

SUBCHAPTER 02N – CRITERIA AND STANDARDS APPLICABLE TO UNDERGROUND STORAGE TANKS

SECTION .0100 - GENERAL CONSIDERATIONS

15A NCAC 02N .0101 GENERAL

- (a) The purpose of this Subchapter is to establish the technical standards and corrective action requirements for owners and operators of underground storage tanks.
- (b) The UST Section of the Division of Waste Management shall administer the underground storage tank program for the State of North Carolina.

History Note: Authority G.S. 143-215.3(a)(15); 143B-282(a)(2)(h);
Eff. January 1, 1991;
Amended Eff. June 1, 2017;
Pursuant to G.S. 150B-21.3A, rule is necessary without substantive public interest Eff. March 6, 2018.

15A NCAC 02N .0102 COPIES OF REFERENCED FEDERAL REGULATIONS

Copies of the Code of Federal Regulations, Sections 40 CFR 280.10-280.252 and Appendices Part 280 (80 FR 41624 – 41625, October 13, 2015) for this Subchapter, may be obtained at www.ecfr.gov/cgi-bin/ECFR?page=browse at no cost.

History Note: Authority G.S. 143-215.3(a)(15); 143B-282(a)(2)(h);
Eff. January 1, 1991;
Amended Eff. June 1, 2017;
Pursuant to G.S. 150B-21.3A, rule is necessary without substantive public interest Eff. March 6, 2018.

15A NCAC 02N .0104 IDENTIFICATION OF TANKS

- (a) Owners and operators shall maintain at each underground storage tank location a current diagram that indicates, for each underground storage tank:
- (1) location with respect to property boundaries and any permanent on-site structures;
 - (2) total storage capacity, in gallons;
 - (3) the exact type of petroleum product (such as unleaded gasoline, No. 2 fuel oil, diesel) or hazardous substance stored; and
 - (4) the year the tank was installed.
- (b) The diagram shall be made available for inspection to authorized representatives of the Division.

History Note: Authority G.S. 143-215.3(a)(15); 143B-282(a)(2)(h);
Eff. January 1, 1991;
Amended Eff. June 1, 2017;
Pursuant to G.S. 150B-21.3A, rule is necessary without substantive public interest Eff. March 6, 2018.

SECTION .0200 - PROGRAM SCOPE AND INTERIM PROHIBITION

15A NCAC 02N .0201 APPLICABILITY

The regulations governing "Applicability" set forth in 40 CFR 280.10 are hereby incorporated by reference, excluding any subsequent amendments and editions, except that:

- (1) underground storage tanks (UST) containing de minimis concentrations of regulated substances are also subject to the requirements for permanent closure in Rules .0802 and .0803 of this Subchapter; and
- (2) UST systems that store fuel solely for use by emergency power generators installed on or after November 1, 2007 shall also meet the requirements of Section .0900 of this Subchapter.

*History Note: Authority G.S. 143-215.3(a)(15); 143B-282(a)(2)(h);
Eff. January 1, 1991;
Amended Eff. June 1, 2017; November 1, 2007;
Readopted Eff. January 1, 2021.*

15A NCAC 02N .0202 INSTALLATION REQUIREMENTS FOR PARTIALLY EXCLUDED UST SYSTEMS

The regulations governing "Installation requirements for partially excluded UST systems" set forth in 40 CFR 280.11 are hereby incorporated by reference, excluding any subsequent amendments and editions.

*History Note: Authority G.S. 143-215.3(a)(15); 143B-282(a)(2)(h);
Eff. January 1, 1991;
Amended Eff. June 1, 2017;
Readopted Eff. January 1, 2021.*

15A NCAC 02N .0203 DEFINITIONS

(a) The regulations governing "Definitions" set forth in 40 CFR 280.12 are hereby incorporated by reference, excluding any subsequent amendments and editions, except that:

- (1) "UST system" shall be changed to read "'UST system' or 'Tank system' means an underground storage tank, connected underground piping, underground ancillary equipment, dispenser, and containment system, if any";
- (2) "Class A operator" shall not be incorporated by reference;
- (3) "Class B operator" shall not be incorporated by reference;
- (4) "Class C operator" shall not be incorporated by reference;
- (5) "Replaced" shall not be incorporated by reference; and
- (6) "Secondary containment or secondarily contained" shall not be incorporated by reference.

(b) The following definitions shall apply throughout this Subchapter:

- (1) "De minimis concentration" means the amount of a regulated substance that does not exceed one percent of the capacity of a tank, excluding piping and vent lines.
- (2) "Director" and "Director of the Implementing Agency" means the "Director of the Division of Waste Management."
- (3) "Division" means the "Division of Waste Management."
- (4) "Expediently emptied after use" means the removal of a regulated substance from an emergency spill or overflow containment UST system within 48 hours after use of the UST system has ceased.
- (5) "Implementing agency" means the "Division of Waste Management."
- (6) "Previously closed" means:
 - (A) An UST system from which all regulated substances had been removed, the tank had been filled with a solid inert material, and tank openings had been sealed or capped prior to December 22, 1988; or
 - (B) An UST system removed from the ground prior to December 22, 1988.
- (7) "Temporarily closed" means:
 - (A) An UST system from which the product has been removed such that not more than one inch of product and residue are present in any portion of the tank; or
 - (B) Any UST system in use as of December 22, 1988 that complies with the provisions of Rule .0801 of this Subchapter.
- (8) "Secondary containment" means a method or combination of methods of release detection for UST systems that includes:
 - (A) For tank installations or replacements completed prior to November 1, 2007, double-walled construction and external liners, including vaults;
 - (B) For underground piping installations or replacements completed prior to November 1, 2007, trench liners and double-walled construction;
 - (C) For tank installations or replacements completed on or after November 1, 2007, double-walled construction and interstitial release detection monitoring that meet the requirements of Section .0900 of this Subchapter; and

- (D) For all other UST system component installations or replacements completed on or after November 1, 2007, double-walled construction or containment within a liquid-tight sump and interstitial release detection monitoring that meet the requirements of Section .0900 of this Subchapter. Upon written request, the Division shall approve other methods of secondary containment for connected piping that it determines are capable of meeting the requirements of Section .0900 of this Subchapter.
- (9) "Interstitial space" means the opening formed between the inner and outer wall of an UST system with double-walled construction or the opening formed between the inner wall of a containment sump and the UST system component that it contains.
- (10) "Replace" means to remove an UST system or UST system component and to install another UST system or UST system component in its place.
- (11) "UST system component or tank system component" means any part of an UST system.

History Note: Authority G.S. 143-215.3(a)(15); 143B-282(a)(2)(h); Eff. January 1, 1991; Temporary Amendment Eff. January 7, 1991 For a Period of 180 Days to Expire on July 6, 1991; Temporary Amendment Expired July 6, 1991; Amended Eff. June 1, 2017; November 1, 2007; Readopted Eff. January 1, 2021.

SECTION .0300 - UST SYSTEMS: DESIGN, CONSTRUCTION, INSTALLATION, AND NOTIFICATION

15A NCAC 02N .0301 PERFORMANCE STANDARDS FOR UST SYSTEM INSTALLATIONS OR REPLACEMENTS COMPLETED AFTER DECEMBER 22, 1988 AND BEFORE NOVEMBER 1, 2007

- (a) The regulations governing "Performance standards for new UST systems" set forth in 40 CFR 280.20 are hereby incorporated by reference, excluding any subsequent amendments and editions, except that:
 - (1) 40 CFR 280.20(a)(4) shall not be incorporated by reference;
 - (2) 40 CFR 280.20(b)(3) shall not be incorporated by reference;
 - (3) UST system or UST system component installations or replacements completed on or after November 1, 2007, shall also meet the requirements of Section .0900 of this Subchapter; and
 - (4) Note to Paragraph (d) of 40 CFR 280.20 is amended to include Petroleum Equipment Institute Publication RP1000, "Recommended Practices for the Installation of Marina Fueling Systems."
- (b) No UST system shall be installed within 100 feet of a well serving a public water system, as defined in G.S. 130A-313(10), or within 50 feet of any other well supplying water for human consumption.
- (c) An UST system existing on January 1, 1991, and located within the area described in Paragraph (b) of this Rule may be replaced with a new tank meeting the performance standards of 40 CFR 280.20 and the secondary containment provisions of 40 CFR 280.42(a) through (d). The replacement UST system shall not be located nearer to the water supply source than the UST system being replaced.
- (d) Except as prohibited in Paragraph (b) of this Rule, an UST system shall meet the requirements for secondary containment described at 40 CFR 280.42(a) through (d):
 - (1) Within 500 feet of a well serving a public water supply or within 100 feet of any other well supplying water for human consumption; or
 - (2) Within 500 feet of any surface water classified as High Quality Waters (HQW); Outstanding Resource Waters (ORW); Water Supply I – Natural (WS-I); Water Supply II – Undeveloped (WS-II); Market Shellfishing, Salt Water (SA).
- (e) An UST system or UST system component installation completed on or after November 1, 2007, to replace an UST system or UST system component located within the areas described in Paragraphs (b), (c), or (d) of this Rule shall meet the requirements of Section .0900 of this Subchapter.

History Note: Authority G.S. 143-215.3(a)(15); 143B-282(a)(2)(h); Eff. January 1, 1991; Amended Eff. June 1, 2017; November 1, 2007; Readopted Eff. January 1, 2021.

15A NCAC 02N .0302 UPGRADING OF EXISTING UST SYSTEMS AFTER DECEMBER 22, 1998 AND BEFORE NOVEMBER 1, 2007

(a) The regulations governing "Upgrading of existing UST systems" set forth in 40 CFR 280.21 are hereby incorporated by reference, excluding any subsequent amendments and editions, except that:

- (1) existing UST systems located within the areas described in Rule .0301(b) and (d) of this Section shall be upgraded in accordance with the provisions of 40 CFR 280.21(b) through (d) and shall be provided with secondary containment as described in 40 CFR 280.42(a) through (d). An UST system upgraded shall not be located nearer to a source of drinking water supply than its location prior to being upgraded; and
- (2) 40 CFR 280.21 Note to Paragraph (b)(1)(ii)(C) shall not be incorporated by reference.

(b) Owners and operators shall submit notice of the upgrading of any UST system conducted in accordance with the requirements of 40 CFR 280.21 to the Division, within 30 days following completion of the upgrading activity. The notice shall include form "UST-8 Notification of Activities Involving Underground Storage Tank Systems," which is set forth in Rule .0303(1)(b) of this Section.

(c) UST systems upgraded in accordance with 40 CFR 280.21 prior to January 1, 1991, are in compliance with this Rule.

(d) An UST system or UST system component installation completed on or after November 1, 2007, to upgrade or replace an UST system or UST system component described in Paragraph (a) of this Rule shall meet the performance standards of Section .0900 of this Subchapter.

*History Note: Authority G.S. 143-215.3(a)(15); 143B-282(a)(2)(h);
Eff. January 1, 1991;
Amended Eff. June 1, 2017; November 1, 2007;
Readopted Eff. January 1, 2021.*

15A NCAC 02N .0303 NOTIFICATION REQUIREMENTS

The regulations governing "Notification requirements" set forth in 40 CFR 280.22 are hereby incorporated by reference, excluding any subsequent amendments and editions, except that:

- (1) Owners and operators of an UST system shall submit to the Division, on forms provided by the Division, a notice of intent to conduct any of the following activities:
 - (a) notice of installation of a new UST system or UST system component shall be in accordance with Rule .0902 of this Subchapter;
 - (b) notice of installation of a leak detection device installed outside of the outermost wall of the tank and piping, such as vapor detection or groundwater monitoring devices, shall be given at least 30 days before the activity begins. The notice shall be provided on form "UST-8 Notification of Activities Involving Underground Storage Tank Systems," which may be accessed free of charge at <http://deq.nc.gov/about/divisions/waste-management/underground-storage-tanks-section/forms>. Form "UST-8 Notification of Activities Involving Underground Storage Tank Systems" shall include:
 - (i) the same information provided in Appendix I to 40 CFR 280, except that Sections X (2) and (3), and Section XI shall not be included on the form;
 - (ii) operator identification and contact information;
 - (iii) number of tank compartments and tank compartment identity, capacity, and product stored;
 - (iv) identity of tanks that are manifold together with piping;
 - (v) stage I Vapor Recovery equipment type and installation date;
 - (vi) corrosion protection methods for metal flexible connectors, submersible pumps, and riser pipes;
 - (vii) UST system and UST system component installation date, manufacturer, model, and leak detection monitoring method;
 - (viii) spill containment equipment installation date, manufacturer, model, and leak detection monitoring method;
 - (ix) overfill prevention equipment installation date, manufacturer, and model; and
 - (x) leak detection equipment manufacturer and model;

- (c) notice of permanent closure or change-in-service of an UST system shall be given at least 30 days before the activity begins. The notice shall be provided on form "UST-3 Notice of Intent: UST Permanent Closure or Change-in-Service," which may be accessed free of charge at <http://deq.nc.gov/about/divisions/waste-management/underground-storage-tanks-section/forms>. Form "UST-3 Notice of Intent: UST Permanent Closure or Change-in-Service" shall include:
 - (i) owner identification and contact information;
 - (ii) site location information;
 - (iii) site contact information;
 - (iv) contractor and consultant identification and contact information;
 - (v) identity of UST systems to be permanently closed or that will undergo a change-in-service;
 - (vi) for permanent closure, the proposed method of UST System closure – removal or fill in-place;
 - (vii) for a change-in-service, the new contents to be stored;
 - (viii) proposed UST system closure or change-in-service date; and
 - (ix) signature of UST system owner;
- (d) notice of a change of ownership of a UST system pursuant to 40 CFR 280.22(b) shall be provided on form "UST-15 Change of Ownership of UST System(s)," which may be accessed free of charge at <http://deq.nc.gov/about/divisions/waste-management/underground-storage-tanks-section/forms>. Form "UST-15 Change of Ownership of UST System(s)" shall include:
 - (i) the same information provided in Appendix II to 40 CFR 280;
 - (ii) site location information;
 - (iii) notarized signature of the new owner of an UST system;
 - (iv) name and notarized signature of the previous owner of an UST system; and
 - (v) appended information shall include documentation of an UST system ownership transfer such as a property deed or bill of sale. A person signing the form on behalf of another shall provide documentation they can legally sign in such capacity, such as an officer of a corporation, administrator of an estate, representative of a public agency, or as having power of attorney.
- (2) Owners or operators who have not complied with the notification requirements in 40 CFR 280.22(a), shall complete the form "UST-8 Notification of Activities Involving Underground Storage Tank Systems" and submit the form to the Division.
- (3) Any person who sells a tank intended to be used as an UST shall notify the purchaser of such tank of the owner's notification obligations in Sub-Item (1)(b) of this Rule.
- (4) Any reference in 40 CFR Part 280 to the notification form in Appendix I shall refer to the North Carolina notification form "UST-8 Notification of Activities Involving Underground Storage Tank Systems."

*History Note: Authority G.S. 143-215.3(a)(15); 143B-282(a)(2)(h);
Eff. January 1, 1991;
Amended Eff. June 1, 2017;
Readopted Eff. January 1, 2021.*

15A NCAC 02N .0304 IMPLEMENTATION SCHEDULE FOR PERFORMANCE STANDARDS FOR NEW UST SYSTEMS AND UPGRADING REQUIREMENTS FOR EXISTING UST SYSTEMS LOCATED IN AREAS DEFINED IN RULE .0301(D)

(a) The following implementation schedule shall apply only to owners and operators of UST systems located within areas described in Rule .0301(d) of this Section. This implementation schedule shall govern tank owners and operators in complying with the secondary containment requirements set forth in Rule .0301(d) of this Section for new UST systems and the secondary containment requirements set forth in Rule .0302(a) of this Section for existing UST systems.

- (1) All new UST systems and replacements to an UST system shall be provided with secondary containment as of April 1, 2001.

- (2) All steel or metal connected piping and ancillary equipment of an UST, regardless of date of installation, shall be provided with secondary containment as of January 1, 2005.
 - (3) All fiberglass or non-metal connected piping and ancillary equipment of an UST, regardless of date of installation, shall be provided with secondary containment as of January 1, 2008.
 - (4) All UST systems installed on or before January 1, 1991 shall be provided with secondary containment as of January 1, 2008.
 - (5) All USTs installed after January 1, 1991, and prior to April 1, 2001, shall be provided with secondary containment as of January 1, 2020. Owners of USTs located within 100 to 500 feet of a public water supply well, if the well serves only a single facility and is not a community water system, may seek a variance in accordance with Paragraphs (d) through (i) of this Rule.
- (b) All owners and operators of UST systems shall implement the following enhanced leak detection monitoring as of April 1, 2001. The enhanced leak detection monitoring shall consist of the following:
- (1) An automatic tank gauging system for each UST;
 - (2) An electronic line leak detector for each pressurized piping system;
 - (3) One 0.1 gallon per hour (gph) test per month or one 0.2 gph test per week on each UST system;
 - (4) A line tightness test capable of detecting a leak rate of 0.1 gph, once per year for each suction piping system. No release detection shall be required for suction piping that is designed and constructed in accordance with 40 CFR 280.41(b)(1)(ii)(A) through (E);
 - (5) If the UST system is located within 500 feet of a public water supply well or within 100 feet of any other well supplying water for human consumption, owners or operators shall sample the water supply well once per year. The sample collected from the well shall be characterized in accordance with:
 - (A) Standard Method 6200B, Volatile Organic Compounds Purge and Trap Capillary-Column Gas Chromatographic/Mass Spectrometric Method, which is incorporated by reference, including subsequent amendments and editions, and may be obtained at <http://www.standardmethods.org/> at a cost of seventy-five dollars (\$75.00);
 - (B) EPA Method 625.1, Base/Neutrals and Acids, which is incorporated by reference, including subsequent amendments and editions, and may be accessed free of charge at http://water.epa.gov/scitech/methods/cwa/organics/upload/2007_07_10_methods_method_organics_625.pdf; and
 - (C) If a waste oil UST system is present that does not meet the requirements for secondary containment in accordance with 40 CFR 280.42(b)(1) through (4), the sample shall also be analyzed for lead and chromium using Method 6010D, Inductively Coupled Plasma-Optical Emission Spectrometry, which is incorporated by reference, including subsequent amendments and editions, and may be accessed free of charge at <https://www.epa.gov/sites/production/files/2015-12/documents/6010d.pdf> or Method 6020B, Inductively Coupled Plasma-Mass Spectrometry, which is incorporated by reference, including subsequent amendments and editions, and may be accessed free of charge at <https://www.epa.gov/sites/production/files/2015-12/documents/6020b.pdf>; and
 - (6) The first sample collected in accordance with Subparagraph (b)(5) of this Rule shall be collected and the results received by the Division by October 1, 2000, and yearly thereafter.
- (c) An UST system or UST system component installation completed on or after November 1, 2007, to upgrade or replace an UST system or UST system component as required in Paragraph (a) of this Rule shall meet the performance standards of Section .0900 of this Subchapter.
- (d) The Environmental Management Commission may grant a variance from the secondary containment requirements in Subparagraph (a)(5) of this Rule for USTs located within 100 to 500 feet of a public water supply well if the well serves only a single facility and is not a community water system. Any request for a variance shall be in writing by the owner of the UST for which the variance is sought. The request for variance shall be submitted to the Director, Division of Waste Management, 1646 Mail Service Center, Raleigh, NC 27699-1646. The Environmental Management Commission shall grant the variance if the Environmental Management Commission finds facts to support the following conclusions:
- (1) The variance will not endanger human health and welfare or groundwater; and
 - (2) UST systems are operated and maintained in compliance with 40 CFR Part 280, Article 21A of G.S. 143B, and the rules in this Subchapter.

(e) The Environmental Management Commission may require the variance applicant to submit such information as the Environmental Management Commission deems necessary to make a decision to grant or deny the variance. Information that may be requested includes the following:

- (1) Water supply well location, depth, construction specifications, and sampling results;
- (2) Groundwater depth and flow direction; and
- (3) Leak detection monitoring and testing results.

(f) The Environmental Management Commission may impose such conditions on a variance as the Environmental Management Commission deems necessary to protect human health and welfare and groundwater. Conditions for a variance may include the following:

- (1) Increased frequency of leak detection and leak prevention monitoring and testing;
- (2) Periodic water supply well sampling; and
- (3) Increased reporting and recordkeeping.

(g) The findings of fact supporting any variance under this Rule shall be in writing and made part of the variance.

(h) The Environmental Management Commission may rescind a variance that was previously granted if the Environmental Management Commission discovers through inspection or reporting that the conditions of the variance are not met or that the facts no longer support the conclusions in Subparagraphs (d)(1) and (2) of this Rule.

(i) An owner of an UST system who is aggrieved by a decision of the Environmental Management Commission to deny or rescind a variance or to conditionally grant a variance may commence a contested case by filing a petition pursuant to G.S. 150B-23 within 60 days after receipt of the decision.

History Note: Authority G.S. 143-215.3(a)(15); 143B-282(a)(2)(h);
Temporary Adoption Eff. May 1, 2000;
Eff. April 1, 2001;
Amended Eff. June 1, 2017; June 1, 2015; November 1, 2007;
Readopted Eff. January 1, 2021.

SECTION .0400 - GENERAL OPERATING REQUIREMENTS

15A NCAC 02N .0401 SPILL AND OVERFILL CONTROL

The regulations governing "Spill and overfill control" set forth in 40 CFR 280.30 are hereby incorporated by reference, excluding any subsequent amendments and editions.

History Note: Authority G.S. 143-215.3(a)(15); 143B-282(a)(2)(h);
Eff. January 1, 1991;
Amended Eff. June 1, 2017;
Readopted Eff. January 1, 2021.

15A NCAC 02N .0402 OPERATION AND MAINTENANCE OF CORROSION PROTECTION

The regulations governing "Operation and maintenance of corrosion protection" set forth in 40 CFR 280.31 are hereby incorporated by reference, excluding any subsequent amendments and editions.

History Note: Authority G.S. 143-215.3(a)(15); 143B-282(a)(2)(h);
Eff. January 1, 1991;
Amended Eff. June 1, 2017;
Readopted Eff. January 1, 2021.

15A NCAC 02N .0403 COMPATIBILITY

The regulations governing "Compatibility" set forth in 40 CFR 280.32 are hereby incorporated by reference, excluding any subsequent amendments and editions.

History Note: Authority G.S. 143-215.3(a)(15); 143B-282(a)(2)(h);
Eff. January 1, 1991;
Amended Eff. June 1, 2017;

Readopted Eff. January 1, 2021.

15A NCAC 02N .0404 REPAIRS ALLOWED

The regulations governing "Repairs Allowed" set forth in 40 CFR 280.33 are hereby incorporated by reference, excluding any subsequent amendments and editions, except that the first sentence of 40 CFR 280.33(d) shall be read: "Repairs to secondary containment areas of tanks and piping used for interstitial monitoring and to containment sumps used for interstitial monitoring of piping shall have the secondary containment tested for tightness as directed by the Division within 30 days following the date of completion of the repair." When determining the required test method, the Division may consider the following:

- (1) installation date of the repaired UST system component;
- (2) test methods that are third-party certified as being capable of detecting a 0.10 gallon per hour leak rate with a probability of detection (Pd) of at least 95 percent and a probability of false alarm (Pfa) of no more than 5 percent;
- (3) codes of practice developed by a nationally recognized association;
- (4) written manufacturer's guidelines for installation testing and testing after repairs are conducted; and
- (5) test methods developed by an independent laboratory.

*History Note: Authority G.S. 143-215.3(a)(15); 143B-282(a)(2)(h);
Eff. January 1, 1991;
Amended Eff. June 1, 2017;
Readopted Eff. January 1, 2021.*

15A NCAC 02N .0405 REPORTING AND RECORDKEEPING

(a) The regulations governing "Reporting and recordkeeping" set forth in 40 CFR 280.34 are hereby incorporated by reference, excluding any subsequent amendments and editions.

(b) Owners and operators shall submit to the Division, within 30 days following completion, results of the site investigation conducted:

- (1) at permanent closure or change-in-service. The results of the site investigation for permanent closure or change-in-service shall be reported in a format that includes the following:
 - (A) site location information;
 - (B) identification and contact information for the owner, operator, property owner, consultant, contractor, and analytical laboratory;
 - (C) the same information provided in Appendix I to 40 CFR Part 280, Section X;
 - (D) information about any release discovered, including discovery date, estimated quantity of petroleum or hazardous substance released, and the cause and source;
 - (E) information about any previous releases at the site, including owner or operator at the time of the release, source, cause, and location relative to the current release;
 - (F) description of site characteristics, such as use of the site and surrounding area, drinking water supplies, presence and location of water supply wells and surface water, depth to and nature of bedrock, depth to groundwater, and direction of groundwater flow;
 - (G) date of permanent closure or change-in-service of an UST system and last contents stored;
 - (H) procedures and methods used to clean an UST system prior to permanent closure or change-in-service;
 - (I) procedures and methods used to permanently close an UST system;
 - (J) description of condition of tank, piping, and dispenser;
 - (K) documentation of disposal of tank and its contents;
 - (L) description of condition of excavation, volume of soil excavation, soil type encountered, type and source of backfill used, and any groundwater, free product, or bedrock encountered in the excavation;
 - (M) method of temporary storage, sampling, and treatment or disposal of excavated soil;
 - (N) procedures and methods used for sample collection, field screening, and laboratory analysis;
 - (O) quality assurance and quality control procedures and methods for decontamination of field and sampling equipment and for sample handling, preservation, and transportation;

- (P) field screening results and analytical results for samples collected, comparison of analytical results to standards set forth in 15A NCAC 02L, and the presence and quantity of any free product; and
 - (Q) maps and figures showing the site and surrounding topography, current and former UST system locations, surface water, water supply wells, monitoring wells, types and locations of samples, analytical results for samples, ground water flow direction, geologic boring logs, and monitoring well construction specifications; or
- (2) to ensure compliance with the requirements for installation of vapor monitoring and groundwater monitoring devices, as specified in 40 CFR 280.43(e)(1) through (e)(4) and 280.43(f)(1) through (f)(5), respectively. The site investigation shall be conducted in accordance with Rule .0504 of this Subchapter.
- (c) Owners shall submit to the Division, on forms provided by the Division and within 30 days following completion:
- (1) A description of the upgrading of any UST system conducted in accordance with requirements of 40 CFR 280.21. The description of upgrading shall be provided on form "UST-8 Notification of Activities Involving Underground Storage Tank Systems," which is set forth in Rule .0303(1)(b) of this Section;
 - (2) Certification of the proper operation of a corrosion protection system upon completion of testing in compliance with 40 CFR 280.31; and
 - (A) Certification of proper operation and testing of a galvanic corrosion protection system shall be provided on form "UST-7A Cathodic Protection System Evaluation for Galvanic (Sacrificial Anode) Systems," which may be accessed free of charge at <http://deq.nc.gov/about/divisions/waste-management/underground-storage-tanks-section/forms>. Form "UST-7A Cathodic Protection System Evaluation for Galvanic (Sacrificial Anode) Systems" shall include:
 - (i) owner identification and contact information;
 - (ii) site location information;
 - (iii) reason that a corrosion protection system was evaluated, including a routine test within six months of corrosion protection system installation, a routine test every three years following corrosion protection system installation, or a test following a repair or modification;
 - (iv) corrosion protection tester's name, contact information, corrosion protection tester certification number, certifying organization, and certification type;
 - (v) corrosion protection tester's evaluation, including pass, fail, or inconclusive;
 - (vi) corrosion expert's name, address, contact information, National Association of Corrosion Engineers International Institute certification number, and certification type or Professional Engineer number, state, and specialty;
 - (vii) corrosion expert's evaluation, including pass or fail;
 - (viii) criteria for evaluation, including 850 millivolt on, 850 millivolt instant off, or 100 millivolt polarization;
 - (ix) action required as a result of the evaluation, including none, or repair and retest;
 - (x) description of UST system, including tank identity, product stored, tank capacity, tank and piping construction material, and presence of metal flexible connectors;
 - (xi) description of any repair or modification made to the corrosion protection system;
 - (xii) site drawing, including the UST systems, on-site buildings, adjacent streets, anodes and wires, reference electrode placement, and test stations;
 - (xiii) corrosion protection continuity survey, including location of fixed remote reference electrode placement, structures evaluated using fixed remote instant-off voltages or point-to-point voltage differences, and if structures are continuous or isolated; and
 - (xiv) corrosion protection system survey, including locations of remote reference electrode, structure evaluated, structure contact point, local reference cell placement, local voltage, remote voltage, and if tested structure passed, failed, or was inconclusive relative to the criteria for evaluation.

- (B) Certification of proper operation and testing of an impressed current corrosion protection system shall be provided on form "UST-7B Cathodic Protection System Evaluation for Impressed Current Systems," which may be accessed free of charge at <http://deq.nc.gov/about/divisions/waste-management/underground-storage-tanks-section/forms>. Form "UST-7B Cathodic Protection System Evaluation for Impressed Current Systems" shall include:
- (i) owner identification and contact information;
 - (ii) site location information;
 - (iii) reason that a corrosion protection system was evaluated, including a routine test within six months of corrosion protection system installation, a routine test every three years following corrosion protection system installation, or a test following a repair or modification;
 - (iv) corrosion protection tester's name, contact information, corrosion protection tester certification number, certifying organization, and certification type;
 - (v) corrosion protection tester's evaluation, including pass, fail, or inconclusive;
 - (vi) corrosion expert's name, address, contact information, National Association of Corrosion Engineers International Institute certification number, and certification type or Professional Engineer number, state, and specialty;
 - (vii) corrosion expert's evaluation, including pass or fail;
 - (viii) criteria for evaluation, including 850 millivolt instant off or 100 millivolt polarization;
 - (ix) action required as a result of the evaluation, including none or repair and retest;
 - (x) description of UST system, including tank identity, product stored, tank capacity, tank and piping construction material, and presence of metal flexible connectors;
 - (xi) impressed current rectifier data, including rectifier manufacturer, model, serial number, rated DC output, shunt size, shunt factor, hour meter, tap settings, DC output (gauge), and DC output (multimeter);
 - (xii) impressed current positive and negative circuit measurements;
 - (xiii) description of any repair or modifications made to the corrosion protection system;
 - (xiv) site drawing, including the UST systems, on-site buildings, adjacent streets, anodes and wires, reference electrode placement, and test stations;
 - (xv) corrosion protection continuity survey, including location of fixed remote reference electrode placement, structures evaluated using fixed remote instant-off voltages or point-to-point voltage differences, and if structures are continuous or isolated; and
 - (xvi) corrosion protection system survey, including structure evaluated, structure contact point, reference cell placement, on voltage, instant off voltage, 100 millivolt polarization ending voltage and voltage change, and if the tested structure passed or failed relative to the criteria for evaluation.
- (3) Certification of compliance with the requirements for leak detection specified in 40 CFR 280.40, 40 CFR 280.41, 40 CFR 280.42, 40 CFR 280.43, and 40 CFR 280.44. The certification shall specify the leak detection method and date of compliance for each UST. The certification of compliance with leak detection requirements shall be provided on form "UST-8 Notification of Activities Involving Underground Storage Tank Systems," which is set forth in Rule .0303(1)(b) of this Subchapter.

History Note: Authority G.S. 143-215.3(a)(15); 143B-282(a)(2)(h); Eff. January 1, 1991; Amended Eff. June 1, 2017; Readopted Eff. January 1, 2021.

15A NCAC 02N .0406 PERIODIC TESTING OF SPILL PREVENTION EQUIPMENT AND CONTAINMENT SUMPS USED FOR INTERSTITIAL MONITORING OF PIPING AND PERIODIC INSPECTION OF OVERFILL PREVENTION EQUIPMENT

The regulations governing "Periodic testing of spill prevention equipment and containment sumps used for interstitial monitoring of piping and periodic inspection of overfill prevention equipment" set forth in 40 CFR 280.35 are hereby incorporated by reference, excluding any subsequent amendments and editions, except that:

- (1) UST system or UST system component installations or replacements completed on or after November 1, 2007, shall meet the requirements of Section .0900 of this Subchapter.
- (2) Tank owners and operators may use test methods and testing equipment approved by the US Environmental Protection Agency pursuant to 40 CFR 280.35(a)(1)(ii)(C) to meet the requirements of 40 CFR 280.35(a)(1)(ii).

History Note: Authority G.S. 143-215.3(a)(15); 143B-282(a)(2)(h);
Eff. June 1, 2017;
Amended Eff. August 23, 2022; January 1, 2021.

15A NCAC 02N .0407 PERIODIC OPERATION AND MAINTENANCE WALKTHROUGH INSPECTIONS

The regulations governing "Periodic operation and maintenance walkthrough inspections" set forth in 40 CFR 280.36 (Subpart C) are hereby incorporated by reference.

History Note: Authority G.S. 143-215.3(a)(15); 143B-282(a)(2)(h); 150B-21.6;
Eff. June 1, 2017.

SECTION .0500 - RELEASE DETECTION

15A NCAC 02N .0501 GENERAL REQUIREMENTS FOR ALL UST SYSTEMS

The regulations governing "General requirements for all UST systems" set forth in 40 CFR 280.40 are hereby incorporated by reference, excluding any subsequent amendments and editions.

History Note: Authority G.S. 143-215.3(a)(15); 143B-282(a)(2)(h);
Eff. January 1, 1991;
Amended Eff. June 1, 2017;
Readopted Eff. January 1, 2021.

15A NCAC 02N .0502 REQUIREMENTS FOR PETROLEUM UST SYSTEMS

The regulations governing "Requirements for petroleum UST systems" set forth in 40 CFR 280.41 are hereby incorporated by reference, excluding any subsequent amendments and editions, except that UST systems located within areas described in Rule .0301(d) of this Subchapter shall meet the requirements for secondary containment described at 40 CFR 280.42(a) through (d) if the UST system installation or replacement was completed before November 1, 2007. UST system or UST system component installations or replacements completed on or after November 1, 2007, shall meet the secondary containment requirements of Section .0900 of this Subchapter.

History Note: Authority G.S. 143-215.3(a)(15); 143B-282(a)(2)(h);
Eff. January 1, 1991;
Amended Eff. June 1, 2017; November 1, 2007;
Readopted Eff. January 1, 2021.

15A NCAC 02N .0503 REQUIREMENTS FOR HAZARDOUS SUBSTANCE UST SYSTEMS

The regulations governing "Requirements for hazardous substance UST systems" set forth in 40 CFR 280.42 are hereby incorporated by reference, excluding any subsequent amendments and editions, except that hazardous substance UST systems or UST system components installed or replacements completed on or after November 1, 2007, shall meet the secondary containment requirements of Section .0900 of this Subchapter.

*History Note: Authority G.S. 143-215.3(a)(15); 143B-282(a)(2)(h);
Eff. January 1, 1991;
Amended Eff. June 1, 2017; November 1, 2007;
Readopted Eff. January 1, 2021.*

15A NCAC 02N .0504 METHODS OF RELEASE DETECTION FOR TANKS

(a) The regulations governing "Methods of release detection for tanks" set forth in 40 CFR 280.43 are hereby incorporated by reference, excluding any subsequent amendments and editions, except that 40 CFR 280.43(f)(3), (f)(4), and (f)(5) shall not be adopted by reference.

(b) Wells used for monitoring or testing for free product in the groundwater shall be:

- (1) located in the excavation zone or as near to it as technically feasible and installed in a borehole at least four inches larger than the diameter of the casing;
- (2) a minimum of two inches in diameter;
- (3) installed such that a release from any portion of the UST will be detected;
- (4) equipped with a screen that extends from two feet below land surface to a depth of 20 feet below land surface or two feet below the seasonal low water level, whichever is shallower. The screen shall be designed and installed to prevent the migration of natural soils or filter pack into the well while allowing the entry of regulated substances into the well under both high and low groundwater level conditions;
- (5) surrounded with clean sand or gravel to the top of the screen, plugged and grouted the remaining distance to finished grade with cement grout;
- (6) constructed of a permanent casing and screen material that is inert to the stored substance and is corrosion resistant;
- (7) developed upon completion of installation until the water is clear and sediment free;
- (8) protected with a water-tight cover and lockable cap;
- (9) labeled as a liquid monitor well; and
- (10) equipped with a liquid leak detection device operating on an uninterrupted basis; or
 - (A) For tanks storing petroleum products, tested at least once every 14 days with a device or hydrocarbon-sensitive paste capable of detecting the liquid stored; or
 - (B) For tanks storing hazardous substances, sampled and tested at least once every 14 days for the presence of the stored substance.

(c) Wells used for monitoring or testing for free product in the groundwater at new installations and constructed in accordance with Paragraph (b) of this Rule shall be deemed to be permitted in accordance with the requirements of 15A NCAC 02C .0105.

(d) Any person completing or abandoning any well used for testing of vapors or monitoring for free product in the groundwater shall submit the report required by 15A NCAC 02C .0114(b).

(e) Wells used for monitoring for the presence of vapors in the soil gas of the excavation zone shall be equipped with a vapor detection device operating on an uninterrupted basis or tested at least once every 14 days for vapors of the substance stored.

*History Note: Authority G.S. 143-215.3(a)(15); 143B-282(a)(2)(h);
Eff. January 1, 1991;
Amended Eff. June 1, 2017;
Readopted Eff. January 1, 2021.*

15A NCAC 02N .0505 METHODS OF RELEASE DETECTION FOR PIPING

The regulations governing "Methods of release detection for piping" set forth in 40 CFR 280.44 are hereby incorporated by reference, excluding any subsequent amendments and editions.

*History Note: Authority G.S. 143-215.3(a)(15); 143B-282(a)(2)(h);
Eff. January 1, 1991;
Amended Eff. June 1, 2017;
Readopted Eff. January 1, 2021.*

15A NCAC 02N .0506 RELEASE DETECTION RECORDKEEPING

The regulations governing "Release detection recordkeeping" set forth in 40 CFR 280.45 are hereby incorporated by reference, excluding any subsequent amendments and editions.

*History Note: Authority G.S. 143-215.3(a)(15); 143B-282(a)(2)(h);
Eff. January 1, 1991;
Amended Eff. June 1, 2017;
Readopted Eff. January 1, 2021.*

SECTION .0600 - RELEASE REPORTING, INVESTIGATION, AND CONFIRMATION

15A NCAC 02N .0601 REPORTING OF SUSPECTED RELEASES

The regulations governing "Reporting of suspected releases" set forth in 40 CFR 280.50 are hereby incorporated by reference, excluding any subsequent amendments and editions, except that the words "or another reasonable period specified by the implementing agency," shall be deleted from the first sentence.

*History Note: Authority G.S. 143-215.3(a)(15); 143B-282(a)(2)(h);
Eff. January 1, 1991;
Amended Eff. June 1, 2017;
Readopted Eff. January 1, 2021.*

15A NCAC 02N .0602 INVESTIGATION DUE TO OFF-SITE IMPACTS

The regulations governing "Investigation due to off-site impacts" set forth in 40 CFR 280.51 are hereby incorporated by reference, excluding any subsequent amendments and editions.

*History Note: Authority G.S. 143-215.3(a)(15); 143B-282(a)(2)(h);
Eff. January 1, 1991;
Amended Eff. June 1, 2017;
Readopted Eff. January 1, 2021.*

15A NCAC 02N .0603 RELEASE INVESTIGATION AND CONFIRMATION STEPS

The regulations governing "Release investigation and confirmation steps" set forth in 40 CFR 280.52 are hereby incorporated by reference, excluding any subsequent amendments and editions, except that in 40 CFR 280.52 the words "or another reasonable time period specified by the implementing agency" shall not be adopted by reference. Upon written request, the Division may grant additional time to investigate and confirm suspected releases as specified in 40 CFR 280.53. The request shall be made to the Division prior to the expiration of the required time period. When considering such a request, the Division may consider factors as follows:

- (1) the extent to which the request for additional time is due to factors outside of the control of the tank owner or operator;
- (2) the previous history of the tank owner or operator submitting the report in complying with deadlines established under the Commission's rules;
- (3) the technical complications associated with investigating and confirming suspected releases; and
- (4) the necessity for action to eliminate an imminent threat to public health or the environment.

*History Note: Authority G.S. 143-215.3(a)(15); 143B-282(a)(2)(h);
Eff. January 1, 1991;
Amended Eff. June 1, 2017;
Readopted Eff. January 1, 2021.*

15A NCAC 02N .0604 REPORTING AND CLEANUP OF SPILLS AND OVERFILLS

The regulations governing "Reporting and cleanup of spills and overfills" set forth in 40 CFR 280.53 are hereby incorporated by reference, excluding any subsequent amendments and editions, except that:

- (1) in 40 CFR 280.53(a) the words "or another reasonable time period specified by the implementing agency" shall not be adopted by reference;

- (2) in 40 CFR 280.53(b) the words "or another reasonable time period established by the implementing agency" shall not be adopted by reference;
- (3) in 40 CFR 280.53(a)(1) and (b), the words, "or another reasonable amount specified by the implementing agency" shall not be adopted by reference; and
- (4) upon written request, the Division may grant additional time to submit the reports specified in 40 CFR 280.53. The request shall be made to the Division prior to the expiration of the required time period. When considering such a request, the Division may consider factors as follows:
 - (a) the extent to which the request for additional time is due to factors outside of the control of the tank owner or operator;
 - (b) the previous history of the tank owner or operator submitting the report in complying with deadlines established under the Commission's rules;
 - (c) the technical complications associated with reporting and cleanup of spills and overfills; and
 - (d) the necessity for action to eliminate an imminent threat to public health or the environment.

*History Note: Authority G.S. 143-215.3(a)(15); 143B-282(a)(2)(h);
Eff. January 1, 1991;
Amended Eff. June 1, 2017;
Readopted Eff. January 1, 2021.*

SECTION .0700 - RELEASE RESPONSE AND CORRECTIVE ACTION FOR UST SYSTEMS CONTAINING PETROLEUM OR HAZARDOUS SUBSTANCES

15A NCAC 02N .0701 GENERAL

- (a) The regulations governing "General" set forth in 40 CFR 280.60 are hereby incorporated by reference, excluding any subsequent amendments and editions.
- (b) Any corrective action undertaken in accordance with this Section shall meet the requirements and standards specified in 15A NCAC 02L.

*History Note: Authority G.S. 143-215.3(a)(15); 143B-282(a)(2)(h);
Eff. January 1, 1991;
Amended Eff. September 1, 1992;
Temporary Amendment Eff. January 2, 1998;
Amended Eff. June 1, 2017; October 29, 1998;
Readopted Eff. January 1, 2021.*

15A NCAC 02N .0702 INITIAL RESPONSE

The regulations governing "Initial response" set forth in 40 CFR 280.61 are hereby incorporated by reference, excluding any subsequent amendments and editions, except that the words "or within another reasonable period of time determined by the implementing agency" in the first sentence shall not be adopted by reference.

*History Note: Authority G.S. 143-215.3(a)(15); 143B-282(a)(2)(h);
Eff. January 1, 1991;
Amended Eff. June 1, 2017;
Readopted Eff. January 1, 2021.*

15A NCAC 02N .0703 INITIAL ABATEMENT MEASURES AND SITE CHECK

The regulations governing "Initial abatement measures and site check" set forth in 40 CFR 280.62 are hereby incorporated by reference, excluding any subsequent amendments and editions, except that:

- (1) 40 CFR 280.62(a)(6) shall read, "Investigate to determine the possible presence of free product and begin free product removal within 14 days in accordance with 40 CFR 280.64." Upon written request, the Division may grant additional time to begin free product removal. The request shall be made to the Division prior to the expiration of the required time period. When considering such a request, the Division may consider factors as follows:

- (a) the extent to which the request for additional time is due to factors outside of the control of the tank owner or operator;
 - (b) the previous history of the tank owner or operator submitting the report in complying with deadlines established under the Commission's rules;
 - (c) the technical complications associated with free product removal; and
 - (d) the necessity for action to eliminate an imminent threat to public health or the environment; and
- (2) In 40 CFR 280.62(b) the words, "or within another reasonable period of time determined by the implementing agency," shall not be adopted by reference.

History Note: Authority G.S. 143-215.3(a)(15); 143B-282(a)(2)(h);
Eff. January 1, 1991;
Amended Eff. June 1, 2017;
Readopted Eff. January 1, 2021.

15A NCAC 02N .0704 INITIAL SITE CHARACTERIZATION

The regulations governing "Initial site characterization" set forth in 40 CFR 280.63 are hereby incorporated by reference, excluding any subsequent amendments and editions, except that in 40 CFR 280.63(b) the words "or another reasonable period of time determined by the implementing agency" shall not be adopted by reference. Upon written request, the Division may grant additional time to submit the information collected in compliance with 40 CFR 280.63(a). The request shall be made to the Division prior to the expiration of the required time period. When considering such a request, the Division may consider factors as follows:

- (1) the extent to which the request for additional time is due to factors outside of the control of the tank owner or operator;
- (2) the previous history of the tank owner or operator submitting the report in complying with deadlines established under the Commission's rules;
- (3) the technical complications associated with an initial site characterization; and
- (4) the necessity for action to eliminate an imminent threat to public health or the environment.

History Note: Authority G.S. 143-215.3(a)(15); 143B-282(a)(2)(h);
Eff. January 1, 1991;
Amended Eff. June 1, 2017;
Readopted Eff. January 1, 2021.

15A NCAC 02N .0705 FREE PRODUCT REMOVAL

The regulations governing "Free product removal" set forth in 40 CFR 280.64 are hereby incorporated by reference, excluding any subsequent amendments and editions.

History Note: Authority G.S. 143-215.3(a)(15); 143B-282(a)(2)(h);
Eff. January 1, 1991;
Amended Eff. June 1, 2017;
Readopted Eff. January 1, 2021.

15A NCAC 02N .0706 INVESTIGATIONS FOR SOIL AND GROUNDWATER CLEANUP

The regulations governing "Investigations for soil and groundwater cleanup" set forth in 40 CFR 280.65 are hereby incorporated by reference, excluding any subsequent amendments and editions.

History Note: Authority G.S. 143-215.3(a)(15); 143B-282(a)(2)(h);
Eff. January 1, 1991;
Amended Eff. June 1, 2017;
Readopted Eff. January 1, 2021.

15A NCAC 02N .0707 CORRECTIVE ACTION PLAN

The regulations governing "Corrective action plan" set forth in 40 CFR 280.66 are hereby incorporated by reference, excluding any subsequent amendments and editions, except that 40 CFR 280.66(a) shall read: "After reviewing the information submitted in compliance with 40 CFR 280.61 through 40 CFR 280.63, the Division may require owners

and operators to submit additional information or to develop and submit a corrective action plan for responding to contaminated soils and groundwater. If a plan is required, owners and operators shall prepare a plan in accordance with the requirements specified in 15A NCAC 02L."

History Note: Authority G.S. 143-215.3(a)(15); 143B-282(a)(2)(h);
Eff. January 1, 1991;
Amended Eff. September 1, 1992;
Temporary Amendment Eff. January 2, 1998;
Amended Eff. June 1, 2017; October 29, 1998;
Readopted Eff. January 1, 2021.

15A NCAC 02N .0708 PUBLIC PARTICIPATION

The regulations governing "Public participation" set forth in 40 CFR 280.67 are hereby incorporated by reference, excluding any subsequent amendments and editions.

History Note: Authority G.S. 143-215.3(a)(15); 143B-282(a)(2)(h);
Eff. January 1, 1991;
Amended Eff. June 1, 2017;
Readopted Eff. January 1, 2021.

SECTION .0800 - OUT-OF-SERVICE UST SYSTEMS AND CLOSURE

15A NCAC 02N .0801 TEMPORARY CLOSURE

The regulations governing "Temporary closure" set forth in 40 CFR 280.70 are hereby incorporated by reference, excluding any subsequent amendments and editions.

History Note: Authority G.S. 143-215.3(a)(15); 143B-282(a)(2)(h);
Eff. January 1, 1991;
Amended Eff. June 1, 2017;
Readopted Eff. January 1, 2021.

15A NCAC 02N .0802 PERMANENT CLOSURE AND CHANGES-IN-SERVICE

The regulations governing "Permanent closure and changes-in-service" set forth in 40 CFR 280.71 are hereby incorporated by reference, excluding any subsequent amendments and editions, except that an UST system containing de minimis concentrations of a regulated substance shall meet the closure requirements of this Rule within 12 months of January 1, 1991.

History Note: Authority G.S. 143-215.3(a)(15); 143B-282(a)(2)(h);
Eff. January 1, 1991;
Amended Eff. June 1, 2017;
Readopted Eff. January 1, 2021.

15A NCAC 02N .0803 ASSESSING THE SITE AT CLOSURE OR CHANGE-IN-SERVICE

The regulations governing "Assessing the site at closure or change-in-service" set forth in 40 CFR 280.72 are hereby incorporated by reference, excluding any subsequent amendments and editions, except that:

- (1) references to methods and requirements shall include all applicable references and methods listed in 15A NCAC 02N .0504; and
- (2) the number and location of samples and method of their collection shall be determined in accordance with procedures established by the Division. In establishing procedures, the Division may consider factors such as:
 - (a) dimensions of the USTs;
 - (b) type of products stored in the USTs;
 - (c) method of closure;
 - (d) type of and length of associated product lines;
 - (e) number of associated dispensers;

- (f) number of associated containment sumps;
- (g) methods of field sample analysis and laboratory sample analysis;
- (h) potential for vapor intrusion;
- (i) proximity to surface waters; and
- (j) site conditions such as site geology and hydrology.

History Note: Authority G.S. 143-215.3(a)(15); 143B-282(a)(2)(h);
Eff. January 1, 1991;
Amended Eff. June 1, 2017;
Readopted Eff. January 1, 2021.

15A NCAC 02N .0804 APPLICABILITY TO PREVIOUSLY CLOSED UST SYSTEMS

The regulations governing "Applicability to previously closed UST systems" set forth in 40 CFR 280.73 are hereby incorporated by reference, excluding any subsequent amendments and editions.

History Note: Authority G.S. 143-215.3(a)(15); 143B-282(a)(2)(h);
Eff. January 1, 1991;
Amended Eff. June 1, 2017;
Readopted Eff. January 1, 2021.

15A NCAC 02N .0805 CLOSURE RECORDS

The regulations governing "Closure records" set forth in 40 CFR 280.74 are hereby incorporated by reference, excluding any subsequent amendments and editions.

History Note: Authority G.S. 143-215.3(a)(15); 143B-282(a)(2)(h);
Eff. January 1, 1991;
Amended Eff. June 1, 2017;
Readopted Eff. January 1, 2021.

SECTION .0900 - PERFORMANCE STANDARDS FOR UST SYSTEM OR UST SYSTEM COMPONENT INSTALLATION OR REPLACEMENT COMPLETED ON OR AFTER NOVEMBER 1, 2007

15A NCAC 02N .0901 GENERAL REQUIREMENTS

- (a) This Section applies to a UST system or UST system component installation or replacement completed on or after November 1, 2007.
- (b) A UST system or UST system component shall not be installed or replaced within an area defined in Rule .0301(b) of this Subchapter.
- (c) A tank shall meet the requirements for secondary containment including interstitial release detection monitoring in accordance with this Rule.
- (d) All UST system components other than tanks including connected piping, underground ancillary equipment, dispensers, line leak detectors, submersible pumps, spill buckets, siphon bars, and remote fill pipes shall meet the requirements for secondary containment including interstitial release detection monitoring in accordance with this Rule. Spill buckets replaced on tanks installed prior to November 1, 2007 may comply with the interstitial monitoring requirements described in Paragraph (k) of this Rule. Gravity-fed vertical fill pipes, vapor recovery, vent lines, and containment sumps are excluded from the secondary containment requirements in this Rule.
- (e) A UST system design is required for installation or replacement of a UST system, UST, or connected piping. If required by G.S. 89C, UST system designs must be prepared by a Professional Engineer licensed by the North Carolina Board of Examiners for Engineers and Surveyors.
[Note: The North Carolina Board of Examiners for Engineers and Surveyors has determined via letter dated December 20, 1993, that preparation of a UST system design constitutes practicing engineering under G.S. 89C.]
- (f) If required by the equipment manufacturer, persons installing, replacing or repairing UST systems or UST system components must be trained and certified by the equipment manufacturer or the equipment manufacturer's authorized representative to install, replace or repair such equipment.

(g) UST systems or UST system components shall be installed, tested, operated, and maintained in accordance with the manufacturer's specifications and the codes of practice, and industry standards described in Rule .0907 of this Section.

(h) UST systems or UST system components shall not be installed or replaced in areas where they will be in contact with contaminated soil or free product.

(i) Secondary containment systems shall be designed, constructed, installed and maintained to:

- (1) detect the failure of the inner wall and outer wall for UST system components with double wall construction;
- (2) contain regulated substances released from a UST system until they are detected and removed;
- (3) prevent a release of regulated substances to the environment outside of the containment system;
- (4) direct releases to a monitoring point or points;
- (5) provide a release detection monitoring device or monitoring method for the interstitial space;
- (6) on an uninterrupted basis, monitor the inner and outer walls of double-walled tanks for breaches of integrity using pressure, vacuum or hydrostatic monitoring methods or monitor the interstitial space of double-walled tanks for releases using an electronic liquid detecting sensor method along with periodic testing as specified in Rule .0903(f) of this Section;
- (7) on an uninterrupted basis, monitor the inner and outer walls of double-walled non-tank components for breaches of integrity using pressure, vacuum, or hydrostatic methods, or monitor a non-tank component for releases by using an electronic liquid detecting sensor placed in a containment sump and in the interstitial space of a double-walled spill bucket along with periodic integrity testing as specified in Rules .0904(f), .0905(g) and .0906(e) of this Section; and
- (8) provide a printed record of release detection monitoring results and an alarm history for each month.

(j) Electronic liquid detecting sensors used to monitor the interstitial space of double-walled tanks and non-tank components shall meet the following requirements:

- (1) Electronic liquid detecting sensors used for tanks and spill buckets shall be located at the lowest point in the interstitial space. Electronic liquid detecting sensors used for containment sumps shall be located as specified in Rule .0905(d) of this Section.
- (2) A tank shall have a method to verify that an electronic liquid detecting sensor is located at the lowest point of the interstitial space. Verification of the sensor location shall be available for inspection.
- (3) Electronic liquid detecting sensors shall detect the presence of any liquid in the interstitial space and shall activate an alarm when any type of liquid is detected.
- (4) Any liquid detected in the interstitial space must be removed within 48 hours of discovery.

(k) Spill buckets replaced on tanks installed prior to November 1, 2007 may use mechanical liquid detecting sensors for interstitial leak detection monitoring instead of electronic liquid detecting sensors. If a mechanical liquid detecting sensor is used, then Subparagraphs (i)(7) and (8) of this Rule do not apply. However, the spill bucket shall comply with all spill bucket requirements of Rule .0906 of this Section. In addition, the following specific requirements shall be met:

- (1) mechanical liquid detecting sensors shall be located at the lowest point in the interstitial space;
- (2) mechanical liquid detecting sensors shall detect the presence of any liquid in the interstitial space. The presence of liquid shall register on a gauge that can be viewed from within the spill bucket;
- (3) spill buckets shall be monitored every 30 days. The interstitial leak detection monitoring results shall be documented for each month;
- (4) any liquid detected in the interstitial space shall be removed within 48 hours of discovery; and
- (5) spill buckets shall be integrity tested every three years in accordance with Rule .0906(e) of this Section.

(l) New or replacement dispensers shall be provided with under dispenser containment sumps and shall meet the secondary containment requirements and performance standards of this Rule.

(m) All release detection monitoring equipment shall be installed, calibrated, operated and maintained in accordance with manufacturer's instructions. All release detection monitoring equipment shall be checked annually for operability, proper operating condition and proper calibration in accordance with the manufacturer's written guidelines. The results of the last annual check must be recorded, maintained at the UST site or the tank owner or operator's place of business, and made available for inspection.

(n) Releases detected in an interstitial space shall be reported in accordance with Rule .0601 of this Subchapter and investigated in accordance with the manufacturer's written guidelines. Any changes in the original physical

characteristics or integrity of a piping system or a containment sump shall also be reported in accordance with Rule .0601 of this Subchapter and investigated in accordance with the manufacturer's written guidelines.

(o) UST systems and UST system components shall also meet all of the requirements specified in 40 CFR 280.20(c), (d), and (e). In addition, overflow prevention equipment shall be inspected at least once every three years for operability, proper operating condition and proper calibration in accordance with:

- (1) written requirements developed by the manufacturer;
- (2) a code of practice developed by a nationally recognized association or independent testing laboratory; or
- (3) requirements determined by the US Environmental Protection Agency or the Division to be no less protective of human health and the environment than the requirements listed in Subparagraph (1) or (2) of this Paragraph. The inspection shall ensure that overflow prevention equipment is set to activate at the correct level specified in 40 CFR 280.20(c)(1)(ii) and will activate when regulated substance reaches that level.
- (4) The results of the last triennial check shall be recorded, maintained at the UST site or the tank owner or operator's place of business, and made available for inspection.

*History Note: Authority G.S. 143-215.3(a)(15); 143B-282(a)(2)(h);
Eff. November 1, 2007;
Amended Eff. February 1, 2010;
Readopted Eff. January 1, 2021;
Amended Eff. August 23, 2022.*

15A NCAC 02N .0902 NOTIFICATION

(a) Owners and operators shall provide notification of installation or replacement of an UST system, UST, or connected piping to the Division in accordance with Rule .0303 of this Subchapter. The notice shall also include:

- (1) An UST system design.
- (2) Equipment to be installed including model and manufacturer and the materials of construction.
- (3) Device or method to be used to allow piping to be located after it is buried underground.
- (4) A site plan drawn to scale showing the proposed location of UST systems relative to buildings and other permanent structures, roadways, utilities, other UST systems, monitoring wells, and water supply wells within 500 feet used for human consumption.
- (5) A schedule for UST system installation or replacement.

(b) Owners and operators shall notify the Division at least 48 hours prior to the following stages of construction so that the Division may perform an inspection of the installation:

- (1) pre-installation tightness testing of tanks; and
- (2) final tightness testing of piping before it is backfilled.

(c) Documents showing the following information shall be submitted to the Division within 30 days after UST system, UST, or connected piping installation or replacement is completed and shall be maintained at the UST system site or the owner's or operator's place of business for the life of the UST system. These records shall be transferred to a new tank owner at the time of a transfer of tank ownership:

- (1) Certification from the UST system installer containing:
 - (A) the UST system installer's name, address and telephone number; training and any certification received from the manufacturer of the equipment that was installed or replaced or the equipment manufacturer's authorized representative including any certification number;
 - (B) an as-built diagram drawn to scale showing: the name and address of the UST system site; the date of UST system, UST, or connected piping installation or replacement; the equipment that was installed including model and manufacturer; the information described in Rule .0903(c) of this Section; the method used to anchor a tank in the ground; if the equipment has single-walled or double-walled construction; the year the piping was manufactured and any production code; and the device or method used to allow piping to be located after it is buried underground. The as-built diagram shall also show the location of the installed or replaced UST systems relative to: buildings and other permanent structures, utilities, monitoring wells and other UST systems located at the site; adjacent roadways; and water supply wells used for human consumption within 500 feet;

- (C) a listing of the manufacturer's written guidelines, codes of practice, and industry standards used for installation; and
 - (D) a statement that the UST system was installed in accordance with the design and the manufacturer's specifications.
- (2) manufacturer warranties;
 - (3) any equipment performance claims; and
 - (4) records of all tightness testing performed.

*History Note: Authority G.S. 143-215.3(a)(15); 143B-282(a)(2)(h);
Eff. November 1, 2007;
Readopted Eff. January 1, 2021.*

15A NCAC 02N .0903 TANKS

- (a) Tanks shall be protected from external corrosion in accordance with 40 CFR 280.20(a)(1), (2), (3), or (5).
- (b) Owners and operators of tanks installed in accordance with 40 CFR 280.20(a)(2) shall comply with all applicable requirements for corrosion protection systems contained in this Subchapter.
- (c) The exterior surface of a tank shall bear a permanent marking, code stamp, or label showing the following information:
 - (1) the engineering standard used;
 - (2) the diameter in feet;
 - (3) the capacity in gallons;
 - (4) the materials of construction of the inner and outer walls of the tank, including any external or internal coatings;
 - (5) serial number or other unique identification number designated by the tank manufacturer;
 - (6) date manufactured; and
 - (7) identify of manufacturer.
- (d) Tanks that will be reused shall be certified by the tank manufacturer prior to re-installation and meet all of the requirements of this Section. Tank owners and operators shall submit proof of certification to the Division along with a notice of intent in accordance with Rule .0902 of this Section.
- (e) Tanks shall be tested before and after installation in accordance with the following requirements:
 - (1) Pre-Installation Test - Before installation, the primary containment and the interstitial space shall be tested in accordance with the manufacturers written guidelines and Petroleum Equipment Institute (PEI), PEI/RP100, "Recommended Practice for Installation of Underground Liquid Storage Systems." PEI/RP100, "Recommended Practice for Installation of Underground Liquid Storage Systems" is hereby incorporated by reference, including subsequent amendments and editions. A copy may be obtained from Petroleum Equipment Institute at <https://my.pei.org/productdetails?id=a1Bf400001yPEBEA2> at a cost of one hundred and ninety-five dollars (\$195.00). The presence of soap bubbles or water droplets during a pressure test, any change in vacuum beyond the limits specified by the tank manufacturer during a vacuum test, or any change in liquid level in an interstitial space liquid reservoir beyond the limits specified by the tank manufacturer, shall be considered a failure of the integrity of the tank.
 - (2) Post-installation Test – The interstitial space shall be checked for a loss of pressure or vacuum, or a change in liquid level in an interstitial space liquid reservoir. Any loss of pressure or vacuum beyond the limits specified by the tank manufacturer, or a change in liquid level beyond the limits specified by the tank manufacturer, shall be considered a failure of the integrity of the tank.
 - (3) If a tank fails a pre-installation or post-installation test, tank installation shall be suspended until the tank is replaced or repaired in accordance with the manufacturer's specifications. Following any repair, the tank shall be re-tested in accordance with Subparagraph (1) of this Paragraph if it failed the pre-installation test and in accordance with Subparagraph (2) of this Paragraph if it failed the post-installation test.
- (f) The interstitial spaces of tanks that are not monitored using vacuum, pressure, or hydrostatic methods shall be tested for tightness before UST system start-up, between six months and the first anniversary of start-up, and every three years thereafter. The interstitial space shall be tested using an interstitial tank tightness test method that is capable of detecting a 0.10 gallon per hour leak rate with a probability of detection (Pd) of at least 95 percent and a probability of false alarm (Pfa) of no more than five percent. The test method shall be evaluated by an independent testing laboratory, consulting firm, not-for-profit research organization, or educational institution using the most

recent version of the United States Environmental Protection Agency's (EPA's) "Standard Test Procedures for Evaluating Release Detection Methods: Volumetric and Non-volumetric Tank Tightness Testing (EPA 510-B-19-003)." EPA's "Standard Test Procedures for Evaluating Release Detection Methods: Volumetric and Non-volumetric Tank Tightness Testing (EPA 510-B-19-003)" is hereby incorporated by reference, including subsequent amendments and additions. A copy may be obtained by visiting EPA's Office of Underground Storage Tank website: <https://www.epa.gov/ust/standard-test-procedures-evaluating-various-leak-detection-methods> and may be accessed free of charge. The independent testing laboratory, consulting firm, not-for-profit research organization, or educational institution shall certify that the test method can detect a 0.10 gallon per hour leak rate with a Pd of at least 95 percent and a Pfa of no more than five percent for the specific tank model being tested. If a tank fails an interstitial tank tightness test, it shall be replaced by the owner or operator or repaired by the manufacturer or the manufacturer's authorized representative in accordance with manufacturer's specifications. Tank owners and operators shall report all failed interstitial tank tightness tests to the Division within 24 hours. Failed interstitial tank tightness tests shall be reported by fax to the Division of Waste Management, Underground Storage Tank Section, at (919) 715-1117. Following any repair, the tank interstitial space shall be re-tested for tightness. The most recent interstitial tightness test record shall be maintained at the UST site or the tank owner's or operator's place of business and shall be available for inspection.

*History Note: Authority G.S. 143-215.3(a)(15); 143B-282(a)(2)(h);
Eff. November 1, 2007;
Amended Eff. June 1, 2015; February 1, 2010;
Readopted Eff. January 1, 2021.*

15A NCAC 02N .0904 PIPING

- (a) Piping, with the exception of flexible connectors and piping connections, shall be pre-fabricated with double-walled construction. Any flexible connectors or piping connections that do not have double-walled construction shall be installed in containment sumps that meet the requirements of Rule .0905 of this Section.
- (b) Piping, with the exception of metal flex connectors and piping connections, shall meet the requirements of Subparagraph (1) or (2) of this Paragraph. Metal flexible connectors and piping connections shall be installed in containment sumps that meet the requirements of Rule .0905 of this Section.
 - (1) Primary and secondary piping are constructed of non-corroding materials and shall comply with the Underwriters Laboratories Standard (UL) 971 standard "Nonmetallic Underground Piping for Flammable Liquids" that is in effect at the time the piping is installed. UL 971 "Standard for Nonmetallic Underground Piping for Flammable Liquids" is hereby incorporated by reference, including subsequent amendments and editions. A copy may be obtained from Underwriters Laboratories at <https://www.shopulstandards.com/PurchaseProduct.aspx?UniqueKey=7936> at a cost of four hundred and two dollars (\$402.00).
 - (2) Primary piping is constructed of stainless steel and secondary piping is constructed of non-corroding materials and shall comply with UL 971A "Outline of Investigation for Metallic Underground Fuel Pipe." UL 971A "Outline of Investigation for Metallic Underground Fuel Pipe" is hereby incorporated by reference, including subsequent amendments and editions. A copy may be obtained from Underwriters Laboratories at <https://www.shopulstandards.com/PurchaseProduct.aspx?UniqueKey=15373> at a cost of two hundred and twenty-five dollars (\$225.00).
- (c) Piping that is buried underground shall be constructed with a device or method that allows it to be located once it is installed.
- (d) Piping that conveys regulated substances under pressure shall also be equipped with an automatic line leak detector that meets the requirements of 40 CFR 280.44(a).
- (e) At the time of installation, the primary containment and interstitial space of the piping shall be initially tested, monitored during construction, and finally tested in accordance with the manufacturers written guidelines and PEI/RP100, "Recommended Practice for Installation of Underground Liquid Storage Systems." The presence of soap bubbles or water droplets or any loss of pressure beyond the limits specified by the piping manufacturer during testing shall be considered a failure of the integrity of the piping. If the piping fails a tightness test, it shall be replaced by the owner or operator or repaired by the manufacturer or the manufacturer's authorized representative in accordance with the manufacturer's written specifications. Following any repair, the piping shall be re-tested for tightness in accordance with the manufacturers written guidelines and PEI/RP100, "Recommended Practice for Installation of Underground Liquid Storage Systems."

(f) Piping that is not monitored continuously for releases using vacuum, pressure, or hydrostatic methods, shall be tested for tightness every three years following installation. The primary containment shall be tested using a piping tightness test method that is capable of detecting a 0.10 gallon per hour leak rate with a probability of detection (Pd) of at least 95 percent and a probability of false alarm (Pfa) of no more than five percent. The test method shall be evaluated by an independent testing laboratory, consulting firm, not-for-profit research organization, or educational institution using the most recent version of the United States Environmental Protection Agency's (EPA's) "Standard Test Procedures for Evaluating Release Detection Methods: Pipeline Release Detection (EPA 510-B-19-005)." EPA's "Standard Test Procedures for Evaluating Release Detection Methods: Pipeline Release Detection (EPA 510-B-19-005)" is hereby incorporated by reference, including subsequent amendments and editions. A copy may be obtained by visiting EPA's Office of Underground Storage Tank website: <https://nepis.epa.gov/Exe/ZyPURL.cgi?Dockey=P100WW8T.txt> and may be accessed free of charge. The independent testing laboratory, consulting firm, not-for-profit research organization, or educational institution shall certify that the test method can detect a 0.10 gallon per hour leak rate with a Pd of at least 95 percent and a Pfa of no more than five percent. The interstitial space of the piping shall be tested in accordance with the manufacturer's written guidelines or a code of practice developed by a nationally recognized association or independent testing laboratory. If the piping fails a tightness test, it shall be replaced or repaired by the manufacturer or the manufacturer's authorized representative in accordance with the manufacturer's specifications. Following any repair, the piping shall be re-tested for tightness in accordance with Paragraph (f) of this Rule. The most recent periodic tightness test record shall be maintained at the UST site or the tank owner or operator's place of business and shall be available for inspection.

*History Note: Authority G.S. 143-215.3(a)(15); 143B-282(a)(2)(h);
Eff. November 1, 2007;
Amended Eff. June 1, 2015;
Readopted Eff. January 1, 2021.*

15A NCAC 02N .0905 CONTAINMENT SUMPS

- (a) Containment sumps shall be constructed of non-corroding materials.
- (b) Containment sumps shall be designed and manufactured expressly for the purpose of containing and detecting a release.
- (c) Containment sumps shall be designed, constructed, installed, and maintained to prevent water infiltration.
- (d) Electronic sensor probes used for release detection monitoring shall be located no more than two inches above the lowest point of the containment sump.
- (e) At installation, containment sumps shall be tested for tightness after construction, but before backfilling. Tightness testing shall be conducted in accordance with the manufacturer's written guidelines and PEI/RP100, "Recommended Practice for Installation of Underground Liquid Storage Systems." Other tightness test methods may be used if they are approved by the Division. In approving a containment sump tightness testing method the Division shall consider the following factors:
 - (1) the inner surface of the sump is tested to at least four inches above the highest joint or penetration fitting, whichever is higher; and
 - (2) the method is capable of detecting a fracture, perforation or gap in the sump within the specified test period.
- (f) If a containment sump fails an installation tightness test, the sump shall be replaced or repaired by the manufacturer or the manufacturer's authorized representative in accordance with the manufacturer's specifications. Following replacement or repair, the containment sump shall be re-tested for tightness in accordance with Paragraph (e) of this Rule.
- (g) Containment sumps that are not monitored on an uninterrupted basis for releases using vacuum, pressure or hydrostatic interstitial monitoring methods shall be tested for tightness every three years following installation in accordance with:
 - (1) written requirements developed by the manufacturer;
 - (2) a code of practice developed by a nationally recognized association or independent testing laboratory; or
 - (3) requirements determined by the US Environmental Protection Agency or the Division to be no less protective of human health and the environment than the requirements listed in Subparagraph (1) and (2) of this Paragraph.

If a containment sump fails a periodic tightness test, the sump shall be replaced in accordance with Paragraphs (a), (b) and (c) of this Rule or repaired by the manufacturer or the manufacturer's authorized representative in accordance with the manufacturer's specifications or a code of practice developed by a nationally recognized association or independent testing laboratory. Following replacement or repair, the containment sump shall be re-tested for tightness in accordance with Paragraph (e) of this Rule. The last periodic tightness test record shall be maintained at the UST site or the tank owner or operator's place of business and shall be available for inspection.

(h) All containment sumps shall be visually inspected at least annually in accordance with Rule .0407 of this Subchapter. Any water or regulated substance present in a sump at the time of inspection shall be removed from the sump within 48 hours of discovery. The visual inspection results shall be documented and shall be maintained for at least one year at the UST site or the tank owner's or operator's place of business and shall be available for inspection.

*History Note: Authority G.S. 143-215.3(a)(15); 143B-282(2)(h);
Eff. November 1, 2007;
Readopted Eff. January 1, 2021;
Amended Eff. August 23, 2022.*

15A NCAC 02N .0906 SPILL BUCKETS

(a) Spill buckets shall be pre-fabricated with double-walled construction.

(b) Spill buckets shall be protected from corrosion by being constructed of non-corroding materials.

(c) Spill buckets shall be designed, constructed, installed, and maintained to prevent water infiltration.

(d) After installation but before backfilling, the primary containment and interstitial space of the spill bucket shall be tested in accordance with the manufacturer's written guidelines or a code of practice developed by a nationally recognized association or independent testing laboratory. Any change in vacuum during a vacuum test or any change in liquid level in an interstitial space liquid reservoir beyond the limits specified by the equipment manufacturer shall be considered a failure of the integrity of the spill bucket. If the spill bucket fails a tightness test, it shall be replaced or repaired by the manufacturer or the manufacturer's authorized representative in accordance with the manufacturer's specifications. Following any repair, the spill bucket shall be re-tested for tightness in accordance with the manufacturers' written guidelines or a code of practice developed by a nationally recognized association or independent testing laboratory.

(e) Spill buckets that are not monitored on an uninterrupted basis for releases using vacuum, pressure or hydrostatic methods, shall be tested for tightness at installation and every three years following installation. The primary containment and interstitial space of the spill bucket shall be tested in accordance with:

- (1) written requirements developed by the manufacturer;
- (2) a code of practice developed by a nationally recognized association or independent testing laboratory; or
- (3) requirements determined by the US Environmental Protection Agency or the Division to be no less protective of human health and the environment than the requirements listed in Subparagraph (1) and (2) of this Paragraph.

If the spill bucket fails a tightness test, it shall be replaced and tested in accordance with Paragraphs (a) through (d) of this Rule or repaired by the manufacturer or the manufacturer's authorized representative in accordance with the manufacturer's specifications. Following any repair, the spill bucket shall be re-tested for tightness in accordance with the manufacturers' written guidelines or a code of practice developed by a nationally recognized association or independent testing laboratory. The last periodic tightness test record shall be maintained at the UST site or the tank owner or operator's place of business and shall be available for inspection.

*History Note: Authority G.S. 143-215.3(a)(15); 143B-282(2)(h);
Eff. November 1, 2007;
Readopted Eff. January 1, 2021;
Amended Eff. August 23, 2022.*

15A NCAC 02N .0907 NATIONAL CODES OF PRACTICE AND INDUSTRY STANDARDS

In order to comply with this Section, owners and operators shall comply with the following standards:

- (1) The most recent versions of the following national codes of practice and industry standards applicable at the time of UST system installation or replacement shall be used.
 - (a) American Concrete Institute (ACI) International 224R-01, "Control of Cracking in Concrete Structures." ACI International 224R-01, "Control of Cracking in Concrete

Structures" is hereby incorporated by reference, including subsequent amendments and editions. A copy may be obtained from ACI International at https://www.concrete.org/store/productdetail.aspx?ItemID=22401&Format=DOWNLOAD&Language=English&Units=US_AND_METRIC at a cost of seventy-nine dollars and fifty cents (\$79.50).

- (b) ACI International 350-06, "Code Requirements for Environmental Engineering Concrete Structures." ACI International 350-06, "Code Requirements for Environmental Engineering Concrete Structures" is hereby incorporated by reference, including subsequent amendments and editions. A copy may be obtained from ACI International at https://www.concrete.org/store/productdetail.aspx?ItemID=35006&Language=English&Units=US_Units at a cost of one hundred eighty-six dollars and fifty cents (\$186.50).
- (c) American Petroleum Institute (API) Standard 570, "Piping Inspection Code: In-service Inspection, Repair, Alteration of Piping Systems." API Standard 570, "Piping Inspection Code: In-service Inspection, Repair, Alteration of Piping Systems." is hereby incorporated by reference, including subsequent amendments and editions. A copy may be obtained from API Publications at https://www.techstreet.com/api/standards/api-570?product_id=1910713 at a cost of one hundred ninety-five dollars (\$195.00).
- (d) API Recommended Practice 1110, "Recommended Practice for the Pressure Testing of Steel Pipelines for the Transportation of Gas, Petroleum Gas, Hazardous Liquids, Highly Volatile Liquids or Carbon Dioxide." API Recommended Practice 1110, "Recommended Practice for the Pressure Testing of Steel Pipelines for the Transportation of Gas, Petroleum Gas, Hazardous Liquids, Highly Volatile Liquids or Carbon Dioxide" is hereby incorporated by reference, including subsequent amendments and editions. A copy may be obtained from API Publications at https://www.techstreet.com/api/standards/api-rp-1110-r2018?product_id=1852115 at a cost of one hundred three dollars (\$103.00).
- (e) API Recommended Practice 1615, "Installation of Underground Hazardous Substances or Petroleum Storage Systems." API Recommended Practice 1615, "Installation of Underground Hazardous Substances or Petroleum Storage Systems" is hereby incorporated by reference, including subsequent amendments and editions. A copy may be obtained from API Publications at https://www.techstreet.com/api/standards/api-rp-1615?product_id=1780646 at a cost of two hundred twenty-two dollars (\$222.00).
- (f) API Recommended Practice 1621, "Bulk Liquid Stock Control at Retail Outlets." API Recommended Practice 1621, "Bulk Liquid Stock Control at Retail Outlets" is hereby incorporated by reference, including subsequent amendments and editions. A copy may be obtained from API Publications at https://www.techstreet.com/api/standards/api-rp-1621-r2012?product_id=14616 at a cost of ninety dollars (\$90.00).
- (g) API Recommended Practice 1631, "Interior Lining and Periodic Inspection of Underground Storage Tanks." API Recommended Practice 1631, "Interior Lining and Periodic Inspection of Underground Storage Tanks" is hereby incorporated by reference, including subsequent amendments and editions. A copy may be obtained from API Publications at https://www.techstreet.com/api/standards/api-rp-1631?product_id=913787 at a cost of ninety-four dollars (\$94.00).
- (h) API Recommended Practice 1637, "Using the API Color-Symbol System to Identify Equipment, Vehicles, and Transfer Points for Petroleum Fuels and Related Products at Dispensing and Storage Facilities and Distribution Terminals." API Recommended Practice 1637, "Using the API Color-Symbol System to Identify Equipment, Vehicles, and Transfer Points for Petroleum Fuels and Related Products at Dispensing and Storage Facilities and Distribution Terminals" is hereby incorporated by reference, including subsequent amendments and editions. A copy may be obtained from API Publications at https://www.techstreet.com/api/standards/api-rp-1637?product_id=2110859 at a cost of seventy-nine dollars (\$79.00).
- (i) American Society of Mechanical Engineers (ASME) International: B31.4-2006, "Pipeline Transportation Systems for Liquids and Slurries." ASME International: B31.4-2006, "Pipeline Transportation Systems for Liquids and Slurries" is hereby incorporated by reference, including subsequent amendments and editions. A copy may be obtained from

ASME at <https://www.asme.org/codes-standards/find-codes-standards/b31-4-pipeline-transportation-systems-liquids-slurries> at a cost of two hundred forty-five dollars (\$245.00).

- (j) National Fire Protection Association (NFPA) 30, "Flammable and Combustible Liquids Code." NFPA 30, "Flammable and Combustible Liquids Code" is hereby incorporated by reference, including subsequent amendments and editions. A copy may be obtained from National Fire Protection Association at <https://catalog.nfpa.org/NFPA-30-Flammable-and-Combustible-Liquids-Code-P1164.aspx?icid=D729> at a cost of seventy-seven dollars and fifty cents (\$77.50).
- (k) NFPA 30A, "Code for Motor Fuel Dispensing Facilities and Repair Garages." NFPA 30A, "Code for Motor Fuel Dispensing Facilities and Repair Garages" is hereby incorporated by reference, including subsequent amendments and editions. A copy may be obtained from National Fire Protection Association at <https://catalog.nfpa.org/NFPA-30A-Code-for-Motor-Fuel-Dispensing-Facilities-and-Repair-Garages-P1165.aspx?icid=D729> at a cost of fifty-two dollars (\$52.00).
- (l) NFPA 329, "Recommended Practice for Handling Releases of Flammable and Combustible Liquids and Gases." NFPA 329, "Recommended Practice for Handling Releases of Flammable and Combustible Liquids and Gases" is hereby incorporated by reference, including subsequent amendments and editions. A copy may be obtained from National Fire Protection Association at <https://catalog.nfpa.org/NFPA-329-Recommended-Practice-for-Handling-Releases-of-Flammable-and-Combustible-Liquids-and-Gases-P1287.aspx?icid=D729> at a cost of fifty-two dollars (\$52.00).
- (m) PEI: PEI/RP100, "Recommended Practice for Installation of Underground Liquid Storage Systems." PEI: PEI/RP100, "Recommended Practice for Installation of Underground Liquid Storage Systems" is hereby incorporated by reference, including subsequent amendments and editions. A copy may be obtained from Petroleum Equipment Institute at https://www.techstreet.com/pei/standards/pei-rp100-20?product_id=2183374 at a cost of one hundred ninety-five dollars (\$195.00).
- (n) PEI: PEI/RP1200, "Recommended Practice for Testing and Verification of Spill, Overfill, Leak Detection and Secondary Containment Equipment at UST Facilities." PEI: PEI/RP1200, "Recommended Practice for Testing and Verification of Spill, Overfill, Leak Detection and Secondary Containment Equipment at UST Facilities" is hereby incorporated by reference, including subsequent amendments and editions. A copy may be obtained from Petroleum Equipment Institute at https://www.techstreet.com/pei/standards/pei-rp1200-19?product_id=2085907 at a cost of one hundred ninety-five dollars (\$195.00).
- (o) Steel Tank Institute (STI) ACT 100 F894, "Specifications for External Corrosion Protection of FRP Composite Steel Underground Storage Tanks." Steel Tank Institute (STI) ACT 100 F894, "Specifications for External Corrosion Protection of FRP Composite Steel Underground Storage Tanks" is hereby incorporated by reference, including subsequent amendments and editions. A copy may be obtained from Steel Tank Institute, at <https://www.steeltank.com/Publications/STISPFASStore/ProductDetail/tabid/502/rvdsfpid/act-100-specification-for-external-corrosion-protection-of-frp-composite-steel-usts-f894-2/Default.aspx> at a cost of sixty dollars (\$60.00).
- (p) STI ACT 100-U F961, "Specifications for External Corrosion Protection of Composite Steel Underground Storage Tanks." STI ACT 100-U F961, "Specifications for External Corrosion Protection of Composite Steel Underground Storage Tanks" is hereby incorporated by reference, including subsequent amendments and editions. A copy may be obtained from Steel Tank Institute at <https://www.steeltank.com/Publications/STISPFASStore/ProductDetail/tabid/502/rvdsfpid/act-100u-specification-for-external-corrosion-protection-of-composite-steel-underground-storage-tanks-f961-250/Default.aspx> at a cost of sixty dollars (\$60.00).
- (q) STI F922, "Specifications for Permatank." STI F922, "Specifications for Permatank" is hereby incorporated by reference, including subsequent amendments and editions. A copy may be obtained from Steel Tank Institute at

<https://www.steeletank.com/Publications/STISPFASStore/ProductDetail/tabid/502/rvdsfpid/permatank-f922-specification-for-permatank-231/Default.aspx> at a cost of sixty dollars (\$60.00).

- (r) Underwriters UL 58, "Standard for Steel Underground tanks for Flammable and Combustible Liquids." UL 58, "Standard for Steel Underground tanks for Flammable and Combustible Liquids." is hereby incorporated by reference, including subsequent amendments and editions. A copy may be obtained from Underwriters Laboratories at <https://www.shopulstandards.com/PurchaseProduct.aspx?UniqueKey=33920> at a cost of four hundred and two dollars (\$402.00).
- (s) UL 567, "Standard for Emergency Breakaway Fittings, Swivel Connectors and Pipe-Connection Fittings for Petroleum Products and LP Gas." UL 567, "Standard for Emergency Breakaway Fittings, Swivel Connectors and Pipe-Connection Fittings Petroleum Products and LP Gas" is hereby incorporated by reference, including subsequent amendments and editions. A copy may be obtained from Underwriters Laboratories at <https://www.shopulstandards.com/PurchaseProduct.aspx?UniqueKey=27791> at a cost of seven hundred sixteen dollars (\$716.00).
- (t) UL 567A, "Standard for Emergency Breakaway Fittings, Swivel Connectors and Pipe-Connection Fittings for Gasoline and Gasoline/Ethanol Blends with Nominal Ethanol Concentrations up to 85 Percent (E0 – E85)." UL 567A, "Standard for Emergency Breakaway Fittings, Swivel Connectors and Pipe-Connection Fittings for Gasoline and Gasoline/Ethanol Blends with Nominal Ethanol Concentrations up to 85 Percent (E0 – E85)" is hereby incorporated by reference, including subsequent amendments and editions. A copy may be obtained from Underwriters Laboratories at <https://www.shopulstandards.com/PurchaseProduct.aspx?UniqueKey=29197> at a cost of five hundred and five dollars (\$505.00).
- (u) UL 567B, "Standard for Emergency Breakaway Fittings, Swivel Connectors and Pipe-Connection Fittings for Diesel Fuel, Biodiesel Fuel, Diesel/Biodiesel Blends with Nominal Biodiesel Concentrations up to 20 Percent (B20), Kerosene, and Fuel Oil." UL 567B, "Standard for Emergency Breakaway Fittings, Swivel Connectors and Pipe-Connection Fittings for Diesel Fuel, Biodiesel Fuel, Diesel/Biodiesel Blends with Nominal Biodiesel Concentrations up to 20 Percent (B20), Kerosene, and Fuel Oil" is hereby incorporated by reference, including subsequent amendments and editions. A copy may be obtained from Underwriters Laboratories at <https://www.shopulstandards.com/PurchaseProduct.aspx?UniqueKey=29195> at a cost of four hundred and two dollars (\$402.00).
- (v) UL 971, "Standard for Nonmetallic Underground Piping for Flammable Liquids." UL 971, "Standard for Nonmetallic Underground Piping for Flammable Liquids" is hereby incorporated by reference, including subsequent amendments and editions. A copy may be obtained from UL at <https://www.shopulstandards.com/PurchaseProduct.aspx?UniqueKey=7936> at a cost of four hundred and two dollars (\$402.00).
- (w) UL 971A, "Outline of Investigation for Metallic Underground Fuel Pipe." UL 971A, "Outline of Investigation for Metallic Underground Fuel Pipe" is hereby incorporated by reference, including subsequent amendments and editions. A copy may be obtained from UL at <https://www.shopulstandards.com/PurchaseProduct.aspx?UniqueKey=15373> at a cost of two hundred and twenty-five dollars (\$225.00).
- (x) UL 1316, "Standard for Fibre Reinforced Underground Tanks for Flammable and Combustible Liquids." UL 1316, "Standard for Fibre Reinforced Underground Tanks for Flammable and Combustible Liquids" is hereby incorporated by reference, including subsequent amendments and editions. A copy may be obtained from Underwriters Laboratories at <https://www.shopulstandards.com/PurchaseProduct.aspx?UniqueKey=35172> at a cost of four hundred and two dollars (\$402.00).
- (y) UL 1746, "Standard for External Corrosion Protection Systems for Steel Underground Storage Tanks." UL 1746, "Standard for External Corrosion Protection Systems for Steel

Underground Storage Tanks." is hereby incorporated by reference, including subsequent amendments and editions. A copy may be obtained from Underwriters Laboratories at <https://www.shopulstandards.com/PurchaseProduct.aspx?UniqueKey=15742> at a cost of seven hundred ninety-eight dollars (\$798.00); and

- (2) Other appropriate codes or standards applicable at the time of UST system installation or replacement may be used provided they are developed by ACI, American National Standards Institute (ANSI), API, ASME, ASTM International, NFPA, National Leak Prevention Association (NLPA), PEI, STI and UL.

History Note: Authority G.S. 143-215.3(a)(15); 143B-282(a)(2)(h);
Eff. November 1, 2007;
Readopted Eff. January 1, 2021.

SECTION .1000 – UST SYSTEMS WITH FIELD-CONSTRUCTED TANKS AND AIRPORT HYDRANT FUEL DISTRIBUTION SYSTEMS

15A NCAC 02N .1001 DEFINITIONS

The regulations governing "UST systems with field-constructed tanks and airport hydrant fuel distribution systems" set forth in 40 CFR 280.250 (Subpart K) are hereby incorporated by reference.

History Note: Authority G.S. 143-215.3(a)(15); 143B-282(a)(2)(h); 150B-21.6;
Eff. June 1, 2017.

15A NCAC 02N .1002 GENERAL REQUIREMENTS

The regulations governing "General Requirements" set forth in 40 CFR 280.251 (Subpart K) are hereby incorporated by reference.

History Note: Authority G.S. 143-215.3(a)(15); 143B-282(a)(2)(h); 150B-21.6;
Eff. June 1, 2017.

15A NCAC 02N .1003 ADDITIONS, EXCEPTIONS, AND ALTERNATIVES FOR UST SYSTEMS WITH FIELD-CONSTRUCTED TANKS AND AIRPORT HYDRANT SYSTEMS

The regulations governing "Additions, exceptions, and alternatives for UST systems with field-constructed tanks and airport hydrant systems" set forth in 40 CFR 280.252 (Subpart K) are hereby incorporated by reference, except that:

- (1) piping associated with UST systems with field-constructed tanks less than or equal to 50,000 gallons not part of an airport hydrant fueling system shall comply with the requirements of Section .0900 of this Subchapter; and
- (2) UST systems with field-constructed tanks and airport hydrant systems shall comply with the spill and overfill prevention requirements of Section .0900 of this Subchapter.

History Note: Authority G.S. 143-215.3(a)(15); 143B-282(a)(2)(h); 150B-21.6;
Eff. June 1, 2017.