(7) specifications for application, installation, operation, and maintenance for both new and retrofit applications for single and multiple riser sections.

(e) Effluent filter plans and specifications submitted to the Department for review and approval shall show the design of the effluent filter and include the following information:

(1) manufacturer's name, address, phone and fax numbers, and contact name;
(2) documentation and a written statement from the manufacturer that the effluent filter is designed, constructed, and performs in compliance with G.S. 130A-335.1(a);
(3) capacity and wastewater strength for all models of proposed filters to be approved; and
(4) specifications for application, installation, operation, and maintenance.

(f) Pipe penetration boot plans and specifications submitted to the Department for review and approval shall show the design of the pipe penetration boot and include the following information:

(1) manufacturer's name, address, phone and fax numbers, and contact name;
(2) design specifications and materials used in the manufacture of pipe penetration boot components;
(3) applicable testing results from third-party verification showing pull and flexibility testing;
(4) documentation of a watertight seal around the piping and any component or device needed to ensure the seal, such as non-corrodible adjustable bands;
(5) documentation that the pipe penetration boot meets the requirements of ASTM C1644 for precast concrete tanks or ASTM C1644, C923, or C564 for thermoplastic or glass-fiber-reinforced polyester tanks; and
(6) specifications for application, installation, operation, and maintenance of the pipe penetration boot.

(g) Plans for prefabricated risers, effluent filters, and pipe penetration boots, other than those approved for general use and issued an approval letter under this Rule, shall be considered for approval on a case-by-case basis. The riser, effluent filter, or pipe penetration boot shall be approved if it is determined that it meets the requirements of this Rule based on information provided by the manufacturer to the Department.

History Note: *Authority G.S. 130A-335(e), (f), and (f1); 130A-335.1.*

15A NCAC 18E .1405 RISERS, EFFLUENT FILTERS, AND PIPE PENETRATION BOOTS APPROVAL RENEWAL

(a) All riser, effluent filter, and pipe penetration boot approvals shall expire on December 31 of each year. Riser, effluent filter, and pipe penetration boot manufacturers who wish to continue product approval shall submit annually a proprietary product renewal form provided by the Department no later than November 30 of each year.

(b) The approval renewal form shall include the following elements:

(1) manufacturer'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 has not changed from the previous year without prior approval from the Department.

(c) The Department shall notify the manufacturer of the pending riser, effluent filter, and pipe penetration boot Approval expiration in writing no later than September 30 of each year. The notification shall include information on how to request riser, effluent filter, and pipe penetration boot renewal.

(d) The riser, effluent filter, and pipe penetration boot approval shall be deemed renewed upon receipt of a renewal form that contains all of the elements set out in Paragraph (b) of this Rule.

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

15A NCAC 18E .1406 MODIFICATION, SUSPENSION, AND REVOCATION OF APPROVALS

The Department shall modify, suspend, or revoke the approval for tanks, risers, effluent filters, or pipe penetration boots upon a finding that:

(1) the approval is determined to be based on false, incomplete, or misleading information;
(2) the product has been altered;
(3) the product fails to perform in compliance with performance standards established for the product in accordance with the rules of this Section; or
(4) the product fails to meet conditions of its approval or comply with G.S. 130A, Article 11, Rule .1405 of this Section, this Subchapter, or conditions of the approval.

History Note: *Authority G.S. 130A-335(e), (f), and (f1).*

SECTION .1500 – APPROVAL AND USE OF RESIDENTIAL WASTEWATER TREATMENT SYSTEMS

15A NCAC 18E .1501 GENERAL

(a) RWTS that comply with NSF International Standard 40 for Class I residential wastewater treatment systems shall be designed, constructed, and installed in accordance with this Section to serve facilities with a DDF less than or equal to 1,500 gpd.

(b) RWTS shall only be used with DSE.

(c) RWTS shall bear one of the following to certify that the product is in accordance with NSF/ANSI Standard 40:
    (1) the NSF mark and the NSF listed model number; or
    (2) the certification mark and listed model number of a third-party certification program accredited by ANSI to certify RWTS in accordance with NSF/ANSI Standard 40.
(d) For approval of an RWTS as a PIA System, a manufacturer shall apply in accordance with Section .1700 of this Subchapter.

History Note: *Authority G.S. 130A-342.*

15A NCAC 18E .1502 APPLICATION
An application shall be submitted for RWTS approval in writing to the Department and shall include the following:
    (1) manufacturer's name, mailing address, phone number, email address, plant location(s), and contact information for distributors;
    (2) verification of NSF/ANSI Standard 40 Class I system approval and listing by NSF International or other ANSI-accredited third-party certification program;
    (3) manufacturer's identifying name or logo, listed model number(s) and treatment capacity in gpd to be imprinted on unit;
    (4) three copies of plans and specifications, including information required to evaluate any tanks as required in accordance with Rule .1401 of this Subchapter; and
    (5) fee payment as required by G.S. 130A-343(k)(6), by corporate check, money order or cashier's check made payable to: North Carolina On-Site Water Protection Account or North Carolina OSWW System Account, and mailed to the Department.

History Note: *Authority G.S. 130A-342.*

15A NCAC 18E .1503 DESIGN AND CONSTRUCTION STANDARDS
RWTS shall meet the following design and construction standards:
    (1) No blockouts or openings shall be permitted below the liquid level of the RWTS.
    (2) RWTS shall be watertight, corrosion resistant structures, with all components requiring maintenance accessible to the Management Entity. Access openings shall be provided in the RWTS top. Access shall be provided for:
        (a) cleaning or rodding out the inlet pipe;
        (b) cleaning or clearing the air or gas passage space above any partition;
        (c) pumping of each compartment required to be pumped;
        (d) sampling the effluent; and
        (e) repairing and maintaining any system components.
    (3) Tanks used in RWTS designed to hold sewage or effluent shall comply with all tank requirements in accordance with Section .1400 of this Subchapter.
    (4) RWTS shall bear an imprint identifying the manufacturer, the RWTS serial number assigned to the manufacturer's model approved by the Department, and the liquid or working capacity of the unit. The imprint shall be located on the outlet end of the tank within 24 inches of the top of the tank.
    (5) The design, construction, and operation of RWTS shall prevent bypass of wastewater.
    (6) The manufacturer shall ensure that the system can be sampled in compliance with 40 CFR 136 and shall specify the recommended method for effluent sampling.
    (7) Control panels provided by the manufacturer shall comply with the requirements for control panels in accordance with Rule .1103 of this Subchapter.
    (8) The RWTS shall have an alarm device or devices to warn the user or Management Entity of a unit malfunction or a high-water condition in accordance with Rule .1103 of this Subchapter.
    (9) The control panel shall include a method to automatically measure and record daily wastewater flow dispersed to the dispersal field in accordance with Rule .1702(a)(2)(I) of this Subchapter.
    (10) The blower location shall be shown on the plans and detail proposed corrosion-resistant blower enclosures, if applicable.
    (11) A settling tank shall be required prior to or as an integral part of the design of the RWTS. The liquid capacity of the settling tank shall be a minimum of half of the DDF of the RWTS, or as otherwise specified by the manufacturer, whichever is larger. The settling tank may either be an integral chamber of the RWTS tank, a septic tank approved in accordance with Section .1400 of this Subchapter, or another tank designed for an individual system and approved by the Department as a part of the plans for the RWTS.

History Note: *Authority G.S. 130A-342.*

15A NCAC 18E .1504 SAMPLING REQUIREMENTS FOR RESIDENTIAL WASTEWATER TREATMENT SYSTEMS

Effluent from an approved RWTS shall be grab or 24-hour composite sampled annually for all effluent standards listed in Table XXV of Rule .1201(a) of this Subchapter for NSF/ANSI 40 systems, unless adjusted sampling requirements have been requested and granted in accordance with Rules .1301 and .1709 of this Subchapter.

History Note: *Authority G.S. 130A-342.*

15A NCAC 18E .1505 RESIDENTIAL WASTEWATER TREATMENT SYSTEM APPROVAL RENEWAL

(a) All RWTS Approvals shall expire on December 31 of each year. RWTS manufacturers who wish to continue product approval shall submit annually a proprietary 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) manufacturers' name, mailing address, phone and fax numbers, email address, and manufacturer's point of contact;
(2) model number(s) approved;
(3) a notarized statement that the product has not changed from the previous year without prior approval from the Department; and
(4) verification of the manufacturer's continued certification and listing by a nationally recognized certification body, including compliance with NSF/ANSI Standard 40.

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

(d) The RWTS approval shall be deemed renewed upon receipt of a renewal form that contains all of the elements set out in Paragraph (b) of this Rule.

(e) The Department shall suspend or revoke a system approval upon a finding that the system fails to perform in compliance with established effluent standards in Table XXV of Rule .1201(a) of this Subchapter or as provided for in Rule .1708(b) of this Subchapter.

History Note: *Authority G.S. 130A-342.*

SECTION .1600 – APPROVAL OF PRE-ENGINEERED PACKAGE DRIP DISPERSAL SYSTEMS

15A NCAC 18E .1601 GENERAL

(a) Drip dispersal systems for DDF less than or equal to 3,000 gpd shall be configured as a package and approved as a PIA System in accordance with Section .1700 of this Subchapter.

(b) The integrated system package shall be provided from a single source manufacturer or system integrator, comprised of catalogued standardized design components that have been coordinated and tested by the manufacturer or integrator. Components shall include:

(1) dispersal field pump(s) and floats;
(2) headworks assemblies;
(3) dispersal field piping network, drip tubing, and appurtenances; and
(4) system controls that provide for automatic filter cleaning, timed field dosing, field flushing, alarm notification, and recording of system operation.

(c) All components shall be integrated and designed to operate together. The system manufacturer or integrator shall provide system design information including:

(1) head loss charts, tables, or formulas for various drip tubing lateral lengths during a dosing and flushing cycle;
(2) minimum and maximum zone size and design;
(3) design plans and specifications for all components;
(4) installation specifications; and
(5) operation and maintenance manuals.

(d) The system manufacturer shall provide support to train and authorize designers, installers, Management Entities, regulators, and users.

(e) Drip dispersal system performance, siting, sizing, installation, operation, monitoring, maintenance and reporting requirements shall comply with Rules .0908, .1204, and Section .1300 of this Subchapter, as applicable, and the rules of this Section.

(f) Drip dispersal systems that are not pre-engineered packages approved in accordance with Section .1700 of this Subchapter shall be designed on a project specific basis by a PE and shall comply with Rules .0908, .1204, and Section .1300 of this Subchapter, as applicable, and the rules of this Section.

(g) Drip dispersal systems for DDF greater than 3,000 gpd shall comply with the design and performance requirements of this Section and shall be designed on a project specific basis by a PE. The system design shall be reviewed and approved by the Department in accordance with Rule .0302 of this Subchapter, unless the system is permitted in accordance with Rule .0207 of this Subchapter.

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

15A NCAC 18E .1602 DESIGN AND CONSTRUCTION STANDARDS

(a) Drip dispersal systems shall be preceded by pretreatment designed to comply with one of the following effluent standards: DSE, NSF/ANSI 40, TS-I, TS-II, or RCW as specified in Table III of Rule .0402(a), Table XXV of Rule .1201(a), or Rule .1002, of this Subchapter, as applicable.