

15A NCAC 13B .1680 LEACHATE STORAGE REQUIREMENTS

(a) Applicability.

- (1) Construction of leachate storage tanks and surface impoundments located at solid waste landfill facilities after October 9, 1993 shall meet the requirements set forth in this Rule.
- (2) Liquid treatment and disposal at a solid waste landfill facility is subject to the requirements of this Subchapter.
- (3) Operation and closure of all leachate storage tanks and surface impoundments shall meet the requirements of this Rule.

(b) Application requirements. An application for a permit to construct a landfill facility which includes leachate storage facilities shall contain the following:

- (1) A description of the liquid to be stored;
- (2) The estimated volume of liquid generated and a proposed recordkeeping system to record actual quantities stored;
- (3) A schedule for liquid removal;
- (4) A description of the final treatment and disposal of the liquid stored;
- (5) A description of the liquid storage facility design;
- (6) A contingency plan for managing unexpected surges in liquid quantities; and
- (7) A closure plan prepared in accordance with Paragraph (f) of this Rule.

(c) Aboveground or onground tank requirements.

- (1) Tanks may be constructed of concrete, steel, or other material approved by the Division. Tanks shall be supported on a well drained stable foundation which prevents movement, rolling, or settling of the tank.
 - (A) The exterior surfaces of all aboveground and onground steel storage tanks shall be protected by a primer coat, a bond coat and two or more final coats of paint or have at least an equivalent surface coating system designed to prevent corrosion and deterioration.
 - (B) The interior of all aboveground and onground tanks shall consist of a material, or shall be lined with a material, resistant to the liquid being stored.
- (2) All aboveground and onground tanks shall have a secondary containment system which may consist of dikes, liners, pads, ponds, impoundments, curbs, ditches, sumps, or other systems capable of containing the liquid stored.
 - (A) The design volume for the secondary containment system shall be 110 percent of the volume of either the largest tank within the containment system or the total volume of all interconnected tanks, whichever is greater.
 - (B) The secondary containment system shall be constructed of a material compatible with the liquid being stored.
- (3) A system shall be designed to contain and remove storm water from the secondary containment area. Provisions shall be included for the removal of any accumulated precipitation and be initiated within 24 hours or when 10 percent of the storage capacity is reached, whichever occurs first. Disposal shall be in compliance with all applicable federal and State regulations.
- (4) All aboveground and onground tanks shall be equipped with an overflow prevention system which may include, but not be limited to: level sensors and gauges, high level alarms or automatic shutoff controls. The overflow control equipment shall be inspected weekly by the facility operator to ensure it is in good working order.
- (5) The operator of the facility shall inspect the exterior of all tanks for leaks, corrosion, and maintenance deficiencies weekly. Interior inspection of tanks shall be performed according to the Division approved plan. If the inspection reveals a tank or equipment deficiency which could result in failure of the tank to contain the liquid, remedial measures shall be taken immediately to eliminate the leak or correct the deficiency. Inspection reports shall be maintained and made available to the Division upon request for the lifetime of the liquid storage system.
- (6) All uncovered tanks shall have a minimum two feet of freeboard. Odor and vector control shall be practiced when necessary.

(d) Underground tank requirements.

- (1) Underground tanks shall be placed a minimum of two feet above the seasonal high ground-water table and a minimum of two feet vertical separation shall be maintained between bedrock and the lowest point of the tank.
 - (2) Tanks may be constructed of fiberglass reinforced plastic, steel that is cathodically protected, steel that is clad with fiberglass, or any other materials approved by the Division.
 - (3) The secondary containment and continuous leak detection system shall be installed in the form of a double-walled tank, designed as an integral structure so that any release from the inner tank is completely contained by the outer shell.
 - (A) The leak detection system shall be monitored at least weekly using methods specified by the operator and approved by the Division.
 - (B) Any tank system vulnerable to corrosion shall be protected from both corrosion of the primary tank interior and the external surface of the outer shell.
 - (i) All resistant coatings applied to the primary tank interior shall be chemically compatible with the liquid to be stored.
 - (ii) Cathodic protection systems, where installed, shall be inspected at least weekly by the facility operator and any deficiencies shall be corrected when discovered.
 - (4) All underground tanks shall be equipped with an overflow prevention system which may include, but not be limited to: level sensors and gauges, high level alarms or automatic shutoff controls. The overflow control equipment shall be inspected weekly by the facility operator to ensure it is in good working order.
 - (5) Inspection and leak detection monitoring reports shall be maintained and made available upon request for the lifetime of the liquid storage system.
- (e) Surface impoundment requirements.
- (1) Any surface impoundment shall be constructed so that the bottom elevation of liquid is a minimum of four feet above the seasonal high ground-water table and bedrock.
 - (2) At a minimum, surface impoundments shall be designed and constructed with a liner system equivalent to the liner system for the landfill unit generating the liquid.
 - (A) A surface impoundment designed and constructed to store leachate from a new MSWLF unit shall include a composite liner which conforms to the requirements of Rule .1624; or
 - (B) An alternative liner system which is designed and constructed to achieve at least an equivalent containment efficiency. An equivalence demonstration shall be included in the permit application and shall be approved by the Division.
 - (3) Construction of the liner system components shall be consistent with the pertinent requirements set forth in Rule .1624(b)(8) and (9); and a construction quality assurance report shall be prepared by the project engineer.
 - (4) The top liner shall be protected from degradation and damage.
 - (5) A minimum of two feet of freeboard shall be maintained in the surface impoundment. Odor and vector control shall be practiced when necessary.
 - (6) A ground-water monitoring system shall be installed and sampled in a manner consistent with the ground-water monitoring requirements for MSWLF units as set forth in Rules .1631 through .1637, of this Section, or using an alternative monitoring system approved by the Division.
 - (7) An operation plan shall be prepared and followed for operation of the surface impoundment.
- (f) Closure of leachate storage facilities.
- (1) The owner or operator of the liquid storage facility shall prepare a written closure plan for the liquid storage facility and submit the plan with the permit application for the solid waste management facility.
 - (2) The owner or operator shall complete closure activities in accordance with the approved closure plan and within 180 days after liquid collection has ceased.
 - (3) At closure, all solid waste shall be removed from the tank or surface impoundment, connecting lines, and any associated secondary containment systems. All solid waste removed shall be properly handled and disposed of according to federal and State requirements. All connecting lines shall be disconnected and securely capped or plugged.

- (A) Underground tanks shall be removed or thoroughly cleaned to remove traces of waste and all accumulated sediments and then filled to capacity with a solid inert material, such as clean sand or concrete slurry. If ground water surrounding the tank is found to be contaminated, the tank and surrounding contaminated soil shall be removed and appropriately disposed. Other corrective actions to remediate the contaminant plume may be required by the Department.
- (B) Accessways to aboveground and onground tanks shall be securely fastened in place to prevent unauthorized access. Tanks shall either be stenciled with the date of permanent closure or removed. The secondary containment system shall be perforated to provide for drainage.
- (C) For surface impoundments, all waste residues, contaminated system components (liners, etc.), contaminated subsoils, structures and equipment contaminated with waste shall be removed and appropriately disposed. If the ground water surrounding the impoundment is contaminated, other corrective actions to remediate a contaminant plume may be required by the Department. If the ground water surrounding the impoundment is found not to be contaminated, the liner system may remain in place if drained, cleaned to remove all traces of waste, and both liners punctured so that drainage is allowed. The impoundment is to be backfilled and regraded to the surrounding topography.

*History Note: Authority G.S. 130A-294;
Eff. October 9, 1993.*