(C) pressure monitoring fittings at the zone inlet and outlet points;
(D) pressure regulating valve where needed;
(E) for two or more zones: solenoid valves for each zone in the headworks or at the field, with an isolation valve on the supply line side; and a check valve with an isolation valve for each zone between the return manifold and the common return line; and
(F) valves, vents, cleanouts, and pressure monitoring fittings shall be provided with protective vaults or boxes that are decay resistant, ultraviolet rated, and accessible to the Management Entity from the ground surface.

(f) An integrated controller shall be provided that meets the following conditions:
(1) enable each drip dispersal field or zone to be time-dosed at equal intervals throughout the day, at a projected average flow, and to accommodate the DDF. The controller shall allow for adjustable and variable dose volumes between or among zones;
(2) adjust pump dosing and resting cycles to comply with system design and the projected range of operating conditions;
(3) provide a minimum dose volume per zone that is a minimum of five times the liquid capacity of the drip laterals or so 80 percent of each dose is delivered when the minimum pressure in the field network is 10 psi;
(4) provide for automatic cleaning of headworks filter(s);
(5) provide for adjustable automatic forward flushing, or field flushing, of the drip laterals with filtered effluent, at designer and manufacturer-specified frequency and duration;
(6) provide for monitoring of pump cycles and run times;
(7) include telemetry, in accordance with Rule .1103(c) of this Subchapter, for systems with a DDF greater than 1,500 gpd or as required in conjunction with an advanced pretreatment system;
(8) for systems with a DDF greater than 3,000 gpd the controller shall monitor flow volume to each zone and provide a flow variance indication when flow is plus or minus 20 percent of design. The telemetry system and alarm shall be designed to be functional during power outages;
(9) for multi-zone systems, the system controller shall provide for a zone to be rested or taken out of service manually. The controller shall have the capability to bypass zones and dose the next available zone with the normal dosing sequence continuing; and
(10) controls and floats are to be configured to ensure the minimum dose is available prior to initiating a dosing cycle and to ensure that a full dose is delivered.

(g) Alternatives to the design criteria in this Rule may be proposed by the manufacturer during the PIA approval process or by a PE on a project-specific basis. These alternatives shall be reviewed and approved by the Department on a case-by-case basis when documentation is provided that the system will meet the performance standards of this Section.

History Note: *Authority G.S. 130A-343.*

15A NCAC 18E .1603 DRIP DISPERSAL SYSTEM TESTING

(a) The drip dispersal system field testing shall include system designer requirements and the following items:
(1) all leaks in the pipe network or from emitters exhibiting emission rates greater than 20 percent of the emitter design flow rate shall be repaired; and
(2) after the system is pressurized, dosing and flushing flow rates and pressures for each zone shall be measured and confirmed to be in accordance with the design parameters as follows:
(A) dosing pressure shall be measured at the lowest point in the supply manifold and highest point in the return manifold;
(B) minimum and maximum emitter pressure shall be verified to be within emitter design parameters;
(C) flushing pressures shall be measured at the ends of each supply and return manifold within each zone;
(D) dosing and flushing flow rates shall be measured with the flow meter after the system is pressurized; and
(E) all dosing and flushing flow rates and pressures shall be recorded.

(b) All components shall be demonstrated to be operable and in accordance with their design during the inspection by the LHD.

History Note: *Authority G.S. 130A-343.*

SECTION .1700 – APPROVAL AND PERMITTING OF WASTEWATER SYSTEMS, TECHNOLOGIES, COMPONENTS, OR DEVICES

15A NCAC 18E .1701 GENERAL

PIA Systems are any wastewater systems, system components, or devices as defined by G.S. 130-343(a) that are not described in other Sections of this Subchapter and systems for which any of the following are proposed:
(1) reduced setbacks;
(2) reduced depth to LC or vertical separation requirements; or
(3) increased LTAR.

This Section shall provide for the approval and permitting of PIA Systems.

History Note: *Authority G.S. 130A-335(e) and (f); 130A-343.*

15A NCAC 18E .1702 APPLICATION

(a) An application shall be submitted in writing to the Department for a PIA System. All applications shall include the information required by G.S. 130A-343(d), (f), (g), (g1), and (h), and the following, as applicable:

(1) identification of the type of PIA Approval requested:
  (A) Provisional;
  (B) Innovative;
  (C) Functionally Equivalent;
  (D) Accepted; or
  (E) a combination of any of the above;

(2) plans and specifications for the system, including the following:
  (A) description of the system;
  (B) materials used in construction;
  (C) proposed use of system;
  (D) system design criteria;
  (E) system design and drawings;
  (F) installation manual;
  (G) operation and maintenance manual, including a checklist for documentation of inspection and maintenance activities and the VIP;
  (H) influent and effluent sampling locations for advanced pretreatment systems while the system remains in operation;
  (I) method for automatically measuring and recording daily wastewater flow dispersed to the dispersal field for advanced pretreatment systems; and
  (J) start-up requirements and information;

(3) the following information:
  (A) product specific literature;
  (B) published research; and
  (C) previous experience and performance with the system;

(4) results of any available testing, research or monitoring of pilot systems or full-scale operational systems including:
  (A) identification of the third-party research or testing organization that conducted the testing, research, or monitoring provided;
  (B) documentation that the protocol or evaluation used in the testing, research, or monitoring is:
    (i) established by a nationally recognized certification body;
    (ii) a listed protocol that has been approved by the Department in accordance with G.S. 130A-343(d);
    (iii) a comparable evaluation protocol used for system approval in other states. The comparable evaluation protocol shall include information on relevant conditions such as wastewater system design, soil types, climate, and hydrology and be reviewed by the Department; or
    (iv) in accordance with an alternative performance evaluation protocol proposed by the manufacturer for approval;
  (C) documentation that the system is tested, certified, and listed by a nationally recognized certification body and complies with an ongoing verification program administered by that certification body, as applicable; and
  (D) documentation that the system can be sampled in compliance with 40 CFR 136 and that the method for system sampling monitors system compliance with effluent standards;

(5) verification that the product submitted for PIA Approval is the same as the certified, listed, or tested product, and if not, identification of any modifications made to the submitted product;

(6) notification of any proprietary or trade secret information, system, component, or device. All documents received are considered Public Records in accordance with G.S. 132-1, unless they meet the criteria for classification as a trade secret as defined in G.S. 66-152(3);

(7) draft written PIA Approval that includes criteria for site selection, installation requirements, operation and maintenance procedures including a VIP protocol with compliance criteria, system classification, frequency of system inspection and monitoring in accordance with Table XXXII of Rule .1301(b) of this Subchapter, and minimum certification or licensing requirements as set forth in applicable certification and licensing rules and statutes for designers, installers, and Management Entities; and

(8) fee payment as required by G.S. 130A-343(k), by corporate check, money order or cashier's check made payable to: North Carolina On-Site Water Protection System Account or North Carolina OSWW System Account, and mailed to the Department. Fees received are non-refundable.

(b) Innovative System applications shall include the information listed in Paragraph (a) of this Rule.

(c) Provisional System applications shall include the information listed in Paragraph (a) of this Rule and an evaluation protocol containing all information set forth in G.S. 130-343(f), including:

(1) identity and qualifications of the proposed third-party evaluator, including documentation of their third-party status;

(2) description of the evaluation protocol, including any proposed laboratory and field testing;
(3) number of systems to be installed;
(4) site selection criteria;
(5) system monitoring and reporting procedures, and proposed duration of evaluation; and
(6) any other information needed for the system to be able to achieve Innovative status upon completion of the Provisional System evaluation protocol.

(d) Functionally Equivalent Trench System Innovative applications shall include the information listed in Paragraph (a) of this Rule and documentation that the manufacturer has petitioned the Commission for Public Health in accordance with G.S. 130A-343(g1).

(e) Accepted System applications shall include the information listed in Paragraph (a) of this Rule and documentation that the manufacturer has petitioned the Commission for Public Health in accordance with G.S. 130A-343(h).

History Note: *Authority G.S. 130A-335(e) and (f); 130A-343.*

15A NCAC 18E .1703 DEPARTMENT AND COMMISSION APPLICATION REVIEW

(a) The Department shall review all applications submitted to determine if the information listed in Rule .1702 of this Section is included and determine whether additional information is needed to continue the review.

(b) Within 30 days of receipt of the initial application, the Department shall notify the manufacturer of any items necessary to complete the application or notify the manufacturer that the application is complete. This determination shall not constitute a qualitative review of the information provided, nor the approval or denial of the proposed system designation. Specified additional information shall be received within 180 days or the application file shall be closed.

(c) Upon receipt of a complete application, the Department shall conduct a qualitative review in accordance with PIA Approval criteria identified in Rules .1704, .1705, and .1706 of this Section, as applicable.

(d) For systems that are certified and listed by a nationally recognized certification body, the Department shall complete its review and determine whether to approve or deny Provisional System applications within 90 days of receipt of a complete application.

(e) The Department shall complete its review and determine whether to approve or deny Innovative System applications within 90 days of publication in the North Carolina Register of the notice of receipt of a complete application.

(f) The Department shall prepare and submit its findings and recommendations for a Functionally Equivalent Trench System or an Accepted System to the Commission within 120 days of receipt of a complete application.

(g) Upon request by the petitioner, the Commission may modify the 180-day time frame for receipt of additional information specified by the Department for a Functionally Equivalent Trench System or Accepted System petition based on a determination that a petition is incomplete and additional information is needed. The petitioner may also request Commission review of the Department's determination that a petition is incomplete or additional information request.

(h) The Department shall notify the applicant and LHDs of the approval or denial of a PIA System. The PIA Approval shall include conditions for permitting, siting, installation, use, monitoring, operation and maintenance, and number of systems that can be installed. When an application is denied, the Department shall inform the applicant in writing of the reason for denial. The Department shall assign a unique code to the approved products for tracking purposes.

(i) An applicant may reapply in accordance with this Section. When reapplying, a new application shall be required and the applicant shall make a new fee payment as required by G.S. 130A-343(k).

(j) Denials issued under this Rule shall include notice of the right to appeal under G.S. 130A-24 and 150B.

History Note: *Authority G.S. 130A-335(e) and (f); 130A-343.*

15A NCAC 18E .1704 APPROVAL CRITERIA FOR PROVISIONAL SYSTEMS

(a) A dispersal system shall be approved for use as a Provisional System when the following criteria have been met:
(1) documentation of one of the following is provided:
(A) a minimum of 50 installations that have been in use for a minimum of 12 months, with available information indicating comparable hydraulic performance and rate of malfunction to a conventional trench system;
(B) the system's design is functionally similar to another approved system described elsewhere in this Subchapter, or to a PIA System approved in accordance with this Section. The system's design and functional similarity shall be equal or superior to the approved comparable system for the following: material physical properties and chemical durability; field installed permeable sidewall area and bottom infiltrative area; method and manner of function for conveyance and application of effluent; structural integrity; and field installed storage volume;
(C) the system has been certified and listed by a nationally recognized certification body, as defined by G.S. 130A-343(a)(6), for a period that exceeds one year; or
(D) the system has complied with a comparable evaluation protocol used for system approval in other states. The comparable evaluation protocol shall include information on relevant conditions such as wastewater system design, soil and site conditions, climate, and hydrology and be reviewed by the Department;
(2) documentation of load testing is provided that demonstrates the structural integrity to be comparable to a conventional trench system, including subjecting the trench system to the following without collapsing, fracturing, or breaking when installed in a trench with the proposed product configuration and width:

(A) an axle load of 16,000 pounds when covered with 12 inches of compacted soil; and
(B) an axle load of 4,000 pounds when covered with six inches of compacted soil; and

(3) a proposed evaluation protocol to be overseen by a third-party evaluator is submitted to the Department for review. The evaluation protocol shall ensure that all information necessary to satisfy the criteria to achieve Innovative Approval, as specified in G.S. 130A-343(f) and Rule .1705 of this Section, is collected. The protocol shall include the following:
(A) a minimum of 100 installations operational and in use for a minimum of 12 months; and
(B) sufficient information collected to evaluate the system's hydraulic performance, structural integrity and rate of malfunction compared with a conventional trench system.

(b) Advanced pretreatment systems shall be approved for use as a Provisional System when the following criteria have been met:

(1) documentation of one of the following is provided for designs complying with TS-I, TS-II, or RCW effluent standards:
(A) a minimum of 50 complete third-party field verification data sets from a minimum of 15 sites that have been in use for six months, including all constituents necessary to verify compliance with the applicable effluent standard. Two to five data sets may be from the same site if collected a minimum of three months apart, with no data excluded from the field sampling sites. The data sets shall demonstrate compliance with TS-I, TS-II, or RCW effluent standards in accordance with Rule .1710 of this Section;
(B) the system's design is functionally similar to another approved system described elsewhere in this Subchapter, or to a Provisional or Innovative System approved in accordance with this Section. The system's design and functional similarity shall be equal or superior to the comparable system for all of the following: material physical properties and chemical durability; structural integrity; biological, chemical, or physical treatment processes; method and manner of function for conveyance and application of effluent through the system; and number and size of system compartments;
(C) the system has been certified and listed by a nationally recognized certification body, as defined by G.S. 130A-343(a)(6), for a period that exceeds one year; or
(D) the system has complied with a comparable evaluation protocol used for system approval in other states. The comparable evaluation protocol shall include information on relevant conditions such as wastewater system design, soil types, climate, and hydrology and be reviewed by the Department; and

(2) a proposed evaluation protocol to be overseen by a third-party evaluator is submitted to the Department for review. The evaluation protocol shall ensure that all information necessary to satisfy the criteria to achieve Innovative Approval, as specified in G.S. 130A-343(f) and Rule .1705 of this Section, is collected. The protocol shall include one of the following:
(A) for a system that has been certified and listed by a nationally recognized certification body, as defined by G.S. 130A-343(a)(6) for a period that exceeds two consecutive years, a minimum of 50 complete third-party field verification data sets from a minimum of 15 sites in operation for a minimum of six months, including all constituents necessary to verify compliance with the applicable effluent standard. Two to five data sets may be from the same site if collected a minimum of three months apart, with no data excluded from the field sampling sites. The data may be collected from systems in-state or out-of-state. The data sets shall show compliance with TS-I, TS-II, or RCW effluent standards in accordance with Rule .1710 of this Subchapter, as applicable; or
(B) a minimum of 150 complete third-party field verification data sets from a minimum of 50 sites in operation for a minimum of six months, including all constituents necessary to verify compliance with the applicable effluent standard. Two to five data sets may be from the same site if collected a minimum of three months apart, with no data excluded from the field sampling sites. The data may be collected from systems in-state or out-of-state. The data sets shall demonstrate compliance with TS-I, TS-II, or RCW effluent standards in accordance with Rule .1710 of this Section, as applicable.

(c) Manufacturers requesting Provisional Approval as both an advanced pretreatment and dispersal system shall meet the requirements for advanced pretreatment and dispersal as described in this Rule.

History Note: *Authority G.S. 130A-335(e) and (f); 130A-343.*

15A NCAC 18E .1705 APPROVAL CRITERIA FOR INNOVATIVE SYSTEMS

(a) A dispersal system shall be approved for use as an Innovative System when the following criteria have been met:

(1) the performance requirements for an Innovative System identified in G.S. 130A-343(a)(5) and (g) have been met;
(2) materials used in construction are equal or superior in physical properties, chemical durability, and structural integrity compared to materials used for similar proposed systems described in other Sections of this Subchapter;
(3) the system has been demonstrated to perform equal or superior to a system that is described in other Sections of this Subchapter or to an Innovative or Accepted System previously approved in accordance with this Section, based upon controlled pilot-scale research studies or statistically valid monitoring of full-scale operational systems;
(4) the system has met one of the following criteria:
(A) the system has completed an evaluation protocol as a Provisional System in accordance with Rule .1704 of this Section;

(B) the manufacturer has provided comparable third-party research and testing conducted in other states, with the data and findings of all evaluations of the system performance, that support the proposed use of the system. The comparable research shall include information on relevant conditions, such as wastewater system design, soil and site conditions, climate, and hydrology; or

(C) the system has been evaluated in accordance with G.S. 130A-343(g)(3); and

(5) the following documentation is provided:

(A) load testing that demonstrates the structural integrity to be comparable to a conventional trench system, including subjecting the trench system to an axle load of 16,000 pounds when covered with 12 inches of compacted soil and an axle load of 4,000 pounds when covered with six inches of compacted soil without collapsing, fracturing, or breaking;

(B) a minimum of 100 installations operational and in use for a minimum of one year. The 100 installations sites may include any combination of systems installed in conjunction with an approved Provisional System evaluation completed in North Carolina and systems in other states; and

(C) system hydraulic performance and rate of malfunction is equal or superior to the demonstrated performance of a conventional trench system.

(b) Advanced pretreatment systems complying with TS-I, TS-II, or RCW effluent standards shall be approved for use as an Innovative System when the following information is provided:

(1) information required in Subparagraphs (a)(1) through (a)(4) of this Rule; and

(2) documentation of one of the following:

(A) for a system that has been certified and listed by a nationally recognized certification body, as defined by G.S. 130A-343(a)(6) for a period that exceeds two consecutive years, a minimum of 50 complete third-party field verification data sets from a minimum of 15 sites in operation for a minimum of six months, including all constituents necessary to verify compliance with the applicable effluent standard. Two to five data sets may be from the same site if collected a minimum of three months apart, with no data excluded from the field sampling sites. The data may be collected from systems in-state or out-of-state. The data sets shall demonstrate compliance with TS-I, TS-II, or RCW effluent standards in accordance with Rule .1710 of this Section; or

(B) a minimum of 150 complete third-party field verification data sets from a minimum of 50 sites in operation for a minimum of six months, including all constituents necessary to verify compliance with the applicable effluent standard. Two to five data sets may be from the same site if collected a minimum of three months apart, with no data excluded from the field sampling sites. The 50 sites may include a combination of sites monitored in conjunction with an approved Provisional System evaluation completed in North Carolina and sites in other states. The data sets shall demonstrate compliance with TS-I, TS-II, or RCW effluent standards in accordance with Rule .1710 of this Section.

(c) Manufacturers requesting Innovative Approval as both an advanced pretreatment and dispersal system shall meet the requirements for advanced pretreatment and dispersal as described in this Rule.

History Note *Authority G.S. 130A-335(e) and (f); 130A-343.*

15A NCAC 18E .1706 APPROVAL CRITERIA FOR ACCEPTED SYSTEMS

(a) The Commission shall designate a wastewater dispersal system as an Accepted System when it finds based on the information provided in accordance with this Rule that the standards set forth by G.S. 130A-343(a)(1) and G.S. l30A-343(h) have been met.

(b) The following information shall be provided by the petitioner and reviewed by the Commission prior to granting Accepted System status:

(1) documentation of a minimum of 300 systems installed statewide and in use for more than five years as an approved Innovative System or a wastewater dispersal system identified in the rules of this Subchapter;

(2) data and findings of all prior evaluations of the system performance as provided by the manufacturer;

(3) results of prior performance surveys of the systems in use in North Carolina for at least the five-year period immediately preceding the petition, including any information available to the manufacturer pertinent to the accuracy and validity of performance surveys not completed under their control;

(4) review(s) of records on system use and performance reported by LHDs, authorized designers, installers, and Management Entities documenting the experiences with performance of the system in North Carolina, including information collected and reported in accordance with Rules .1711 and .1713 of this Section. The Department, in consultation with the manufacturer, shall evaluate the accuracy and validity of performance data and surveys considered for inclusion in the review. LHDs and other stakeholders shall be invited to participate in the discussion; and

(5) the results of a statistically valid survey of system performance in North Carolina in accordance with Paragraphs (d) or (g) of this Rule.

(c) The manufacturer shall propose a plan for the statistically valid survey for review and approval by the Department prior to the survey being performed. The Department shall approve a statistically valid survey plan when it meets the requirements of Paragraphs (d) or (g) of this Rule and includes the following information:

(1) number of systems to be evaluated;
(2) period of evaluation;
(3) method to randomly select systems to be evaluated;
(4) methods of field and data evaluation; and
(5) proposed survey team members, including proposed cooperative arrangements to be made with Department and LHD staff.

(d) The proposed survey shall meet one of the following survey protocols:
(1) a field survey of test and control systems that compares the failure rates between the systems. Statistical analysis of the survey results using a one-sided test shall document at the 95 percent confidence level that there is a five percent or less chance that a difference in failure rates of five percentage points or more would occur by chance. The field survey shall meet the following criteria:
(A) a minimum of 250 randomly selected test and control systems that have been in operation for at least two years and are currently in use, for a total of at least 500 systems that are surveyed;
(B) a minimum of 40 percent of both test and control systems shall have been in operation for at least five years;
(C) systems surveyed shall be distributed among the Soil Groups in the Coastal, Piedmont, and Mountain regions of the State in approximate proportion to their use across the State;
(D) systems shall be evaluated from February 1 through April 15; and
(E) similar numbers of test and control systems of similar ages shall be surveyed during similar time periods across the State; or
(2) a field survey of test systems only. The failure rate determined by the field survey shall not exceed seven percent at the 95 percent confidence level. The field survey for test systems only shall meet the following criteria:
(A) the system is identified in the rules of this Subchapter and the manufacturer provides documentation that there have been at least 3,000 operational systems installed in the state in more than one county. The systems shall have been installed over at least an eight-year period with a total reported failure rate statewide of less than two percent. The statewide failure rate is based on records provided by the manufacturer and monthly activity reports from the LHD;
(B) a minimum of 250 randomly selected systems that are currently in operation are surveyed; and
(C) the survey criteria in Subparagraph (d)(1) of this Rule are met.

(e) The Department shall facilitate LHD participation with any performance review or survey to identify sites and systems for evaluation based on the LHD's permit records.

(f) The Department shall utilize the Division of Public Health's State Center for Health Statistics for assistance in evaluating the statistical validity of the proposed evaluation protocols.

(g) Alternative survey protocols, which evaluate different numbers of test and control systems or test systems only, may be submitted by the petitioner to the Department for approval. The alternative survey protocol shall be approved by the Department when the survey protocol is designed to verify equal or superior performance of the test system when compared to the control system under actual field conditions in North Carolina and when the alternative survey protocol has comparable statistical validity as described in Subparagraph (d) of this Rule. The Department's review and approval of proposed alternative survey protocols shall be subject to review and concurrence by the Commission, which shall use the same approval criteria as the Department as set forth in in this Paragraph.

(h) The Commission shall impose any use, design, installation, operation, maintenance, monitoring, and management conditions in accordance with G.S. 130A-343 and the Rules of this Subchapter.

(i) If there is a conflict between approvals or between an approval and the Rules of this Subchapter, then an Accepted System approval shall take precedence, followed by an Innovative System Approval, and then the Rules of this Subchapter.

History Note: *Authority G.S. 130A-335(e) and (f); 130A-343; S.L. 2014-120, s.47; S.L. 2019-151, s.13.*

15A NCAC 18E .1707 DESIGN AND INSTALLATION CRITERIA FOR PROVISIONAL, INNOVATIVE, AND ACCEPTED APPROVALS

All products approved under this Section shall be designed and installed in accordance with the requirements of the PIA Approval.

History Note: *Authority G.S. 130A-335(e) and (f); 130A-343.*

15A NCAC 18E .1708 MODIFICATION, SUSPENSION, AND REVOCATION OF APPROVALS

(a) The Department may modify the PIA Approval of a system as provided for in G.S. 130A-343(c) and as follows:
(1) to comply with subsequent changes in laws or rules which affect their approval;
(2) based upon a written application from the manufacturer of an approved Provisional or Innovative System that seeks to modify their system or its conditions of approval, including siting or sizing criteria. If the manufacturer demonstrates that the modified system will perform in a manner equal or superior to the approved system in terms of structural integrity, chemical durability, hydraulic performance, and wastewater treatment, the Department shall approve the modified system with the same status as the previously approved system; or
(3) based upon a written application from the manufacturer of an approved Accepted System that seeks to modify their system or its conditions of approval, including siting or sizing criteria. The manufacturer shall demonstrate that the

modified system will perform in a manner equal or superior to the approved system in terms of structural integrity, chemical durability, hydraulic performance, and wastewater treatment. The Commission shall approve proposed modifications to Accepted Systems when it finds based on the information provided in accordance with this Rule that the standards set forth by G.S. 130A-343(a)(1) and G.S. 130A-343(h) have been met.

(b) The Department shall suspend or revoke the PIA Approval of a system as provided for in G.S. 130A-343(c) and as follows:

(1) the advanced pretreatment system fails to comply with the compliance criteria in Rule .1710 of this Section;
(2) the modified system fails to perform in a manner equal or superior to the previously approved PIA System;
(3) the system fails to comply with the conditions of its PIA Approval or comply with applicable laws and rules; or
(4) the manufacturer loses their approval or discontinues their listing by any nationally recognized certification body, if applicable. The manufacturer shall notify the Department in writing within 30 days of any changes in their approval status with a nationally recognized certification body.

(c) The Commission shall modify, suspend, or revoke its approval of a modified Accepted System if the modified system or component fails to perform in a manner equal or superior to the previously approved system. The Department shall notify the Commission of any action required for Commission approval of any modifications to the status of an Accepted System.

(d) Modification, suspension, or revocation of a PIA Approval shall not affect systems previously installed in accordance with the approval.

(e) All modifications, suspensions, and revocations of approvals shall include notice of the right to appeal under G.S. 130A-24 and 150B.

History Note: *Authority G.S. 130A-335(e) and (f); 130A-343; S.L. 2014-120, s.47.*

15A NCAC 18E .1709 WASTEWATER SAMPLING REQUIREMENTS FOR ADVANCED PRETREATMENT SYSTEMS

(a) Wastewater sampling requirements shall vary in accordance with wastewater system classification, designated effluent standard, DDF, and performance history.

(1) Provisional Systems shall be grab or composite sampled quarterly for all applicable influent and effluent constituents listed in Table XXV of Rule .1201(a) of this Subchapter until the system receives Innovative Approval.
(2) When the DDF is less than or equal to 1,500 gpd, Innovative Systems shall be grab or composite sampled annually for all applicable influent and effluent constituents from Table XXV of Rule .1201(a) of this Subchapter.
(3) When the DDF is greater than 1,500 gpd and less than or equal to 3,000 gpd, Innovative Systems shall be grab or composite sampled twice a year for all applicable influent and effluent constituents listed in Table XXV of Rule .1201(a) of this Subchapter.
(4) Sampling for Fecal Coliforms shall not be required for Innovative Systems at any site that is found to be compliant with all other constituents in Table XXV of Rule .1201(a) of this Subchapter.
(5) Innovative Systems serving vacation rentals subject to the North Carolina Vacation Rental Act, G.S. 42A, shall be sampled during the seasonal high use period.
(6) Effluent may be re-sampled within 30 days of receipt of laboratory results indicating non-compliance with Table XXV of Rule .1201(a) of this Subchapter if requested by the owner, manufacturer, or manufacturer's representative, or required in a PIA Approval. Complete data sets from resampling may be substituted to comply with the minimum number of compliant data sets required for PIA Approval. Data sets from resampling may be used by a manufacturer as part of a reduced effluent sampling request in accordance with Paragraph (d) of this Rule.
(7) The Management Entity may record daily wastewater flow and sample influent to the advanced pretreatment system as needed to determine compliance with Rule .1302(f) of this Subchapter.
(8) A manufacturer of a Provisional or Innovative System may apply for adjusted sampling requirements in accordance with this Rule.

(b) The manufacturer of a Provisional System may apply to the Department in accordance with Rule .1701 of this Section to request adjusted effluent sampling requirements for Fecal Coliforms. The Department shall approve the request when the documentation submitted to the Department includes the following information:

(1) data from a minimum of five separate North Carolina sites in operation for a minimum of six months after the Provisional Approval has been issued;
(2) a minimum of 25 data sets, including results for Fecal Coliforms. No data sets shall be excluded. Data sets may be from the same site if collected a minimum of three months apart; and
(3) analysis indicating compliant system performance in accordance with Rule .1710 of this Section.

(c) If an effluent sample for a Provisional or Innovative System that is not required to sample for Fecal Coliforms is determined to be non-compliant with Table XXV of Rule .1201(a) of this Subchapter, the effluent may be re-sampled in accordance with Rule .1302(f)(2) of this Subchapter. If re-sampled, the effluent shall also be sampled for Fecal Coliforms in addition to all other applicable constituents. If re-sampling indicates compliance with Table XXV of Rule .1201(a) of this Subchapter, no further Fecal Coliform sampling is required from that site, unless an effluent sample is again determined to be non-compliant for one or more constituents.

(d) The manufacturer of an Innovative System may apply to the Department in accordance with Rule .1701 of this Section to request an adjustment in sampling requirements for constituents or frequency, including reducing to field parameters only. The Department shall approve the request when one of the following conditions are met:

(1) documentation submitted to the Department includes the following information:

(A) data from a minimum of 25 separate North Carolina sites in operation for a minimum of six months after the Innovative Approval has been issued;
(B) written reports summarizing results of the VIP inspections for all North Carolina sites submitted as part of this Rule;
(C) a minimum of 50 complete data sets, with no data excluded. Data sets may be from the same site if collected a minimum of three months apart;
(D) analysis indicating compliant system performance in accordance with Rule .1710 of this Section; and
(E) identification of the constituents for which the manufacturer requests a reduced sampling frequency;

(2) the proprietary advanced pretreatment system is also certified and listed by a nationally recognized certification body and is in compliance with the ongoing verification program of such body, and the manufacturer is requesting a reduction in data set requirements set forth in Rule .1705 of this Section by up to 50 percent only; or

(3) the manufacturer has demonstrated compliant system performance in accordance with Rule .1710 of this Section and is only requesting to replace the requirement for routine effluent sampling as set forth in Rule .1705 of this Section for all individual sites with routine field constituent testing that is included as part of the VIP.

(e) Systems approved for field parameters shall only be required to sample the field parameters listed in Table XXXIII at the site during a VIP Management Entity inspection. The PIA Approval may specify other field parameters or alternative field parameter effluent criteria. The results shall be recorded in the written report. If the field parameters fall outside the range specified in the PIA Approval, an effluent sample shall be collected and analyzed for all parameters as necessary to demonstrate system compliance with the site's applicable effluent standard specified in Table XXV of Rule .1201(a) of this Subchapter.

TABLE XXXIII. Field parameters advanced pretreatment systems

Field Parameter	Effluent Criteria
pH	5 - 9
Turbidity	≤ 10
DO	≥ 2

(f) While routine sampling of individual sites may no longer be required in accordance with Paragraph (d) of this Rule, effluent sampling may still be determined to be necessary during the visual inspection of the system in accordance with Rule .1302(d) of this Subchapter or if required as part of an enforcement action by the LHD or the Department.
(g) Alternative sampling requirements may be proposed by the manufacturer for a Provisional or Innovative System and approved by the Department when determined to provide an equal or more reliable indication of system compliance with effluent standards.

History Note: *Authority G.S. 130A-335(e) and (f); 130A-343.*

15A NCAC 18E .1710 COMPLIANCE CRITERIA FOR ADVANCED PRETREATMENT SYSTEMS

An approved system shall be considered in compliance with the effluent standards of Rule .1002 or Table XXV of Rule .1201(a) of this Subchapter when all the following conditions are met:

(1) the arithmetic mean for BOD_5, TSS, TKN, and TN and the geometric mean for Fecal Coliform for all data collected from all sites does not exceed the designated effluent standard;

(2) no more than 20 percent of all data from all sites shall exceed the designated effluent standard for any applicable constituent. A new complete data set for re-sampling conducted within 30 days of receipt of a non-compliant data set may be substituted to demonstrate compliance with the designed effluent quality standard in accordance with Table XXV of Rule .1201(a) of this Subchapter;

(3) fifty percent of all complete data sets from all sites shall comply with the designated effluent standard for all applicable constituents;

(4) when determining compliance with system effluent standards in Items (1), (2), and (3) of this Rule, no data sets shall be excluded from individual advanced pretreatment systems except at single sites found to be out of compliance in accordance with Rule .1302(f) of this Subchapter and that have been documented to have been subjected to abuse, such as hydraulic or organic overloading, physical damage to the system, or discharge of deleterious substances; and

(5) results of influent samples from all sites shall be provided to demonstrate compliance with percent reduction effluent criteria in accordance with Table XXV in Rule .1201(a) of this Subchapter.

History Note: *Authority G.S. 130A-335(e) and (f); 130A-343.*

15A NCAC 18E .1711 PROVISIONAL AND INNOVATIVE APPROVAL RENEWAL

(a) All PIA Approvals shall expire on December 31 of each year. PIA manufacturers or other parties who wish to continue product approval shall submit annually a product renewal form provided by the Department no later than November 30 of each year.
(b) The renewal form shall include the following updated elements:

(1) company or organization's name, mailing address, phone and fax numbers, email address, and manufacturer's point of contact;

(2) model number(s) approved; and
(3) a notarized statement that the product(s) has not changed from the previous year without prior approval from the Department.

(c) The Department shall notify the manufacturer of the pending PIA Approval expiration in writing no later than September 30 of each year. The notification shall include information on how to request PIA Approval renewal.

(d) Manufacturers of proprietary products with Provisional Approvals shall additionally submit with its renewal form an annual report to the Department with the following information:

(1) list of all systems installed under the Provisional Approval;
(2) results of all effluent samples collected, as applicable;
(3) copies of all Management Entity inspection reports, as applicable;
(4) assessment of system performance in relation to this Subchapter;
(5) summary of progress made to complete installations, research, and testing as outlined in the approved evaluation protocol;
(6) any conditions and limitations related to the use of the system; and
(7) a list of all authorized designers, installers, and management entities.

(e) Manufacturers of products that are approved as an RCW system shall submit with the product renewal form an annual report to the Department with the following information for RCW systems:

(1) list of all systems installed under the PIA Approval;
(2) results of all effluent samples collected; and
(3) documentation that the effluent samples meet the compliance criteria in Rule .1710 of this Section.

(f) A PIA Approval shall be deemed to be renewed upon receipt of a renewal form that contains all of the elements set out in Paragraph (b) of this Rule and annual report in accordance with Paragraph (d) of this Rule.

(g) The Department shall review all annual reports for Provisional Approvals for compliance with its PIA approval conditions, including its approved evaluation protocol, and determine whether any action to modify, suspend, or revoke the approval is warranted in accordance with Rule .1708 of this Section.

(h) The Department shall review all annual reports for manufacturers approved as an RCW system and determine whether the RCW effluent samples meet the compliance criteria in Rule .1710 of this Section. If the compliance criteria are not met the Department may modify, suspend, or revoke the approval in accordance with Rule .1708 of this Section.

History Note: *Authority G.S. 130A-335(e) and (f); 130A-343.*

15A NCAC 18E .1712 AUTHORIZED DESIGNERS, INSTALLERS, AND MANAGEMENT ENTITIES

(a) Designers, installers, and Management Entities shall be authorized in writing by the manufacturer when required in the PIA Approval based on product specific factors, such as wastewater system classification, designated effluent standard, DDF, wastewater strength, complexity, and operation and maintenance.

(b) Manufacturers of proprietary systems approved under this Section shall provide a list of manufacturer's authorized designers, installers, and Management Entities, as specified in the PIA Approval, to the Department and LHDs. The manufacturers shall update this list annually and include it with the product renewal form required in accordance with Rule .1711(a) of this Section.

History Note: *Authority G.S. 130A-335(e) and (f); 130A-343.*

15A NCAC 18E .1713 LOCAL HEALTH DEPARTMENT RESPONSIBILITIES[23]

To implement this Section the LHD shall:

(1) When a Provisional System is proposed, confirm that the designated repair system complies with the provisions of Rule .0508 of this Subchapter and with individual PIA Approval requirements, except:
  (a) when an existing wastewater system is available for immediate use, including connection to a public or community wastewater system;
  (b) when the Provisional System is used as a repair to an existing malfunctioning system when there are no other approved Innovative or Accepted repair options; or
  (c) as provided in G.S. 130A-343(f) for Provisional Systems.
(2) Notify the Department of all IPs, CAs, and OPs issued for Provisional Systems.
(3) Notify the Department of all OPs issued for Innovative Systems.
(4) Permit systems designated as Accepted ~~Systems~~ Systems, without requiring a request from the owner, in an equivalent manner to a conventional system. ~~system at the owner's request.~~ The Accepted System shall be sited and sized in accordance with Section .0900 of this Subchapter or PIA Approval. The type of Accepted System installed shall be indicated on the OP. The owner shall re-apply to the LHD and receive a new or revised IP or CA for any of the following before system installation:
  (a) location of any part of the dispersal field outside of the approved initial dispersal field area;
  (b) changes to the trench depth, and slope correction if applicable, specified on the IP or CA;

[23] Changed by S.L. 2023-77, Section 21

(c) changes to the effluent distribution method; or
(d) changes to the DDF or wastewater strength.

(5) Grant permit reductions in total trench length less than or equal to 25 percent for Innovative or Accepted Systems only to dispersal fields receiving DSE or better quality. A facility with a full kitchen shall not be granted a permit reduction in total trench length.

(6) Grant facilities generating HSE the 25 percent reduction allowed for Innovative or Accepted Systems if the system includes an approved advanced pretreatment system designed to ensure effluent strength equal to or better than DSE.

(7) Prohibit issuance of an OP for a proprietary system installed by a person not authorized by the manufacturer, unless the manufacturer of the proprietary system approves the installation in writing.

(8) Inform the Department, as well as the manufacturer or their authorized representative, of any system determined to be malfunctioning. If the system has been permitted in accordance with G.S. 130A-336.1 or G.S. 130A-336.2 and Rule .0207 of this Subchapter, the LHD shall instruct the owner to contact the PE or AOWE for determination of the reason and the malfunction and development of an NOI for repairs.

(9) Issue a NOV to the owner when the system is determined to be malfunctioning in accordance with Rule .1303(a)(1) and (2) of this Subchapter or when an individual advanced pretreatment system at a single site is out of compliance in accordance with Rule .1302(f) of this Subchapter. The notice shall identify the violations and steps necessary to remedy the problems, including modification of the system, established time frame to achieve compliance, other follow-up requirements, and specify further enforcement possibilities if compliance is not achieved.

(10) Include in its monthly activity report submitted to the Department the following information identified by unique codes:
(a) number of new system OPs issued for PIA Systems;
(b) number of new system OPs issued for Accepted Systems;
(c) number of CAs issued for Provisional Systems, including system type;
(d) number of CAs issued for repairs of PIA Systems, including system type being repaired;
(e) number of CAs issued for repairs of Accepted Systems, including system type being repaired; and
(f) repair system type.

History Note: *Authority G.S. 130A-335(e) and (f);* ~~*130A-343.*~~ *130A-343; S.L. 2023-77, s.21.*