, D.C., 20402 and free of charge [~~on the internet~~]at http://www.ecfr.gov.

(ii) Standard Methods for the Examination of Water and Wastewater, is available for purchase from American Water Works Association (AWWA), 6666 West Quincy Avenue, Denver, CO 80235; American Public Health Association (APHA), 8001 Street, NW, Washington, D.C. 20001; or Water Environment Federation (WEF), 601 Wythe Street, Alexandria, VA 22314; and http://www.standardmethods.org/.

(iii) [~~Copies of~~]Test Methods for Evaluating Solid Waste, SW-846, Third Edition may be obtained from the Superintendent of Documents, U.S. Government Printing Office (GPO), Washington, D.C. 20402 and free of charge [~~on the internet~~]at http://www.epa.gov/osw/hazard/testmethods/sw846/online/.

(iv) [~~Vector Attraction Reduction Options shall be~~]Control of Pathogens and Vector Attraction in Sewage Sludge; EPA/625/R-92/013 [~~EPA/625/R-92/013. The document~~]is available from US EPA; Office of Research and Development, Washington, D.C. 20460 and free of charge [~~on the internet~~]at http://www.water.epa.gov/scitech/wastetech/biosolids/.

(v) [~~The methods for Volatile Petroleum Hydrocarbons and Extractable Petroleum Hydrocarbons shall be~~]Massachusetts Department of Environmental Protection, Method for the Determination of Volatile Petroleum Hydrocarbons (VPH), February 2018, Revision 2.1, et seq. and Method for the Determination of

Extractable Petroleum Hydrocarbons (EPH), May 2004, Revision 1.1, et seq [~~seq. These methods~~] may be obtained from the Massachusetts Department of Environmental Protection, Senator William X. Wall Experiment Station, 37 Shattuck Street, Lawrence, MA, 01843-1398 and free of charge [~~on the internet~~] at https://www.mass.gov/files/documents/2018/02/23/VPH%20GC%20PIDFID_Revision%202_1_February%202018.pdf and http://www.mass.gov/eea/docs/dep/cleanup/laws/eph0504.pdf, respectively.

(vi) State Laboratory Approved Procedures for Field Parameters may be obtained by request from the State Laboratory or on the State Laboratory [~~Certification~~]website at [~~http://portal.ncdenr.org/web/wq/lab/cert.~~]https://deq.nc.gov/about/divisions/water-resources/water-resources-data/water-sciences-home-page/laboratory-certification-branch.

(J) The [~~Director~~]Commission or assigned delegate may approve other analytical procedures, parameters, or Parameter Methods that [~~have been demonstrated to~~]produce verifiable and repeatable results.

~~(2) Performance Evaluations. Annually, each certified laboratory must demonstrate acceptable performance on evaluation samples as required by these Rules.~~

(2) Proficiency Testing. Annually, each certified laboratory shall [~~demonstrate acceptable performance~~]achieve Acceptable Proficiency Testing Results on a minimum of one evaluation sample for each Parameter Method listed on their Certified Parameters Listing for which Proficiency Testing [~~samples~~]Samples are available from more than one [~~vendor,~~]Vendor, as required by these Rules. When two Proficiency Testing [~~samples~~]Samples for the same Parameter Method are analyzed and submitted at the same time, an unacceptable result on one or both samples shall be considered the first unacceptable result for Certification purposes. A laboratory that submits Unacceptable Proficiency Testing Results for two Proficiency Testing [~~samples~~]Samples for the same Parameter Method submitted at the same time shall analyze a remedial Proficiency Testing [~~sample~~]Sample to [~~demonstrate~~]show a return to control and send a description of corrective [~~action report~~]actions to the State Laboratory that [~~details~~]includes the [~~root cause~~]Root Cause of the failure and the corrective actions taken to prevent recurrence. Proficiency Testing samples shall be analyzed in the same manner that routine samples are analyzed using the same staff, sample tracking, sample preparation procedures, analytical methods, standard operating procedures, calibration techniques, quality control procedures, and acceptance criteria.

~~(A) Municipal and Industrial laboratories must participate in the annual Environmental Protection Agency Discharge Monitoring Report Quality Assurance (EPA/DMR/QA) Study by analyzing performance evaluation samples obtained from an accredited vendor~~

~~as unknowns, and reporting data produced to the State. The laboratory is responsible for submitting acceptable results for all parameters listed on their certificate.~~

(A) All laboratories shall participate annually in an evaluation [~~studies~~]study by analyzing Proficiency Testing [~~samples~~]Samples obtained from a State [~~Laboratory approved~~]Laboratory-approved Vendor as unknowns, and arranging with the Vendor to send the graded results directly to the State Laboratory by the date due. A laboratory that submits Unacceptable Proficiency Testing Results shall analyze a remedial Proficiency Testing [~~sample~~]Sample using the same Parameter Method to [~~demonstrate~~]show a return to control and send a description of corrective [~~action report~~]actions to the State Laboratory that [~~details~~]includes the [~~root cause~~]Root Cause of the failure and the corrective actions taken to prevent recurrence.

~~(B) Commercial laboratories must participate annually in water pollution studies by analyzing performance evaluation samples obtained from an accredited vendor as unknowns, and reporting data produced to the State. The laboratory is responsible for submitting acceptable results for all parameters listed on their certificate. When two samples for the same parameter are submitted and analyzed at the same time, an unacceptable result on one or both samples will be considered the first unacceptable result for certification purposes and a rerun sample must be submitted.~~

~~(C)~~(B) Laboratories requesting initial ~~certification~~Certification or additional Parameter Method Certification ~~must~~shall submit an acceptable ~~performance~~ Proficiency Testing sample result from the most recent attempt analyzed within the last six months for each ~~parameter~~Parameter Method for which ~~performance~~ Proficiency Testing samples are available. Laboratories shall analyze Proficiency Testing samples obtained from a State Laboratory-approved Vendor as unknowns and arrange with the Vendor to send the graded results directly to the State Laboratory. Laboratories that submit two consecutive ~~unacceptable~~Unacceptable Proficiency Testing Results ~~results~~ for a particular ~~parameter~~ Parameter Method ~~must~~shall then submit two consecutive ~~acceptable~~Acceptable Proficiency Testing results from the most recent attempt analyzed within the six months prior to initial Certification for that ~~parameter~~ Parameter Method.~~prior to initial certification.~~

~~(D)~~(C) If Proficiency Testing ~~performance samples~~Samples are not available, ~~available for a parameter,~~ Certification~~certification~~ for that ~~parameter~~Parameter ~~will~~shall be based on the ~~proper use of the approved procedure, the~~ on-site inspection, ~~and~~or adherence to the approved procedures, and the other requirements in this Section. Analysis of ~~split~~Split ~~samples~~Samples may also be required if Proficiency Testing [~~samples~~]Samples are not available or if analysis of Proficiency Testing [~~samples~~]Samples is not representative of the entire analytical process.

(3) Supervisory Requirements.

(A) The supervisor of a ~~commercial laboratory~~Commercial Laboratory ~~must~~shall have a ~~minimum of~~ a ~~B.S. or A.B.~~Bachelor's degree in chemistry or ~~[a closely related]~~other ~~closely related~~ science ~~curriculum~~curricula from ~~an accredited~~a college or university recognized as accredited by the U.S. Department of Education, plus ~~a minimum of~~ two years of laboratory experience in analytical chemistry, or a ~~two year~~ two-year associate degree in chemistry technology, environmental sciences, or other science curricula from ~~[an accredited]~~ a college, university, or technical ~~institute~~institute, recognized as accredited by the U.S. Department of Education,~~in chemistry technology, environmental sciences, or [a closely related]closely related science curriculum~~ plus ~~a minimum of~~ four years of experience in analytical chemistry.

(B) The supervisor of a ~~municipal or industrial waste water treatment plant~~non-Commercial Municipal, Industrial, ~~[Mobile]~~Mobile, or Other Laboratory~~laboratory~~ ~~must~~shall have ~~a minimum of~~ a ~~B.S. or A.B.~~ Bachelor's degree in chemistry or ~~[a closely related]~~~~closely related~~ other science ~~curriculum~~curricula from ~~an accredited~~a college or university recognized as accredited by the U.S. Department of Education, plus ~~a minimum of~~ six months of laboratory experience in analytical chemistry or an equivalent combination of education and work experience, or a ~~two year~~ two-year associate degree ~~from an accredited college, university, or technical institute~~ in chemistry technology, environmental sciences, or ~~[a closely related]~~~~closely related~~ other science ~~curriculum~~curricula from a college or university recognized as accredited by the U.S. Department of Education, plus ~~a minimum of~~ two years of experience in analytical chemistry or an equivalent combination of education and work experience. Non-degree supervisors ~~must~~shall have ~~at least~~ six years of laboratory experience in analytical chemistry or an equivalent combination of education and work experience.

(C) All laboratory supervisors ~~are~~shall be subject to review by the State Laboratory. One person may serve as supervisor of no more than two certified laboratories. The supervisor shall provide personal and direct supervision of the technical personnel and shall be ~~held~~ responsible for ~~the proper performance and reporting of all analyses made for these~~adherence to all requirements in this ~~Rules.~~Section. The supervisor ~~must~~shall work in the laboratory or ~~visit~~ contact the laboratory once each day tests, analyses, measurements, or monitoring required under G.S. 143 Article 21 are performed ~~of normal operations~~ and Supporting Records shall be maintained as evidence of this supervision. If the supervisor ~~is to~~will be absent, the supervisor shall arrange for a substitute capable of insuring adherence to all requirements in this Rule. ~~the proper performance of all laboratory procedures, however, the~~The substitute supervisor ~~cannot~~shall not be in charge for more than ~~six~~ 12 consecutive weeks. ~~Existing laboratory supervisors that do not meet the~~

~~requirements of this Rule may be accepted after review by the State Laboratory and meeting all other certification requirements.~~ Previous laboratory-related performance ~~will~~shall be considered when reviewing the qualifications of a potential laboratory supervisor.

(4) Laboratory Manager. Each laboratory ~~must~~shall designate a laboratory manager and include ~~his [their]~~his or her name and title on the application for ~~certification~~Certification. The laboratory manager shall be administratively above the laboratory supervisor and will be in responsible charge in the event the laboratory supervisor ceases to be employed by the laboratory and will be responsible for filling the laboratory supervisor position with a replacement qualified pursuant to these Rules. At ~~commercial laboratories,~~Commercial Laboratories, where the owner is the laboratory supervisor, the laboratory manager and laboratory supervisor may be the same person if there is no one administratively above the laboratory supervisor.

(5) Application. Each laboratory requesting initial ~~state certification~~Certification shall submit an application ~~in duplicate,~~ to the State Laboratory that includes the laboratory name, contact information, EPA laboratory code number, applicable permit number(s), laboratory supervisor information, analytical methods, and equipment. The application may be obtained by request from the State Laboratory or on the State Laboratory website at https://deq.nc.gov/about/divisions/water-resources/water-resources-data/water-sciences-home-page/laboratory-certification-branch/application-forms.[~~accompanied by the~~] The application fee and the laboratory's ~~Quality Assurance Manual~~ [~~Manual,~~]quality assurance manual, including Standard Operating Procedures for all requested Parameter Methods, must also be submitted.[~~to the State Laboratory.~~] Separate application and Certification shall be required for each Mobile Laboratory and the applicant shall supply the vehicle make, vehicle identification number, and license number. Separate application and ~~certification~~Certification shall be required for all stationary laboratories maintained on properties that do not share a common boundary line,~~separate premises~~ even though operated under the same management; however, separate ~~certification~~Certification ~~is not~~shall not be required for separate buildings on the same or adjoining grounds. Analysis of Field Parameters away from the physical location of the laboratory shall be permitted without separate Certification. After receiving a completed application and prior to issuing ~~certification,~~Certification, a representative of the State Laboratory may visit each laboratory to verify the information in the application and the adequacy of the laboratory.

(6) [~~Properly Maintained~~] Facilities, Supplies, and Equipment. ~~Facilities and equipment.~~ Each laboratory requesting ~~certification~~Certification ~~must~~ shall be [~~properly~~] maintained so as to ensure the security and integrity of samples. Samples shall be analyzed in such a manner that contamination or error will not be introduced. Each facility shall contain or be equipped with the following:

~~(A) A minimum of 150 sq. ft. of laboratory space;~~

~~(B) A minimum of 12 linear feet of laboratory bench space;~~

~~(C) A sink with hot and cold water;~~

~~(D) An analytical balance capable of weighing 0.1 mg, mounted on a shock proof table;~~

~~(E) A refrigerator of adequate size to store all samples and maintain temperature of four degrees Celsius;~~

~~(F) A copy of each approved analytical procedure being used in the laboratory;~~

~~(G) A source of distilled or deionized water that will meet the minimum criteria of the approved methodologies;~~

~~(H) Glassware, chemicals, supplies, and equipment required to perform all analytical procedures included in their certification.~~

(A) A source of water that will meet the minimum criteria of the approved methodologies; and

(B) Glassware, chemicals, supplies, and equipment required to perform all tests, analyses, measurements, or monitoring included in [~~their~~]its Certification.

~~(7) Analytical Quality Control Program. Each laboratory shall develop and maintain a document outlining the analytical quality control practices used for the parameters included in their certification. Supporting records shall be maintained as evidence that these practices are being effectively carried out. The quality control document shall be available forspection by the State Laboratory. The following are requirements for certification and must be included in each certified laboratory's quality control program:~~

~~(A) All analytical data pertinent to each certified analysis must be filed in an orderly manner so as to be readily available for inspection upon request.~~

~~(B) Excluding Oil and Grease, all residue parameters, leachate extractions, residual chlorine, and coliform, analyze one known standard in addition to calibration standards each day samples are analyzed to document accuracy. Analyze one suspended residue, one dissolved residue, one residual chlorine and one oil and grease standard quarterly. For residual chlorine, all calibration standards required by the approved procedure in use and by EPA must be analyzed.~~

~~(C) Except for Oil and Grease (EPA Method 413.1), settleable solids or where otherwise specified in an analytical method, analyze five percent of all samples in duplicate to document precision. Laboratories analyzing less than 20 samples per month must analyze at least one duplicate each month samples are analyzed.~~

~~(D) Any quality control procedures required by a particular approved method shall be considered as required for certification for that analysis.~~

~~(E) All quality control requirements in these Rules as set forth by the State Laboratory.~~

~~(F) Any time quality control results indicate an analytical problem, the problem must be resolved and any samples involved must be rerun if the holding time has not expired.~~

(G) All analytical records must be available for a period of five years. Records, which are stored only on electronic media, must be maintained and supported in the laboratory by all hardware and software necessary for immediate data retrieval and review.

(H) All laboratories must use printed laboratory bench worksheets that include a space to enter the signature or initials of the analyst, date of analyses, sample identification, volume of sample analyzed, value from the measurement system, factor and final value to be reported and each item must be recorded each time samples are analyzed. The date and time BOD and coliform samples are removed from the incubator must be included on the laboratory worksheet.

(I) For analytical procedures requiring analysis of a series of standards, the concentrations of these standards must bracket the concentration of the samples analyzed. One of the standards must have a concentration equal to the laboratory's lower reporting concentration for the parameter involved. For metals by AA or ICP, a series of at least three standards must be analyzed along with each group of samples. For colorimetric analyses, a series of five standards for a curve prepared annually or three standards for curves established each day or standards as set forth in the analytical procedure must be analyzed to establish a standard curve. The curve must be updated as set forth in the standard procedures, each time the slope changes by more than 10 percent at mid-range, each time a new stock standard is prepared, or at least every twelve months. Each analyst performing the analytical procedure must produce a standard curve.

(J) Each day an incubator, oven, waterbath or refrigerator is used, the temperature must be checked, recorded, and initialed. During each use, the autoclave maximum temperature and pressure must be checked, recorded, and initialed.

(K) The analytical balance must be checked with one class S, or equivalent, standard weight each day used and at least three standard weights quarterly. The values obtained must be recorded in a log and initialed by the analyst.

(L) Chemicals must be dated when received and when opened. Reagents must be dated and initialed when prepared.

(M) A record of date collected, time collected, sample collector, and use of proper preservatives must be maintained. Each sample must clearly indicate the State of North Carolina collection site on all record transcriptions.

(N) At any time a laboratory receives samples which do not meet sample collection, holding time, or preservation requirements, the laboratory must notify the sample collector or client and secure another sample if possible. If another sample cannot be secured, the original sample may be analyzed but the results reported must be qualified with the nature of the infraction(s) and the laboratory must notify the State Laboratory about the infraction(s).

~~The notification must include a statement indicating corrective actions taken to prevent the problem for future samples.~~

~~(O) All thermometers must meet National Institute of Standards and Technology (NIST) specifications for accuracy or be checked, at a minimum annually, against a NIST traceable thermometer and proper corrections made.~~

(7) Analytical [~~Quality Assurance~~]quality assurance and [~~Quality Control Program.~~]quality control program. Each laboratory shall have a documented analytical quality assurance and quality control program. Each laboratory shall have a copy of each approved test, analysis, measurement, or monitoring procedure being used in the laboratory. Each laboratory shall develop [~~and maintain~~] documentation outlining the analytical quality control practices used for the Parameter Methods included in [~~their~~]its Certification, including Standard Operating Procedures for each certified Parameter Method. Quality [~~Assurance, Quality Control,~~]assurance, quality control, and Standard Operating Procedure documentation shall indicate the effective date of the document and be reviewed every two years and updated if changes in procedures are made. Each laboratory shall have a formal process to track and document review dates and any revisions made in all [~~Quality Assurance, Quality Control,~~]quality assurance, quality control, and Standard Operating Procedure documents. Supporting Records shall be maintained as evidence that these practices are implemented. The [~~Quality Assurance, Quality Control,~~]quality assurance, quality control, and Standard Operating Procedure documents shall be available for inspection by the State Laboratory. The following [~~are requirements for Certification and~~]shall be included in each certified laboratory's [~~Quality Assurance and Quality Control~~]quality assurance and quality control program. For analysis of Field Parameters, a certified laboratory shall follow the quality assurance and quality control requirements in Subparagraphs (g)(1) through (9) of this Rule.

(A) Unless specified by the method or this Rule, each laboratory shall establish performance acceptance criteria for all [~~Quality Control~~]quality control analyses. Each laboratory shall calculate and document the precision and accuracy of all [~~Quality Control~~]quality control analyses with each sample set. When the method of choice specifies performance acceptance criteria for precision and accuracy, and the laboratory chooses to develop laboratory-specific limits, the laboratory-specific limits shall not be less stringent than the criteria stated in the approved method.

(B) If quality control results fall outside established limits or [~~indicate~~]show an analytical problem, the laboratory shall identify the [~~root cause~~]Root Cause of the failure. The problem shall be resolved through corrective action, the corrective action process [~~documented~~]documented, and any samples involved shall be reanalyzed, if possible. If the sample cannot be reanalyzed, or if the quality control results continue to fall outside established limits or [~~indicate~~]show an analytical problem, the results shall be qualified as such.

(C) Except where otherwise specified in an analytical method, laboratories shall analyze five percent of all samples in duplicate to document precision. Laboratories analyzing fewer than 20 samples per month shall analyze one duplicate during each month that samples are analyzed.

(D) Unless the referenced method states a greater frequency or the parameter is not amenable to spiking, laboratories shall spike [~~5%~~]five percent of samples monthly. Laboratories analyzing fewer than 20 samples per month shall analyze one Matrix Spike during each month that samples are analyzed.

(E) All analytical records, including original observations and information necessary to facilitate historical reconstruction of the calculated results, shall be maintained for five years. All analytical data and records pertinent to each certified analysis shall be [~~accurate, filed in an orderly manner, and~~]available for inspection upon request. All analytical records shall be [~~readable~~]legible to all parties and safeguarded against unauthorized amendment, obliteration, erasures, overwriting, and corruption. Records that are stored only on electronic media shall be maintained throughout the five-year retention period and supported in the laboratory by all hardware and software necessary for [~~immediate~~]data retrieval and review. All documentation errors shall be corrected by drawing a single line through the error so that the original entry remains legible. Entries shall not be obliterated by erasures or markings. Wite-Out®, correction [~~tape~~]tape, or similar products designed to obliterate documentation shall not to be used; instead, the correction shall be written adjacent to the error. The correction shall be initialed by the responsible individual and the date of change documented. All manual data and log entries shall be written in indelible ink.

(F) All laboratories shall use printable laboratory benchsheets. Certified Data shall be traceable to the associated sample analyses and shall consist of:

(i) the method or Standard Operating Procedure;

(ii) the laboratory identification;

(iii) the instrument identification;

(iv) the sample collector;

(v) the signature or initials of the analyst;

(vi) the date and time of sample collection;

(vii) the date of sample [~~analyses~~]analyses;

(viii) the time of sample analyses (when required to document a required holding time or when [~~time-critical~~]time-critical steps are imposed by the method, a federal [~~regulation~~]regulation, or this Rule);

(ix) sample identification;

(x) sample preparation, where applicable;

(xi) the volume of sample analyzed, where applicable;

(xii) the proper units of measure;

(xiii) the dilution factor, where applicable;

(xiv) all manual calculations;

(xv) all quality control assessments;

(xvi) the value from the measurement system;

(xvii) the final value to be reported; and

(xviii) any other data needed to reconstruct the final calculated result.

Each item shall be recorded each time that samples are analyzed. The date and time that samples are placed into and removed from ovens, water baths, incubators and other equipment shall be documented if a time limit is required by the method.

(G) If certified for total suspended residue, total dissolved [~~residue~~]residue, or total residue, laboratories shall analyze one standard monthly during each month samples are analyzed.

(H) For analytical procedures requiring analysis of a series of standards, the concentrations of these standards shall bracket the range of the sample concentrations measured. One of the standards shall have a concentration equal to or less than the laboratory's lowest reporting concentration for the parameter involved. All data sets shall reference the corresponding calibration. Laboratories shall analyze or back-calculate a standard at the same concentration as the lowest reporting concentration each day samples are analyzed. A calibration blank and calibration verification standard shall be analyzed prior to sample analysis, after every tenth [~~sample~~]sample, and at the end of each sample group, unless otherwise specified by the method, to check for [~~carry-over~~]carryover and calibration drift.

(i) The concentration of reagent, method, and calibration blanks shall not exceed 50 percent of the lowest reporting concentration or as otherwise specified by the reference method.

(ii) Laboratories shall analyze one known second source standard to verify the accuracy of standard preparation if an initial calibration is performed and in accordance with the referenced method requirements thereafter.

(iii) For electrode analyses, a series of two or more non-zero standards shall be used.

(iv) For metals analyses, a series of three or more non-zero standards or standards as set forth in the analytical procedure shall be analyzed [~~along~~]with each sample [~~set shall be used.~~]set.

(v) For colorimetric analyses, a series of five or more non-zero standards for a curve prepared every [~~twelve~~]12 months or three or more non-zero standards for curves established each day, or standards as set forth in the analytical procedure, shall be analyzed to establish a calibration curve. A manufacturer's factory-set calibration

(internal curve) shall be verified with the same number of standards and frequency as a prepared curve.

(vi) For ion chromatographic analyses, a series of five or more non-zero standards for a curve prepared every [~~twelve~~]12 months or three or more non-zero standards for curves established each day, or standards as set forth in the analytical procedure, shall be analyzed to establish a calibration curve.

(I) Each day [~~of normal business operations during which~~]samples are placed into or removed from an incubator, oven, water bath, refrigerator, or other [~~temperature controlled~~]temperature-controlled device, the temperature shall be checked, recorded, dated, and initialed. If a method requires more frequent monitoring, the method shall be followed. During each [~~use, proper operation~~]use of[~~the~~] an [~~autoclave~~]autoclave, [~~shall be verified and adequate temperature and~~]the temperature, pressure, cycle time, and items autoclaved shall be checked, recorded, dated, and initialed.

(J) The analytical balance shall be checked with one ASTM Type 1, Class 1 or 2, or equivalent standard weight each day used. These weights shall be verified every five years. The analytical balance shall be verified monthly with three ASTM Type 1, Class 1 or 2, or equivalent standard weights across the range of use. The values obtained shall be recorded, dated, and initialed. Laboratory analytical balances shall be serviced by a metrology vendor or technician every 12 months to verify that the balance is functioning within manufacturer's specifications.

(K) Chemical containers shall be dated when received and when opened. Reagent containers shall be dated, identified, and initialed when prepared. Chemicals and reagents exceeding the expiration date shall not be used. The laboratory shall have a documented system of traceability for the purchase, [~~preparation~~]preparation, and use of all chemicals, reagents, standards, and consumables.

(L) A record of sample collection date, sample collection time, sample collector, and the use of proper preservatives and preservation techniques shall be maintained. Each North Carolina sample shall indicate the collection site on all record transcriptions.

(M) Sample preservation shall be verified and documented. If a laboratory receives a sample subject to G.S. 143-215.1 and [~~143-215.63, et seq~~.]143-215.63 that does not meet sample collection, holding time, or preservation requirements, the laboratory shall document the incident, notify the sample collector or client, and secure another sample that meets the regulatory requirements, if possible. If another viable sample cannot be secured, the original sample may be analyzed but the results reported shall be qualified with the nature of the sample collection, holding time, or preservation infractions and the laboratory shall notify the State Laboratory of the infractions. The notification shall include a statement indicating corrective action taken to prevent future infractions.

(N) All temperature-measuring devices shall have accuracy that meets or exceeds one-half the tolerance required[~~appropriate~~] for its intended use. All temperature-measuring devices shall be used, stored, and maintained according to the manufacturer's instructions.

(i) Reference Temperature-Measuring Devices shall meet National Institute of Standards and Technology (NIST) specifications for accuracy and shall be recalibrated in accordance with the manufacturer's recalibration date not to exceed five years. If no recalibration date is given, the Reference Temperature-Measuring Device shall be recalibrated every five years.

(ii) Excluding digital, incubator, and infrared temperature-measuring devices, all non-Reference Temperature-Measuring Devices shall be verified at the temperature of use every [~~twelve~~]12 months against a Reference Temperature-Measuring Device and their accuracy shall be corrected.

(iii) Digital temperature-measuring devices and temperature-measuring devices used in incubators shall be verified at the temperature of use every three months against a Reference Temperature-Measuring Device and their accuracy shall be corrected.

(iv) Infrared temperature-measuring devices shall be verified every three months at three different temperatures over the temperature range of use against a Reference Temperature-Measuring Device and their accuracy shall be corrected. Each day of use, infrared temperature-measuring devices shall be verified against a non-Reference Temperature-Measuring Device that meets NIST specifications for accuracy. If the infrared temperature-measuring device does not agree within 0.5 degrees Celsius during the daily verification, the laboratory shall take corrective action.[~~action must be taken.~~]

(O) Mechanical volumetric liquid-dispensing devices (e.g., fixed and adjustable auto-pipettors and bottle-top dispensers) used for critical volume measurements shall be calibrated once every six months.

(P) Each laboratory shall develop and implement a documented training program that includes documentation that:

(i) staff have the education, training, experience, or demonstrated skills needed to generate quality control results within method-specified limits [~~and/or that~~]and meet the requirements of these Rules;

(ii) staff have read the laboratory]~~Quality Assurance Manual and/or~~]quality assurance manual and applicable Standard Operating Procedures; and

(iii) staff have obtained acceptable results on Proficiency Testing [~~samples~~]Samples pursuant to Rule .0803(1) of this Section or other demonstrations of [~~proficiency.~~]proficiency (e.g., side-by-side comparison with a trained analyst,

acceptable results on a single-blind performance evaluation sample, an initial demonstration of capability study prescribed by the reference method).

~~(8) Decertification Requirements. Municipal and industrial laboratories that cannot meet initial certification requirements must comply with the Decertification Requirements as set forth in Rule .0807(e) of this Section.~~

(b) Issuance of Certification.

(1) Upon compliance with these Rules, ~~certification~~Certification shall be issued by the Director ~~Division of Water Quality, Department of Environmental Quality~~ or ~~his~~ assigned delegate, for each of the applicable ~~parameters~~ Parameter Methods requested within 30 calendar days of [~~receipt~~] payment of the initial [~~Certification invoice payment.~~]invoice.

(2) Initial ~~certifications~~Certifications shall be valid for the remainder of the applicable Certification cycle that begins on January 1 and [~~is valid for one~~]ends December 31of the same year. ~~issued for prorated time periods to schedule all certification renewals on the first day valid for one year.~~

(c) Maintenance of Certification.

(1) To maintain ~~certification~~Certification for each ~~parameter~~ Parameter Method, a certified laboratory ~~must~~shall analyze ~~up to four performance evaluation~~ one Proficiency Testing Sample[~~sample~~] ~~samples~~ per ~~parameter~~ Parameter Method per ~~year~~year. ~~submitted by an accredited vendor as an unknown. Laboratories submitting unacceptable results on a performance evaluation samples may be required to analyze more than four samples per year.~~A laboratory may be asked to analyze additional Proficiency Testing Samples[~~samples~~] for a Parameter Method if a question about the accuracy of data produced arises, if there are changes in equipment or personnel, if inaccurate information is reported with Proficiency Testing results, or if Unacceptable Proficiency Testing Results are submitted.

(2) In addition, if a Proficiency Testing Sample[~~sample~~] is not available, the State Laboratory may request the analysis of Split Samples.[~~samples.~~] ~~that samples be split into two equal representative portions, one part going to the State and the other to the certified laboratory for analysis.~~Acceptable Split [~~sample~~]Sample results shall be determined by the State Laboratory using scientifically valid statistical methodology.

(3) The State ~~laboratory~~Laboratory may ~~submit or~~ require ~~clients~~certified laboratories to ~~submit~~analyze blind ~~performance~~ Proficiency Testing Samples ~~samples~~ or ~~split~~Split Samples ~~samples~~ under direction of State Laboratory personnel if there is a question about the accuracy of data produced, if Proficiency Testing Samples[~~samples~~] are not [~~available~~]available, or if analysis of Proficiency Testing Samples[~~samples~~] does not represent the entire analytical process.

(4) A certified laboratory shall be subject to periodic announced or unannounced inspections during the ~~certification~~Certification period and shall make time and all records pursuant to Part (a)(7)(E) of this Rule available for ~~inspections~~ inspection. ~~and must supply copies of records for any investigation upon written request by the State Laboratory.~~

~~(5) A certified laboratory must provide the State Laboratory with written notice of laboratory supervisor or laboratory manager changes within 30 days of such changes.~~

~~(6) A certified laboratory must submit written notice of any changes of location, ownership, address, name or telephone number within 30 days of such changes.~~

~~(7) A certified laboratory must submit a written amendment to the certification application each time that changes occur in methodology, reporting limits, and major equipment. The amendment must be received within 30 days of such changes.~~

(5) A certified laboratory shall supply copies of all records pursuant to Part (a)(7)(E) of this Rule for any investigation upon written request by the State Laboratory.

(6) A certified laboratory shall provide the State Laboratory with written notice of laboratory supervisor or laboratory manager changes within 30 calendar days of such changes.

(7) A certified laboratory shall submit written notice of any changes of location, ownership, address, name, or telephone number within 30 calendar days of such changes.

(d) Certification ~~Renewals~~ Renewals.

~~(1)~~ Certification renewals ~~of laboratories~~ shall be issued for one year.

(e) Data ~~reporting.~~Reporting.

(1) Certified ~~commercial laboratories~~Commercial Laboratories ~~must~~ shall provide ~~make~~ data reports to their clients that are signed by the laboratory supervisor. This ~~duty~~signatory authority may be delegated in writing.~~writing; however, the responsibility shall remain with the supervisor.~~

(2) ~~Whenever~~If a certified ~~commercial laboratory~~[~~Laboratory~~]laboratory refers or subcontracts analysis of samples to another laboratory certified ~~laboratory~~ for ~~analyses,~~ the Parameter, the referring laboratory ~~must~~shall supply the date and time that samples were collected to insure holding times are met. ~~Subcontracted~~All record transcriptions of subcontracted samples ~~must~~shall ~~clearly indicate~~state that the collection site is in ~~the State of~~ North ~~Carolina~~Carolina. ~~as the collection site on all record transcriptions.~~ Laboratories may subcontract sample fractions, extracts, ~~leachates~~leachates, and other sample preparation products provided that adherence to ~~all Rules and requirements of~~ 15A NCAC 02H .0800 ~~are~~is documented. The initial client requesting the analyses ~~must~~shall receive the original or a copy of the report made by the laboratory that performs the analyses. Each reported result shall be traceable to the laboratory that performed the analysis on the final report.

(3) All ~~uncertified data~~Uncertified Data ~~must~~shall be ~~clearly~~ documented as such on the benchsheet and on the final report.

(4) Sample results reported below the lowest reporting concentration, if required by the data receiver, shall be qualified as an estimated value.

(5) Reported data associated with [~~Quality Control~~]quality control failures, improper sample collection, holding time exceedances, or improper preservation shall be qualified as such.

(f) Voluntary Discontinuation of Certification.

(1) A laboratory may discontinue ~~certification~~Certification for any or all ~~parameters~~Parameter Methods by making a written request to the State Laboratory.

(2) After discontinuation of ~~certification,~~Certification, a laboratory ~~may~~shall only be recertified by meeting the requirements for initial ~~certification;~~Certification; however, laboratories that discontinue ~~certification~~Certification during any investigation shall be subject to Rule .0808 of this Section.

(g) Prerequisites and Requirements~~requirements~~ for Field Laboratory ~~Parameter~~ Certification. ~~Only the following requirements must be met prior to certification for Field Parameter Laboratories.~~Laboratories that meet the requirements of this Paragraph shall be certified as Field Laboratories. Once certified, failure to comply with any of the following items ~~will~~shall be a violation of ~~certification~~Certification requirements.

~~(1) Data pertinent to each analysis must be maintained for five years. Certified Data must consist of date collected, time collected, sample site, sample collector, and sample analysis time. The field benchsheets must provide a space for the signature or initials of the analyst, and proper units of measure for all analyses.~~

~~(2) A record of instrument calibration where applicable, must be filed in an orderly manner so as to be readily available for inspection upon request.~~

~~(3) A copy of each approved analytical procedure must be available to each analyst.~~

~~(4) Each facility must have glassware, chemicals, supplies, equipment, and a source of distilled or deionized water that will meet the minimum criteria of the approved methodologies.~~

~~(5) Supervisors of laboratories certified for Field Parameters only must meet the requirements of Subparagraph (a)(3)(A) or (a)(3)(B) of this Section, or possess a chemistry or related degree with two years of related environmental experience, or hold any Biological Water Pollution Control System Operator's Certification as defined by 15A NCAC 08G.~~

~~(6) Application: Each Field Parameter Laboratory shall submit an application in duplicate.~~

~~(7) Performance Evaluations. Each Field Parameter Laboratory must participate in an annual quality assurance study by analyzing performance evaluation samples obtained from an accredited vendor as unknowns. If performance evaluations are not available for a parameter, certification for that parameter may be based on the proper use of the approved procedure as determined by an announced or unannounced on-site inspection.~~

~~(8) Decertification and Civil Penalties. A laboratory facility can be decertified for infractions as outlined in Rule .0807 of this Section.~~

~~(9) Recertification. A laboratory facility can be recertified in accordance with Rule .0808 of this Section.~~

(1) All analytical records, including original observations and information necessary to facilitate historical reconstruction of the calculated results, shall be maintained for five years. All analytical data and records pertinent to each certified analysis shall be [~~accurate and filed in an orderly manner so as to be readily~~]available for inspection upon request. All analytical records shall be legible to

all parties and safeguarded against unauthorized amendment, obliteration, erasures, overwriting and corruption. Records [~~which~~]that are stored only on electronic media shall be [~~securely~~] maintained throughout the [~~five year~~]five-year retention period and supported in the laboratory by all hardware and software necessary for [~~immediate~~]data retrieval and review. All documentation errors shall be corrected by drawing a single line through the error so that the original entry remains legible. Entries shall not be obliterated by erasures or markings. Wite-Out®, correction [~~tape~~]tape, or similar products designed to obliterate documentation are not to be [~~used. Write~~]used; instead the correction shall be written adjacent to the error. The correction shall be initialed by the responsible individual and the date of change documented. All manual data and log entries shall be written in indelible ink.[~~Pencil entries are not acceptable.~~]

(2) All laboratories shall use printable laboratory benchsheets. Certified Data shall be traceable to the associated sample analyses and shall consist of:

(A) the method or Standard Operating Procedure;

(B) the laboratory identification;

(C) the instrument identification;

(D) the sample collector;

(E) the signature or initials of the analyst;

(F) the date and time of sample collection;

(G) the date of sample analyses;

(H) the time of sample analyses (when required to document a required holding time or when [~~time – critical~~]time-critical steps are imposed by the method, a federal [~~regulation~~]regulation, or this Rule);

(I) sample identification;

(J) sample preparation, where applicable;

(K) the volume of sample analyzed, where applicable;

(L) the proper units of measure;

(M) the dilution factor, where applicable;

(N) all manual calculations;

(O) the quality control assessments;

(P) the value from the measurement system;

(Q) the final value to be reported; and

(R) any other data needed to reconstruct the final calculated result.

Each item shall be recorded each time samples are analyzed. Analyses shall conform to methodologies found in [~~Rule .0805(a)(1)~~]Subparagraph (a)(1) of this [~~Section.~~]Rule.

(3) A record of instrument calibration or calibration verification shall be documented [~~documented, filed in an orderly manner, ~~]and available for inspection upon request.

(4) Laboratory Procedures. Laboratory procedures shall comply with Subparagraph (a)(1) of this Rule. A copy of each analytical method or Approved Procedure and Standard Operating Procedure shall be available to each analyst and available for review upon request by the State Laboratory. Standard Operating Procedure documentation shall [~~indicate~~]state the effective date of the document and shall be reviewed every two years and updated if changes in procedures are made. Each laboratory shall have a formal process to track and document review dates and any revisions made in all Standard Operating Procedure documents. Supporting Records shall be maintained as evidence that these practices are implemented.

(5) Each laboratory shall develop and implement a documented training program that includes the following:

(A) that staff have the education, training, experience, or demonstrated [~~skills,~~]skills needed to generate quality control results within method-specified limits [~~or~~]and that meet the requirements of these Rules;

(B) that staff have read the laboratory [~~Quality Assurance Manual~~]quality assurance manual or applicable Standard Operating Procedures;

(C) that staff have obtained acceptable results on Proficiency Testing samples pursuant to Rule .0803(1) of this Section or other demonstrations of [~~proficiency.~~]proficiency (e.g., side-by-side comparison with a trained analyst, acceptable results on a single-blind performance evaluation sample, an initial demonstration of capability study prescribed by the reference method).

(6) Each facility shall have glassware, chemicals, supplies, [~~properly maintained~~]equipment, and a source of water that meets the criteria of the approved methodologies. Samples shall be analyzed in such a manner that contamination or error will not be introduced.

(7) Chemical containers shall be dated when received and when opened. Reagent containers shall be dated, identified, and initialed when prepared. Chemicals and reagents exceeding the expiration date shall not be used. Chemicals and reagents shall be assigned expiration dates by the laboratory if not given by the manufacturer. If the laboratory is unable to determine an expiration date for a chemical or reagent, a one-year time period from the date of receipt shall be the expiration date unless degradation is observed prior to this date. The laboratory shall have a documented system of traceability for all chemicals, reagents, standards, and consumables.

(8) If quality control results fall outside established limits or indicate an analytical problem, the laboratory shall identify the [~~root cause~~]Root Cause of the failure. The problem shall be resolved through corrective action, the corrective action process [~~documented~~]documented, and any samples involved shall be reanalyzed, if possible. If the sample cannot be reanalyzed, or if the quality control results continue to fall outside established limits or indicate an analytical problem, the results shall be qualified as such.

(9) All temperature-measuring devices shall have accuracy [~~appropriate~~]that meets or exceeds one-half the tolerance required for its intended use. All temperature-measuring devices shall be [~~properly~~]used, stored, and [~~maintained.~~]maintained in accordance with the manufacturer's instructions.

(A) Reference Temperature-Measuring Devices shall meet National Institute of Standards and Technology (NIST) specifications for accuracy and shall be recalibrated in accordance with the manufacturer's recalibration date. If no recalibration date is given, the Reference Temperature-Measuring Device shall be recalibrated every five years.

(B) Excluding digital, incubator, and infrared temperature-measuring devices, all non-Reference Temperature-Measuring Devices shall be verified every twelve months against a Reference Temperature-Measuring Device and their accuracy shall be corrected.

(C) Digital temperature-measuring devices and temperature-measuring devices used in incubators shall be verified [~~at~~]every three months against a Reference Temperature-Measuring Device and their accuracy shall be corrected.

(D) Infrared temperature-measuring devices shall be verified every three months at three different temperatures over the temperature range of use against a Reference Temperature-Measuring Device and their accuracy shall be corrected. Each day of use, infrared temperature-measuring devices shall be verified against a non-Reference Temperature-Measuring Device that meets NIST specifications for accuracy. If the infrared temperature-measuring device does not agree within 0.5 degrees Celsius during the daily verification, corrective action must be taken.

(10) Mechanical volumetric liquid-dispensing devices (e.g., fixed and adjustable auto-pipettors and bottle-top dispensers) shall be calibrated at least once every twelve months.

(11) Supervisors of laboratories certified only for Field Parameters shall:

(A) meet the requirements of Part (a)(3)(A) or (a)(3)(B) of this Rule;

(B) possess a chemistry or related degree with two years of related environmental experience or an equivalent combination of education and work experience; or

(C) hold any Water Pollution Control System Operator's Certification as defined by 15A NCAC [~~08G, et seq.~~]08G.

Supervisors shall provide personal and direct supervision of the technical personnel and shall be [~~held~~] responsible for [~~the proper performance and reporting of all analyses governed by these Rules.~~]adherence to all requirements in this Rule. If the supervisor [~~is to~~]will be absent, the supervisor shall arrange for a substitute capable of insuring [~~the proper performance of all laboratory procedures;~~]adherence to all requirements in this [~~Rule;~~]Rule. [~~however, the~~]The substitute supervisor shall not be in charge for more than 12 [~~twelve~~]consecutive weeks.

(12) A certified Field Laboratory shall be subject to inspections during the Certification period and shall make all [~~relevant~~]records pursuant to this Section available for inspection.

(13) A certified Field Laboratory shall supply copies of all [~~relevant~~]records pursuant to this Section for any investigation upon written request by the State Laboratory.

(14) A certified Field Laboratory shall pay all applicable fees in accordance with Rule .0806 of this Section.

(15) Application. Each Field Laboratory requesting initial Certification shall submit an application to the State [~~Laboratory.~~]Laboratory that includes the laboratory name, contact information, EPA laboratory code number, permit number(s), laboratory supervisor information, analytical methods, and equipment. The application may be obtained by request from the State Laboratory or on the State Laboratory website at https://deq.nc.gov/about/divisions/water-resources/water-resources-data/water-sciences-home-page/laboratory-certification-branch/application-forms-0.

(16) Proficiency Testing. Each certified Field Laboratory shall be in accordance with Subparagraph (a)(2) of this Rule.

(17) Data Reporting. Each certified Field Laboratory shall be in accordance with Paragraph (e) of this Rule.

(18) Issuance of Certification. A Field Laboratory shall be issued Certification in accordance with Paragraph (b) of this Rule.

(19) Maintenance of Certification. A certified Field Laboratory shall submit written notice of any [~~material~~]changes in the laboratory supervisor, location, ownership, address, [~~name~~]name, and telephone number within 30 days of such changes.

(20) Certification Renewals. Certification renewals of certified Field Laboratories shall be issued in accordance with Paragraph (d) of this Rule.

(21) Discontinuation of Certification. A certified Field Laboratory may discontinue Certification in accordance with Paragraph (f) of this Rule.

(22) Decertification. A certified Field Laboratory may be decertified and must meet all Decertification requirements for infractions in accordance with Rule .0807 of this Section.

(23) Civil Penalties. Civil Penalties may be assessed against a certified Field Laboratory [~~which~~]that violates or fails to act in accordance with any of the terms, conditions, or requirements of the Rule .0807 of this Section.[~~Section or of the State Laboratory.~~]

(24) Recertification. A decertified Field Laboratory may be recertified in accordance with Rule .0808 of this Section.

History Note: *Authority G.S. 143-215.3(a)(1); ~~143-215.3(a)(10)~~143-215.3(a)(10); 143-215.6A.*
Eff. February 1, 1976;
Amended Eff. July 1, 1988; July 1, 1985; December 1, 1984; November 1, 1978;
RRC Objection Eff. October 15, 1992 due to lack of statutory authority;
Amended Eff. December 21, 1992;
RRC Objection Removed Eff. December 16, 1993;

Temporary Amendment Eff. October 1, 2001;
Amended Eff. August 1, 2002;
Readopted Eff. July 1, 2019.

15A NCAC 02H .0806 is readopted as published in 33:12 NCR 1294 with changes as follows:

15A NCAC 02H .0806 FEES ASSOCIATED WITH CERTIFICATION PROGRAM

(a) An applicant for laboratory ~~certification,~~Certification, excluding those laboratories seeking only Field Parameter ~~Certification~~Certification, ~~only,~~ ~~must~~shall submit to the Department of ~~Environment and Natural Resources, Laboratory~~Environmental Quality, Division of Water ~~[Resources]~~Resources, Water Sciences Section, a non-refundable fee of three hundred dollars ($300.00) ~~for the evaluation and processing of~~with each application.

(b) Municipal, Industrial, and Other ~~laboratories~~Laboratories ~~must~~shall pay an annual fee of ~~fifty dollars ($50.00)~~eighty-five dollars ($85.00) for each ~~inorganic parameter plus one hundred dollars ($100.00) for each organic parameter and metals analyte;~~~~[parameter;]~~Parameter as instructed on the invoice; however, the minimum fee ~~will~~shall be one thousand ~~three~~seven hundred fifty dollars ~~($1,350.00)~~($1,750.00) per year. Municipal Laboratories may cost-share among Municipal Laboratories or charge a cost recovery fee or surcharge to operate their Pretreatment Program.

(c) Commercial ~~laboratories~~Laboratories ~~must~~shall pay an annual fee of ~~fifty dollars ($50.00)~~eighty-five dollars ($85.00) for each ~~inorganic parameter plus one hundred dollars ($100.00) for each organic~~ ~~parameter~~Parameter as instructed on the invoice; ~~and metals analyte;~~ however, the minimum fee will be ~~two~~three thousand ~~seven~~five hundred dollars ~~($2,700.00)~~($3,500.00) per year.

(d) Prior to receiving initial ~~certification,~~Certification, a Field Laboratory shall pay the required fee as specified in Paragraph (k) or (l) of this Rule and all other laboratories shall~~laboratory must~~ pay the required fee as specified in Paragraph (b) or (c) of this Rule. ~~Initial certification~~Excluding Field Laboratories, the Certification fee ~~will~~shall be prorated on a ~~semi-annual~~ quarterly basis. ~~basis to make all certification~~All Certification renewals shall be due on the first day of January.

(e) Once certified, ~~a~~ Field Laboratories shall pay a fifty dollar ($50.00) administrative fee for each Parameter Method added to their Certified Parameters Listing, and all other laboratories~~laboratory must~~shall pay the full annual ~~parameter~~Parameter fee for each ~~parameter~~Parameter Method added to their ~~certificate.~~Certified Parameters Listing.

(f) A laboratory decertified for all ~~parameters~~Parameters ~~must~~shall pay initial ~~certification~~Certification fees prior to ~~recertification.~~Recertification.

(g) A laboratory decertified for one or more ~~parameters~~Parameter Methods ~~must~~shall pay a fee of two hundred dollars ($200.00) for each ~~parameters~~Parameter Method for which it was decertified prior to ~~recertification.~~Recertification.

(h) Out-of-state laboratories shall reimburse the ~~state~~State for actual travel and subsistence costs incurred by laboratory certification staff ~~in certification~~~~[Certification]~~ ~~and maintenance of certification.~~~~[Certification including travel~~ to perform inspections, provide technical assistance or investigate complaints.~~[complaint investigations.]~~ Out-of-state laboratories shall also be assessed for expenses for an on-site inspection based on the hourly rate of the laboratory certification staff, rounded to the nearest hour and inclusive of preparation time, travel time, and inspection time.

(i) Annual ~~certification~~Certification fees ~~are~~shall be due 60 days after receipt of invoice.

(j) A fifty dollar ($50.00) late payment fee shall be paid by Field Laboratories when annual Certification fees have not been paid by the date due. ~~A~~For all other laboratories, a two hundred fifty dollar ($250.00) late payment fee ~~must~~shall be paid when annual ~~certification~~Certification fees are not paid by the date due.

(k) Commercial ~~facilities~~Laboratories analyzing only samples for ~~field parameters~~Field Parameters ~~only must~~shall pay an annual fee of ~~two~~three hundred dollars ~~($200.00)~~($300.00) per year.

(l) ~~Municipal and Industrial facilities~~Municipal, Industrial, and Other Laboratories analyzing only samples for ~~field parameters~~Field Parameters ~~only must~~shall pay an annual fee of one hundred fifty dollars ~~($100.00)~~($150.00) per year.

(m) A laboratory that voluntarily discontinues Certification shall pay all applicable Certification fees as specified in Paragraphs (a), (b), (c), (d), (k), and (l) of this Rule prior to regaining Certification.

History Note: *Authority G.S. 143-215.3(a)(1); 143-215.3(a)(10);*
Eff. February 1, 1976;
Amended Eff. November 2, 1992; December 1, 1984;
Temporary Amendment Eff. October 1, 2001;
Amended Eff. August 1, 2002;
Readopted Eff. July 1, 2019.

15A NCAC 02H .0807 is readopted with changes as published in 33:12 NCR 1294 with changes as follows:

15A NCAC 02H .0807 DECERTIFICATION AND CIVIL PENALTIES

(a) Laboratory Decertification. ~~A laboratory may be decertified, for any or all parameters, for up to one year for any of the following infractions:~~The following infractions may result in a laboratory being decertified pursuant to Paragraph (d) of this [~~Section~~]Rule for any or all [~~parameters~~]Parameters for up to one year:

(1) Failing to maintain the facilities, ~~or~~ records, ~~or~~ personnel, ~~or~~ equipment, or a quality control program as set forth in ~~the application, and~~ these Rules;~~ or~~

(2) Submitting inaccurate data or other information subject to these Rules;~~ or~~

(3) Failing to pay required fees by the date due;~~ or~~

(4) Failing to discontinue supplying data ~~for~~to clients or programs that require monitoring under G.S. 143, Article 21~~described in Rule .0802 of this Section~~ during periods when a ~~decertification~~Decertification is in effect;~~ or~~

(5) Failing to submit a ~~split~~Split ~~sample~~Sample to the State Laboratory as requested;~~ or~~

(6) Failing to use approved methods of analysis;~~ or~~

(7) Failing to report a change of laboratory supervisor ~~or equipment changes~~ within 30 calendar days; ~~of such changes; or~~

(8) Failing to report an analysis of required annual ~~performance evaluation~~ Proficiency Testing ~~samples~~Samples submitted by ~~an~~ a~~EPA~~ State Laboratory-approved ~~approved vendor~~Vendor within the specified time limit;~~ or~~

(9) Failing to allow an inspection by an authorized representative of the State Laboratory;~~ or~~

(10) Failing to supply all records and analytical data requested by the State Laboratory;~~ or~~

(11) Failing to submit a written notification ~~amendment to the certification application~~ within 30 days of applicable changes pursuant to Rule [~~.0805(a)(6) and (7).~~].0805(a)(6), (a)(7), and [~~Rule .0805~~](g)(19) of this Section;~~ or~~

(12) Failing to meet ~~required~~ requirements for sample holding times and preservation;~~ or~~

(13) Failing to respond to requests for information by the date due;~~ or~~

(14) Failing to comply with any other terms, conditions, or requirements of this Section or of ~~a~~ laboratory ~~certification~~ Certification;

(15) Altering or modifying the laboratory's certificate or Certified Parameters Listing;

(16) Sharing or comparing Proficiency Testing [~~sample~~]Sample results with other laboratories prior to the study reporting deadline;

(17) Splitting, sending, or subcontracting a Proficiency Testing [~~sample~~]Sample or a portion of a Proficiency Testing [~~sample~~]Sample to another laboratory unless the practice represents the routine analysis and reporting scheme utilized by the laboratories;

(18) Knowingly receiving and analyzing any Proficiency Testing [~~sample~~]Sample or portion of a Proficiency Testing [~~sample~~]Sample from another laboratory for which the results of the Proficiency

Testing [~~sample~~]Sample are intended for use by that laboratory for initial or continued [~~Certification.~~]Certification;

(19) Obtaining or attempting to obtain the assigned value of any Proficiency Testing [~~sample~~]Sample used to satisfy initial or continued Certification requirements prior to the closing date of the [~~study.~~]study; and

(20) Failing to correct findings in an inspection report.

(b) Parameter Method Decertification. ~~A laboratory may receive a parameter decertification for failing to:~~The laboratory may be decertified pursuant to Paragraph (d) of this Rule for a Parameter Method for:

(1) ~~Obtain acceptable results on two consecutive blind or announced performance evaluation samples submitted by an EPA accredited vendor or the State Laboratory; or~~obtaining two consecutive Unacceptable Proficiency Testing [~~sample~~]Sample results; or

(2) ~~Obtain acceptable results on two consecutive blind or announced split samples that have also been analyzed by the State Laboratory.~~obtaining two consecutive unacceptable Split [~~sample~~]Sample results.

(c) Falsified Data. A laboratory that submits ~~falsified data or other information~~Falsified Data or Information may be decertified pursuant to Paragraph (d) of this Rule for all ~~parameters~~Parameters for up to two ~~years.~~years and may be recertified per Rule .0808 of this Section.

(d) Decertification Factors. ~~In determining a period of decertification,[Decertification,] the Director shall recognize that any harm to the natural resources of the State arising from violations of these[the] Rules in this Section may not be immediately observed and may be incremental or cumulative with no damage that can be immediately observed or documented.~~ Decertification for periods up to the ~~maximum~~maximum, as determined by the Commission or assigned delegate, ~~may~~shall be based on any ~~and~~one or a combination of the ~~following factors to be considered:~~factors set forth at G.S. 143B-282.1(b).

~~(1) The degree and extent of harm, or potential harm, to the natural resources of the State or to the public health, or to private property resulting from the violation;~~

~~(2) The duration, and gravity of the violation;~~

~~(3) The effect, or potential effect, on ground or surface water quantity or quality or on air quality;~~

~~(4) Cost of rectifying any damage;~~

~~(5) The amount of money saved by noncompliance;~~

~~(6) As to violations other than submission of falsified data or other information, whether the violation was committed willfully or intentionally;~~

~~(7) The prior record of the laboratory in complying or failing to comply with any State and~~and/or ~~Federal laboratory Rules and regulations;~~

~~(8) The cost to the State of investigation and enforcement procedures;~~

~~(9) Cooperation of the laboratory in discovering, identifying, or reporting the violation;~~

~~(10) Measures the laboratory implemented to correct the violation or abate the effect of the violation, including notifying any affected clients;~~

~~(11) Measures the laboratory implemented to correct the cause of the violation;~~

~~(12) Any other relevant facts.~~

(e) ~~Decertification Requirements.~~Conditions of Decertification.

(1) A ~~decertified~~ laboratory ~~is not to~~shall not ~~analyze~~analyze, test, measure, or monitor any samples regulated under G.S. 143, Article 21 by ~~for~~ the decertified ~~parameters~~Parameter [~~Method~~]Method. ~~for programs described in Rule .0802 of this Section or [for]clients reporting to these programs.[programs or other programs requiring Certified Data pursuant to this Section.]~~

(2) A decertified ~~commercial laboratory~~Commercial Laboratory ~~must~~shall supply written notification of ~~the decertification~~its Decertification to clients ~~with Division of Water Quality~~ that are required to report to the Department of Environmental Quality ~~reporting requirements.~~under G.S. [~~143~~]143, Article 21. Within 30 days of Decertification, the decertified laboratory ~~must supply~~shall provide the State Laboratory with a list of [~~such~~]those clients ~~involved~~ and copies of the notices sent to each.

(3) A ~~commercial laboratory~~Commercial Laboratory that has received a ~~parameter decertification~~Parameter Method Decertification shall supply written notification of the Parameter Method Decertification to clients that are required to report to the Department of Environmental Quality under G.S. 143, Article 21. The laboratory may also make arrangements to supply analysis through another ~~certified~~ laboratory certified by the State Laboratory for the [~~contracted~~]same [~~parameters~~]Parameter(s) during any ~~decertification periods.~~Decertification period. ~~The decertified laboratory must supply the State Laboratory, by written notice, the name of the laboratory to be used.~~ Within 30 days of Decertification, the [~~decertified~~]laboratory shall supply the State Laboratory with a list of clients involved, copies of the notices sent to each, and the name and Certification number of the certified laboratory to be used during the Decertification period.

(4) A ~~commercial laboratory~~Commercial Laboratory decertified for all [~~parameters~~]Parameters ~~cannot~~shall not subcontract samples for analyses to other certified laboratories during the ~~decertification~~Decertification period.

(5) A ~~decertified municipal or industrial laboratory~~ Municipal or Industrial Laboratory that has received a Parameter Method Decertification ~~must~~shall have ~~its~~ samples requiring that Parameter Method analyzed by another ~~certified~~ laboratory certified by the State Laboratory for the contracted Parameter Method during any ~~decertification~~Decertification [~~period~~]period. ~~and supply the State Laboratory, by written notice, the name of the certified laboratory to be used.~~ Within 30 days of Decertification, the decertified laboratory shall supply the State Laboratory with the name and Certification number of the certified laboratory to be used during the Decertification period.

(f) Civil Penalties. Civil penalties may be assessed against a laboratory ~~which~~that violates or fails to act in accordance with any of the terms, conditions, or requirements of the ~~Rules~~rules in this Section. ~~or of a laboratory certification. A laboratory is subject to both civil penalties and decertification.[In determining the civil penalties assessed, the Director shall recognize that any harm to the natural resources of the State arising from violations of the Rules in this Section may not be immediately observed and may be incremental or cumulative with no damage that can be immediately~~

~~observed or documented.~~]Civil penalties up to the maximum may be based on any one or a combination of the factors in Paragraph (d) of this Rule.

History Note: *Authority G.S. 143-215.3(a)(1); 143-215.3(a)(10); 143-215.6A; 143B-282.1(b);*
Eff. February 1, 1976;
Amended Eff. November 2, 1992; December 1, 1984;
Temporary Amendment Eff. October 1, 2001;
Amended Eff. August 1, 2002;
Readopted Eff. July 1, 2019.

15A NCAC 02H .0808 is readopted as published in 33:12 NCR 1294 with changes as follows:

15A NCAC 02H .0808 RECERTIFICATION

(a) A laboratory decertified in accordance with ~~Paragraph (a) of~~ Rule ~~.0807~~.0807(a) of this Section ~~may~~shall be recertified at the end of the Decertification~~decertification~~ period imposed by the Division pursuant to Rule .0807(a) and (d) of this Section by showing ~~to the satisfaction of the State Laboratory~~ that it has corrected the ~~deficiency(ies).~~deficiencies for which it was decertified.

~~(b) A laboratory decertified for a parameter due to unacceptable results on two consecutive performance evaluation samples submitted by an EPA accredited vendor, or on two consecutive split samples may be recertified after 60 days by reporting acceptable results on two consecutive performance evaluation samples submitted by an EPA accredited vendor. Recertification samples may be requested from an EPA accredited vendor at any time, however, recertification must be requested in writing at the end of the 60 day period immediately following the date of decertification.~~

~~(c) A laboratory decertified for submitting falsified data or other information may be recertified at the end of the decertification period by demonstrating compliance with all requirements of this Section.~~

(b) A laboratory decertified for a Parameter Method due to two consecutive Unacceptable Proficiency Testing Results or on two consecutive Split [~~samples~~]Samples shall be recertified at the end of the 30-day period by completing all of the following:

(1) Report acceptable results on two consecutive Proficiency Testing [~~samples~~]Samples submitted by a State Laboratory-approved Vendor or report acceptable results on two consecutive [~~samples split~~]Split Samples [~~with~~]to the State Laboratory. Recertification samples may be requested from a State [~~Laboratory approved~~]Laboratory-approved Vendor at any [~~time;~~] time within two years from the decertification effective date;

(2) [~~Recertification shall be requested in writing following Decertification;~~]Submit a written request for Recertification;

~~[(3) The decertified laboratory shall supply the State Laboratory with the name, certification number, and address of the certified subcontract laboratory and a list of impacted clients and their contact information;]~~

[~~(4)~~](3) [~~The decertified laboratory shall supply~~]Supply the State Laboratory with a description of corrective actions that includes [~~report of the investigation of the root cause~~]the Root Cause of the failure and the corrective action [~~taken;~~]taken to prevent recurrence;

[~~(5)~~](4) [~~The laboratory shall pay~~]Pay the required fee as specified in Rule .0806(f) or (g) of this Section; and

[~~(6)~~](5) [~~The laboratory shall have met~~]Meet all the Decertification requirements in accordance with Rule .0807(e) of this Section.

(c) [~~After two years after Decertification, a Parameter Method Recertification shall be treated as an initial Certification in accordance with Rule .0805 of this Section.~~]The Division shall treat any laboratory decertified for two years or longer for a Parameter Method as an initial Certification, as set forth in Rule .0805 of this Section.

(d) A laboratory decertified [~~for submitting Falsified Data or Information shall be recertified at the end of the Decertification period imposed by the Division pursuant to Rule .0807(c) and (d)~~]pursuant to Rule .0807(c) of this Section shall be recertified following the Decertification period set by Rule .0807(d) of this Section by demonstrating compliance with all requirements of this Section.

History Note: *Authority G.S. 143-215.3(a)(1); 143-215.3(a)(10);*
Eff. February 1, 1976;
Amended Eff. November 2, 1992; December 1,1984;
Temporary Amendment Eff. October 1, 2001;
Amended Eff. August 1, 2002;
Readopted Eff. July 1, 2019.

15A NCAC 02H .0809 is readopted as published in 33:12 NCR 1294 with changes as follows:

15A NCAC 02H .0809 RECIPROCITY

(a) Laboratories certified under ~~other state~~ certification programs of other states or other certification or accreditation bodies shall~~may~~ be given ~~reciprocity~~reciprocal ~~certification~~Certification ~~where~~if such programs or certification or accreditation bodies meet the requirements of this Section. In requesting reciprocity ~~certification,~~Certification, laboratories shall include with the application required by Rule .0805(a) of this Section a copy of their ~~certification~~certification, a copy of the last audit report from the certifying body, the laboratory's response to the audit report, the laboratory's scope of accreditation, and ~~Regulation~~applicable regulations from the certifying agency.

(b) Laboratories certified by reciprocity shall pay the applicable fees required by Rule .0806 of this Section.

(c) ~~Any time that a laboratory has its certification with the reciprocal program discontinued for any reason,~~If a laboratory's certification by another state's program or another certification or accreditation body is discontinued, the State Laboratory shall be notified and Certification~~certification~~ under this Section shall be terminated at the same time.

History Note: *Authority G.S. 143-215.3(a)(1); 143-215.3(a)(10);*
Eff. February 1, 1976;
Amended Eff. November 2, 1992; December 1, 1984;
Readopted Eff. July 1, 2019.

15A NCAC 02H .1101 is readopted with changes as published in 33:12 NCR 1294 as follows:

15A NCAC 02H .1101 PURPOSE

These Rules [~~shall~~] set forth the requirements for certification of commercial, industrial, and public laboratories to perform biological toxicity testing and aquatic population surveys of water and wastewater as required by G.S. 143-215.3(a) and ~~for National Pollutant Discharge Elimination System (NPDES) permits by G.S. 143-215.3(a)(10) and Environmental Management Commission Rules for Classifications and Water Quality Standards Applicable to the Surface Waters of North Carolina, Subchapter 2B of this Chapter, Section .0200~~ 15A NCAC 02B [~~.0200,~~] .0200 and .0500. ~~and Rules for Surface Water Monitoring, Reporting, found in Subchapter 2B of this Chapter, Section .0500 [15A NCAC 02B .0500.]~~ These Rules establish an EPA-designated program for the State to implement the Clean Water Act, as set forth in 33 U.S.C. 1318 and 1319.

History Note: *Authority G.S. 143-215.3(a)(1); 143-215.3(a)(10); 143-215(c); 143-215.66;*
Eff. October 1, 1988;
Amended Eff. March 1, 1993.
Readopted Eff. July 1, 2019.

15A NCAC 02H .1103 is readopted with changes as published in 33:12 NCR 1294 as follows:

15A NCAC 02H .1103 DEFINITIONS

The following terms as used in this Section shall have the assigned meaning:

~~(1) Categories are groups of parameters which differ by measured test exposure regimes (chronic and acute) and, in the case of toxicological assay, through the presence or absence of vertebrae in the species of test organisms used or being a member of the plant kingdom. All field population survey techniques are contained within one category.~~

(1) "Approved Procedure" means an analytical procedure developed by the State Laboratory based upon 40 CFR 136.3 and [~~relevant reference methods and approved for use for monitoring~~] subject to G.S. 143, Article 21, Part 1. [~~G.S. 143-215.1 and G.S. 143-215.63, and the rules of this Section.~~. ~~et seq.~~] A link to [~~our~~] the approved procedures [~~methods~~] can be found at [~~here,~~] https://deq.nc.gov/about/divisions/water-resources/water-resources-data/water-sciences-home-page/aquatic-toxicology-branch/downloads.

(2) "Aquatic population survey and analysis" means field sampling, laboratory identification, analysis, and metric derivation for determining biological integrity, as defined in [~~15A NCAC 02B .0202 (11)~~] 15A NCAC 02B .0202 for fish, aquatic macroinvertebrates, phytoplankton, and aquatic macrophytes using methods developed in accordance with 15A NCAC 02B .0103(b). [~~Standard operating procedures used by the State are available for review on the Division's website.~~]

~~(2)~~(3) ~~Certification is~~ "Certification" means a declaration by the Division that personnel, equipment, records, quality control procedures, and methodology cited by the applicant ~~are accurate and that the applicants' [applicant's] proficiency has been considered and found acceptable.~~ complies with the rules in this Section.

~~(3)~~(4) ~~Commercial Laboratory~~ "Commercial Laboratory" means any laboratory, including its employees and agents, ~~which~~ that analyzes, for others, wastewater samples for toxicity measurements or for their ~~resultant~~ impacts on the receiving waters.

~~(4)~~(5) ~~Decertification is~~ "Decertification" means the loss of certification.

~~(5)~~(6) ~~Director~~ "Director" means the Director of the North Carolina Division of ~~Environmental Management,~~ Water [~~Resources,~~] ~~or his successor~~.Resources.

~~(6)~~(7) ~~Division~~ "Division" means the North Carolina Division of ~~Environmental Management,~~ Water [~~Resources.,~~] ~~or its successor.~~ Resources.

(8) ~~Falsified data or information~~ "Falsified data or information" means data or information ~~that~~ that, whether by intent, or [~~reckless~~] disregard for accuracy, has been ~~made untrue by alteration, fabrication, intentional~~ altered, fabricated,[~~or otherwise reported or~~] recorded falsely or mischaracterized by omission or ~~substitution,~~ substitution. ~~or mischaracterization.~~ [~~such that the~~

~~value or information reported is incorrect, incomplete, or inaccurate.]~~ ~~The agency need not prove intent to defraud to prove data is falsified.~~

~~(9) Inaccurate data or other information means data or information that is in any way incorrect or mistaken.~~

~~(10)~~(9) ~~Industrial Laboratory~~ "Industrial Laboratory" means a laboratory, including its employees and agents, operated by an ~~industry~~ industrial facility to analyze samples from its wastewater treatment plants for toxicity measurements or ~~resultant~~ impacts to receiving ~~waters.~~ waters or to conduct aquatic population [~~surveys.]~~ surveys and analysis.

~~(11) Parameters are subgroups of categories. Parameters are unique and separate if they are in separate categories or are performed using different species of test organisms. For the category, Aquatic Population Survey, separate parameters are to be considered fish, macroinvertebrates, algae, aquatic macrophytes, and zooplankton.~~

~~(7)~~(10) ~~Evaluation samples are samples submitted~~ "Proficiency Testing sample" means a performance evaluation sample provided by the State Laboratory or a State Laboratory-approved [~~Laboratory approved]~~ vendor as defined in 15A NCAC 02H .0803(38), located at https://nelac-institute.org/content/NEPTP/ptproviders.php to ~~the~~ a commercial, ~~municipal~~, industrial, or public laboratory as an unknown toxicant for measurement of ~~toxicity~~ toxicity, as an unknown analyte for measurement by laboratory equipment or wet chemistry methods, or as an unknown set of preserved organisms for identification to specified levels of taxonomic classification.

~~(12)~~(11) ~~Public Laboratory~~ "Public Laboratory" means a laboratory, including its employees and agents, operated by a municipality, county, water and sewer authority, sanitary district, metropolitan sewerage district, or ~~state~~State or federal installation ~~or any other governmental unit~~ to analyze samples from its wastewater treatment plant(s) for toxicity measurements or resultant impacts to receiving waters.

~~(13) Recertification is reaffirmation of certification.~~

~~(14)~~(12) ~~Split samples are samples from either a~~ "Split samples" for surface water effluent discharge, surface water, or ~~aquatic biological population survey which are segregated at the point of sampling or in the case of field survey, collected independently and then~~ phytoplankton means two or more representative portions taken from a single sampling device. For aquatic macrophytes or macroinvertebrates, split sample means a single sample that is analyzed ~~separately~~ by both the State Laboratory and by the commercial, ~~public~~ public, or industrial laboratory.

~~(15)~~(13) ~~State laboratory~~ "State laboratory" means the ~~Environmental~~ Water Sciences ~~Branch~~ Section of the ~~Water Quality Section of the~~ North Carolina Division of ~~Environmental Management~~ Water Resources. [~~Resources,~~] ~~or its successor.~~

~~(16)~~(14) ~~Toxicant - Any~~ "Toxicant" means any specific ~~chemical or compound~~ chemical, compound, or mixture of chemicals or compounds regulated ~~within~~ by an NPDES permit ~~and/or~~ or defined as a toxic substance in ~~Rule .0202 of Subchapter 2B~~15A NCAC 02B.0202.

History Note: *Authority G.S. 143-215.3(a)(1); 143-215.3(a)(10); 143-215.66;*
Eff. October 1, 1988;
Amended Eff. April 1, 1993.
Readopted Eff. July 1,2019.

15A NCAC 02H .1104 is readopted with changes as published in 33:12 NCR 1294 as follows:

15A NCAC 02H .1104 FEES ASSOCIATED WITH CERTIFICATION PROGRAM

(a) Certification Fees:

(1) ~~[Certification Fees shall be a minimum of five hundred dollars per year ($500.00).]~~ The first ~~category~~ category, as set forth in Rule .1105 of this Section, ~~will~~ shall be certified at a cost of five hundred dollars ~~($500.00).~~ ($500.00) per year. Additional categories, ~~will~~ shall be certified at a cost of four hundred dollars ($400.00) per year per category. The addition of parameters not included in the original certification ~~will~~ shall be certified at a cost of one hundred dollars ($100.00) per year per parameter.

(2) Certification fees are due upon application and no later than 45 days prior to the requested certification date.

(b) Renewal ~~[or Recertification]~~ Fees:

(1) The certified laboratory ~~will~~ shall pay the ~~state~~ State a four hundred dollar ($400.00) per year renewal fee for each category of certification or the minimum fee of five hundred dollars ($500.00) per year if only one category is certified. Renewal certification fees are due by November 1 annually.

~~(2) Recertification fees shall be four hundred dollars ($400.00) per category recertified.~~

(2)~~(3)~~ Out-of-state laboratories shall reimburse the State ~~state~~ for actual travel and subsistence costs incurred in certification, ~~recertification~~ recertification, and maintenance of certification. ~~[The certification process requires visual inspection to verify that laboratories meet the requirements established by the rules of this Section.]~~

History Note: *Authority G.S. 143-215.3(a)(1); 143-215.3(a)(10); 143-215.66;*
Eff. October 1, 1988.
Readopted Eff. July 1, 2019.

15A NCAC 02H .1105 is readopted with changes as published in 33:12 NCR 1294 as follows:

15A NCAC 02H .1105 CERTIFICATION

~~(a) Certification is affirmation by the Director or his delegate that the requirements specified by these rules have been met for specific categories and parameters and that all fees associated with certification have been received.~~

~~(b)~~(a) Commercial, ~~public~~ public, and industrial laboratories ~~must~~ shall obtain certification from the Division ~~of~~ ~~Environmental Management [Water Resources]~~ ~~only~~ for biological parameters ~~which will be~~ that are required to be reported pursuant to G.S. 143, Article 21, Part 1. ~~comply with the rules and requirements as stated in~~ ~~an administrative letter, permit condition, permit limit, special order by consent, judicial order, or the biological monitoring requirements established by the Division~~.

~~(c)~~(b) For the purposes of certification and setting fees, parameters ~~are~~ shall be grouped in the following ~~five~~ categories:

(1) Acute Toxicity Testing/Invertebrate;

(2) Acute Toxicity Testing/Vertebrate;

(3) Chronic Toxicity Testing/Invertebrate;

(4) Chronic Toxicity Testing/Vertebrate;

(5) ~~Agal~~ Algal and Aquatic Plant Toxicity Testing; and

(6) Aquatic Population Survey and Analysis.

~~(d)~~(c) All certifications ~~are~~ shall be in effect ~~designated~~ for ~~the period of~~ one year ~~after initial certification.~~ and may be renewed for additional one-year periods as set forth in Rule .1104 of this Section.

~~(e) Protocol Documents considered as standard methodology and facilities and equipment requirements considered as minimum acceptable resources will be listed in the Certification Criteria/Procedures Document.~~

History Note: *Authority G.S. 143-215.3(a)(1); 143-215.3(1)(10); 143-215.66;*
Eff. October 1, 1988.
Readopted Eff. July 1, 2019.

15A NCAC 02H .1106 is readopted with changes as published in 33:12 NCR 1294 as follows:

15A NCAC 02H .1106 DECERTIFICATION

(a) ~~A laboratory certification may be revoked for all categories for:~~ The Director or the Director's designee [~~shall consider revoking a~~] may revoke the entire laboratory certification [~~for a parameter~~]for:

(1) ~~Failing~~ failing to maintain the facilities, records, personnel, ~~equipment~~ equipment, or a quality assurance program as ~~set forth in the application or~~ as required by these Rules; ~~or~~

(2) ~~Submitting~~ submitting inaccurate or falsified data reports or other information; or

(3) ~~Failing~~ failing to pay required fees by the date due.

(b) A laboratory certification may be revoked for a category for failure to:

(1) ~~Obtain~~ obtain acceptable results on two consecutive ~~evaluation sample submittals~~ proficiency testing samples. ~~from the Division~~. Acceptable results on ~~performance evaluation~~ proficiency testing samples are those that ~~vary by less than two standard deviations of the value established by the Division.~~ fall within the specified acceptable range as indicated by the State Laboratory or State [~~Laboratory approved~~] Laboratory-approved vendor. [~~vendor.~~] The ~~state laboratory~~ State Laboratory may apply specific variance or statistical limits or performance criteria on performance evaluation samples or split samples for a particular testing procedure, including control population effects and taxonomic identification, as published in ~~the Certification Criteria/Procedures Document; or~~ these Rules;

(2) ~~Obtain~~ obtain acceptable results as set out in ~~Paragraph (1)~~ Subparagraph (b)(1) of this Paragraph on two consecutive split samples that have also been analyzed by the Division; ~~or~~

(3) ~~Submit~~ submit a split sample to the Division as requested; ~~or~~

(4) ~~Use~~ use approved procedures as defined in Section .1103; ~~testing techniques~~; ~~or~~

(5) ~~Report to the state laboratory~~ report equipment changes that would affect ~~it's~~ the laboratory's ability to perform a test category to the State Laboratory within 30 days of ~~such~~ the change; ~~or~~

(6) ~~Report to the state laboratory~~ report results ~~analysis~~ of ~~performance evaluation~~ proficiency testing ~~samples submitted by the Division~~ to the State Laboratory within the requirements that are set forth by the proficiency study; ~~required time of completion; or~~

(7) ~~Maintain~~ maintain records and perform quality controls as set forth by these ~~Rules and the Division for a particular category; or~~ Rules;

(8) ~~Maintain~~ maintain equipment required for any certified parameter; ~~or~~

(9) ~~Implement~~ implement and maintain ~~Quality Control Programs~~ quality control programs approved in conjunction with certification; or

(10) ~~Maintain~~ maintain a qualified ~~staff.~~ staff, as specified in Rule [~~.1110~~] .1110(f)(1) and 2 of this Section.

(c) ~~Decertification Requirements:~~ Requirements for Laboratories following Decertification:

(1) A laboratory ~~is not to~~ shall not analyze samples for parameters in decertified categories for programs ~~described in Rule .1102~~ governed by rules of this Section.

(2) A decertified commercial laboratory ~~must~~ shall notify any clients affected by the laboratory's decertification ~~of such~~ and supply the ~~state laboratory~~ State Laboratory with a list of those clients affected and a written certification that those clients have been notified. ~~Should~~ If the decertified laboratory ~~arrange~~ arranges for a certified laboratory to perform analyses during the period of decertification, the decertified laboratory ~~must~~ shall supply the Division with the name of the replacement laboratory and the ~~client(s)~~ clients involved. The name of the certified ~~laboratory's name which~~ laboratory that performs analyses ~~must~~ shall appear on all data submitted to the Division.

History Note: *Authority G.S. 143-215.3(a)(1); 143-215.3(a)(4); 143-215.3(a)(10); 143-215.66;*
Eff. October 1, 1988;
Amended Eff. March 1, 1993;
Readopted Eff. July 1, 2019.

15A NCAC 02H .1107 is readopted with changes as published in 33:12 NCR 1294 as follows:

15A NCAC 02H .1107 RECERTIFICATION

(a) A laboratory decertified for any ~~reason,~~ reason other than the submittal of falsified data reports or other ~~information, may~~ information shall be recertified after 30 ~~days,~~ days upon ~~satisfactory demonstration~~ demonstrating to the ~~state laboratory~~ State Laboratory that all deficiencies have been corrected.

(b) In the case of a laboratory decertified for submitting falsified data reports or other information, recertification shall not occur ~~until at least~~ prior to 12 months after the decertification and then only at such time as the laboratory has ~~satisfactorily~~ demonstrated to the ~~Director~~ Director, or their delegate, that the standards for initial certification have been met.

(c) ~~Should decertification occur due to either failure of performance samples or split samples,~~ If a laboratory that was decertified due to either failure of proficiency testing samples or split samples seeks recertification, the laboratory shall submit a written request ~~must be made to the state laboratory~~ to the State Laboratory requesting evaluations ~~similar to~~ for the ~~parameters~~ category pursuant to Rule .1106(b) for which the laboratory was decertified. Two consecutive samples ~~must~~ shall ~~be successfully~~ have acceptable results as set forth in Rule .1106 ~~evaluated~~ to achieve recertification. The first of these samples for recertification ~~will~~ shall be submitted or arranged by the Division no later than 30 days after receipt of the written request. The second ~~will~~ shall be submitted or arranged no later than 30 days after the first.

History Note: *Authority G.S. 143-215.3(a)(1); 143-215.3(a)(10); 143-215.66;*
Eff. October 1, 1988;
Amended Eff. March 1, 1993.
Readopted Eff. July 1, 2019.

15A NCAC 02H .1108 is readopted with changes as published in 33:12 NCR 1294 as follows:

15A NCAC 02H .1108 RECIPROCITY

(a) Laboratories certified by other states or federal programs ~~may~~ shall be given reciprocal certification ~~where~~ if ~~such~~ the programs meet the requirements of these Rules. In requesting certification through reciprocity, laboratories shall include with the application a copy of their certification and the rules of the original certifying agency.

(b) Laboratories certified ~~on the basis of program equivalency~~ pursuant to this Rule shall pay all applicable fees set forth in Rule .1104 of this Section.~~specified by these Rules.~~

History Note: *Authority G.S. 143-215.3(a)(1); 143-215.3(a)(10); 143-215.66;*
Eff. October 1, 1988;
Amended Eff. March 1, 1993;
Readopted Eff. July 1, 2019.

15A NCAC 02H .1109 is readopted with changes as published in 33:12 NCR 1294 as follows:

15A NCAC 02H .1109 ADMINISTRATION

~~The Director of the Division of Environmental Management, Department of Environment, Health, and Natural Resources, or his delegate, is delegated authority to issue certification, to reject applications for certification, to renew certification, to issue recertification, to issue decertification, and to issue reciprocity certification.~~

(a) Appeals. If the Director or ~~[their]~~ the Director's delegate denies certification, or decertifies a laboratory, the laboratory may appeal ~~[to the N.C. Office of Administrative Hearings in accordance with G.S. 150B.]~~ pursuant to G.S. 150B, Article 3.

(b) The State Laboratory shall maintain a current list of certified commercial, industrial, or public laboratories.

History Note: *Authority G.S. 143-215.3(a)(1); 143-215.(a)(4); 143-215.3(a)(10); 143-215.66;*
Eff. October 1, 1988;
Amended Eff. March 1, 1993.
Readopted Eff. July 1, 2019

15A NCAC 02H .1110 is readopted with changes as published in 33:12 NCR 1294 as follows:

15A NCAC 02H .1110 IMPLEMENTATION

(a) Each laboratory requesting State ~~state certification or~~ certification, certification ~~renewal~~ renewal, or recertification shall ~~submit an application~~ ~~in duplicate~~ apply to the Division. Each application ~~will~~ shall be reviewed to determine ~~the adequacy of~~ if personnel, equipment, records, quality control ~~procedures~~ procedures, and methodology meet the requirements pursuant to 40 CFR 136.3 and these Rules. After receiving a completed application and prior to issuing certification, a representative of the Division ~~may visit~~ shall inspect each laboratory to verify the information in the application and ~~the adequacy of the laboratory.~~ if the laboratory meets requirements pursuant to these Rules.

(b) Analytical methods, sample preservation, sample ~~containers~~ containers, and sample holding times shall conform to the methodologies specified ~~in the Certification/Criteria Procedures Document. Deviations from these methods are acceptable only upon prior written approval from the state laboratory.~~ in:

(1) 40 CFR Part 136, hereby incorporated by reference and including subsequent amendments and editions. Copies of the Code of Federal Regulations, 40 CFR Part 136, may be obtained from the Superintendent of Documents, U.S. Government Printing Office (GPO), Superintendent of Public Documents, Washington, D.C. 20402 and free of charge on the Internet at http://www.ecfr.gov; and

(2) Rule .1111 of this Section.

(c) Pursuant to G.S. 143B-282, the Environmental Management Commission or designated delegate, ~~[The]~~ shall approve the State Laboratory to ~~[may]~~ develop Approved Procedures for Biological Procedures based upon the methods contained in 40 CFR Part 136 and Rule .1111 of this Section. ~~[The State Laboratory]~~ Approved Procedures for Biological Procedures document shall be available for inspection at the State Laboratory, 4401 Reedy Creek Road, Raleigh, North Carolina, 27607 or may be obtained free of charge on the State Laboratory Certification website at https://deq.nc.gov/about/divisions/water-resources/water-resources-data/water-sciences-home-page/aquatic-toxicology-branch.

(d) Pursuant to G.S. 143B-282, the Environmental Management Commission or designated delegate, ~~[The Director, or assigned delegate,]~~ may approve other analytical procedures, parameters, or parameter methods that have been demonstrated to produce verifiable and repeatable results. ~~[results and that have a widespread acceptance in the scientific community.~~

(e) In order to maintain certification, each laboratory ~~will~~ shall ~~demonstrate satisfactory performance on~~ ~~evaluation~~ meet the requirements of this Section for proficiency testing samples submitted ~~by~~ to the Division. ~~These will be [Demonstration of satisfactory performance]~~ Proficiency testing by certified laboratories shall be required no more than three times annually ~~of certified laboratories~~ for each ~~parameter~~ category certified.

(f) In order to receive and maintain ~~certification~~ certification, the following ~~minimum~~ criteria ~~must~~ shall be met:

(1) The supervisor of an aquatic toxicology or biological survey laboratory ~~must~~ shall have a ~~minimum of a B.S.~~ Bachelor's degree from an accredited college as defined in 34 CFR 602 or

university in a biological science or ~~closely related~~ [~~closely related~~] related science curriculum and ~~at least~~ three years of cumulative laboratory experience in aquatic toxicity testing or aquatic ~~biological survey,~~ population surveying, ~~as appropriate,~~ or a ~~M.S.~~ Master's degree in a biological or ~~closely related~~ [~~closely related~~] related science and ~~at least~~ one year of cumulative laboratory experience in aquatic toxicity testing or aquatic ~~biological survey,~~ population surveying. ~~surveying, as appropriate.~~

(2) All laboratory supervisors ~~are~~ shall be subject to review by the Division. One person ~~may~~ shall not serve as supervisor of ~~no~~ more than two laboratories. The supervisor ~~is to~~ shall provide direct supervision and evaluation of all technical personnel and ~~is~~ shall be responsible for the ~~proper~~ performance and reporting of all analyses. Upon absence, the supervisor shall arrange for a suitable substitute who meets the requirements of Subparagraph (f)(1) of this Rule ~~(1) of this Paragraph]~~ and is capable of insuring the ~~proper~~ performance as set forth by these Rules of all laboratory procedures. Existing laboratory supervisors who do not meet the minimum requirements ~~may~~ shall be accepted after review by the Division if they meet all other certification requirements and previous performance has met the requirements of these Rules. ~~is deemed adequate.~~

(3) All applications and fees ~~are~~ shall be due ~~45 days prior to the requested certification date.~~ pursuant to Rule .1104 of this Section. Upon the ~~[State]~~ Division establishing compliance with the requirements of this Section, certification shall be issued by the Director or Director's delegate within 45 days of receipt of the fees for certification. ~~Problems identified with the applying laboratory and resolution of these problems may extend the requested 45 day period from application to certification.~~

(4) Each laboratory shall develop and maintain a document outlining quality control procedures for testing of all ~~parameters~~ approved procedures in their certification and dissolved oxygen, temperature, conductivity, and pH. All aquatic toxicology laboratories ~~must~~ shall also develop and maintain a document outlining quality control procedures for testing of total hardness and total residual chlorine. These documents ~~are to~~ shall be included with submittal of the application.

(5) Each laboratory certified for the category of Aquatic Population Survey and Analysis shall develop and maintain a document outlining quality control procedures for taxonomic identifications and life-stage determinations.

(6) Supporting records shall be maintained for five years as evidence that these practices have met the requirements of these Rules and are being ~~effectively~~ carried out and shall be available to the ~~state laboratory~~ State Laboratory upon request.

(7) The quality control program ~~is to~~ shall be approved in conjunction with certification by the ~~Director.~~ Director or the Director's delegate.

History Note: *Authority G.S. 143-215.3(a)(1); 143-215.3(a)(4); 143-215.3(a)(10); 143-215.66;*

Eff. October 1, 1988;
Amended Eff. October 1, 1993;
Readopted Eff. July 1, 2019.

15A NCAC 02H .1111 is readopted with changes as published in 33:12 NCR 1294 as follows:

15A NCAC 02H .1111 ~~BIOLOGICAL LABORATORY CERT/CRITERIA PROCEDURES DOCUMENT~~
BIOLOGICAL LABORATORY CERTIFICATION AND QUALITY ASSURANCE

~~The Biological Laboratory Certification/Criteria Procedures Document describes specific scientific reporting units, forms, test methods and procedures pertaining to certification.~~

~~The manual, and any addition thereto, shall be approved by the director before it is released to the public. The manual shall be mailed to all certified biological laboratories and to any persons on the mailing list. To be placed on the mailing list, a letter must be sent to the director.~~

~~If the manual is revised at any time, all changes shall be sent to the certified biological laboratories and those persons on the mailing list.~~

(a) ~~[To be considered for certification and to maintain certification,~~] Aquatic Toxicology Laboratories shall have the following laboratory resources:

(1) 200 square feet of laboratory space;

(2) 20 linear feet of laboratory bench space;

(3) one drained sink with hot and cold running water;

(4) ~~[adequate]~~ control of culture environment including lighting, cooling, and heating to maintain ~~[appropriate]~~ organism ~~[requirements;]~~ as set forth in the approved procedures and these Rules;

(5) one refrigerator ~~[of adequate size which]~~ that will maintain sample temperatures between 0.0 degrees Celsius and 6.0 degrees Celsius;

(6) current copies of the approved ~~[methods and]~~ procedures for which the laboratory is requesting certification;

(7) glassware, chemicals, supplies, and equipment to perform any procedures included in the requested certification;

(8) instrumentation capable of measuring dissolved oxygen, pH, temperature, conductivity, and salinity (for saltwater tests) directly from test vessels of any procedure included in certification application. Equivalent surrogate vessels may be utilized for physical measurements if injury to test organisms may result;

(9) instrumentation or analytical capabilities to perform measurements of total residual chlorine to a level at least as low as 0.1 mg/l and total hardness to a level at least as low as 1 mg/l;

(10) a dissecting microscope and a compound microscope for those laboratories requesting or maintaining either of the categories of Acute Toxicity Testing/Invertebrate or Chronic Toxicity Testing/Invertebrate. The compound microscope shall have a minimum magnification of 400x and a maximum magnification of greater than or equal to 1,000x;

(11) a balance capable of ~~[accurately]~~ weighting 0.0001g and Class "S" or equivalent reference weights. A balance capable of ~~[accurately]~~ weighing fish larvae to 0.00001g for those laboratories

requesting or maintaining certification for the category Chronic Toxicity [~~Testing/Vertebrate.~~] Testing/Vertebrate;

(12) Cladocerans [~~need to~~] shall be cultured in-house. [~~in house.~~] All other organisms [~~can~~] may be purchased from a [~~supplier.~~] supplier;

(13) [~~appropriate~~] dilution water for use in whole effluent toxicity testing with chemical characteristics such that the pH is between 6.5 S.U. and 8.5 S.U. and total hardness as calcium carbonate is between 30 ppm and 50 ppm for surface water and 80 ppm and 100 ppm for synthetic lab water. If receiving waters have characteristics outside of these stated pH and hardness ranges, then alternate pH and hardness ranges shall be accepted upon demonstration to the State Laboratory that the alternate ranges are better suited to testing objectives, and that quality assurance standards have been met; and

(14) chain-of-custody documentation. [~~documentation forms.~~] ~~forms;~~

(b) [~~To be considered for certification and to maintain certification,~~] Aquatic Population Survey and Analysis Laboratories shall have the following laboratory resources:

(1) 150 square feet of laboratory space;

(2) [~~8~~] eight linear feet of laboratory bench space;

(3) binocular dissecting microscopes and compound microscopes suitable for survey type;

(4) vials, preservatives, and space to maintain representative sample collections for at least one year after collection;

(5) current taxonomic guides and reference materials to support identification;

(6) chain-of-custody documentation forms, laboratory records, and seals;

(7) sampling equipment to support collection of appropriate biological organisms; and

(8) settling tubes and one inverted microscope with a minimum magnification of 300x for those laboratories requesting or maintaining certification for [~~the parameter~~] algae.

(c) [~~To be considered for certification and to maintain certification,~~]All laboratories shall adhere to the following quality assurance requirements:

(1) instruments used in or associated with toxicity testing, including automatic sampling equipment, pH meter, dissolved oxygen meter, and conductivity meter, shall be calibrated each day before the instrument is used. Calibrations performed shall be recorded; [~~recorded; in a designated notebook;~~]

(2) a minimum of [~~5~~] five valid reference toxicant tests shall be performed and entered on a control chart for each toxicity test organism and toxicity test type for which a lab is certified. A maximum of 20 data points shall be entered on a control chart;

(3) a reference toxicant test shall be performed:

(A) every two weeks for each organism used in acute whole effluent toxicity testing; or such that North Carolina National Pollutant Discharge Elimination System (NPDES) acute

tests are performed within one week of an acute reference toxicant test for the organism in question. To maintain acute certification for an organism, acute reference toxicant tests shall be performed at least quarterly; and

(B) once per month for each organism used in chronic whole effluent toxicity testing; or such that North Carolina NPDES chronic tests are performed within two weeks of a chronic reference toxicant test for the organism in question. To maintain chronic certification for an organism, chronic reference toxicant tests shall be performed at least quarterly.

(4) a reference test shall be performed with each batch of organisms received from an outside supplier;

(5) the endpoint for chronic reference toxicant tests shall be the IC25 as determined by the linear interpolation method described in EPA-821-R-02-013 and EPA-821-R-02-014, herein incorporated by reference, including any subsequent amendments or editions. These methods are available free of charge at: [~~https://www.epa.gov/cwa-methods/whole-effluent-toxicity-methods~~] https://www.epa.gov/cwa-methods/whole-effluent-toxicity-methods;

(6) acceptable alternative culture media utilized to culture the algae Selenastrum capricornutum for use as Ceriodaphnia food are as follows:

(A) the Marine Biology Laboratory [~~MBL~~](MBL) medium as described in the Handbook of Phycological Methods Handbook of Phycological Methods: Culture Methods and Growth Measurements. 1973. J. Stein, ed. University Press, Cambridge, [~~MA~~] MA, available at a cost of sixty eight dollars and 85 cents ($68.85), herein incorporated by reference, including subsequent amendments and editions; and

(B) additional nutrients for the preparation of algae medium described in Section 13.6.15 of EPA-821-R-02-013 and Appendix A1, Section 3.10.3 of EPA-821-R-02-012. These methods are available free of charge at: https://www.epa.gov/cwa-methods/whole-effluent-toxicity-methods, herein incorporated by reference, including any subsequent amendments and editions. The volume of nutrient stock solutions found in Table 1 on Page 147 of EPA-821-R-02-013 or Page 133 of EPA-821-R-02-012 may be adjusted so that solutions 1.A, 1.D, and 2 are added at a rate of 2 ml/l, and solutions 1.B and 1.C are added at a rate of 6 [~~ml/l.~~] ml/l;

(7) a representative of each test organism cultured, including those obtained from an outside supplier, shall be taxonomically identified to the species level at least annually. Specimens shall be preserved and held for one additional year;

(8) when closed incubators are used for toxicity testing or test organism culturing purposes, culturing and testing activities shall not be contained within the same incubator;

(9) effluent samples collected for chronic Ceriodaphnia dubia tests shall be used within 36 hours of collection and not more than 72 hours after first use of the sample for test renewal. The beginning

of this period is defined as the time of the collection of a grab sample or the time of collection of the last subsample of a composite sample to the time that the organisms are introduced to the test solution; and

(10) a record shall be maintained for all samples entering the laboratory that documents the sample identity and includes the following information:

(A) the sample number;

(B) the sample temperature at receipt;

(C) the time and date of sample collection and receipt;

(D) the name of person from whom the ~~[which]~~ sample was received; and

(E) the name of person who received the sample.

(d) The following procedure modifications have been approved by the EPA and shall be followed by certified laboratories:

(1) acute and chronic toxicity tests shall be conducted at 25.0 degrees Celsius plus or minus 1.0 degree Celsius, except that chronic tests for Mysidopsis bahia shall be conducted at 26.0 degrees Celsius plus or minus 1.0 degree Celsius. Certified laboratories may request in writing variances from the State Laboratory for species which require alternate temperatures in accordance with EPA procedures;

(2) organisms used in acute toxicity tests shall have food made available for a minimum of two hours prior to initiation of testing;

(3) for cladoceran species, the feeding amount prior to the acute test shall be at least 0.05 ml of YCT and 0.05 ml of a solution of the algae Selenastrum capricornutum with a cell concentration of 1.71 X 10^7 cells/ ml per 15 ml of culture solution;

(4) for each sample used in a toxicity test, the following parameters shall be measured and recorded from an undiluted aliquot:

(A) pH;

(B) specific conductance; [~~and~~]

(C) total residual chlorine;

(D) dissolved oxygen; and

(E) salinity (for salt water test);

(5) for each sample used in a toxicity test, the following parameters shall be measured in the control and the highest toxicant concentration tested at the beginning of the test, prior to renewal, following each renewal, and at the termination of the test:

(A) temperature;

(B) dissolved oxygen; [~~and~~]

(C) pH; and

(D) salinity (for salt water test);

(6) Ceriodaphnia dubia used in toxicity tests shall meet the following requirements:

(A) be obtained from individual cultures;

(B) be obtained from third or subsequent broods of adults not being more than 14 days in age and containing eight or more neonates with an average adult mortality not exceeding 20 percent per culture board;

(C) chronic Ceriodaphnia dubia analyses shall have an additional test acceptability criterion of complete third brood neonate production by at least 80 percent of the surviving control organisms;

(D) Ceriodaphnia dubia neonate reproduction totals from chronic tests shall include only organisms produced in the first through third broods;

(E) the percentage of male Ceriodaphnia dubia control organisms shall not exceed 20 percent in chronic Ceriodaphnia dubia tests; and

(F) the Ceriodaphnia dubia control organism reproduction coefficient of variation (CV) shall be less than 40 percent for a chronic Ceriodaphnia dubia test;

(7) "Observed-effect" in a chronic Ceriodaphnia dubia test shall be defined as:

(A) statistical significant decrease in survival of the treatment organism as compared to the control organisms; or

(B) 20 percent or greater decrease in treatment organisms as compared to the control organism reproduction [~~which]~~ that is also determined to be statistically different from the control organism reproduction;

(8) acute tests shall be terminated within one hour of their stated length;

(9) the North Carolina Pass/Fail chronic tests and Phase II Ceriodaphnia dubia chronic tests shall meet the following requirements:

(A) follow a schedule where the test is started on day ~~[0]~~ zero, renewed on day ~~[2]~~ two and ~~[5]~~ five, and terminated no later than ~~[7]~~ seven days and ~~[2]~~ two hours after the initiation of the test;

(B) follow a schedule where each daily feeding shall consist of addition of 0.05 ml of yeast-Cerophyll® -trout chow (YCT) food and 0.05 ml of a solution of the algae Selenastrum capricornutum with a cell concentration of 1.71 X 10^{7} cells/ml per 15 ml of test solution; and

(C) the percent reduction for chronic Ceriodaphnia dubia analysis for each treatment shall be calculated by subtracting the mean number of neonates produced by the treatment organisms from the mean number of neonates produced by the control organisms, dividing that number by the mean number of neonates produced by the control organisms, and multiplying by 100 percent;

(10) the North Carolina Pass/Fail Ceriodaphnia dubia chronic test shall be performed as two treatments exposing 12 test organisms to each treatment. The first treatment shall be considered the control population and shall be exposed at 0 percent effluent and 100 percent dilution water;

(11) the North Carolina Pass/Fail acute test shall be performed as two treatments with the control population specified as Treatment 1, and the effluent treatment specified as Treatment 2. Each treatment shall be tested using four identical test vessels. Each treatment shall contain 10 test organisms, for a total of 80 test organisms; and

(12) there shall be no removal of chlorine or any other effluent constituent by either chemical or physical methods prior to testing.

History Note: *Authority G.S. 143-215.3(a)(1); 143-215.3(a)(10); 143-215.66;*
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