15A NCAC 13B .1680 LEACHATE STORAGE REQUIREMENTS

(a) Applicability.

(1) Construction of leachate storage tanks and surface impoundments located at solid waste management facilities shall meet the requirements set forth in this Rule.

(2) Liquid treatment and disposal at a solid waste management 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 shall be constructed of concrete, steel, or other material stated in the permit. Tanks shall be supported on a well-drained foundation that 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 or be lined with a material resistant to the liquid being stored.

(2) Tanks shall have a secondary containment system that 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 shall be initiated within 24 hours or when 10 percent of the storage capacity is reached, whichever occurs first.

(4) All aboveground and onground tanks shall be equipped with an overfill prevention system that shall include level sensors and gauges, high level alarms, or automatic shutoff controls. The overfill 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 within 24 hours of the inspection 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.

(d) Underground tank requirements.

(1) Underground tanks shall be placed a minimum of two feet above the seasonal high groundwater 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 other materials stated in the permit.

(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 contained by the outer shell.

(A) The leak detection system shall be monitored no less than weekly using methods specified by the operator and stated in the permit.

(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. All resistant coatings applied to the primary tank interior shall be chemically compatible with the liquid to be stored. Cathodic protection systems, where installed, shall be inspected no less than weekly by the facility operator and any deficiencies shall be corrected when discovered.

(4) All underground tanks shall be equipped with an overfill prevention system that shall include level sensors and gauges, high level alarms, or automatic shutoff controls. The overfill 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 no less than four feet above the seasonal high groundwater table and bedrock.

(2) 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 MSWLF unit shall include a composite liner which conforms to the requirements of Rule .1624 of this Section.

(B) The owner or operator may submit a request to use an alternative liner system in the permit application. The request shall include a demonstration that the alternative liner system is designed and constructed to achieve an equivalent containment efficiency to the liner system required by Rule .1624 of this Section.

(3) Construction of the liner system components shall be consistent with the pertinent requirements set forth in Rule .1624(b)(8), (b)(9), and (b)(10) of this Section; 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.

(6) A groundwater monitoring system shall be installed and sampled in a manner consistent with or equivalent to the groundwater monitoring requirements for MSWLF units as set forth in Rules .1630 through .1637 of this Section.

(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, and disposed of in accordance with the rules of this Subchapter. All connecting lines shall be disconnected and sealed.

(A) Underground tanks shall be removed or 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 groundwater surrounding the tank is found to be contaminated, the tank and surrounding contaminated soil shall be removed and disposed of in accordance with the rules of this Chapter and 15A NCAC 02. A contaminant plume shall be addressed in accordance with the rules of this Chapter, and 15A NCAC 02B and 02L.

(B) Accessways to aboveground and onground tanks shall be secured 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, contaminated subsoils, structures and equipment contaminated with waste shall be removed and appropriately disposed. If the groundwater surrounding the impoundment is contaminated, other corrective actions to remediate a contaminant plume may be required by the Department. If the groundwater 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.

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