

*Following is a set of proposed rules which use language, almost verbatim, from the Code of Federal Regulations (CFR). The Federal Coal Combustion Residuals (CCR) Rule was published on December 19, 2014 and can be viewed at <https://www.epa.gov/coalash/coal-ash-rule>.*

*The red text denotes what has changed from the original federal rule.*

*The following has not yet been formatted for the Rules Review Commission (26 NCAC 02C), but has been left in a format which we hope makes it easier to see the changes which have been made as the text evolved from a federal rule to these new proposed rules. This rule set will reside in NCAC Title 15A - Environmental Quality, Subchapter 13B – Solid Waste Management.*

15A NCAC 13B .2001 is proposed as a permanent rule as follows

### **15A NCAC 13B .2001 GENERAL**

(a) The Department of Environmental Quality shall administer the Coal Combustion Residuals program for the State of North Carolina.

~~(b) In applying the federal requirements incorporated throughout this Subchapter, the following substitutions or exceptions shall apply:~~ (b) For the purpose of regulating dams that are impounding coal combustion residuals (CCR), the Federal rules incorporated throughout this Subchapter shall supplement the requirements provided in the NC Dam Safety Law of 1967, Session Law 2014-122, Session Law 2015-95, and 15A NCAC 02K unless otherwise indicated.

(c) In the event that there are inconsistencies or duplications in the requirements of those Federal rules incorporated throughout this Subchapter and the State rules ~~set out in this Subchapter~~, the provisions incorporated shall prevail except where the State rules are more stringent.

(d) 40 CFR 257.50 through 257.53 (Subpart D), "General Provisions" are incorporated as 15A NCAC 13B .2050 through .2053.

- Scope and Purpose: 257.50
- Applicability of other regulations: 257.52
- Definitions: 257.53 → 130A-309.201

(e) 40 CFR 257.60 through 257.64 (Subpart D), "Location Restrictions" are incorporated as 15A NCAC 13B .2060 through .2064

- Placement Above Upper Most Aquifer: 257.60 → 15A NCAC 13B .0503(2)(d)(i)
- Wetlands: 257.61 → 13B .0503(2)(c)
- Fault Areas: 257.62 → 13B .0504(1)(h)
- Seismic Impact Zones: 257.63 → 13B .0504(1)(h)
- Unstable Areas: 257.64 → 13B .0504(1)(h)

(f) 40 CFR 257.70 and 257.73 (Subpart D), "Design Criteria" are incorporated as 15A NCAC 13B .2070 and .2073

- Design Criteria for new CCR landfills and lateral expansions: 257.70 → 13B .0503(2)
- 257.72 → CAMA

(g) 40 CFR 257.80 through 257.84 (Subpart D), "Operating Criteria" are incorporated as 15A NCAC 13B .2080 through .2084

- Air Criteria: 257.80 → 13B .0505(3)(a) and .0505(8)(d)
- Run-on and Run-off Controls for CCR Landfills: 257.81 → 13B .0505(5)
- 257.82 and 257.83 → CAMA
- Inspection Requirements for CCR Landfills: 257.84 → 13B

(h) 40 CFR 257.90 through 257.98 (Subpart D), "Groundwater Monitoring and Corrective Action" are incorporated as 15A NCAC 13B .2090 through .2098

- Applicability: 257.90 → 15A NCAC 13B .0503(2)(d) and 15A NCAC 02L .0110

- GW Monitoring Systems: 257.91 → 13B .0503(2)(d) and 02L .0110
- GW Sampling & Analysis Requirements: 257.93 → 2L .0112 and .0202
- Detection Monitoring Program: 257.94 → 13B .0503(2)(d) and 2L .0110 & .0202
- Assessment Monitoring Program: 257.95 → 2L .0106 (d) & (g)
- Assessment of Corrective Measures: 257.96 → 2L .0106(g)
- Selection of Remedy: 257.97 → 2L .0106 (h) & (o)
- Implementation of the Corrective Action Program: 257.98 → 2L .0106(j)

(i) 40 CFR 257.100 through 257.104 (Subpart D), "Closure and Post-Closure Care" are incorporated as 15A NCAC 13B .2100 through .2104

- 257.100 and 257.101 → CAMA, . Closure of CCR impoundments shall be conducted in accordance with G.S. 143-215.27A and G.S. 130A-309.214. CCR impoundments that are closed may still be regulated as a dam if they continue to meet the definition of a dam as defined by G.S. 142-215.25.
- Criteria for Conducting the Closure or Retrofit of CCR Units: 257.102 → 13B .0510. Closure of CCR impoundments shall be conducted in accordance with G.S. 143-215.27A and G.S. 130A-309.214. CCR impoundments that are closed may still be regulated as a dam if they continue to meet the definition of a dam as defined by G.S. 142-215.25
- Alternative Closure Requirements: 257.103 → With respect to the dam safety aspects of CCR impoundments, the plan shall conform to the provisions of G.S. 143-215.27, 143-215.27A, and G.S. 130A-309.214.
- Post-Closure Care Requirements: 257.104 → CAMA

(j) 40 CFR 257.105 through 257.107 (Subpart D), "Recordkeeping, Notification, and Posting of Information to the Internet" are incorporated as 15A NCAC 13B .2105 through .2107

- Record Keeping Requirements: 257.105 → CAMA
- Notification Requirements: 257.106 → CAMA
- Publicly Accessible Internet Site Requirements: 257.107 → CAMA

(k) 40 CFR 257 Appendix III "Constituents for Detection Monitoring" and Appendix IV "Constituents for Assessment Monitoring" are incorporated as 15A NCAC 13B .2110 and .2111.

(l) Copies of all materials in this Subchapter may be inspected or obtained as follows:

(1) Persons interested in receiving rule-making notices concerning the North Carolina Solid Waste Management Rules shall submit a written request to the Solid Waste Section, 1646 Mail Service Center, Raleigh, N.C. 27699-1646. Upon receipt of each request, individuals shall be placed on a mailing list to receive notices.

(2) All material is available for inspection at the Department of Environmental Quality, Solid Waste Section, 217 West Jones Street, Raleigh, NC and at <http://deq.nc.gov/about/divisions/waste-management/waste-management-rules/hazardous-waste-rules>

15A NCAC 13B .2050 is proposed as a permanent rule using the following language from 40 CFR 257.50.

**15A NCAC 13B .2050 Scope and purpose**

(a) This subpartSection establishes minimum national criteria for purposes of determining which solid waste disposal facilities and solid waste management practices do not pose a reasonable probability of adverse effects on health or the environment under sections 1008(a)(3) and 4004(a) of the Resource Conservation and Recovery Act.

(b) This subpartSection applies to owners and operators of new landfills ~~and surface impoundments~~ and existing landfills ~~and surface impoundments~~ and surface impoundments, including any lateral expansions of such units that dispose or otherwise engage in solid waste management of CCR generated from the combustion of coal at electric utilities and independent power producers. Unless otherwise provided in this subpartSection, these requirements also apply to disposal units located off-site of the electric utility or independent power producer. This subpartSection also applies to any practice that does not meet the definition of a beneficial use of CCR.

(c) This subpart Section also applies to inactive CCR surface impoundments at active electric utilities or independent power producers, regardless of the fuel currently used at the facility to produce electricity.

(d) This subpart Section does not applyapplies to CCR landfills that have ceased receiving. CCR prior to October 19, 2015. **(Note: CAMA applies to all)**

(e) This subpartSection does not applyapplies to electric utilities or independent power producers that have ceased producing electricity prior to October 19, 2015. **(CAMA applies to all)**

(f) This subpartSection does not apply to wastes, including fly ash, bottom ash, boiler slag, and flue gas desulfurization materials generated at facilities that are not part of an electric utility or independent power producer, such as manufacturing facilities, universities, and hospitals. This subpartSection also does not apply to fly ash, bottom ash, boiler slag, and flue gas desulfurization materials, generated primarily from the combustion of fuels (including other fossil fuels) other than coal, for the purpose of generating electricity unless the fuel burned consists of more than fifty percent (50%) coal on a total heat input or mass input basis, whichever results in the greater mass feed rate of coal.

(g) This subpartSection does not apply to practices that meet the definition of a beneficial use of CCR.

(h) This subpartSection does not apply to CCR placement at active or abandoned underground or surface coal mines.

(i) This subpartSection does not apply to municipal solid waste landfills that receive CCR. **(see also 309.201(1))**

#### **§ 257.51 Effective date of this subpart.**

The requirements of this subpart take effect on October 19, 2015.

15A NCAC 13B .2052 is proposed as a permanent rule using the following language from 40 CFR 257.52.

#### **15A NCAC 13B .2052 § 257.52 Applicability of other regulations.**

(a) Compliance with the requirements of this subpartSection does not affect the need for the owner or operator of a CCR landfill, CCR surface impoundment, or lateral expansion of a CCR unit to comply with all other applicable federal, state, tribal, or local laws or other requirements.

(b) Any CCR landfill, CCR surface impoundment, or lateral expansion of a CCR unit continues to be subject to the requirements in 40 CFR §§ 257.3–1, 257.3–2, and 257.3–3.

**Which reads as: “§257.3-1 Floodplains.**

(a) Facilities or practices in floodplains shall not restrict the flow of the base flood, reduce the temporary water storage capacity of the floodplain, or result in washout of solid waste, so as to pose a hazard to human life, wildlife, or land or water resources.

(b) As used in this section:

(1) *Based flood* means a flood that has a 1 percent or greater chance of recurring in any year or a flood of a magnitude equalled or exceeded once in 100 years on the average over a significantly long period.

(2) *Floodplain* means the lowland and relatively flat areas adjoining inland and coastal waters, including flood-prone areas of offshore islands, which are inundated by the base flood.

(3) *Washout* means the carrying away of solid waste by waters of the base flood.

**§257.3-2 Endangered species.**

(a) Facilities or practices shall not cause or contribute to the taking of any endangered or threatened species of plants, fish, or wildlife.

(b) The facility or practice shall not result in the destruction or adverse modification of the critical habitat of endangered or threatened species as identified in 50 CFR part 17.

(c) As used in this section:

(1) *Endangered or threatened species* means any species listed as such pursuant to section 4 of the Endangered Species Act.

(2) *Destruction or adverse modification* means a direct or indirect alteration of critical habitat which appreciably diminishes the likelihood of the survival and recovery of threatened or endangered species using that habitat.

(3) *Taking* means harassing, harming, pursuing, hunting, wounding, killing, trapping, capturing, or collecting or attempting to engage in such conduct.

**§257.3-3 Surface water.**

(a) For purposes of section 4004(a) of the Act, a facility shall not cause a discharge of pollutants into waters of the United States that is in violation of the requirements of the National Pollutant Discharge Elimination System (NPDES) under section 402 of the Clean Water Act, as amended.

(b) For purposes of section 4004(a) of the Act, a facility shall not cause a discharge of dredged material or fill material to waters of the United States that is in violation of the requirements under section 404 of the Clean Water Act, as amended.

(c) A facility or practice shall not cause non-point source pollution of waters of the United States that violates applicable legal requirements implementing an areawide or Statewide water quality management plan that has been approved by the Administrator under section 208 of the Clean Water Act, as amended.

(d) Definitions of the terms *Discharge of dredged material, Point source, Pollutant, Waters of the United States, and Wetlands* can be found in the Clean Water Act, as amended, 33 U.S.C. 1251 *et seq.*, and implementing regulations, specifically 33 CFR part 323 (42 FR 37122, July 19, 1977).”

15A NCAC 13B .2053 language from 40 CFR 257.53 is proposed as a permanent rule.

#### **15A NCAC 13B .2053 § 257.53 Definitions.**

The following definitions apply to this subpart. Terms not defined in this section have the meaning given by RCRA. This Rule contains definitions for terms that appear throughout this Section; additional definitions appear in the specific Rules to which they apply.

*Acre foot* means the volume of one acre of surface area to a depth of one foot.

~~*Active facility or active electric utilities or independent power producers* means any facility subject to the requirements of this subpart that is in operation on October 19, 2015. An electric utility or independent power producer is in operation if it is generating electricity that is provided to electric power transmission systems or to electric power distribution systems on or after October 19, 2015. An off-site disposal facility is in operation if it is accepting or managing CCR on or after October 19, 2015. (CAMA applies to all)~~

*Active life or in operation* means the period of operation beginning with the initial placement of CCR in the CCR unit and ending at completion of closure activities in accordance with § 257.15A NCAC 13B .2102.

*Active portion* means that part of the CCR unit that has received or is receiving CCR or non-CCR waste and that has not completed closure in accordance with § 257.15A NCAC 13B .2102.

*Aquifer* means a geologic formation, group of formations, or portion of a formation capable of yielding usable quantities of groundwater to wells or springs.

*Area-capacity curves* means graphic curves which readily show the reservoir water surface area, in acres, at different elevations from the bottom of the reservoir to the maximum water surface and the capacity or volume, in acre-feet, of the water, **CCR, and sediment** contained in the reservoir at various elevations.

*Areas susceptible to mass movement* means those areas of influence (i.e., areas characterized as having an active or substantial possibility of mass movement) where, because of natural or human-induced events, the movement of earthen material at, beneath, or adjacent to the CCR unit results in the downslope transport of soil and rock material by means of gravitational influence. Areas of mass movement include, but are not limited to, landslides, avalanches, debris slides and flows, soil fluctuation, block sliding, and rock fall.

*Beneficial use of CCR* means the CCR meet all of the following conditions:

- (1) The CCR must provide a functional benefit;
- (2) The CCR must substitute for the use of a virgin material, conserving natural resources that would otherwise need to be obtained through practices, such as extraction;

(3) The use of the CCR must meet relevant product specifications, regulatory standards or design standards when available, and when such standards are not available, the CCR is not used in excess quantities; and

(4) When un-encapsulated use of CCR involving placement on the land of 12,400 tons or more in non-roadway applications, the user must demonstrate and keep records, and provide such documentation upon request, that environmental releases to groundwater, surface water, soil and air are comparable to or lower than those from analogous products made without CCR, or that environmental releases to groundwater, surface water, soil and air will be at or below relevant regulatory and health-based benchmarks for human and ecological receptors during use.

*Closed means* placement of CCR in a CCR unit has ceased, and the owner or operator has completed closure of the CCR unit in accordance with § 257.15A NCAC 13B .2102 and has initiated post-closure care in accordance with § 257.15A NCAC 13B .2104. Closure of CCR impoundments shall be conducted in accordance with G.S. 143-215.27A and G.S. 130A-309.214. CCR impoundments that are closed may still be regulated as a dam if they continue to meet the definition of a dam as defined by G.S. 142-215.25.

*Coal combustion residuals (CCR)* means fly ash, bottom ash, boiler slag, and flue gas desulfurization materials generated from burning coal for the purpose of generating electricity by electric utilities and independent power producers. G. S. 130A-290(2b).

*CCR fugitive dust* means solid airborne particulate matter that contains or is derived from CCR, emitted from any source other than a stack or chimney.

*CCR landfill or landfill* means an area of land or an excavation that receives CCR and which is not a surface impoundment, an underground injection well, a salt dome formation, a salt bed formation, an underground or surface coal mine, or a cave. For purposes of this subpartSection, a CCR landfill also includes sand and gravel pits and quarries that receive CCR, CCR piles, and any practice that does not meet the definition of a beneficial use of CCR.

*CCR pile or pile* means any non-containerized accumulation of solid, non-flowing CCR that is placed on the land. CCR that is beneficially used offsite is not a CCR pile.

*CCR surface impoundment or impoundment* means a natural topographic depression, man-made excavation, or diked area, which is designed to hold an accumulation of CCR and liquids, and the unit treats, stores, or disposes of CCR.G. S. 309.201(6).

*CCR unit* means any CCR landfill, CCR surface impoundment, or lateral expansion of a CCR unit, or a combination of more than one of these units, based on the context of the paragraph(s) in which it is used. This term includes both new and existing units, unless otherwise specified.

*Dike* means an embankment, berm, or ridge of either natural or man-made materials used to prevent the movement of liquids, sludges, solids, or other materials.

*Displacement* means the relative movement of any two sides of a fault measured in any direction.

*Disposal* means the discharge, deposit, injection, dumping, spilling, leaking, or placing of any solid waste as defined in section 1004(27) of the Resource Conservation and Recovery Act into or on any land or water so that such solid waste, or constituent thereof, may enter the environment or be emitted into the air or discharged into any waters, including groundwaters. For purposes of this subpartSection, disposal does not include the storage or the beneficial use of CCR.

*Downstream toe* means the junction of the downstream slope or face of the CCR surface impoundment with the ground surface.

*Encapsulated beneficial use* means a beneficial use of CCR that binds the CCR into a solid matrix that minimizes its mobilization into the surrounding environment.

*Existing CCR landfill* means a CCR landfill that receives CCR both before and after October 19, 2015, or for which construction commenced prior to October 19, 2015 and receives CCR on or after October 19, 2015. A CCR landfill has commenced construction if the owner or operator has obtained the federal, state, and local approvals or permits necessary to begin physical construction and a continuous on-site, physical construction program had begun prior to October 19, 2015.

*Existing CCR surface impoundment* means a CCR surface impoundment that receives CCR both before and after October 19, 2015, or for which construction commenced prior to October 19, 2015 and receives CCR on or after October 19, 2015. A CCR surface impoundment has commenced construction if the owner or operator has obtained the federal, state, and local approvals or permits necessary to begin physical construction and a continuous on-site, physical construction program had begun prior to October 19, 2015.

*Facility* means all contiguous land, and structures, other appurtenances, and improvements on the land, used for treating, storing, disposing, or otherwise conducting solid waste management of CCR. A facility may consist of several treatments, storage, or disposal operational units (e.g., one or more landfills, surface impoundments, or combinations of them).

*Factor of safety (Safety factor)* means the ratio of the forces tending to resist the failure of a structure to the forces tending to cause such failure as determined by accepted engineering practice.

*Fault* means a fracture or a zone of fractures in any material along which strata on one side have been displaced with respect to that on the other side.

*Flood hydrograph* means a graph showing, for a given point on a stream, the discharge, height, or other characteristic of a flood as a function of time.

*Freeboard* means the vertical distance between the lowest point on the crest of the impoundment dike and the surface of the waste contained therein.

*Free liquids* means liquids that readily separate from the solid portion of a waste under ambient temperature and pressure.

*Groundwater* means water below the land surface in a zone of saturation.

*Hazard potential classification* means the possible adverse incremental consequences that result from the release of water or stored contents due to failure of the diked CCR surface impoundment or mis-operation of the diked CCR surface impoundment or its appurtenances. The hazardous potential



classifications include high hazard potential CCR surface impoundment, significant hazard potential CCR surface impoundment, and low hazard potential CCR surface impoundment, which terms mean:

- (1) High hazard potential CCR surface impoundment means a diked surface impoundment where failure or mis-operation will probably cause loss of human life.
- (2) Low hazard potential CCR surface impoundment means a diked surface impoundment where failure or mis-operation results in no probable loss of human life and low economic and/or environmental losses. Losses are principally limited to the surface impoundment owner's property.
- (3) Significant hazard potential CCR surface impoundment means a diked surface impoundment where failure or mis-operation results in no probable loss of human life, but can cause economic loss, environmental damage, disruption of lifeline facilities, or impact other concerns.

*Height* means the vertical measurement from the downstream toe of the CCR surface impoundment at its lowest point to the **highest** lowest elevation of the crest of the CCR surface impoundment.

*Holocene* means the most recent epoch of the Quaternary period, extending from the end of the Pleistocene Epoch, at 11,700 years before present, to present.

*Hydraulic conductivity* means the rate at which water can move through a permeable medium (i.e., the coefficient of permeability).

*Inactive CCR surface impoundment* means a CCR surface impoundment that no longer receives CCR on or after October 19, 2015 and still contains both CCR and liquids on or after October 19, 2015.

*Incised CCR surface impoundment* means a CCR surface impoundment which is constructed by excavating entirely below the natural ground surface, holds an accumulation of CCR entirely below the adjacent natural ground surface, and does not consist of any constructed diked portion.

*Indian country or Indian lands* means:

- (1) All land within the limits of any Indian reservation under the jurisdiction of the United States Government, notwithstanding the issuance of any patent, and including rights-of-way running throughout the reservation;
- (2) All dependent Indian communities within the borders of the United States whether within the original or subsequently acquired territory thereof, and whether within or without the limits of the State; and
- (3) All Indian allotments, the Indian titles to which have not been extinguished, including rights of way running through the same. Indian Tribe or Tribe means any Indian tribe, band, nation, or community recognized by the Secretary of the Interior and exercising substantial governmental duties and powers on Indian lands

*Inflow design flood* means the flood hydrograph that is used in the design or modification of the CCR surface impoundments and its appurtenant works.

*In operation* means the same as active life.

*Karst terrain* means an area where karst topography, with its characteristic erosional surface and subterranean features, is developed as the result of dissolution of limestone, dolomite, or other soluble rock. Characteristic physiographic features present in karst terranes include, but are not limited to, dolines, collapse shafts (sinkholes), sinking streams, caves, seeps, large springs, and blind valleys.

*Lateral expansion* means a horizontal expansion of the waste boundaries of an existing CCR landfill or existing CCR surface impoundment made after October 19, 2015. **(note; lateral expansions of impoundments are not allowed by CAMA)**

*Liquefaction factor of safety* means the factor of safety (safety factor) determined using analysis under liquefaction conditions.

*Lithified earth material* means all rock, including all naturally occurring and naturally formed aggregates or masses of minerals or small particles of older rock that formed by crystallization of magma or by induration of loose sediments. This term does not include man-made materials, such as fill, concrete, and asphalt, or unconsolidated earth materials, soil, or regolith lying at or near the earth surface.

*Maximum horizontal acceleration in lithified earth material* means the maximum expected horizontal acceleration at the ground surface as depicted on a seismic hazard map, with a 98% or greater probability that the acceleration will not be exceeded in 50 years, or the maximum expected horizontal acceleration based on a site specific seismic risk assessment.

*New CCR landfill* means a CCR landfill or lateral expansion of a CCR landfill that first receives CCR or commences construction after October 19, 2015. A new CCR landfill has commenced construction if the owner or operator has obtained the federal, state, and local approvals or permits necessary to begin physical construction and a continuous on-site, physical construction program had begun after October 19, 2015. Overfills are also considered new CCR landfills.

~~*New CCR surface impoundment* means a CCR surface impoundment or lateral expansion of an existing or new CCR surface impoundment that first receives CCR or commences construction after October 19, 2015. A new CCR surface impoundment has commenced construction if the owner or operator has obtained the federal, state, and local approvals or permits necessary to begin physical construction and a continuous on-site, physical construction program had begun after October 19, 2015. **(not allowed by CAMA, all references to new and lateral expansions of impoundments should be removed)**~~

*Operator* means the person(s) responsible for the overall operation of a CCR unit.

*Overfill* means a new CCR landfill constructed over a closed CCR surface impoundment.

*Owner* means the person(s) who owns a CCR unit or part of a CCR unit.

*Poor foundation conditions* mean those areas where features exist which indicate that a natural or human induced event may result in inadequate foundation support for the structural components of an existing or new CCR unit. For example, failure to maintain static and seismic factors of safety as required in §§ 257.15A NCAC 13B .2073(e) and 257.74(e) would cause a poor foundation condition.

*Probable maximum flood* means the flood that may be expected from the most severe combination of critical meteorologic and hydrologic conditions that are reasonably possible in the drainage basin.

*Qualified* person means a person or persons trained to recognize specific appearances of structural weakness and other conditions which are disrupting or have the potential to disrupt the operation or safety of the CCR unit by visual observation and, if applicable, to monitor instrumentation.

*Qualified North Carolina Professional Engineer* means an individual who is licensed by the state of North Carolina as a Professional Engineer to practice one or more disciplines of engineering and who is qualified by education, technical knowledge and experience to make the specific technical certifications required under this Section. *Qualified professional engineer* means an individual who is licensed by a state as a Professional Engineer to practice one or more disciplines of engineering and who is qualified by education, technical knowledge and experience to make the specific technical certifications required under this subpart. Professional engineers making these certifications must be currently licensed in the state where the CCR unit(s) is located. Recognized and generally accepted good engineering practices means engineering maintenance or operation activities based on established codes, widely accepted standards, published technical reports, or a practice widely recommended throughout the industry. Such practices generally detail approved ways to perform specific engineering, inspection, or mechanical integrity activities.

*Retrofit* means to remove all CCR and contaminated soils and sediments from the CCR surface impoundment, and to ensure the unit complies with the requirements in §40 CFR 257.72.

*Representative sample* means a sample of a universe or whole (e.g., waste pile, lagoon, and groundwater) which can be expected to exhibit the average properties of the universe or whole. See EPA publication SW-846, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, Chapter 9 (available at <http://www.epa.gov/epawaste/hazard/testmethods/sw846/online/index.htm>) for a discussion and examples of representative samples.

*Run-off* means any rainwater, leachate, or other liquid that drains overland from any part of a CCR landfill or lateral expansion of a CCR landfill.

*Run-on* means any rainwater, leachate, or other liquid that drains over land onto any part of a CCR landfill or lateral expansion of a CCR landfill.

*Sand and gravel pit or quarry* means an excavation for the extraction of aggregate, minerals or metals. The term sand and gravel pit and/or quarry does not include subsurface or surface coal mines.

*Seismic factor of safety* means the factor of safety (safety factor) determined using analysis under earthquake conditions using the peak ground acceleration for a seismic event with a 2% probability of exceedance in 50 years, equivalent to a return period of approximately 2,500 years, based on the U.S. Geological Survey (USGS) seismic hazard maps for seismic events with this return period for the region where the CCR surface impoundment is located.

*Seismic impact zone* means an area having a 2% or greater probability that the maximum expected horizontal acceleration, expressed as a percentage of the earth's gravitational pull (g), will exceed 0.10 g in 50 years.

*Slope protection* means engineered or non-engineered measures installed on the upstream or downstream slope of the CCR surface impoundment to protect the slope against wave action or erosion,

including but not limited to rock riprap, wooden pile, or concrete revetments, vegetated wave berms, concrete facing, gabions, geotextiles, or fascines.

*Solid waste management or management* means the systematic administration of the activities which provide for the collection, source separation, storage, transportation, processing, treatment, or disposal of solid waste.

~~State means any of the fifty States in addition to the District of Columbia, the Commonwealth of Puerto Rico, the Virgin Islands, Guam, American Samoa, and the Commonwealth of the Northern Mariana Islands~~

*State Director* means the chief administrative officer of the lead state agency responsible for implementing the state program regulating disposal in CCR landfills, CCR surface impoundments, and all lateral expansions of a CCR unit. **Secretary of the Department of Environmental Quality or designee thereof.**

*Static factor of safety* means the factor of safety (safety factor) determined using analysis under the long-term, **rapid drawdown, construction loading, bearing capacity, sliding wedge failure, flotation uplift, overturning,** maximum storage pool loading condition, the maximum surcharge pool loading condition, and under the end-of construction loading condition.

*Structural components* mean liners, leachate collection and removal systems, final covers, run-on and run-off systems, inflow design flood control systems, and any other component used in the construction and operation of the CCR unit that is necessary to ensure the integrity of the unit and that the contents of the unit are not released into the environment.

*Unstable area* means a location that is susceptible to natural or human induced events or forces capable of impairing the integrity, including structural components of some or all of the CCR unit that are responsible for preventing releases from such unit. Unstable areas can include poor foundation conditions, areas susceptible to mass movements, and karst terrains.

*Uppermost aquifer* means the geologic formation nearest the natural ground surface that is an aquifer, as well as lower aquifers that are hydraulically interconnected with this aquifer within the facility's property boundary. Upper limit is measured at a point nearest to the natural ground surface to which the aquifer rises during the wet season.

*Waste boundary* means a vertical surface located at the hydraulically downgradient limit of the CCR unit. The vertical surface extends down into the uppermost aquifer at the perimeter of the CCR unit **[language from 15A NCAC 2L .0106]**

15A NCAC 13B .2060 language from 40 CFR 257.60 is proposed as a permanent rule.

### **15A NCAC 13B .2060 Location Restrictions - Placement above the uppermost aquifer**

(a) New, CCR landfills, existing and new CCR surface impoundments, and all lateral expansions of CCR units must be constructed with a base that is located no less than 1.52 meters (five feet) above the upper limit of the uppermost aquifer, or must demonstrate that there will not be an intermittent, recurring, or sustained hydraulic connection between any portion of the base of the CCR unit and the uppermost aquifer due to normal fluctuations in groundwater elevations (including the seasonal high

water table). The owner or operator must demonstrate by the dates specified in paragraph (c) of this section that the CCR unit meets the minimum requirements for placement above the uppermost aquifer.

(b) The owner or operator of the CCR unit must obtain a certification from a qualified professional engineer stating that the demonstration meets the requirements of paragraph (a) of this section.

(c) The owner or operator of the CCR unit must complete the demonstration required by paragraph (a) of this section by the date specified in either paragraph (c)(1) or (2) of this section.

(1) For an existing CCR surface impoundment, the owner or operator must complete the demonstration no later than October 17, 2018.

(2) For a new CCR landfill, new CCR surface impoundment, or any lateral expansion of a CCR unit, the owner or operator must complete the demonstration no later than the date of initial receipt of CCR in the CCR unit.

(3) The owner or operator has completed the demonstration required by paragraph (a) of this section when the demonstration is placed in the facility's operating record as required by § 257.15A NCAC 13B .2105(e).

(4) An owner or operator of an existing CCR surface impoundment who fails to demonstrate compliance with the requirements of paragraph (a) of this section by the date specified in paragraph (c)(1) of this section is subject to the requirements of § 257.15A NCAC 13B .2101(b)(1).

(5) An owner or operator of a new CCR landfill, new CCR surface impoundment, or any lateral expansion of a CCR unit who fails to make the demonstration showing compliance with the requirements of paragraph (a) of this section is prohibited from placing CCR in the CCR unit.

(d) The owner or operator of the CCR unit must comply with the recordkeeping requirements specified in § 257.15A NCAC 13B .2105(e), the notification requirements specified in § 257.15A NCAC 13B .2106(e), and the internet requirements specified in § 257.15A NCAC 13B .2107(e).

15A NCAC 13B .2061 language from 40 CFR 257.61 is proposed as a permanent rule.

#### **15A NCAC 13B .2061 § 257.61 Location Restrictions - Wetlands**

(a) New, CCR landfills, existing and new CCR surface impoundments, and all lateral expansions of CCR units must not be located in wetlands, as defined in § 232.2 of this chapter, unless the owner or operator demonstrates by the dates specified in paragraph (c) of this section that the CCR unit meets the requirements of paragraphs (a)(1) through (5) of this section.

(1) Where applicable under section 404 of the Clean Water Act or applicable state wetlands laws, a clear and objective rebuttal of the presumption that an alternative to the CCR unit is reasonably available that does not involve wetlands.

(2) The construction and operation of the CCR unit will not cause or contribute to any of the following:

(i) A violation of any applicable state or federal water quality standard;

(ii) A violation of any applicable toxic effluent standard or prohibition under section 307 of the Clean Water Act;

(iii) Jeopardize the continued existence of endangered or threatened species or result in the destruction or adverse modification of a critical habitat, protected under the Endangered Species Act of 1973; and

(iv) A violation of any requirement under the Marine Protection, Research, and Sanctuaries Act of 1972 for the protection of a marine sanctuary.

(3) The CCR unit will not cause or contribute to significant degradation of wetlands by addressing all of the following factors:

(i) Erosion, stability, and migration potential of native wetland soils, muds and deposits used to support the CCR unit;

(ii) Erosion, stability, and migration potential of dredged and fill materials used to support the CCR unit;

(iii) The volume and chemical nature of the CCR;

(iv) Impacts on fish, wildlife, and other aquatic resources and their habitat from release of CCR;

(v) The potential effects of catastrophic release of CCR to the wetland and the resulting impacts on the environment; and

(vi) Any additional factors, as necessary, to demonstrate that ecological resources in the wetland are sufficiently protected.

(4) To the extent required under section 404 of the Clean Water Act or applicable state wetlands laws, steps have been taken to attempt to achieve no net loss of wetlands (as defined by acreage and function) by first avoiding impacts to wetlands to the maximum extent reasonable as required by paragraphs (a)(1) through (3) of this section, then minimizing unavoidable impacts to the maximum extent reasonable, and finally offsetting remaining unavoidable wetland impacts through all appropriate and reasonable compensatory mitigation actions (e.g., restoration of existing degraded wetlands or creation of man-made wetlands); and

(5) Sufficient information is available to make a reasoned determination with respect to the demonstrations in paragraphs (a)(1) through (4) of this section.

(b) The owner or operator of the CCR unit must obtain a certification from a qualified professional engineer stating that the demonstration meets the requirements of paragraph (a) of this section.

(c) The owner or operator of the CCR unit must complete the demonstrations required by paragraph (a) of this section by the date specified in either paragraph (c)(1) or (2) of this section.

(1) For an existing CCR surface impoundment, the owner or operator must complete the demonstration no later than October 17, 2018.

(2) For a new CCR landfill, new CCR surface impoundment, or any lateral expansion of a CCR unit, the owner or operator must complete the demonstration no later than the date of initial receipt of CCR in the CCR unit.

(3) The owner or operator has completed the demonstration required by paragraph (a) of this section when the demonstration is placed in the facility's operating record as required by § 257.15A NCAC 13B .2105(e).

(4) An owner or operator of an existing CCR surface impoundment who fails to demonstrate compliance with the requirements of paragraph (a) of this section by the date specified in paragraph (c)(1) of this section is subject to the requirements of § 257.15A NCAC 13B .2101(b)(1).

(5) An owner or operator of a new CCR landfill, new CCR surface impoundment, or any lateral expansion of a CCR unit who fails to make the demonstrations showing compliance with the requirements of paragraph (a) of this section is prohibited from placing CCR in the CCR unit.

(d) The owner or operator must comply with the recordkeeping requirements specified in § 257.15A NCAC 13B .2105(e), the notification requirements specified in § 257.15A NCAC 13B .2106(e), and the Internet requirements specified in § 257.15A NCAC 13B .2107(e).

15A NCAC 13B .2062 is proposed as a permanent rule using the following language from 40 CFR 257.62.

**15A NCAC 13B .2062 § 257.62 Fault areas.**

(a) New CCR landfills, existing and new CCR surface impoundments, and all lateral expansions of CCR units must not be located within 60 meters (200 feet) of the outermost damage zone of a fault that has had displacement in Holocene time unless the owner or operator demonstrates by the dates specified in paragraph (c) of this section that an alternative setback distance of less than 60 meters (200 feet) will prevent damage to the structural integrity of the CCR unit.

(b) The owner or operator of the CCR unit must obtain a certification from a qualified professional engineer stating that the demonstration meets the requirements of paragraph (a) of this section.

(c) The owner or operator of the CCR unit must complete the demonstration required by paragraph (a) of this section by the date specified in either paragraph (c)(1) or (2) of this section.

(1) For an existing CCR surface impoundment, the owner or operator must complete the demonstration no later than October 17, 2018.

(2) For a new CCR landfill, new CCR surface impoundment, or any lateral expansion of a CCR unit, the owner or operator must complete the demonstration no later than the date of initial receipt of CCR in the CCR unit.

(3) The owner or operator has completed the demonstration required by paragraph (a) of this section when the demonstration is placed in the facility's operating record as required by § 257.15A NCAC 13B .2105(e).

(4) An owner or operator of an existing CCR surface impoundment who fails to demonstrate compliance with the requirements of paragraph (a) of this section by the date specified in

paragraph (c)(1) of this section is subject to the requirements of § 257.15A NCAC 13B .2101(b)(1).

(5) An owner or operator of a new CCR landfill, new CCR surface impoundment, or any lateral expansion of a CCR unit who fails to make the demonstration showing compliance with the requirements of paragraph (a) of this section is prohibited from placing CCR in the CCR unit.

(d) The owner or operator of the CCR unit must comply with the recordkeeping requirements specified in § 257.15A NCAC 13B .2105(e), the notification requirements specified in § 257.15A NCAC 13B .2106(e), and the Internet requirements specified in § 257.15A NCAC 13B .2107(e).

15A NCAC 13B .2063 language from 40 CFR 257.63 is proposed as a permanent rule.

**15A NCAC 13B .2063 § 257.63 Seismic impact zones.**

(a) New CCR landfills, existing and new CCR surface impoundments, and all lateral expansions of CCR units must not be located in seismic impact zones unless the owner or operator demonstrates by the dates specified in paragraph (c) of this section that all structural components including liners, leachate collection and removal systems, and surface water control systems, are designed to resist the maximum horizontal acceleration in lithified earth material for the site.

(b) The owner or operator of the CCR unit must obtain a certification from a qualified professional engineer stating that the demonstration meets the requirements of paragraph (a) of this section.

(c) The owner or operator of the CCR unit must complete the demonstration required by paragraph (a) of this section by the date specified in either paragraph (c)(1) or (2) of this section.

(1) For an existing CCR surface impoundment, the owner or operator must complete the demonstration no later than October 17, 2018.

(2) For a new CCR landfill, new CCR surface impoundment, or any lateral expansion of a CCR unit, the owner or operator must complete the demonstration no later than the date of initial receipt of CCR in the CCR unit.

(3) The owner or operator has completed the demonstration required by paragraph (a) of this section when the demonstration is placed in the facility's operating record as required by § 257.15A NCAC 13B .2105(e).

(4) An owner or operator of an existing CCR surface impoundment who fails to demonstrate compliance with the requirements of paragraph (a) of this section by the date specified in paragraph (c)(1) of this section is subject to the requirements of § 257.15A NCAC 13B .2101(b)(1).

(5) An owner or operator of a new CCR landfill, new CCR surface impoundment, or any lateral expansion of a CCR unit who fails to make the demonstration showing compliance with the requirements of paragraph (a) of this section is prohibited from placing CCR in the CCR unit.

(d) The owner or operator of the CCR unit must comply with the recordkeeping requirements specified in § 257.15A NCAC 13B .2105(e), the notification requirements specified in § 257.15A NCAC 13B .2106(e), and the Internet requirements specified in § 257.15A NCAC 13B .2107(e).



15A NCAC 13B .2064 language from 40 CFR 257.64 is proposed as a permanent rule.

**15A NCAC 13B .2064 § 257.64 Unstable areas.**

(a) An existing or new CCR landfill, existing or new CCR surface impoundment, or any lateral expansion of a CCR unit must not be located in an unstable area unless the owner or operator demonstrates by the dates specified in paragraph (d) of this section that recognized and generally accepted good engineering practices have been incorporated into the design of the CCR unit to ensure that the integrity of the structural components of the CCR unit will not be disrupted.

(b) The owner or operator must consider all of the following factors, at a minimum, when determining whether an area is unstable:

- (1) On-site or local soil conditions that may result in significant differential settling;
- (2) On-site or local geologic or geomorphologic features; and
- (3) On-site or local human-made features or events (both surface and subsurface).

(c) The owner or operator of the CCR unit must obtain a certification from a qualified professional engineer stating that the demonstration meets the requirements of paragraph (a) of this section.

(d) The owner or operator of the CCR unit must complete the demonstration required by paragraph (a) of this section by the date specified in either paragraph (d)(1) or (2) of this section.

(1) For an existing CCR landfill or existing CCR surface impoundment, the owner or operator must complete the demonstration no later than October 17, 2018.

(2) For a new CCR landfill, new CCR surface impoundment, or any lateral expansion of a CCR unit, the owner or operator must complete the demonstration no later than the date of initial receipt of CCR in the CCR unit.

(3) The owner or operator has completed the demonstration required by paragraph (a) of this section when the demonstration is placed in the facility's operating record as required by § 257.15A NCAC 13B .2105(e).

(4) An owner or operator of an existing CCR surface impoundment or existing CCR landfill who fails to demonstrate compliance with the requirements of paragraph (a) of this section by the date specified in paragraph (d)(1) of this section is subject to the requirements of § 257.15A NCAC 13B .2101(b)(1) or (d)(1), respectively.

(5) An owner or operator of a new CCR landfill, new CCR surface impoundment, or any lateral expansion of a CCR unit who fails to make the demonstration showing compliance with the requirements of paragraph (a) of this section is prohibited from placing CCR in the CCR unit.

(e) The owner or operator of the CCR unit must comply with the recordkeeping requirements specified in § 257.15A NCAC 13B .2105(e), the notification requirements specified in § 257.15A NCAC 13B .2106(e), and the Internet requirements specified in § 257.15A NCAC 13B .2107(e).

15A NCAC 13B .2070 language from 40 CFR 257.70 is proposed as a permanent rule.

## 15A NCAC 13B .2070 Design Criteria

### § 257.70 Design criteria for new CCR landfills and any lateral expansion of a CCR landfill.

(a) (1) New CCR landfills and any lateral expansion of a CCR landfill must be designed, constructed, operated, and maintained with either a composite liner that meets the requirements of paragraph (b) of this section or an alternative composite liner that meets the requirements in paragraph (c) of this section, and a leachate collection and removal system that meets the requirements of paragraph (d) of this section.

(2) Prior to construction of an overfill the underlying surface impoundment must meet the requirements of § 257.15A NCAC 13B .2102(d).

(b) A composite liner must consist of two components; the upper component consisting of, at a minimum, a 30-mil geomembrane liner (GM), and the lower component consisting of at least a two-foot layer of compacted soil with a hydraulic conductivity of no more than  $1 \times 10^{-7}$  centimeters per second (cm/ sec). GM components consisting of high density polyethylene (HDPE) must be at least 60-mil thick. The GM or upper liner component must be installed in direct and uniform contact with the compacted soil or lower liner component. The composite liner must be:

(1) Constructed of materials that have appropriate chemical properties and sufficient strength and thickness to prevent failure due to pressure gradients (including static head and external hydrogeologic forces), physical contact with the CCR or leachate to which they are exposed, climatic conditions, the stress of installation, and the stress of daily operation;

(2) Constructed of materials that provide appropriate shear resistance of the upper and lower component interface to prevent sliding of the upper component including on slopes;

(3) Placed upon a foundation or base capable of providing support to the liner and resistance to pressure gradients above and below the liner to prevent failure of the liner due to settlement, compression, or uplift; and

(4) Installed to cover all surrounding earth likely to be in contact with the CCR or leachate.

(c) If the owner or operator elects to install an alternative composite liner, all of the following requirements must be met:

(1) An alternative composite liner must consist of two components; the upper component consisting of, at a minimum, a 30-mil GM, and a lower component, that is not a geomembrane, with a liquid flow rate no greater than the liquid flow rate of two feet of compacted soil with a hydraulic conductivity of no more than  $1 \times 10^{-7}$  cm/sec. GM components consisting of high density polyethylene (HDPE) must be at least 60-mil thick. If the lower component of the alternative liner is compacted soil, the GM must be installed in direct and uniform contact with the compacted soil.

(2) The owner or operator must obtain certification from a qualified professional engineer that the liquid flow rate through the lower component of the alternative composite liner is no greater than the liquid flow rate through two feet of compacted soil with a hydraulic conductivity of  $1 \times 10^{-7}$  cm/ sec. The hydraulic conductivity for the two feet of compacted soil

used in the comparison shall be no greater than  $1 \times 10^{-7}$  cm/sec. The hydraulic conductivity of any alternative to the two feet of compacted soil must be determined using recognized and generally accepted methods. The liquid flow rate comparison must be made using Equation 1 of this section, which is derived from Darcy's Law for gravity flow through porous media.

$$\text{(Eq. 1)} \quad \frac{Q}{A} = q = k \left( \frac{h}{t} + 1 \right)$$

Where,

Q = flow rate (cubic centimeters/second);

A = surface area of the liner (squared centimeters);

q = flow rate per unit area (cubic centimeters/ second/squared centimeter);

k = hydraulic conductivity of the liner (centimeters/second);

h = hydraulic head above the liner (centimeters); and

t = thickness of the liner (centimeters).

(3) The alternative composite liner must meet the requirements specified in paragraphs (b)(1) through (4) of this section.

(d) The leachate collection and removal system must be designed, constructed, operated, and maintained to collect and remove leachate from the landfill during the active life and post-closure care period. The leachate collection and removal system must be:

(1) Designed and operated to maintain less than a 30-centimeter depth of leachate over the composite liner or alternative composite liner;

(2) Constructed of materials that are chemically resistant to the CCR and any non-CCR waste managed in the CCR unit and the leachate expected to be generated, and of sufficient strength and thickness to prevent collapse under the pressures exerted by overlying waste, waste cover materials, and equipment used at the CCR unit; and

(3) Designed and operated to minimize clogging during the active life and post-closure care period.

(e) Prior to construction of the CCR landfill or any lateral expansion of a CCR landfill, the owner or operator must obtain a certification from a qualified professional engineer that the design of the composite liner (or, if applicable, alternative composite liner) and the leachate collection and removal system meets the requirements of this section.

(f) Upon completion of construction of the CCR landfill or any lateral expansion of a CCR landfill, the owner or operator must obtain a certification from a qualified professional engineer that the composite liner (or, if applicable, alternative composite liner) and the leachate collection and removal system has been constructed in accordance with the requirements of this section.

(g) The owner or operator of the CCR unit must comply with the recordkeeping requirements specified in § 257.15A NCAC 13B .2105(f), the notification requirements specified in § 257.15A NCAC 13B .2106(f), and the Internet requirements specified in § 257.15A NCAC 13B .2107(f).

15A NCAC 13B .2071 language from 40 CFR 257.71 is proposed as a permanent rule.

**15A NCAC 13B .2071 § 257.71 Liner design criteria for existing CCR surface impoundments.**

- (a) (1) No later than October 17, 201630 days after this rule becomes effective, the owner or operator of an existing CCR surface impoundment must document whether or not such unit was constructed with any one of the following:
- (i) A liner consisting of a minimum of two feet of compacted soil with a hydraulic conductivity of no more than  $1 \times 10^{-7}$  cm/sec;
  - (ii) A composite liner that meets the requirements of § 257.70(b); or
  - (iii) An alternative composite liner that meets the requirements of § 257.70(c).
- (2) The hydraulic conductivity of the compacted soil must be determined using recognized and generally accepted methods.
- (3) An existing CCR surface impoundment is considered to be an existing unlined CCR surface impoundment if either:
- (i) The owner or operator of the CCR unit determines that the CCR unit is not constructed with a liner that meets the requirements of paragraphs (a)(1)(i), (ii), or (iii) of this section; or
  - (ii) The owner or operator of the CCR unit fails to document whether the CCR unit was constructed with a liner that meets the requirements of paragraphs (a)(1)(i), (ii), or (iii) of this section.
- (4) All existing unlined CCR surface impoundments are subject to the requirements of § 257.15A NCAC 13B .2101(a).

(b) The owner or operator of the CCR unit must obtain a certification from a qualified professional engineer attesting that the documentation as to whether a CCR unit meets the requirements of paragraph (a) of this section is accurate.

(c) The owner or operator of the CCR unit must comply with the recordkeeping requirements specified in § 257.15A NCAC 13B .2105(f), the notification requirements specified in § 257.15A NCAC 13B .2106(f), and the Internet requirements specified in § 257.15A NCAC 13B .2107(f).

~~§ 257.72 Liner design criteria for new CCR surface impoundments and any lateral expansion of a CCR surface impoundment.~~ **(not allowed by CAMA)**

~~(a) New CCR surface impoundments and lateral expansions of existing and new CCR surface impoundments must be designed, constructed, operated, and maintained with either a composite liner or an alternative composite liner that meets the requirements of § 257.70(b) or (c).~~

~~(b) Any liner specified in this section must be installed to cover all surrounding earth likely to be in contact with CCR. Dikes shall not be constructed on top of the composite liner.~~

~~(c) Prior to construction of the CCR surface impoundment or any lateral expansion of a CCR surface impoundment, the owner or operator must obtain certification from a qualified professional engineer that the design of the composite liner or, if applicable, the design of an alternative composite liner complies with the requirements of this section.~~

~~(d) Upon completion, the owner or operator must obtain certification from a qualified professional engineer that the composite liner or if applicable, the alternative composite liner has been constructed in accordance with the requirements of this section.~~

~~(e) The owner or operator of the CCR unit must comply with the recordkeeping requirements specified in § 257.105(f), the notification requirements specified in § 257.106(f), and the Internet requirements specified in § 257.107(f).~~

15A NCAC 13B .2073 language from 40 CFR 257.73 is proposed as a permanent rule.

**15A NCAC 13B .2073. § 257.73 Structural integrity criteria for existing CCR surface impoundments.**

(a) The requirements of paragraphs (a)(1) through (4) of this section apply to all existing CCR surface impoundments, except for those existing CCR surface impoundments that are incised CCR units. If an incised CCR surface impoundment is subsequently modified (e.g., a dike is constructed) such that the CCR unit no longer meets the definition of an incised CCR unit, the CCR unit is subject to the requirements of paragraphs (a)(1) through (4) of this section.

(1) No later than, December 17, 201530 days after effective date of this rule, the owner or operator of the CCR unit must place on or immediately adjacent to the CCR unit a permanent identification marker, at least six feet high showing the identification number of the CCR unit, if one has been assigned by the state, the name associated with the CCR unit and the name of the owner or operator of the CCR unit.

(2) Periodic hazard potential classification assessments.

(i) The owner or operator of the CCR unit must conduct initial and periodic hazard potential classification assessments of the CCR unit according to the timeframes specified in paragraph (f) of this section. The owner or operator must document the hazard potential classification of each CCR unit as either a high hazard potential CCR surface impoundment, a significant hazard potential CCR surface impoundment, or a low hazard potential CCR surface impoundment. The owner or operator must also document the basis for each hazard potential classification.

(ii) The owner or operator of the CCR unit must obtain a certification from a qualified professional engineer stating that the initial hazard potential classification and each subsequent periodic classification specified in paragraph (a)(2)(i) of this section was conducted in accordance with the requirements of this section.

(3) Emergency Action Plan (EAP)— **shall be required and conform with the requirements of G.S. 143-215.31.**

**(i) Development of the plan. No later than April 17, 2017, the owner or operator of a CCR unit determined to be either a high hazard potential CCR surface impoundment or a**

significant hazard potential CCR surface impoundment under paragraph (a)(2) of this section must prepare and maintain a written EAP. At a minimum, the EAP must:

(A) Define the events or circumstances involving the CCR unit that represent a safety emergency, along with a description of the procedures that will be followed to detect a safety emergency in a timely manner;

(B) Define responsible persons, their respective responsibilities, and notification procedures in the event of a safety emergency involving the CCR unit;

(C) Provide contact information of emergency responders;

(D) Include a map which delineates the downstream area which would be affected in the event of a CCR unit failure and a physical description of the CCR unit; and

(E) Include provisions for an annual face to face meeting or exercise between representatives of the owner or operator of the CCR unit and the local emergency responders

(ii) Amendment of the plan.

(A) The owner or operator of a CCR unit subject to the requirements of paragraph (a)(3)(i) of this section may amend the written EAP at any time provided the revised plan is placed in the facility's operating record as required by § 257.15A NCAC 13B .2105(f)(6). The owner or operator must amend the written EAP whenever there is a change in conditions that would substantially affect the EAP in effect.

(B) The written EAP must be evaluated, at a minimum, every five years to ensure the information required in paragraph (a)(3)(i) of this section is accurate. As necessary, the EAP must be updated and a revised EAP placed in the facility's operating record as required by § 257.15A NCAC 13B .2105(f)(6).

(iii) Changes in hazard potential classification.

(A) If the owner or operator of a CCR unit determines during a periodic hazard potential assessment that the CCR unit is no longer classified as either a high hazard potential CCR surface impoundment or a significant hazard potential CCR surface impoundment, then the owner or operator of the CCR unit is no longer subject to the requirement to prepare and maintain a written EAP beginning on the date the periodic hazard potential assessment documentation is placed in the facility's operating record as required by § 257.15A NCAC 13B .2105(f)(5).

(B) If the owner or operator of a CCR unit classified as a low hazard potential CCR surface impoundment subsequently determines that the CCR unit is properly re-classified as either a high hazard potential CCR surface impoundment or a significant hazard potential CCR surface impoundment, then the owner or operator of the CCR unit must prepare a written EAP for the CCR

unit as required by paragraph (a)(3)(i) of this section within six months of completing such periodic hazard potential assessment.

(iv) The owner or operator of the CCR unit must obtain a certification from a qualified professional engineer stating that the written EAP, and any subsequent amendment of the EAP, meets the requirements of paragraph (a)(3) of this section.

(v) Activation of the EAP. The EAP must be implemented once events or circumstances involving the CCR unit that represent a safety emergency are detected, including conditions identified during periodic structural stability assessments, annual inspections, and inspections by a qualified person.

(4) The CCR unit and surrounding areas must be designed, constructed, operated, and maintained with vegetated slopes of dikes not to exceed a height of 6 inches above the slope of the dike, except for slopes which are protected with an alternate form(s) of slope protection.

(b) The requirements of paragraphs (c) through (e) of this section apply to an owner or operator of an existing CCR surface impoundment that either:

(1) Has a height of five feet or more and a storage volume of 20 acre feet or more; or

(2) Has a height of 20 feet or more.

(c) (1) No later than October 17, 201630 days after this rule becomes effective, the owner or operator of the CCR unit must compile a history of construction, which shall contain, to the extent feasible, the information specified in paragraphs (c)(1)(i) through (xi) of this section.

(i) The name and address of the person(s) owning or operating the CCR unit; the name associated with the CCR unit; and the identification number of the CCR unit if one has been assigned by the state.

(ii) The location of the CCR unit identified on the most recent U.S. Geological Survey (USGS) 7 1/2 minute or 15 minute topographic quadrangle map, or a topographic map of equivalent scale if a USGS map is not available.

(iii) A statement of the purpose for which the CCR unit is being used.

(iv) The name and size in acres of the watershed within which the CCR unit is located.

(v) A description of the physical and engineering properties of the foundation and abutment materials on which the CCR unit is constructed.

(vi) A statement of the type, size, range, and physical and engineering properties of the materials used in constructing each zone or stage of the CCR unit; the method of site preparation and construction of each zone of the CCR unit; and the approximate dates of construction of each successive stage of construction of the CCR unit.

(vii) At a scale that details engineering structures and appurtenances relevant to the design, construction, operation, and maintenance of the CCR unit, detailed dimensional drawings of the CCR unit, including a plan view and cross sections of the length and width of the CCR unit, showing all zones, foundation improvements, drainage

provisions, spillways, diversion ditches, outlets, instrument locations, and slope protection, in addition to the normal operating pool surface elevation and the maximum pool surface elevation following peak discharge from the inflow design flood, the expected maximum depth of CCR within the CCR surface impoundment, and any identifiable natural or manmade features that could adversely affect operation of the CCR unit due to malfunction or mis-operation.

(viii) A description of the type, purpose, and location of existing instrumentation.

(ix) Area-capacity curves for the CCR unit.

(x) A description of each spillway and diversion design features and capacities and calculations used in their determination.

(xi) The construction specifications and provisions for surveillance, maintenance, and repair of the CCR unit.

(xii) Any record or knowledge of structural instability of the CCR unit.

(2) Changes to the history of construction. If there is a significant change to any information compiled under paragraph (c)(1) of this section, the owner or operator of the CCR unit must update the relevant information and place it in the facility's operating record as required by § 257.15A NCAC 13B .2105(f)(9).

(d) Periodic structural stability assessments.

(1) The owner or operator of the CCR unit must conduct initial and periodic structural stability assessments and document whether the design, construction, operation, and maintenance of the CCR unit is consistent with recognized and generally accepted good engineering practices for the maximum volume of CCR and CCR wastewater which can be impounded therein. The assessment must, at a minimum, document whether the CCR unit has been designed, constructed, operated, and maintained with:

(i) Stable foundations and abutments;

(ii) Adequate slope protection to protect against surface erosion, wave action, and adverse effects of sudden drawdown;

(iii) Dikes mechanically compacted to a density sufficient to withstand the range of loading conditions in the CCR unit;

(iv) Vegetated slopes of dikes and surrounding areas not to exceed a height of six inches above the slope of the dike, except for slopes which have an alternate form or forms of slope protection;

(v) A single spillway or a combination of spillways configured as specified in paragraph (d)(1)(v)(A) of this section. The combined capacity of all spillways must be designed, constructed, operated, and maintained to adequately manage flow during and following the peak discharge from the event specified in paragraph (d)(1)(v)(B) of this section.

(A) All spillways must be either:



~~(1) Of non-erodible construction and designed to carry sustained flows;  
or~~

~~(2) Earth or grass-lined and designed to carry short-term, infrequent  
flows at non-erosive velocities where sustained flows are not expected.~~

(B) The combined capacity of all spillways must adequately manage flow during and following the peak discharge from a:

(1) Probable maximum flood (PMF) for a high hazard potential CCR surface impoundment; or

(2) 1000-year flood for a significant hazard potential CCR surface impoundment; or

(3) 100-year flood for a low hazard potential CCR surface impoundment.

(vi) Hydraulic structures underlying the base of the CCR unit or passing through the dike of the CCR unit that maintain structural integrity and are free of significant deterioration, deformation, distortion, bedding deficiencies, sedimentation, and debris which may negatively affect the operation of the hydraulic structure; and

(vii) For CCR units with downstream slopes which can be inundated by the pool of an adjacent water body, such as a river, stream or lake, downstream slopes that maintain structural stability during low pool of the adjacent water body or sudden drawdown of the adjacent water body.

(2) The periodic assessment described in paragraph (d)(1) of this section must identify any structural stability deficiencies associated with the CCR unit in addition to recommending corrective measures. If a deficiency or a release is identified during the periodic assessment, the owner or operator unit must remedy the deficiency or release as soon as feasible and prepare documentation detailing the corrective measures taken.

(3) The owner or operator of the CCR unit must obtain a certification from a qualified professional engineer stating that the initial assessment and each subsequent periodic assessment was conducted in accordance with the requirements of this section.

(e) Periodic safety factor assessments.

(1) The owner or operator must conduct an initial and periodic safety factor assessments for each CCR unit and document whether the calculated factors of safety for each CCR unit achieve the minimum safety factors specified in paragraphs (e)(1)(i) through (iv) of this section for the critical cross section of the embankment. The critical cross section is the cross section anticipated to be the most susceptible of all cross sections to structural failure based on appropriate engineering considerations, including loading conditions. The safety factor assessments must be supported by appropriate engineering calculations.

- (i) The calculated static factor of safety under the long-term, maximum storage pool loading condition must equal or exceed 1.50.
- (ii) The calculated static factor of safety under the maximum surcharge pool loading condition must equal or exceed 1.40.
- (iii) The calculated seismic factor of safety must equal or exceed 1.00.
- (iv) For dikes constructed of soils that have susceptibility to liquefaction, the calculated liquefaction factor of safety must equal or exceed 1.20.

(2) The owner or operator of the CCR unit must obtain a certification from a qualified professional engineer stating that the initial assessment and each subsequent periodic assessment specified in paragraph (e)(1) of this section meets the requirements of this section.

(f) Timeframes for periodic assessments—

(1) Initial assessments. Except as provided by paragraph (f)(2) of this section, the owner or operator of the CCR unit must complete the initial assessments required by paragraphs (a)(2), (d), and (e) of this section no later than October 17, 2016 30 days from effective date of this rule. The owner or operator has completed an initial assessment when the owner or operator has placed the assessment required by paragraphs (a)(2), (d), and (e) of this section in the facility's operating record as required by § 257.105(f)(5), (10), and (12).

(2) Use of a previously completed assessment(s) in lieu of the initial assessment(s). The owner or operator of the CCR unit may elect to use a previously completed assessment to serve as the initial assessment required by paragraphs (a)(2), (d), and (e) of this section provided that the previously completed assessment(s):

- (i) Was completed no earlier than 42 months prior to October 17, 2016; and
- (ii) Meets the applicable requirements of paragraphs (a)(2), (d), and (e) of this section.

(3) Frequency for conducting periodic assessments. The owner or operator of the CCR unit must conduct and complete the assessments required by paragraphs (a)(2), (d), and (e) of this section every five years. The date of completing the initial assessment is the basis for establishing the deadline to complete the first subsequent assessment. If the owner or operator elects to use a previously completed assessment(s) in lieu of the initial assessment as provided by paragraph (f)(2) of this section, the date of the report for the previously completed assessment is the basis for establishing the deadline to complete the first subsequent assessment. The owner or operator may complete any required assessment prior to the required deadline provided the owner or operator places the completed assessment(s) into the facility's operating record within a reasonable amount of time. In all cases, the deadline for completing subsequent assessments is based on the date of completing the previous assessment. For purposes of this paragraph (f)(3), the owner or operator has completed an assessment when the relevant assessment(s) required by paragraphs (a)(2), (d), and (e) of this section has been placed in the facility's operating record as required by § 257.15A NCAC 13B .2105(f)(5), (10), and (12).

(4) Closure of the CCR unit. An owner or operator of a CCR unit who either fails to complete a timely safety factor assessment or fails to demonstrate minimum safety factors as required by paragraph (e) of this section is subject to the requirements of § 257.15A NCAC 13B .2101(b)(2).

(g) The owner or operator of the CCR unit must comply with the recordkeeping requirements specified in § 257.15A NCAC 13B .2105(f), the notification requirements specified in § 257.15A NCAC 13B .2106(f), b and the internet requirements specified in § 257.15A NCAC 13B .2107(f).

**§ 257.74 Structural integrity criteria for new CCR surface impoundments and any lateral expansion of a CCR surface impoundment.**

(a) The requirements of paragraphs (a)(1) through (4) of this section apply to all new CCR surface impoundments and any lateral expansion of a CCR surface impoundment, except for those new CCR surface impoundments that are incised CCR units. If an incised CCR surface impoundment is subsequently modified (e.g., a dike is constructed) such that the CCR unit no longer meets the definition of an incised CCR unit, the CCR unit is subject to the requirements of paragraphs (a)(1) through (4) of this section.

(1) No later than the initial receipt of CCR, the owner or operator of the CCR unit must place on or immediately adjacent to the CCR unit a permanent identification marker, at least six feet high showing the identification number of the CCR unit, if one has been assigned by the state, the name associated with the CCR unit and the name of the owner or operator of the CCR unit.

(2) Periodic hazard potential classification assessments.

(i) The owner or operator of the CCR unit must conduct initial and periodic hazard potential classification assessments of the CCR unit according to the timeframes specified in paragraph (f) of this section. The owner or operator must document the hazard potential classification of each CCR unit as either a high hazard potential CCR surface impoundment, a significant hazard potential CCR surface impoundment, or a low hazard potential CCR surface impoundment. The owner or operator must also document the basis for each hazard potential classification.

(ii) The owner or operator of the CCR unit must obtain a certification from a qualified professional engineer stating that the initial hazard potential classification and each subsequent periodic classification specified in paragraph (a)(2)(i) of this section was conducted in accordance with the requirements of this section.

(3) Emergency Action Plan (EAP)—

(i) Development of the plan. Prior to the initial receipt of CCR in the CCR unit, the owner or operator of a CCR unit determined to be either a high hazard potential CCR surface impoundment or a significant hazard potential CCR surface impoundment under paragraph (a)(2) of this section must prepare and maintain a written EAP. At a minimum, the EAP must:

(A) Define the events or circumstances involving the CCR unit that represent a safety emergency, along with a description of the procedures that will be followed to detect a safety emergency in a timely manner;

(B) Define responsible persons, their respective responsibilities, and notification procedures in the event of a safety emergency involving the CCR unit;

(C) Provide contact information of emergency responders;

(D) Include a map which delineates the downstream area which would be affected in the event of a CCR unit failure and a physical description of the CCR unit; and

(E) Include provisions for an annual face to face meeting or exercise between representatives of the owner or operator of the CCR unit and the local emergency responders.

(ii) Amendment of the plan.

(A) The owner or operator of a CCR unit subject to the requirements of paragraph (a)(3)(i) of this section may amend the written EAP at any time provided the revised plan is placed in the facility's operating record as required by § 257.105(f)(6). The owner or operator must amend the written EAP whenever there is a change in conditions that would substantially affect the EAP in effect.

(B) The written EAP must be evaluated, at a minimum, every five years to ensure the information required in paragraph (a)(3)(i) of this section is accurate. As necessary, the EAP must be updated and a revised EAP placed in the facility's operating record as required by § 257.105(f)(6).

(iii) Changes in hazard potential classification.

(A) If the owner or operator of a CCR unit determines during a periodic hazard potential assessment that the CCR unit is no longer classified as either a high hazard potential CCR surface impoundment or a significant hazard potential CCR surface impoundment, then the owner or operator of the CCR unit is no longer subject to the requirement to prepare and maintain a written EAP beginning on the date the periodic hazard potential assessment documentation is placed in the facility's operating record as required by § 257.105(f)(5).

(B) If the owner or operator of a CCR unit classified as a low hazard potential CCR surface impoundment subsequently determines that the CCR unit is properly re-classified as either a high hazard potential CCR surface impoundment or a significant hazard potential CCR surface impoundment, then the owner or operator of the CCR unit must prepare a written EAP for the CCR unit as required by paragraph (a)(3)(i) of this section within six months of completing such periodic hazard potential assessment.

(iv) The owner or operator of the CCR unit must obtain a certification from a qualified professional engineer stating that the written EAP, and any subsequent amendment of the EAP, meets the requirements of paragraph (a)(3) of this section.

(v) Activation of the EAP. The EAP must be implemented once events or circumstances involving the CCR unit that represent a safety emergency are detected, including conditions identified during periodic structural stability assessments, annual inspections, and inspections by a qualified person.

(4) The CCR unit and surrounding areas must be designed, constructed, operated, and maintained with vegetated slopes of dikes not to exceed a height of six inches above the slope of the dike, except for slopes which are protected with an alternate form(s) of slope protection.

(b) The requirements of paragraphs (c) through (e) of this section apply to an owner or operator of a new CCR surface impoundment and any lateral expansion of a CCR surface impoundment that either:

(1) Has a height of five feet or more and a storage volume of 20 acre feet or more; or

(2) Has a height of 20 feet or more.

(c) (1) No later than the initial receipt of CCR in the CCR unit, the owner or operator unit must compile the design and construction plans for the CCR unit, which must include, to the extent feasible, the information specified in paragraphs (c)(1)(i) through (xi) of this section.

(i) The name and address of the person(s) owning or operating the CCR unit; the name associated with the CCR unit; and the identification number of the CCR unit if one has been assigned by the state.

(ii) The location of the CCR unit identified on the most recent U.S. Geological Survey (USGS) 7 1/2 minute or 15 minute topographic quadrangle map, or a topographic map of equivalent scale if a USGS map is not available.

(iii) A statement of the purpose for which the CCR unit is being used.

(iv) The name and size in acres of the watershed within which the CCR unit is located.

(v) A description of the physical and engineering properties of the foundation and abutment materials on which the CCR unit is constructed.

(vi) A statement of the type, size, range, and physical and engineering properties of the materials used in constructing each zone or stage of the CCR unit; the method of site preparation and construction of each zone of the CCR unit; and the dates of construction of each successive stage of construction of the CCR unit.

(vii) At a scale that details engineering structures and appurtenances relevant to the design, construction, operation, and maintenance of the CCR unit, detailed dimensional drawings of the CCR unit, including a plan view and cross sections of the length and width of the CCR unit, showing all zones, foundation improvements, drainage provisions, spillways, diversion ditches, outlets, instrument locations, and slope protection, in addition to the normal operating pool surface elevation and the maximum pool surface elevation following peak discharge from the inflow design flood, the expected maximum depth of CCR within the CCR surface impoundment, and any identifiable natural or manmade features that could adversely affect operation of the CCR unit due to malfunction or mis operation.

~~(viii) A description of the type, purpose, and location of existing instrumentation.~~

~~(ix) Area capacity curves for the CCR unit.~~

~~(x) A description of each spillway and diversion design features and capacities and calculations used in their determination.~~

~~(xi) The construction specifications and provisions for surveillance, maintenance, and repair of the CCR unit.~~

~~(xii) Any record or knowledge of structural instability of the CCR unit.~~

~~(2) Changes in the design and construction. If there is a significant change to any information compiled under paragraph (c)(1) of this section, the owner or operator of the CCR unit must update the relevant information and place it in the facility's operating record as required by § 257.105(f)(13).~~

~~(d) Periodic structural stability assessments.~~

~~(1) The owner or operator of the CCR unit must conduct initial and periodic structural stability assessments and document whether the design, construction, operation, and maintenance of the CCR unit is consistent with recognized and generally accepted good engineering practices for the maximum volume of CCR and CCR wastewater which can be impounded therein. The assessment must, at a minimum, document whether the CCR unit has been designed, constructed, operated, and maintained with:~~

~~(i) Stable foundations and abutments;~~

~~(ii) Adequate slope protection to protect against surface erosion, wave action, and adverse effects of sudden drawdown;~~

~~(iii) Dikes mechanically compacted to a density sufficient to withstand the range of loading conditions in the CCR unit;~~

~~(iv) Vegetated slopes of dikes and surrounding areas not to exceed a height of six inches above the slope of the dike, except for slopes which have an alternate form or forms of slope protection;~~

~~(v) A single spillway or a combination of spillways configured as specified in paragraph (d)(1)(v)(A) of this section. The combined capacity of all spillways must be designed, constructed, operated, and maintained to adequately manage flow during and following the peak discharge from the event specified in paragraph (d)(1)(v)(B) of this section.~~

~~(A) All spillways must be either:~~

~~(1) Of non-erodible construction and designed to carry sustained flows;~~  
~~or~~

~~(2) Earth or grass-lined and designed to carry short-term, infrequent flows at non-erosive velocities where sustained flows are not expected.~~

(B) The combined capacity of all spillways must adequately manage flow during and following the peak discharge from a:

(1) Probable maximum flood (PMF) for a high hazard potential CCR surface impoundment; or

(2) 1000-year flood for a significant hazard potential CCR surface impoundment; or

(3) 100-year flood for a low hazard potential CCR surface impoundment.

(vi) Hydraulic structures underlying the base of the CCR unit or passing through the dike of the CCR unit that maintain structural integrity and are free of significant deterioration, deformation, distortion, bedding deficiencies, sedimentation, and debris which may negatively affect the operation of the hydraulic structure; and

(vii) For CCR units with downstream slopes which can be inundated by the pool of an adjacent water body, such as a river, stream or lake, downstream slopes that maintain structural stability during low pool of the adjacent water body or sudden drawdown of the adjacent water body.

(2) The periodic assessment described in paragraph (d)(1) of this section must identify any structural stability deficiencies associated with the CCR unit in addition to recommending corrective measures. If a deficiency or a release is identified during the periodic assessment, the owner or operator unit must remedy the deficiency or release as soon as feasible and prepare documentation detailing the corrective measures taken.

(3) The owner or operator of the CCR unit must obtain a certification from a qualified professional engineer stating that the initial assessment and each subsequent periodic assessment was conducted in accordance with the requirements of this section.

*(e) Periodic safety factor assessments.*

(1) The owner or operator must conduct an initial and periodic safety factor assessments for each CCR unit and document whether the calculated factors of safety for each CCR unit achieve the minimum safety factors specified in paragraphs (e)(1)(i) through (v) of this section for the critical cross section of the embankment. The critical cross section is the cross section anticipated to be the most susceptible of all cross sections to structural failure based on appropriate engineering considerations, including loading conditions. The safety factor assessments must be supported by appropriate engineering calculations.

(i) The calculated static factor of safety under the end-of-construction loading condition must equal or exceed 1.30. The assessment of this loading condition is only required for the initial safety factor assessment and is not required for subsequent assessments.

(ii) The calculated static factor of safety under the long-term, maximum storage pool loading condition must equal or exceed 1.50.

(iii) The calculated static factor of safety under the maximum surcharge pool loading condition must equal or exceed 1.40.

~~(iv) The calculated seismic factor of safety must equal or exceed 1.00.~~

~~(v) For dikes constructed of soils that have susceptibility to liquefaction, the calculated liquefaction factor of safety must equal or exceed 1.20.~~

~~(2) The owner or operator of the CCR unit must obtain a certification from a qualified professional engineer stating that the initial assessment and each subsequent periodic assessment specified in paragraph (e)(1) of this section meets the requirements of this section.~~

~~(f) Timeframes for periodic assessments—~~

~~(1) Initial assessments. Except as provided by paragraph (f)(2) of this section, the owner or operator of the CCR unit must complete the initial assessments required by paragraphs (a)(2), (d), and (e) of this section prior to the initial receipt of CCR in the unit. The owner or operator has completed an initial assessment when the owner or operator has placed the assessment required by paragraphs (a)(2), (d), and (e) of this section in the facility's operating record as required by § 257.105(f)(5), (10), and (12).~~

~~(2) Frequency for conducting periodic assessments. The owner or operator of the CCR unit must conduct and complete the assessments required by paragraphs (a)(2), (d), and (e) of this section every five years. The date of completing the initial assessment is the basis for establishing the deadline to complete the first subsequent assessment. The owner or operator may complete any required assessment prior to the required deadline provided the owner or operator places the completed assessment(s) into the facility's operating record within a reasonable amount of time. In all cases, the deadline for completing subsequent assessments is based on the date of completing the previous assessment. For purposes of this paragraph (f)(2), the owner or operator has completed an assessment when the relevant assessment(s) required by paragraphs (a)(2), (d), and (e) of this section has been placed in the facility's operating record as required by § 257.105(f)(5), (10), and (12).~~

~~(3) Failure to document minimum safety factors during the initial assessment. Until the date an owner or operator of a CCR unit documents that the calculated factors of safety achieve the minimum safety factors specified in paragraphs (e)(1)(i) through (v) of this section, the owner or operator is prohibited from placing CCR in such unit.~~

~~(4) Closure of the CCR unit. An owner or operator of a CCR unit who either fails to complete a timely periodic safety factor assessment or fails to demonstrate minimum safety factors as required by paragraph (e) of this section is subject to the requirements of § 257.101(c).~~

~~(g) The owner or operator of the CCR unit must comply with the recordkeeping requirements specified in § 257.105(f), the notification requirements specified in § 257.106(f), and the internet requirements specified in § 257.107(f). **(not allowed by CAMA)**~~

## **Operating Criteria**

15A NCAC 13B .2080 language from 40 CFR 257.80 is proposed as a permanent rule.

**15A NCAC 13B .2080 § 257.80 Air Operating criteria - Air.**



(a) The owner or operator of a CCR landfill, CCR surface impoundment, or any lateral expansion of a CCR unit must adopt measures that will effectively minimize CCR from becoming airborne at the facility, including CCR fugitive dust originating from CCR units, roads, and other CCR management and material handling activities.

(b) CCR fugitive dust control plan. The owner or operator of the CCR unit must prepare and operate in accordance with a CCR fugitive dust control plan as specified in paragraphs (b)(1) through (7) of this section. This requirement applies in addition to, not in place of, any applicable standards under the Occupational Safety and Health Act.

(1) The CCR fugitive dust control plan must identify and describe the CCR fugitive dust control measures the owner or operator will use to minimize CCR from becoming airborne at the facility. The owner or operator must select, and include in the CCR fugitive dust control plan, the CCR fugitive dust control measures that are most appropriate for site conditions, along with an explanation of how the measures selected are applicable and appropriate for site conditions. Examples of control measures that may be appropriate include: Locating CCR inside an enclosure or partial enclosure; operating a water spray or fogging system; reducing fall distances at material drop points; using wind barriers, compaction, or vegetative covers; establishing and enforcing reduced vehicle speed limits; paving and sweeping roads; covering trucks transporting CCR; reducing or halting operations during high wind events; or applying a daily cover.

(2) If the owner or operator operates a CCR landfill or any lateral expansion of a CCR landfill, the CCR fugitive dust control plan must include procedures to emplace CCR as conditioned CCR. Conditioned CCR means wetting CCR with water to a moisture content that will prevent wind dispersal, but will not result in free liquids. In lieu of water, CCR conditioning may be accomplished with an appropriate chemical dust suppression agent.

(3) The CCR fugitive dust control plan must include procedures to log citizen complaints received by the owner or operator involving CCR fugitive dust events at the facility.

(4) The CCR fugitive dust control plan must include a description of the procedures the owner or operator will follow to periodically assess the effectiveness of the control plan.

(5) The owner or operator of a CCR unit must prepare an initial CCR fugitive dust control plan for the facility no later than 30 days from the effective date of this rule October 19, 2015, or by initial receipt of CCR in any CCR unit at the facility if the owner or operator becomes subject to this subpart Section after October 19, 2015. The owner or operator has completed the initial CCR fugitive dust control plan when the plan has been placed in the facility's operating record as required by .2105§ 257.105(g)(1).

(6) Amendment of the plan. The owner or operator of a CCR unit subject to the requirements of this section may amend the written CCR fugitive dust control plan at any time provided the revised plan is placed in the facility's operating record as required by § 257.15A NCAC 13B .2105(g)(1). The owner or operator must amend the written plan whenever there is a change in conditions that would substantially affect the written plan in effect, such as the construction and operation of a new CCR unit.

(7) The owner or operator must obtain a certification from a qualified professional engineer that the initial CCR fugitive dust control plan, or any subsequent amendment of it, meets the requirements of this section.

(c) *Annual CCR fugitive dust control report.* The owner or operator of a CCR unit must prepare an annual CCR fugitive dust control report that includes a description of the actions taken by the owner or operator to control CCR fugitive dust, a record of all citizen complaints, and a summary of any corrective measures taken. The initial annual report must be completed no later than 14 months after placing the initial CCR fugitive dust control plan in the facility's operating record. The deadline for completing a subsequent report is one year after the date of completing the previous report. For purposes of this paragraph (c), the owner or operator has completed the annual CCR fugitive dust control report when the plan has been placed in the facility's operating record as required by § 257.15A NCAC 13B .2105(g)(2).

(d) The owner or operator of the CCR unit must comply with the recordkeeping requirements specified in § 257.15A NCAC 13B .2105(g), the notification requirements specified in § 257.15A NCAC 13B .2106(g), and the internet requirements specified in § 257.15A NCAC 13B .2107(g).

15A NCAC 13B .2081 language from 40 CFR 257.81 is proposed as a permanent rule.

**15A NCAC 13B .2081 § 257.81 Operating criteria - Run-on and run-off controls for CCR landfills.**

(a) The owner or operator of an existing or new CCR landfill or any lateral expansion of a CCR landfill must design, construct, operate, and maintain:

(1) A run-on control system to prevent flow onto the active portion of the CCR unit during the peak discharge from a 24-hour, 25-year storm; and

(2) A run-off control system from the active portion of the CCR unit to collect and control at least the water volume resulting from a 24-hour, 25-year storm.

(b) Run-off from the active portion of the CCR unit must be handled in accordance with the surface water requirements under 40 CFR § 257.257.3–3.

(c) Run-on and run-off control system plan—

(1) Content of the plan. The owner or operator must prepare initial and periodic run-on and run-off control system plans for the CCR unit according to the timeframes specified in paragraphs (c)(3) and (4) of this section. These plans must document how the run-on and run-off control systems have been designed and constructed to meet the applicable requirements of this section. Each plan must be supported by appropriate engineering calculations. The owner or operator has completed the initial run-on and run-off control system plan when the plan has been placed in the facility's operating record as required by § 257.15A NCAC 13B .2105(g)(3).

(2) Amendment of the plan. The owner or operator may amend the written run-on and run-off control system plan at any time provided the revised plan is placed in the facility's operating record as required by § 257.15A NCAC 13B .2105(g)(3). The owner or operator must amend the written run-on and runoff control system plan whenever there is a change in conditions that would substantially affect the written plan in effect.

(3) Timeframes for preparing the initial plan—

(i) Existing CCR landfills. The owner or operator of the CCR unit must prepare the initial run-on and runoff control system plan no later than 30 days after effective date of this rule. October 17, 2016.

(ii) New CCR landfills and any lateral expansion of a CCR landfill. The owner or operator must prepare the initial run-on and run-off control system plan no later than the date of initial receipt of CCR in the CCR unit.

(4) Frequency for revising the plan. The owner or operator of the CCR unit must prepare periodic run-on and runoff control system plans required by paragraph (c)(1) of this section every five years. The date of completing the initial plan is the basis for establishing the deadline to complete the first subsequent plan. The owner or operator may complete any required plan prior to the required deadline provided the owner or operator places the completed plan into the facility's operating record within a reasonable amount of time. In all cases, the deadline for completing a subsequent plan is based on the date of completing the previous plan. For purposes of this paragraph (c)(4), the owner or operator has completed a periodic run-on and run-off control system plan when the plan has been placed in the facility's operating record as required by § 257.15A NCAC 13B .2105(g)(3).

(5) The owner or operator must obtain a certification from a qualified professional engineer stating that the initial and periodic run-on and run-off control system plans meet the requirements of this section.

(d) The owner or operator of the CCR unit must comply with the recordkeeping requirements specified in § 257.15A NCAC 13B .2105(g), the notification requirements specified in § 257.15A NCAC 13B .2106(g), and the internet requirements specified in § 257.15A NCAC 13B .2107(g).

15A NCAC 13B .2082 language from 40 CFR 257.82 is proposed as a permanent rule.

**15A NCAC 13B .2082 § 257.82 Hydrologic and hydraulic capacity requirements for CCR surface impoundments.**

(a) The owner or operator of an existing or new CCR surface impoundment or any lateral expansion of a CCR surface impoundment must design, construct, operate, and maintain an inflow design flood control system as specified in paragraphs (a)(1) and (2) of this section.

(1) The inflow design flood control system must adequately manage flow into the CCR unit during and following the peak discharge of the inflow design flood specified in paragraph (a)(3) of this section.

(2) The inflow design flood control system must adequately manage flow from the CCR unit to collect and control the peak discharge resulting from the inflow design flood specified in paragraph (a)(3) of this section.

(3) The inflow design flood is:

(i) For a high hazard potential CCR surface impoundment, as determined under § 257.15A NCAC 13B .2073(a)(2) or § 257.74(a)(2), the probable maximum flood;

(ii) For a significant hazard potential CCR surface impoundment, as determined under § 257.15A NCAC 13B .2073(a)(2) or § 257.74(a)(2), the 1,000-year flood;

(iii) For a low hazard potential CCR surface impoundment, as determined under § 257.15A NCAC 13B .2073(a)(2) or § 257.74(a)(2), the 100-year flood; or

(iv) For an incised CCR surface impoundment, the 25-year flood.

(b) Discharge from the CCR unit must be handled in accordance with the surface water requirements under § 257.40 CFR 257.3–3.

(c) Inflow design flood control system plan—

(1) Content of the plan. The owner or operator must prepare initial and periodic inflow design flood control system plans for the CCR unit according to the timeframes specified in paragraphs (c)(3) and (4) of this section. These plans must document how the inflow design flood control system has been designed and constructed to meet the requirements of this section. Each plan must be supported by appropriate engineering calculations. The owner or operator of the CCR unit has completed the inflow design flood control system plan when the plan has been placed in the facility's operating record as required by § 257.15A NCAC 13B .2105(g)(4).

(2) Amendment of the plan. The owner or operator of the CCR unit may amend the written inflow design flood control system plan at any time provided the revised plan is placed in the facility's operating record as required by § 257.15A NCAC 13B .2105(g)(4). The owner or operator must amend the written inflow design flood control system plan whenever there is a change in conditions that would substantially affect the written plan in effect.

(3) Timeframes for preparing the initial plan. Existing CCR surface impoundments. The owner or operator of the CCR unit must prepare the initial inflow design flood control system plan no later 30 days after the effective date of this rule than October 17, 2016.

~~(ii) New CCR surface impoundments and any lateral expansion of a CCR surface impoundment. The owner or operator must prepare the initial inflow design flood control system plan no later than the date of initial receipt of CCR in the CCR unit. (not allowed by CAMA)~~

(4) Frequency for revising the plan. The owner or operator must prepare periodic inflow design flood control system plans required by paragraph (c)(1) of this section every five years. The date of completing the initial plan is the basis for establishing the deadline to complete the first periodic plan. The owner or operator may complete any required plan prior to the required deadline provided the owner or operator places the completed plan into the facility's operating record within a reasonable amount of time. In all cases, the deadline for completing a subsequent plan is based on the date of completing the previous plan. For purposes of this paragraph (c)(4), the owner or operator has completed an inflow design flood control system plan when the plan has been placed in the facility's operating record as required by § 257.15A NCAC 13B .2105(g)(4).

(5) The owner or operator must obtain a certification from a qualified professional engineer stating that the initial and periodic inflow design flood control system plans meet the requirements of this section.

(d) The owner or operator of the CCR unit must comply with the recordkeeping requirements specified in § 257.15A NCAC 13B .2105(g), the notification requirements specified in § 257.15A NCAC 13B .2106(g), and the internet requirements specified in § 257.15A NCAC 13B .2107(g).

15A NCAC 13B .2083 language from 40 CFR 257.83 is proposed as a permanent rule.

**15A NCAC 13B .2083 § 257.83 Inspection requirements for CCR surface impoundments.**

(a) Inspections by a qualified person.

(1) All CCR surface impoundments and any lateral expansion of a CCR surface impoundment must be examined by a qualified person as follows:

(i) At intervals not exceeding seven days, inspect for any appearances of actual or potential structural weakness and other conditions which are disrupting or have the potential to disrupt the operation or safety of the CCR unit;

(ii) At intervals not exceeding seven days, inspect the discharge of all outlets of hydraulic structures which pass underneath the base of the surface impoundment or through the dike of the CCR unit for abnormal discoloration, flow or discharge of debris or sediment; and

(iii) At intervals not exceeding 30 days, monitor all CCR unit instrumentation.

(iv) The results of the inspection by a qualified person must be recorded in the facility's operating record as required by § 257.15A NCAC 13B .2105(g)(5).

(2) Timeframes for inspections by a qualified person—

(i) Existing CCR surface impoundments. The owner or operator of the CCR unit must initiate the inspections required under paragraph (a) of this section no later than 30 days of effective date of this rule. October 19, 2015.

~~(ii) New CCR surface impoundments and any lateral expansion of a CCR surface impoundment. The owner or operator of the CCR unit must initiate the inspections required under paragraph (a) of this section upon initial receipt of CCR by the CCR unit.~~  
**(not allowed by CAMA)**

(b) Annual inspections by a qualified professional engineer.

(1) If the existing or new CCR surface impoundment or any lateral expansion of the CCR surface impoundment is subject to the periodic structural stability assessment requirements under § 257.15A NCAC 13B 2073(d) or § 257.74(d), , the CCR unit must additionally be inspected on a periodic basis by a qualified professional engineer to ensure that the design, construction, operation, and maintenance of the CCR unit is consistent with recognized and generally accepted good engineering standards. The inspection must, at a minimum, include:

- (i) A review of available information regarding the status and condition of the CCR unit, including, but not limited to, files available in the operating record (e.g., CCR unit design and construction information, required by §§ 257.73(c)(1) and 257.74(c)(1), previous periodic structural stability assessments required under §§ 257.15A NCAC 13B 2073(d) and 257.74(d), the results of inspections by a qualified person, and results of previous annual inspections);
- (ii) A visual inspection of the CCR unit to identify signs of distress or malfunction of the CCR unit and appurtenant structures; and
- (iii) A visual inspection of any hydraulic structures underlying the base of the CCR unit or passing through the dike of the CCR unit for structural integrity and continued safe and reliable operation.

(2) Inspection report. The qualified professional engineer must prepare a report following each inspection that addresses the following:

- (i) Any changes in geometry of the impounding structure since the previous annual inspection;
- (ii) The location and type of existing instrumentation and the maximum recorded readings of each instrument since the previous annual inspection;
- (iii) The approximate minimum, maximum, and present depth and elevation of the impounded water and CCR since the previous annual inspection;
- (iv) The storage capacity of the impounding structure at the time of the inspection;
- (v) The approximate volume of the impounded water and CCR at the time of the inspection;
- (vi) Any appearances of an actual or potential structural weakness of the CCR unit, in addition to any existing conditions that are disrupting or have the potential to disrupt the operation and safety of the CCR unit and appurtenant structures; and
- (vii) Any other change(s) which may have affected the stability or operation of the impounding structure since the previous annual inspection.

(3) Timeframes for conducting the initial inspection—

(i) Existing CCR surface impoundments. The owner or operator of the CCR unit must complete the initial inspection required by paragraphs (b)(1) and (2) of this section no later than January 19, 201630 days of effective date of this rule.

~~(ii) New CCR surface impoundments and any lateral expansion of a CCR surface impoundment. The owner or operator of the CCR unit must complete the initial annual inspection required by paragraphs (b)(1) and (2) of this section no later than 14 months following the date of initial receipt of CCR in the CCR unit. (not allowed by CAMA)~~

(4) Frequency of inspections.

(i) Except as provided for in paragraph (b)(4)(ii) of this section, the owner or operator of the CCR unit must conduct the inspection required by paragraphs (b)(1) and (2) of this section on an annual basis. The date of completing the initial inspection report is the basis for establishing the deadline to complete the first subsequent inspection. Any required inspection may be conducted prior to the required deadline provided the owner or operator places the completed inspection report into the facility's operating record within a reasonable amount of time. In all cases, the deadline for completing subsequent inspection reports is based on the date of completing the previous inspection report. For purposes of this section, the owner or operator has completed an inspection when the inspection report has been placed in the facility's operating record as required by § 257.15A NCAC 13B .2105(g)(6).

(ii) In any calendar year in which both the periodic inspection by a qualified professional engineer and the quinquennial (occurring every five years) structural stability assessment by a qualified professional engineer required by §§ 257.15A NCAC 13B 2073(d) and 257.74(d) are required to be completed, the annual inspection is not required, provided the structural stability assessment is completed during the calendar year. If the annual inspection is not conducted in a year as provided by this paragraph (b)(4)(ii), the deadline for completing the next annual inspection is one year from the date of completing the quinquennial structural stability assessment.

(5) If a deficiency or release is identified during an inspection, the owner or operator must remedy the deficiency or release as soon as feasible and prepare documentation detailing the corrective measures taken.

(c) The owner or operator of the CCR unit must comply with the recordkeeping requirements specified in § 257.15A NCAC 13B .2105(g), the notification requirements specified in § 257.15A NCAC 13B 1.2106(g), and the internet requirements specified in § 257.15A NCAC 13B .2107(g).

15A NCAC 13B .2084 language from 40 CFR 257.84 is proposed as a permanent rule.

**15A NCAC 13B .2084 § 257.84 Inspection requirements for CCR landfills.**

(a) Inspections by a qualified person.

(1) All CCR landfills and any lateral expansion of a CCR landfill must be examined by a qualified person as follows:

(i) At intervals not exceeding seven days, inspect for any appearances of actual or potential structural weakness and other conditions which are disrupting or have the potential to disrupt the operation or safety of the CCR unit; and

(ii) The results of the inspection by a qualified person must be recorded in the facility's operating record as required by § 257.15A NCAC 13B .2105(g)(8).

(2) Timeframes for inspections by a qualified person—

(i) Existing CCR landfills. The owner or operator of the CCR unit must initiate the inspections required under paragraph (a) of this section no later than 30 days after effective date of this rule. October 19, 2015.

(ii) New CCR landfills and any lateral expansion of a CCR landfill. The owner or operator of the CCR unit must initiate the inspections required under paragraph (a) of this section upon initial receipt of CCR by the CCR unit.

(b) Annual inspections by a qualified professional engineer.

(1) Existing and new CCR landfills and any lateral expansion of a CCR landfill must be inspected on a periodic basis by a qualified professional engineer to ensure that the design, construction, operation, and maintenance of the CCR unit is consistent with recognized and generally accepted good engineering standards. The inspection must, at a minimum, include:

(i) A review of available information regarding the status and condition of the CCR unit, including, but not limited to, files available in the operating record (e.g., the results of inspections by a qualified person, and results of previous annual inspections); and

(ii) A visual inspection of the CCR unit to identify signs of distress or malfunction of the CCR unit.

(2) Inspection report. The qualified professional engineer must prepare a report following each inspection that addresses the following:

(i) Any changes in geometry of the structure since the previous annual inspection;

(ii) The approximate volume of CCR contained in the unit at the time of the inspection;

(iii) Any appearances of an actual or potential structural weakness of the CCR unit, in addition to any existing conditions that are disrupting or have the potential to disrupt the operation and safety of the CCR unit; and

(iv) Any other change(s) which may have affected the stability or operation of the CCR unit since the previous annual inspection.

(3) Timeframes for conducting the initial inspection—

(i) Existing CCR landfills. The owner or operator of the CCR unit must complete the initial inspection required by paragraphs (b)(1) and (2) of this section no later than 30 days of effective date of this rule. January 19, 2016. **(Required Prior to 7/1/2017)**

(ii) New CCR landfills and any lateral expansion of a CCR landfill. The owner or operator of the CCR unit must complete the initial annual inspection required by paragraphs (b)(1) and (2) of this section no later than 14 months following the date of initial receipt of CCR in the CCR unit.

(4) Frequency of inspections. The owner or operator of the CCR unit must conduct the inspection required by paragraphs (b)(1) and (2) of this section on an annual basis. The date of completing the initial inspection report is the basis for establishing the deadline to complete the first subsequent inspection. Any required inspection may be conducted prior to the required



deadline provided the owner or operator places the completed inspection report into the facility's operating record within a reasonable amount of time. In all cases, the deadline for completing subsequent inspection reports is based on the date of completing the previous inspection report. For purposes of this section, the owner or operator has completed an inspection when the inspection report has been placed in the facility's operating record as required by § 257.15A NCAC 13B .2105(g)(9).

(5) If a deficiency or release is identified during an inspection, the owner or operator must remedy the deficiency or release as soon as feasible and prepare documentation detailing the corrective measures taken.

(c) The owner or operator of the CCR unit must comply with the recordkeeping requirements specified in § 257.15A NCAC 13B .2105(g), the notification requirements specified in § 257.15A NCAC 13B 1.2106(g), and the internet requirements specified in § 257.15A NCAC 13B .2107(g).

15A NCAC 13B .2090 language from 40 CFR 257.90 is proposed as a permanent rule.

### **15A NCAC 13B .2090 § 257.90 Groundwater Monitoring and Corrective Action**

#### **Applicability.**

(a) Except as provided for in § 257.15A NCAC 13B .2100 for inactive CCR surface impoundments, all CCR landfills, CCR surface impoundments, and lateral expansions of CCR units are subject to the groundwater monitoring and corrective action requirements under §§ 257.15A NCAC 13B 2090 through 257.98.

(b) Initial timeframes—

(1) Existing CCR landfills and existing CCR surface impoundments. No later than October 17, 2017, the owner or operator of the CCR unit must be in compliance with the following groundwater monitoring requirements:

(i) Install the groundwater monitoring system as required by § 257.15A NCAC 13B 2091;

(ii) Develop the groundwater sampling and analysis program to include selection of the statistical procedures to be used for evaluating groundwater monitoring data as required by § 257.15A NCAC 13B 2093;

(iii) Initiate the detection monitoring program to include obtaining a minimum of eight independent samples for each background and downgradient well as required by § 257.15A NCAC 13B 2094(b); and

(iv) Begin evaluating the groundwater monitoring data for statistically significant increases over background levels for the constituents listed in appendix III of this part as required by § 257.15A NCAC 13B 2094.

(2) New CCR landfills, new CCR surface impoundments, and all lateral expansions of CCR units. Prior to initial receipt of CCR by the CCR unit, the owner or operator must be in compliance with the groundwater monitoring requirements specified in paragraph (b)(1)(i) and (ii) of this section. In addition, the owner or operator of the CCR unit must initiate the detection monitoring

program to include obtaining a minimum of eight independent samples for each background well as required by § 257.15A NCAC 13B 2094(b).

(c) Once a groundwater monitoring system and groundwater monitoring program has been established at the CCR unit as required by this subpartSection, the owner or operator must conduct groundwater monitoring and, if necessary, corrective action throughout the active life and post-closure care period of the CCR unit.

(d) In the event of a release from a CCR unit, the owner or operator must immediately take all necessary measures to control the source(s) of releases so as to reduce or eliminate, to the maximum extent feasible, further releases of contaminants into the environment. The owner or operator of the CCR unit must comply with all applicable requirements in §§ 257.15A NCAC 13B 2096, 257.97, and 257.98.

(e) Annual groundwater monitoring and corrective action report. For existing CCR landfills and existing CCR surface impoundments, no later than January 31, 2018, and annually thereafter, the owner or operator must prepare an annual groundwater monitoring and corrective action report. For new CCR landfills, new CCR surface impoundments, and all lateral expansions of CCR units, the owner or operator must prepare the initial annual groundwater monitoring and corrective action report no later than January 31 of the year following the calendar year a groundwater monitoring system has been established for such CCR unit as required by this subpartSection, and annually thereafter. For the preceding calendar year, the annual report must document the status of the groundwater monitoring and corrective action program for the CCR unit, summarize key actions completed, describe any problems encountered, discuss actions to resolve the problems, and project key activities for the upcoming year. For purposes of this section, the owner or operator has prepared the annual report when the report is placed in the facility's operating record as required by § 257.15A NCAC 13B .2105(h)(1). At a minimum, the annual groundwater monitoring and corrective action report must contain the following information, to the extent available:

(1) A map, aerial image, or diagram showing the CCR unit and all background (or up-gradient) and downgradient monitoring wells, to include the well identification numbers, that are part of the groundwater monitoring program for the CCR unit;

(2) Identification of any monitoring wells that were installed or decommissioned during the preceding year, along with a narrative description of why those actions were taken;

(3) In addition to all the monitoring data obtained under §§ 257.15A NCAC 13B .2090 through 257.98, a summary including the number of groundwater samples that were collected for analysis for each background and downgradient well, the dates the samples were collected, and whether the sample was required by the detection monitoring or assessment monitoring programs;

(4) A narrative discussion of any transition between monitoring programs (e.g., the date and circumstances for transitioning from detection monitoring to assessment monitoring in addition to identifying the constituent(s) detected at a statistically significant increase over background levels); and

(5) Other information required to be included in the annual report as specified in §§ 257.15A NCAC 13B .2090 through 257..2098.

(f) The owner or operator of the CCR unit must comply with the recordkeeping requirements specified in § 257.15A NCAC 13B .2105(h), the notification requirements specified in § 257.15A NCAC 13B .2106(h), and the internet requirements specified in § 257.15A NCAC 13B .2107(h).

15A NCAC 13B .2091 language from 40 CFR 257.91 is proposed as a permanent rule.

**15A NCAC 13B .2091 § 257.91 Groundwater monitoring systems.**

(a) Performance standard. The owner or operator of a CCR unit must install a groundwater monitoring system that consists of a sufficient number of wells, installed at appropriate locations and depths, to yield groundwater samples from the uppermost aquifer that:

(1) Accurately represent the quality of background groundwater that has not been affected by leakage from a CCR unit. A determination of background quality may include sampling of wells that are not hydraulically up-gradient of the CCR management area where:

(i) Hydro-geologic conditions do not allow the owner or operator of the CCR unit to determine what wells are hydraulically up-gradient; or

(ii) Sampling at other wells will provide an indication of background groundwater quality that is as representative or more representative than that provided by the up-gradient wells; and

(2) Accurately represent the quality of groundwater passing the waste boundary of the CCR unit. The downgradient monitoring system must be installed at the waste boundary that ensures detection of groundwater contamination in the uppermost aquifer. All potential contaminant pathways must be monitored.

(b) The number, spacing, and depths of monitoring systems shall be determined based upon site-specific technical information that must include thorough characterization of:

(1) Aquifer thickness, groundwater flow rate, groundwater flow direction including seasonal and temporal fluctuations in groundwater flow; and

(2) Saturated and unsaturated geologic units and fill materials overlying the uppermost aquifer, materials comprising the uppermost aquifer, and materials comprising the confining unit defining the lower boundary of the uppermost aquifer, including, but not limited to, thicknesses, stratigraphy, lithology, hydraulic conductivities, porosities and effective porosities.

(c) The groundwater monitoring system must include the minimum number of monitoring wells necessary to meet the performance standards specified in paragraph (a) of this section, based on the site-specific information specified in paragraph (b) of this section. The groundwater monitoring system must contain:

(1) A minimum of one up-gradient and three downgradient monitoring wells; and

(2) Additional monitoring wells as necessary to accurately represent the quality of background groundwater that has not been affected by leakage from the CCR unit and the quality of groundwater passing the waste boundary of the CCR unit.

(d) The owner or operator of multiple CCR units may install a multiunit groundwater monitoring system instead of separate groundwater monitoring systems for each CCR unit.

(1) The multiunit groundwater monitoring system must be equally as capable of detecting monitored constituents at the waste boundary of the CCR unit as the individual groundwater monitoring system specified in paragraphs (a) through (c) of this section for each CCR unit based on the following factors:

(i) Number, spacing, and orientation of each CCR unit;

(ii) Hydro-geologic setting;

(iii) Site history; and

(iv) Engineering design of the CCR unit.

(2) If the owner or operator elects to install a multiunit groundwater monitoring system, and if the multiunit system includes at least one existing unlined CCR surface impoundment as determined by 40 CFR§ 257.71(a), and if at any time after October 19, 2015 the owner or operator determines in any sampling event that the concentrations of one or more constituents listed in appendix IV to this part are detected at statistically significant levels above the groundwater protection standard established under § 257.15A NCAC 13B 2095(h) for the multiunit system, then all unlined CCR surface impoundments comprising the multiunit groundwater monitoring system are subject to the closure requirements under § 257.15A NCAC 13B .2101(a) to retrofit or close.

(e) Monitoring wells must be cased in a manner that maintains the integrity of the monitoring well borehole. This casing must be screened or perforated and packed with gravel or sand, where necessary, to enable collection of groundwater samples. The annular space (i.e., the space between the borehole and well casing) above the sampling depth must be sealed to prevent contamination of samples and the groundwater.

(1) The owner or operator of the CCR unit must document and include in the operating record the design, installation, development, and decommissioning of any monitoring wells, piezometers and other measurement, sampling, and analytical devices. The qualified professional engineer must be given access to this documentation when completing the groundwater monitoring system certification required under paragraph (f) of this section.

(2) The monitoring wells, piezometers, and other measurement, sampling, and analytical devices must be operated and maintained so that they perform to the design specifications throughout the life of the monitoring program.

(f) The owner or operator must obtain a certification from a qualified professional engineer stating that the groundwater monitoring system has been designed and constructed to meet the requirements of this section. If the groundwater monitoring system includes the minimum number of monitoring wells specified in paragraph (c)(1) of this section, the certification must document the basis supporting this determination.

(g) The owner or operator of the CCR unit must comply with the recordkeeping requirements specified in § 257.15A NCAC 13B .2105(h), the notification requirements specified in § 257.15A NCAC 13B .2106(h), and the internet requirements specified in § 257.15A NCAC 13B .2107(h).

#### **§ 257.92 [Reserved]**

15A NCAC 13B .2093 language from 40 CFR 257.98 is proposed as a permanent rule.

#### **15A NCAC 13B .2093 § 257.93 Groundwater sampling and analysis requirements.**

(a) The groundwater monitoring program must include consistent sampling and analysis procedures that are designed to ensure monitoring results that provide an accurate representation of groundwater quality at the background and downgradient wells required by § 257.15A NCAC 13B .2091. The owner or operator of the CCR unit must develop a sampling and analysis program that includes procedures and techniques for:

- (1) Sample collection;
- (2) Sample preservation and shipment;
- (3) Analytical procedures;
- (4) Chain of custody control; and
- (5) Quality assurance and quality control.

(b) The groundwater monitoring program must include sampling and analytical methods that are appropriate for groundwater sampling and that accurately measure hazardous constituents and other monitoring parameters in groundwater samples. For purposes of §§ 257.15A NCAC 13B .2090 through 257.98, the term constituent refers to both hazardous constituents and other monitoring parameters listed in either appendix III or IV of this part.

(c) Groundwater elevations must be measured in each well immediately prior to purging, each time groundwater is sampled. The owner or operator of the CCR unit must determine the rate and direction of groundwater flow each time groundwater is sampled. Groundwater elevations in wells which monitor the same CCR management area must be measured within a period of time short enough to avoid temporal variations in groundwater flow which could preclude accurate determination of groundwater flow rate and direction.

(d) The owner or operator of the CCR unit must establish background groundwater quality in a hydraulically up-gradient or background well(s) for each of the constituents required in the particular groundwater monitoring program that applies to the CCR unit as determined under § 257.15A NCAC 13B .2094(a) or § 257.15A NCAC 13B .2095(a). Background groundwater quality may be established at wells that are not located hydraulically up-gradient from the CCR unit if it meets the requirements of § 257.15A NCAC 13B .2091(a)(1).

(e) The number of samples collected when conducting detection monitoring and assessment monitoring (for both downgradient and background wells) must be consistent with the statistical procedures chosen under paragraph (f) of this section and the performance standards under paragraph (g) of this section. The sampling procedures shall be those specified under § 257.15A NCAC 13B .2094(b) through (d) for

detection monitoring, § 257.15A NCAC 13B .2095(b) through (d) for assessment monitoring, and § 257.15A NCAC 13B .2096(b) for corrective action.

(f) The owner or operator of the CCR unit must select one of the statistical methods specified in paragraphs (f)(1) through (5) of this section to be used in evaluating groundwater monitoring data for each specified constituent. The statistical test chosen shall be conducted separately for each constituent in each monitoring well.

(1) A parametric analysis of variance followed by multiple comparison procedures to identify statistically significant evidence of contamination. The method must include estimation and testing of the contrasts between each compliance well's mean and the background mean levels for each constituent.

(2) An analysis of variance based on ranks followed by multiple comparison procedures to identify statistically significant evidence of contamination. The method must include estimation and testing of the contrasts between each compliance well's median and the background median levels for each constituent.

(3) A tolerance or prediction interval procedure, in which an interval for each constituent is established from the distribution of the background data and the level of each constituent in each compliance well is compared to the upper tolerance or prediction limit.

(4) A control chart approach that gives control limits for each constituent.

(5) Another statistical test method that meets the performance standards of paragraph (g) of this section.

(6) The owner or operator of the CCR unit must obtain a certification from a qualified professional engineer stating that the selected statistical method is appropriate for evaluating the groundwater monitoring data for the CCR management area. The certification must include a narrative description of the statistical method selected to evaluate the groundwater monitoring data.

(g) Any statistical method chosen under paragraph (f) of this section shall comply with the following performance standards, as appropriate, based on the statistical test method used:

(1) The statistical method used to evaluate groundwater monitoring data shall be appropriate for the distribution of constituents. Normal distributions of data values shall use parametric methods. Non-normal distributions shall use non-parametric methods. If the distribution of the constituents is shown by the owner or operator of the CCR unit to be inappropriate for a normal theory test, then the data must be transformed or a distribution-free (non-parametric) theory test must be used. If the distributions for the constituents differ, more than one statistical method may be needed.

(2) If an individual well comparison procedure is used to compare an individual compliance well constituent concentration with background constituent concentrations or a groundwater protection standard, the test shall be done at a Type I error level no less than 0.01 for each testing period. If a multiple comparison procedure is used, the Type I experiment wise error rate for each testing period shall be no less than 0.05; however, the Type I error of no less than 0.01

for individual well comparisons must be maintained. This performance standard does not apply to tolerance intervals, prediction intervals, or control charts.

(3) If a control chart approach is used to evaluate groundwater monitoring data, the specific type of control chart and its associated parameter values shall be such that this approach is at least as effective as any other approach in this section for evaluating groundwater data. The parameter values shall be determined after considering the number of samples in the background data base, the data distribution, and the range of the concentration values for each constituent of concern.

(4) If a tolerance interval or a predictional interval is used to evaluate groundwater monitoring data, the levels of confidence and, for tolerance intervals, the percentage of the population that the interval must contain, shall be such that this approach is at least as effective as any other approach in this section for evaluating groundwater data. These parameters shall be determined after considering the number of samples in the background data base, the data distribution, and the range of the concentration values for each constituent of concern.

(5) The statistical method must account for data below the limit of detection with one or more statistical procedures that shall be at least as effective as any other approach in this section for evaluating groundwater data. Any practical quantitation limit that is used in the statistical method shall be the lowest concentration level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions that are available to the facility.

(6) If necessary, the statistical method must include procedures to control or correct for seasonal and spatial variability as well as temporal correlation in the data.

(h) The owner or operator of the CCR unit must determine whether or not there is a statistically significant increase over background values for each constituent required in the particular groundwater monitoring program that applies to the CCR unit, as determined under § 257.15A NCAC 13B .2094(a) or § 257.15A NCAC 13B .2095(a).

(1) In determining whether a statistically significant increase has occurred, the owner or operator must compare the groundwater quality of each constituent at each monitoring well designated pursuant to § 257.15A NCAC 13B .2091(a)(2) or (d)(1) to the background value of that constituent, according to the statistical procedures and performance standards specified under paragraphs (f) and (g) of this section.

(2) Within 90 days after completing sampling and analysis, the owner or operator must determine whether there has been a statistically significant increase over background for any constituent at each monitoring well.

(i) The owner or operator must measure “total recoverable metals” concentrations in measuring groundwater quality. Measurement of total recoverable metals captures both the particulate fraction and dissolved fraction of metals in natural waters. Groundwater samples shall not be field filtered prior to analysis.

(j) The owner or operator of the CCR unit must comply with the recordkeeping requirements specified in § 257.15A NCAC 13B 1.2105(h), the notification requirements specified in § 257.15A NCAC 13B .1.2106(h), and the Internet requirements specified in § 257.15A NCAC 13B .1.2107(h).

15A NCAC 13B .2094 language from 40 CFR 257.94 is proposed as a permanent rule.

**15A NCAC 13B .2094 § 257.94 Detection monitoring program.**

(a) The owner or operator of a CCR unit must conduct detection monitoring at all groundwater monitoring wells consistent with this section. At a minimum, a detection monitoring program must include groundwater monitoring for all constituents listed in appendix III to this part.

(b) Except as provided in paragraph (d) of this section, the monitoring frequency for the constituents listed in appendix III to this part shall be at least semiannual during the active life of the CCR unit and the post-closure period. For existing CCR landfills and existing CCR surface impoundments, a minimum of eight independent samples from each background and downgradient well must be collected and analyzed for the constituents listed in appendix III and IV to this part no later than October 17, 2017. For new CCR landfills, new CCR surface impoundments, and all lateral expansions of CCR units, a minimum of eight independent samples for each background well must be collected and analyzed for the constituents listed in appendices III and IV to this part during the first six months of sampling.

(c) The number of samples collected and analyzed for each background well and downgradient well during subsequent semiannual sampling events must be consistent with § 257.15A NCAC 13B .2093(e), and must account for any unique characteristics of the site, but must be at least one sample from each background and downgradient well.

(d) The owner or operator of a CCR unit may demonstrate the need for an alternative monitoring frequency for repeated sampling and analysis for constituents listed in appendix III to this part during the active life and the post-closure care period based on the availability of groundwater. If there is not adequate groundwater flow to sample wells semiannually, the alternative frequency shall be no less than annual. The need to vary monitoring frequency must be evaluated on a site-specific basis. The demonstration must be supported by, at a minimum, the information specified in paragraphs (d)(1) and (2) of this section.

(1) Information documenting that the need for less frequent sampling. The alternative frequency must be based on consideration of the following factors:

- (i) Lithology of the aquifer and unsaturated zone;
- (ii) Hydraulic conductivity of the aquifer and unsaturated zone; and
- (iii) Groundwater flow rates.

(2) Information documenting that the alternative frequency will be no less effective in ensuring that any leakage from the CCR unit will be discovered within a timeframe that will not materially delay establishment of an assessment monitoring program.

(3) The owner or operator must obtain a certification from a qualified professional engineer stating that the demonstration for an alternative groundwater sampling and analysis frequency meets the requirements of this section. The owner or operator must include the demonstration



providing the basis for the alternative monitoring frequency and the certification by a qualified professional engineer in the annual groundwater monitoring and corrective action report required by § 257.15A NCAC 13B .2090(e).

(e) If the owner or operator of the CCR unit determines, pursuant to § 257.15A NCAC 13B .2093(h) that there is a statistically significant increase over background levels for one or more of the constituents listed in appendix III to this part at any monitoring well at the waste boundary specified under § 257.15A NCAC 13B .2091(a)(2), the owner or operator must:

(1) Except as provided for in paragraph (e)(2) of this section, within 90 days of detecting a statistically significant increase over background levels for any constituent, establish an assessment monitoring program meeting the requirements of § 257.15A NCAC 13B .2095.

(2) The owner or operator may demonstrate that a source other than the CCR unit caused the statistically significant increase over background levels for a constituent or that the statistically significant increase resulted from error in sampling, analysis, statistical evaluation, or natural variation in groundwater quality. The owner or operator must complete the written demonstration within 90 days of detecting a statistically significant increase over background levels to include obtaining a certification from a qualified professional engineer verifying the accuracy of the information in the report. If a successful demonstration is completed within the 90-day period, the owner or operator of the CCR unit may continue with a detection monitoring program under this section. If a successful demonstration is not completed within the 90-day period, the owner or operator of the CCR unit must initiate an assessment monitoring program as required under § 257.15A NCAC 13B .2095. The owner or operator must also include the demonstration in the annual groundwater monitoring and corrective action report required by § 257.15A NCAC 13B .2090(e), in addition to the certification by a qualified professional engineer.

(3) The owner or operator of a CCR unit must prepare a notification stating that an assessment monitoring program has been established. The owner or operator has completed the notification when the notification is placed in the facility's operating record as required by § 257.15A NCAC 13B .2105(h)(5).

(f) The owner or operator of the CCR unit must comply with the recordkeeping requirements specified in § 257.15A NCAC 13B .2105(h), the notification requirements specified in § 257.15A NCAC 13B .2106(h), and the Internet requirements specified in § 257.15A NCAC 13B .2107(h).

15A NCAC 13B .2095 language from 40 CFR 257.95 is proposed as a permanent rule.

#### **15A NCAC 13B .2095 § 257.95 Assessment monitoring program.**

(a) Assessment monitoring is required whenever a statistically significant increase over background levels has been detected for one or more of the constituents listed in appendix III to this part.

(b) Within 90 days of triggering an assessment monitoring program, and annually thereafter, the owner or operator of the CCR unit must sample and analyze the groundwater for all constituents listed in appendix IV to this part. The number of samples collected and analyzed for each well during each sampling event must be consistent with § 257.15A NCAC 13B .2093(e), and must account for any unique characteristics of the site, but must be at least one sample from each well.

(c) The owner or operator of a CCR unit may demonstrate the need for an alternative monitoring frequency for repeated sampling and analysis for constituents listed in appendix IV to this part during the active life and the post-closure care period based on the availability of groundwater. If there is not adequate groundwater flow to sample wells semiannually, the alternative frequency shall be no less than annual. The need to vary monitoring frequency must be evaluated on a site-specific basis. The demonstration must be supported by, at a minimum, the information specified in paragraphs (c)(1) and (2) of this section.

(1) Information documenting that the need for less frequent sampling. The alternative frequency must be based on consideration of the following factors:

- (i) Lithology of the aquifer and unsaturated zone;
- (ii) Hydraulic conductivity of the aquifer and unsaturated zone; and
- (iii) Groundwater flow rates.

(2) Information documenting that the alternative frequency will be no less effective in ensuring that any leakage from the CCR unit will be discovered within a timeframe that will not materially delay the initiation of any necessary remediation measures.

(3) The owner or operator must obtain a certification from a qualified professional engineer stating that the demonstration for an alternative groundwater sampling and analysis frequency meets the requirements of this section. The owner or operator must include the demonstration providing the basis for the alternative monitoring frequency and the certification by a Qualified professional engineer in the annual groundwater monitoring and corrective action report required by § 257.15A NCAC 13B .2090(e).

(d) After obtaining the results from the initial and subsequent sampling events required in paragraph (b) of this section, the owner or operator must:

(1) Within 90 days of obtaining the results, and on at least a semiannual basis thereafter, resample all wells that were installed pursuant to the requirements of § 257.15A NCAC 13B .2091, conduct analyses for all parameters in appendix III to this part and for those constituents in appendix IV to this part that are detected in response to paragraph (b) of this section, and record their concentrations in the facility operating record. The number of samples collected and analyzed for each background well and downgradient well during subsequent semiannual sampling events must be consistent with § 257.15A NCAC 13B .2093(e), and must account for any unique characteristics of the site, but must be at least one sample from each background and downgradient well;

(2) Establish groundwater protection standards for all constituents detected pursuant to paragraph (b) or (d) of this section. The groundwater protection standards must be established in accordance with paragraph (h) of this section; and

(3) Include the recorded concentrations required by paragraph (d)(1) of this section, identify the background concentrations established under § 257.15A NCAC 13B .2094(b), and identify the groundwater protection standards established under paragraph (d)(2) of this section in the

annual groundwater monitoring and corrective action report required by § 257.15A NCAC 13B .2090(e).

(e) If the concentrations of all constituents listed in appendices III and IV to this part are shown to be at or below background values, using the statistical procedures in § 257.15A NCAC 13B .2093(g), for two consecutive sampling events, the owner or operator may return to detection monitoring of the CCR unit. The owner or operator must prepare a notification stating that detection monitoring is resuming for the CCR unit. The owner or operator has completed the notification when the notification is placed in the facility's operating record as required by § 257.15A NCAC 13B .2105(h)(7).

(f) If the concentrations of any constituent in appendices III and IV to this part are above background values, but all concentrations are below the groundwater protection standard established under paragraph (h) of this section, using the statistical procedures in § 257.15A NCAC 13B .2093(g), the owner or operator must continue assessment monitoring in accordance with this section.

(g) If one or more constituents in appendix IV to this part are detected at statistically significant levels above the groundwater protection standard established under paragraph (h) of this section in any sampling event, the owner or operator must prepare a notification identifying the constituents in appendix IV to this part that have exceeded the groundwater protection standard. The owner or operator has completed the notification when the notification is placed in the facility's operating record as required by § 257.15A NCAC 13B .2105(h)(8). The owner or operator of the CCR unit also must:

(1) Characterize the nature and extent of the release and any relevant site conditions that may affect the remedy ultimately selected. The characterization must be sufficient to support a complete and accurate assessment of the corrective measures necessary to effectively clean up all releases from the CCR unit pursuant to § 257.15A NCAC 13B .2096. Characterization of the release includes the following minimum measures:

(i) Install additional monitoring wells necessary to define the contaminant plume(s);

(ii) Collect data on the nature and estimated quantity of material released including specific information on the constituents listed in appendix IV of this part and the levels at which they are present in the material released;

(iii) Install at least one additional monitoring well at the facility boundary in the direction of contaminant migration and sample this well in accordance with paragraph (d)(1) of this section; and

(iv) Sample all wells in accordance with paragraph (d)(1) of this section to characterize the nature and extent of the release.

(2) Notify all persons who own the land or reside on the land that directly overlies any part of the plume of contamination if contaminants have migrated off-site if indicated by sampling of wells in accordance with paragraph (g)(1) of this section. The owner or operator has completed the notifications when they are placed in the facility's operating record as required by § 257.15A NCAC 13B .2105(h)(8).

(3) Within 90 days of finding that any of the constituents listed in appendix IV to this part have been detected at a statistically significant level exceeding the groundwater protection standards the owner or operator must either:

(i) Initiate an assessment of corrective measures as required by § 257.15A NCAC 13B .2096; or

(ii) Demonstrate that a source other than the CCR unit caused the contamination, or that the statistically significant increase resulted from error in sampling, analysis, statistical evaluation, or natural variation in groundwater quality. Any such demonstration must be supported by a report that includes the factual or evidentiary basis for any conclusions and must be certified to be accurate by a qualified professional engineer. If a successful demonstration is made, the owner or operator must continue monitoring in accordance with the assessment monitoring program pursuant to this section, and may return to detection monitoring if the constituents in appendices III and IV to this part are at or below background as specified in paragraph (e) of this section. The owner or operator must also include the demonstration in the annual groundwater monitoring and corrective action report required by § 257.15A NCAC 13B .2090(e), in addition to the certification by a qualified professional engineer.

(4) If a successful demonstration has not been made at the end of the 90-day period provided by paragraph (g)(3)(ii) of this section, the owner or operator of the CCR unit must initiate the assessment of corrective measures requirements under § 257.15A NCAC 13B .2096.

(5) If an assessment of corrective measures is required under § 257.15A NCAC 13B .2096 by either paragraph (g)(3)(i) or (g)(4) of this section, and if the CCR unit is an existing unlined CCR surface impoundment as determined by §40 CFR 257.71(a), then the CCR unit is subject to the closure requirements under § 257.15A NCAC 13B .2101(a) to retrofit or close. In addition, the owner or operator must prepare a notification stating that an assessment of corrective measures has been initiated.

(h) The owner or operator of the CCR unit must establish a groundwater protection standard for each constituent in appendix IV to this part detected in the groundwater. The groundwater protection standard shall be:

(1) For constituents for which a maximum contaminant level (MCL) has been established under CFR§§ 141.62 and 141.66 of this title or the groundwater quality standard (2L Standard) established under 15A NCAC 2L .0202, whichever is more stringent of the MCL or the 2L Standard for that constituent;

(2) For constituents for which an MCL or 2L Standard has not been established, the background concentration for the constituent established from wells in accordance with § 257.15A NCAC 13B .2091; or

(3) For constituents for which the background level is higher than the MCL or 2L Standard identified under paragraph (h)(1) of this section, the background concentration.

(i) The owner or operator of the CCR unit must comply with the recordkeeping requirements specified in § 257.15A NCAC 13B .2105(h), the notification requirements specified in § 257.15A NCAC 13B .2106(h), and the Internet requirements specified in § 257.15A NCAC 13B .2107(h).

15A NCAC 13B .2096 language from 40 CFR 257.96 is proposed as a permanent rule.

**15A NCAC 13B .2096 § 257.96 Assessment of corrective measures.**

(a) Within 90 days of finding that any constituent listed in appendix IV to this part has been detected at a statistically significant level exceeding the groundwater protection standard defined under § 257.15A NCAC 13B .2095(h), or immediately upon detection of a release from a CCR unit, the owner or operator must initiate an assessment of corrective measures to prevent further releases, to remediate any releases and to restore affected area to original conditions. The assessment of corrective measures must be completed within 90 days, unless the owner or operator demonstrates the need for additional time to complete the assessment of corrective measures due to site-specific conditions or circumstances. The owner or operator must obtain a certification from a qualified professional engineer attesting that the demonstration is accurate. The 90-day deadline to complete the assessment of corrective measures may be extended for no longer than 60 days. The owner or operator must also include the demonstration in the annual groundwater monitoring and corrective action report required by § 257.15A NCAC 13B .2090(e), in addition to the certification by a qualified professional engineer.

(b) The owner or operator of the CCR unit must continue to monitor groundwater in accordance with the assessment monitoring program as specified in § 257.15A NCAC 13B .2095.

(c) The assessment under paragraph (a) of this section must include an analysis of the effectiveness of potential corrective measures in meeting all of the requirements and objectives of the remedy as described under § 257.15A NCAC 13B .2097 addressing at least the following:

- (1) The performance, reliability, ease of implementation, and potential impacts of appropriate potential remedies, including safety impacts, cross-media impacts, and control of exposure to any residual contamination;
- (2) The time required to begin and complete the remedy;
- (3) The institutional requirements, such as state or local permit requirements or other environmental or public health requirements that may substantially affect implementation of the remedy(s).

(d) The owner or operator must place the completed assessment of corrective measures in the facility's operating record. The assessment has been completed when it is placed in the facility's operating record as required by § 257.15A NCAC 13B .2105(h)(10).

(e) The owner or operator must discuss the results of the corrective measures assessment at least 30 days prior to the selection of remedy, in a public meeting with interested and affected parties.

(f) The owner or operator of the CCR unit must comply with the recordkeeping requirements specified in § 257.15A NCAC 13B .2105(h), the notification requirements specified in § 257.15A NCAC 13B .2106(h), and the Internet requirements specified in § 257.15A NCAC 13B .2107(h).

15A NCAC 13B .2097 language from 40 CFR 257.97 is proposed as a permanent rule.

**15A NCAC 13B .2097 § 257.97 Selection of remedy.**

(a) Based on the results of the corrective measures assessment conducted under § 257.15A NCAC 13B .2096, the owner or operator must, as soon as feasible, select a remedy that, at a minimum, meets the standards listed in paragraph (b) of this section. This requirement applies to, not in place of, any applicable standards under the Occupational Safety and Health Act. The owner or operator must prepare a semiannual report describing the progress in selecting and designing the remedy. Upon selection of a remedy, the owner or operator must prepare a final report describing the selected remedy and how it meets the standards specified in paragraph (b) of this section. The owner or operator must obtain a certification from a qualified professional engineer that the remedy selected meets the requirements of this section. The report has been completed when it is placed in the operating record as required by § 257.15A NCAC 13B .2105(h)(12).

(b) Remedies must:

- (1) Be protective of human health and the environment;
- (2) Attain the groundwater protection standard as specified pursuant to § 257.15A NCAC 13B .2095(h);
- (3) Control the source(s) of releases so as to reduce or eliminate, to the maximum extent feasible, further releases of constituents in appendix IV to this part into the environment;
- (4) Remove from the environment as much of the contaminated material that was released from the CCR unit as is feasible, taking into account factors such as avoiding inappropriate disturbance of sensitive ecosystems;
- (5) Comply with standards for management of wastes as specified in § 257.15A NCAC 13B .2098(d).

(c) In selecting a remedy that meets the standards of paragraph (b) of this section, the owner or operator of the CCR unit shall consider the following evaluation factors:

- (1) The long- and short-term effectiveness and protectiveness of the potential remedy(s), along with the degree of certainty that the remedy will prove successful based on consideration of the following:
  - (i) Magnitude of reduction of existing risks;
  - (ii) Magnitude of residual risks in terms of likelihood of further releases due to CCR remaining following implementation of a remedy;
  - (iii) The type and degree of long-term management required, including monitoring, operation, and maintenance;
  - (iv) Short-term risks that might be posed to the community or the environment during implementation of such a remedy, including potential threats to human health and the environment associated with excavation, transportation, and re-disposal of contaminant;

- (v) Time until full protection is achieved;
- (vi) Potential for exposure of humans and environmental receptors to remaining wastes, considering the potential threat to human health and the environment associated with excavation, transportation, re-disposal, or containment;
- (vii) Long-term reliability of the engineering and institutional controls; and
- (viii) Potential need for replacement of the remedy.

(2) The effectiveness of the remedy in controlling the source to reduce further releases based on consideration of the following factors:

- (i) The extent to which containment practices will reduce further releases; and
- (ii) The extent to which treatment technologies may be used.

(3) The ease or difficulty of implementing a potential remedy(s) based on consideration of the following types of factors:

- (i) Degree of difficulty associated with constructing the technology;
- (ii) Expected operational reliability of the technologies;
- (iii) Need to coordinate with and obtain necessary approvals and permits from other agencies;
- (iv) Availability of necessary equipment and specialists; and
- (v) Available capacity and location of needed treatment, storage, and disposal services.

(4) The degree to which community concerns are addressed by a potential remedy(s).

(d) The owner or operator must specify as part of the selected remedy a schedule(s) for implementing and completing remedial activities. Such a schedule must require the completion of remedial activities within a reasonable period of time taking into consideration the factors set forth in paragraphs (d)(1) through (6) of this section. The owner or operator of the CCR unit must consider the following factors in determining the schedule of remedial activities:

- (1) Extent and nature of contamination, as determined by the characterization required under § 257.15A NCAC 13B .2095(g);
- (2) Reasonable probabilities of remedial technologies in achieving compliance with the groundwater protection standards established under § 257.15A NCAC 13B .2095(h) and other objectives of the remedy;
- (3) Availability of treatment or disposal capacity for CCR managed during implementation of the remedy;
- (4) Potential risks to human health and the environment from exposure to contamination prior to completion of the remedy;
- (5) Resource value of the aquifer including:

- (i) Current and future uses;
- (ii) Proximity and withdrawal rate of users;
- (iii) Groundwater quantity and quality;
- (iv) The potential damage to wildlife, crops, vegetation, and physical structures caused by exposure to CCR constituents;
- (v) The hydro-geologic characteristic of the facility and surrounding land; and
- (vi) The availability of alternative water supplies; and

(6) Other relevant factors.

(e) The owner or operator of the CCR unit must comply with the recordkeeping requirements specified in § 257.15A NCAC 13B .2105(h), the notification requirements specified in § 257.15A NCAC 13B .2106(h), and the Internet requirements specified in § 257.15A NCAC 13B .2107(h).

15A NCAC 13B .2098 language from 40 CFR 257.98 is proposed as a permanent rule.

**15A NCAC 13B .2098 § 257.98 Implementation of the corrective action program.**

(a) Within 90 days of selecting a remedy under § 257.15A NCAC 13B .2097, the owner or operator must initiate remedial activities. Based on the schedule established under § 257.15A NCAC 13B .2097(d) for implementation and completion of remedial activities the owner or operator must:

(1) Establish and implement a corrective action groundwater monitoring program that:

- (i) At a minimum, meets the requirements of an assessment monitoring program under § 257.15A NCAC 13B .2095;
- (ii) Documents the effectiveness of the corrective action remedy; and
- (iii) Demonstrates compliance with the groundwater protection standard pursuant to paragraph (c) of this section.

(2) Implement the corrective action remedy selected under § 257.15A NCAC 13B .2097; and

(3) Take any interim measures necessary to reduce the contaminants leaching from the CCR unit, and/or potential exposures to human or ecological receptors. Interim measures must, to the greatest extent feasible, be consistent with the objectives of and contribute to the performance of any remedy that may be required pursuant to § 257.15A NCAC 13B .2097. The following factors must be considered by an owner or operator in determining whether interim measures are necessary:

- (i) Time required to develop and implement a final remedy;
- (ii) Actual or potential exposure of nearby populations or environmental receptors to any of the constituents listed in appendix IV of this part;
- (iii) Actual or potential contamination of drinking water supplies or sensitive ecosystems;



(iv) Further degradation of the groundwater that may occur if remedial action is not initiated expeditiously;

(v) Weather conditions that may cause any of the constituents listed in appendix IV to this part to migrate or be released;

(vi) Potential for exposure to any of the constituents listed in appendix IV to this part as a result of an accident or failure of a container or handling system; and

(vii) Other situations that may pose threats to human health and the environment.

(b) If an owner or operator of the CCR unit, determines, at any time, that compliance with the requirements of § 257.15A NCAC 13B .2097(b) is not being achieved through the remedy selected, the owner or operator must implement other methods or techniques that could feasibly achieve compliance with the requirements.

(c) Remedies selected pursuant to § 257.15A NCAC 13B .2097 shall be considered complete when:

(1) The owner or operator of the CCR unit demonstrates compliance with the groundwater protection standards established under § 257.15A NCAC 13B .2095(h) has been achieved at all points within the plume of contamination that lie beyond the groundwater monitoring well system established under § 257.15A NCAC 13B .2091.

(2) Compliance with the groundwater protection standards established under § 257.15A NCAC 13B .2095(h) has been achieved by demonstrating that concentrations of constituents listed in appendix IV to this part have not exceeded the groundwater protection standard(s) for a period of three consecutive years using the statistical procedures and performance standards in § 257.15A NCAC 13B .2093(f) and (g).

(3) All actions required to complete the remedy have been satisfied.

(d) All CCR that are managed pursuant to a remedy required under § 257.15A NCAC 13B .2097, or an interim measure required under paragraph (a)(3) of this section, shall be managed in a manner that complies with all applicable RCRA requirements.

(e) Upon completion of the remedy, the owner or operator must prepare a notification stating that the remedy has been completed. The owner or operator must obtain a certification from a qualified professional engineer attesting that the remedy has been completed in compliance with the requirements of paragraph (c) of this section. The report has been completed when it is placed in the operating record as required by § 257.15A NCAC 13B .2105(h)(13).

(f) The owner or operator of the CCR unit must comply with the recordkeeping requirements specified in § 257.15A NCAC 13B .2105(h), the notification requirements specified in § 257.15A NCAC 13B .2106(h), and the internet requirements specified in § 257.15A NCAC 13B .2107(h).

15A NCAC 13B .2100 language from 40 CFR 257.100 is proposed as a permanent rule.

### **15A NCAC 13B .2100 Closure and Post-Closure Care**

**§ 257.100 Inactive CCR surface impoundments Closure and Post-Closure Care. Closure of CCR impoundments shall be conducted in accordance with G.S. 143-215.27A and G.S. 130A-309.214. CCR**

impoundments that are closed may still be regulated as a dam if they continue to meet the definition of a dam as defined by G.S. 142-215.25.

(a) Except as provided by paragraph (b) of this section, inactive CCR surface impoundments are subject to all of the requirements of this subpartSection applicable to existing CCR surface impoundments.

(b) An owner or operator of an inactive CCR surface impoundment that completes closure of such CCR unit, and meets all of the requirements of either paragraphs (b)(1) through (4) of this section or paragraph (b)(5) of this section no later than April 17, 2018, is exempt from all other requirements of this subpartSection.

(1) Closure by leaving CCR in place. If the owner or operator of the inactive CCR surface impoundment elects to close the CCR surface impoundment by leaving CCR in place, the owner or operator must ensure that, at a minimum, the CCR unit is closed in a manner that will:

- (i) Control, minimize or eliminate, to the maximum extent feasible, post-closure infiltration of liquids into the waste and releases of CCR, leachate, or contaminated runoff to the ground or surface waters or to the atmosphere;
- (ii) Preclude the probability of future impoundment of water, sediment, or slurry;
- (iii) Include measures that provide for major slope stability to prevent the sloughing or movement of the final cover system; and
- (iv) Minimize the need for further maintenance of the CCR unit.

(2) The owner or operator of the inactive CCR surface impoundment must meet the requirements of paragraphs (b)(2)(i) and (ii) of this section prior to installing the final cover system required under paragraph (b)(3) of this section.

(i) Free liquids must be eliminated by removing liquid wastes or solidifying the remaining wastes and waste residues.

(ii) Remaining wastes must be stabilized sufficient to support the final cover system.

(3) The owner or operator must install a final cover system that is designed to minimize infiltration and erosion, and at a minimum, meets the requirements of paragraph (b)(3)(i) of this section, or the requirements of an alternative final cover system specified in paragraph (b)(3)(ii) of this section.

(i) The final cover system must be designed and constructed to meet the criteria specified in paragraphs (b)(3)(i)(A) through (D) of this section.

(A) The permeability of the final cover system must be less than or equal to the permeability of any bottom liner system or natural subsoils present, or a permeability no greater than  $1 \times 10^{-5}$  centimeters/second, whichever is less.

(B) The infiltration of liquids through the CCR unit must be minimized by the use of an infiltration layer that contains a minimum of 18 inches of earthen material.

(C) The erosion of the final cover system must be minimized by the use of an erosion layer that contains a minimum of six inches of earthen material that is capable of sustaining native plant growth.

(D) The disruption of the integrity of the final cover system must be minimized through a design that accommodates settling and subsidence.

(ii) The owner or operator may select an alternative final cover system design, provided the alternative final cover system is designed and constructed to meet the criteria in paragraphs (b)(3)(ii)(A) through (C) of this section.

(A) The design of the final cover system must include an infiltration layer that achieves an equivalent reduction in infiltration as the infiltration layer specified in paragraphs (b)(3)(i)(A) and (B) of this section.

(B) The design of the final cover system must include an erosion layer that provides equivalent protection from wind or water erosion as the erosion layer specified in paragraph (b)(3)(i)(C) of this section.

(C) The disruption of the integrity of the final cover system must be minimized through a design that accommodates settling and subsidence.

(4) The owner or operator of the CCR surface impoundment must obtain a written certification from a qualified professional engineer stating that the design of the final cover system meets either the requirements of paragraphs (b)(3)(i) or (ii) of this section.

(5) Closure through removal of CCR. The owner or operator may alternatively elect to close an inactive CCR surface impoundment by removing and decontaminating all areas affected by releases from the CCR surface impoundment. CCR removal and decontamination of the CCR surface impoundment are complete when all CCR in the inactive CCR surface impoundment is removed, including the bottom liner of the CCR unit.

(6) The owner or operator of the CCR surface impoundment must obtain a written certification from a qualified professional engineer that closure of the CCR surface impoundment under either paragraphs (b)(1) through (4) or (b)(5) of this section is technically feasible within the timeframe in paragraph (b) of this section.

(7) If the owner or operator of the CCR surface impoundment fails to complete closure of the inactive CCR surface impoundment within the timeframe in paragraph (b) of this section, the CCR unit must comply with all of the requirements applicable to existing CCR surface impoundments under this subpartSection.

(c) Required notices and progress reports. An owner or operator of an inactive CCR surface impoundment that closes in accordance with paragraph (b) of this section must complete the notices and progress reports specified in paragraphs (c)(1) through (3) of this section.

(1) No later than 30 days of effective date of this rule, December 17, 2015, the owner or operator must prepare and place in the facility's operating record a notification of intent to initiate closure of the CCR surface impoundment. The notification must state that the CCR

surface impoundment is an inactive CCR surface impoundment closing under the requirements of paragraph (b) of this section. The notification must also include a narrative description of how the CCR surface impoundment will be closed, a schedule for completing closure activities, and the required certifications under paragraphs (b)(4) and (6) of this section, if applicable.

(2) The owner or operator must prepare periodic progress reports summarizing the progress of closure implementation, including a description of the actions completed to date, any problems encountered and a description of the actions taken to resolve the problems, and projected closure activities for the upcoming year. The annual progress reports must be completed according to the following schedule:

(i) The first annual progress report must be prepared no later than 13 months after completing the notification of intent to initiate closure required by paragraph (c)(1) of this section.

(ii) The second annual progress report must be prepared no later than 12 months after completing the first progress report required by paragraph (c)(2)(i) of this section.

(iii) The owner or operator has completed the progress reports specified in paragraph (c)(2) of this section when the reports are placed in the facility's operating record as required by § 257.15A NCAC 13B .2105(i)(2).

(3) The owner or operator must prepare and place in the facility's operating record a notification of completion of closure of the CCR surface impoundment. The notification must be submitted within 60 days of completing closure of the CCR surface impoundment and must include a written certification from a qualified professional engineer stating that the CCR surface impoundment was closed in accordance with the requirements of either paragraph (b)(1) through (4) or (b)(5) of this section.

(d) The owner or operator of the CCR unit must comply with the recordkeeping requirements specified in § 257.15A NCAC 13B .2105(i), the notification requirements specified in § 257.15A NCAC 13B .2106(i), and the internet requirements specified in § 257.15A NCAC 13B .2107(i).

15A NCAC 13B .2101 language from 40 CFR 257.101 is proposed as a permanent rule.

**15A NCAC 13B .2101 § 257.101 Closure or retrofit of CCR units.**

(a) The owner or operator of an existing unlined CCR surface impoundment, as determined under § 40 CFR 257.71(a), is subject to the requirements of paragraph (a)(1) of this section.

(1) Except as provided by paragraph (a)(3) of this section, if at any time after October 19, 2015 an owner or operator of an existing unlined CCR surface impoundment determines in any sampling event that the concentrations of one or more constituents listed in appendix IV to this part are detected at statistically significant levels above the groundwater protection standard established under § 257.15A NCAC 13B .2095(h) for such CCR unit, within six months of making such determination, the owner or operator of the existing unlined CCR surface impoundment must cease placing CCR and non-CCR waste-streams into such CCR surface impoundment and either retrofit or close the CCR unit in accordance with the requirements of § 257.15A NCAC 13B .2102.

(2) An owner or operator of an existing unlined CCR surface impoundment that closes in accordance with paragraph (a)(1) of this section must include a statement in the notification required under § 257.15A NCAC 13B .2102(g) or (k)(5) that the CCR surface impoundment is closing or retrofitting under the requirements of paragraph (a)(1) of this section.

(3) The timeframe specified in paragraph (a)(1) of this section does not apply if the owner or operator complies with the alternative closure procedures specified in § 257.15A NCAC 13B .2103.

(4) At any time after the initiation of closure under paragraph (a)(1) of this section, the owner or operator may cease closure activities and initiate a retrofit of the CCR unit in accordance with the requirements of § 257.15A NCAC 13B .2102(k).

(b) The owner or operator of an existing CCR surface impoundment is subject to the requirements of paragraph (b)(1) of this section.

(1) Except as provided by paragraph (b)(4) of this section, within six months of determining that an existing CCR surface impoundment has not demonstrated compliance with any location standard specified in §§ 257.15A NCAC 13B .2060(a), 257.61(a), 257.62(a), 257.63(a), and 257.64(a), the owner or operator of the CCR surface impoundment must cease placing CCR and non-CCR waste-streams into such CCR unit and close the CCR unit in accordance with the requirements of § 257.15A NCAC 13B .2102.

(2) Within six months of either failing to complete the initial or any subsequent periodic safety factor assessment required by § 257.15A NCAC 13B .2073(e) by the deadlines specified in § 257.15A NCAC 13B .2073(f)(1) through (3) or failing to document that the calculated factors of safety for the existing CCR surface impoundment achieve the minimum safety factors specified in § 257.15A NCAC 13B .2073(e)(1)(i) through (iv), the owner or operator of the CCR surface impoundment must cease placing CCR and non-CCR waste-streams into such CCR unit and close the CCR unit in accordance with the requirements of § 257.15A NCAC 13B .2102.

(3) An owner or operator of an existing CCR surface impoundment that closes in accordance with paragraphs (b)(1) or (2) of this section must include a statement in the notification required under § 257.15A NCAC 13B .2102(g) that the CCR surface impoundment is closing under the requirements of paragraphs (b)(1) or (2) of this section.

(4) The timeframe specified in paragraph (b)(1) of this section does not apply if the owner or operator complies with the alternative closure procedures specified in § 257.15A NCAC 13B .2103.

~~(c) The owner or operator of a new CCR surface impoundment is subject to the requirements of paragraph (c)(1) of this section.~~

~~(1) Within six months of either failing to complete the initial or any subsequent periodic safety factor assessment required by § 257.74(e) by the deadlines specified in § 257.74(f)(1) through (3) or failing to document that the calculated factors of safety for the new CCR surface impoundment achieve the minimum safety factors specified in § 257.74(e)(1)(i) through (v), the owner or operator of the CCR surface impoundment must cease placing CCR and non-CCR~~

~~waste streams into such CCR unit and close the CCR unit in accordance with the requirements of § 257.102.~~

~~(2) An owner or operator of a new CCR surface impoundment that closes in accordance with paragraph (c)(1) of this section must include a statement in the notification required under § 257.102(g) that the CCR surface impoundment is closing under the requirements of paragraph (c)(1) of this section. (not allowed by CAMA)~~

(d) The owner or operator of an existing CCR landfill is subject to the requirements of paragraph (d)(1) of this section.

(1) Except as provided by paragraph (d)(3) of this section, within six months of determining that an existing CCR landfill has not demonstrated compliance with the location restriction for unstable areas specified in § 257.15A NCAC 13B .2064(a), the owner or operator of the CCR unit must cease placing CCR and non-CCR waste streams into such CCR landfill and close the CCR unit in accordance with the requirements of § 257.15A NCAC 13B .2102.

(2) An owner or operator of an existing CCR landfill that closes in accordance with paragraph (d)(1) of this section must include a statement in the notification required under § 257.15A NCAC 13B .2102(g) that the CCR landfill is closing under the requirements of paragraph (d)(1) of this section.

(3) The timeframe specified in paragraph (d)(1) of this section does not apply if the owner or operator complies with the alternative closure procedures specified in § 257.15A NCAC 13B .2103.

15A NCAC 13B .2102 language from 40 CFR 257.102 is proposed as a permanent rule.

**15A NCAC 13B .2102 257.102 Criteria for conducting the closure or retrofit of CCR units. Closure of CCR impoundments shall be conducted in accordance with G.S. 143-215.27A and G.S. 130A-309.214. CCR impoundments that are closed may still be regulated as a dam if they continue to meet the definition of a dam as defined by G.S. 142-215.25.**

(a) Closure of a CCR landfill, CCR surface impoundment, or any lateral expansion of a CCR unit must be completed either by leaving the CCR in place and installing a final cover system or through removal of the CCR and decontamination of the CCR unit, as described in paragraphs (b) through (j) of this section. Retrofit of a CCR surface impoundment must be completed in accordance with the requirements in paragraph (k) of this section.

(b) Written closure plan—

(1) Content of the plan. The owner or operator of a CCR unit must prepare a written closure plan that describes the steps necessary to close the CCR unit at any point during the active life of the CCR unit consistent with recognized and generally accepted good engineering practices. The written closure plan must include, at a minimum, the information specified in paragraphs (b)(1)(i) through (vi) of this section.

(i) A narrative description of how the CCR unit will be closed in accordance with this section.

(ii) If closure of the CCR unit will be accomplished through removal of CCR from the CCR unit, a description of the procedures to remove the CCR and decontaminate the CCR unit in accordance with paragraph (c) of this section.

(iii) If closure of the CCR unit will be accomplished by leaving CCR in place, a description of the final cover system, designed in accordance with paragraph (d) of this section, and the methods and procedures to be used to install the final cover. The closure plan must also discuss how the final cover system will achieve the performance standards specified in paragraph (d) of this section.

(iv) An estimate of the maximum inventory of CCR ever on-site over the active life of the CCR unit.

(v) An estimate of the largest area of the CCR unit ever requiring a final cover as required by paragraph (d) of this section at any time during the CCR unit's active life.

(vi) A schedule for completing all activities necessary to satisfy the closure criteria in this section, including an estimate of the year in which all closure activities for the CCR unit will be completed. The schedule should provide sufficient information to describe the sequential steps that will be taken to close the CCR unit, including identification of major milestones such as coordinating with and obtaining necessary approvals and permits from other agencies, the dewatering and stabilization phases of CCR surface impoundment closure, or installation of the final cover system, and the estimated timeframes to complete each step or phase of CCR unit closure. When preparing the written closure plan, if the owner or operator of a CCR unit estimates that the time required to complete closure will exceed the timeframes specified in paragraph (f)(1) of this section, the written closure plan must include the site-specific information, factors and considerations that would support any time extension sought under paragraph (f)(2) of this section.

(2) Timeframes for preparing the initial written closure plan—

(i) Existing CCR landfills and existing CCR surface impoundments. No later than October 17, 2016, the owner or operator of the CCR unit must prepare an initial written closure plan consistent with the requirements specified in paragraph (b)(1) of this section.

**(Required Prior to 7/1/2017)**

(ii) New CCR landfills and new CCR surface impoundments, and any lateral expansion of a CCR unit. No later than the date of the initial receipt of CCR in the CCR unit, the owner or operator must prepare an initial written closure plan consistent with the requirements specified in paragraph (b)(1) of this section.

(iii) The owner or operator has completed the written closure plan when the plan, including the certification required by paragraph (b)(4) of this section, has been placed in the facility's operating record as required by § 257.15A NCAC 13B .2105(i)(4).

(3) Amendment of a written closure plan.

(i) The owner or operator may amend the initial or any subsequent written closure plan developed pursuant to paragraph (b)(1) of this section at any time.

(ii) The owner or operator must amend the written closure plan whenever:

(A) There is a change in the operation of the CCR unit that would substantially affect the written closure plan in effect; or

(B) Before or after closure activities have commenced, unanticipated events necessitate a revision of the written closure plan.

(iii) The owner or operator must amend the closure plan at least 60 days prior to a planned change in the operation of the facility or CCR unit, or no later than 60 days after an unanticipated event requires the need to revise an existing written closure plan. If a written closure plan is revised after closure activities have commenced for a CCR unit, the owner or operator must amend the current closure plan no later than 30 days following the triggering event.

(4) The owner or operator of the CCR unit must obtain a written certification from a qualified professional engineer that the initial and any amendment of the written closure plan meets the requirements of this section.

(c) Closure by removal of CCR. An owner or operator may elect to close a CCR unit by removing and decontaminating all areas affected by releases from the CCR unit. CCR removal and decontamination of the CCR unit are complete when constituent concentrations throughout the CCR unit and any areas affected by releases from the CCR unit have been removed and groundwater monitoring concentrations do not exceed the groundwater protection standard established pursuant to § 257.15A NCAC 13B .2095(h) for constituents listed in appendix IV to this part.

(d) Closure performance standard when leaving CCR in place—

(1) The owner or operator of a CCR unit must ensure that, at a minimum, the CCR unit is closed in a manner that will:

(i) Control, minimize or eliminate, to the maximum extent feasible, post-closure infiltration of liquids into the waste and releases of CCR, leachate, or contaminated runoff to the ground or surface waters or to the atmosphere;

(ii) Preclude the probability of future impoundment of water, sediment, or slurry;

(iii) Include measures that provide for major slope stability to prevent the sloughing or movement of the final cover system during the closure and post-closure care period;

(iv) Minimize the need for further maintenance of the CCR unit; and

(v) Be completed in the shortest amount of time consistent with recognized and generally accepted good engineering practices.

(2) Drainage and stabilization of CCR surface impoundments. The owner or operator of a CCR surface impoundment or any lateral expansion of a CCR surface impoundment must meet the



requirements of paragraphs (d)(2)(i) and (ii) of this section prior to installing the final cover system required under paragraph (d)(3) of this section.

(i) Free liquids must be eliminated by removing liquid wastes or solidifying the remaining wastes and waste residues.

(ii) Remaining wastes must be stabilized sufficient to support the final cover system.

(3) Final cover system. If a CCR unit is closed by leaving CCR in place, the owner or operator must install a final cover system that is designed to minimize infiltration and erosion, and at a minimum, meets the requirements of paragraph (d)(3)(i) of this section, or the requirements of the alternative final cover system specified in paragraph (d)(3)(ii) of this section.

(i) The final cover system must be designed and constructed to meet the criteria in paragraphs (d)(3)(i)(A) through (D) of this section. The design of the final cover system must be included in the written closure plan required by paragraph (b) of this section.

(A) The permeability of the final cover system must be less than or equal to the permeability of any bottom liner system or natural subsoils present, or a permeability no greater than  $1 \times 10^{-5}$  cm/sec, whichever is less.

(B) The infiltration of liquids through the closed CCR unit must be minimized by the use of an infiltration layer that contains a minimum of 18 inches of earthen material.

(C) The erosion of the final cover system must be minimized by the use of an erosion layer that contains a minimum of six inches of earthen material that is capable of sustaining native plant growth.

(D) The disruption of the integrity of the final cover system must be minimized through a design that accommodates settling and subsidence.

(ii) The owner or operator may select an alternative final cover system design, provided the alternative final cover system is designed and constructed to meet the criteria in paragraphs (f)(3)(ii)(A) through (D) of this section. The design of the final cover system must be included in the written closure plan required by paragraph (b) of this section.

(A) The design of the final cover system must include an infiltration layer that achieves an equivalent reduction in infiltration as the infiltration layer specified in paragraphs (d)(3)(i)(A) and (B) of this section.

(B) The design of the final cover system must include an erosion layer that provides equivalent protection from wind or water erosion as the erosion layer specified in paragraph (d)(3)(i)(C) of this section.

(C) The disruption of the integrity of the final cover system must be minimized through a design that accommodates settling and subsidence.

(iii) The owner or operator of the CCR unit must obtain a written certification from a qualified professional engineer that the design of the final cover system meets the requirements of this section.

(e) Initiation of closure activities. Except as provided for in paragraph(e)(4) of this section and § 257.15A NCAC 13B .2103, the owner or operator of a CCR unit must commence closure of the CCR unit no later than the applicable timeframes specified in either paragraph (e)(1) or (2) of this section.

(1) The owner or operator must commence closure of the CCR unit no later than 30 days after the date on which the CCR unit either:

(i) Receives the known final receipt of waste, either CCR or any non-CCR waste stream;  
or

(ii) Removes the known final volume of CCR from the CCR unit for the purpose of beneficial use of CCR. (2)(i) Except as provided by paragraph (e)(2)(ii) of this section, the owner or operator must commence closure of a CCR unit that has not received CCR or any non-CCR waste stream or is no longer removing CCR for the purpose of beneficial use within two years of the last receipt of waste or within two years of the last removal of CCR material for the purpose of beneficial use.

(ii) Notwithstanding paragraph (e)(2)(i) of this section, the owner or operator of the CCR unit may secure an additional two years to initiate closure of the idle unit provided the owner or operator provides written documentation that the CCR unit will continue to accept wastes or will start removing CCR for the purpose of beneficial use. The documentation must be supported by, at a minimum, the information specified in paragraphs (e)(2)(ii)(A) and (B) of this section. The owner or operator may obtain two-year extensions provided the owner or operator continues to be able to demonstrate that there is reasonable likelihood that the CCR unit will accept wastes in the foreseeable future or will remove CCR from the unit for the purpose of beneficial use. The owner or operator must place each completed demonstration, if more than one-time extension is sought, in the facility's operating record as required by § 257.15A NCAC 13B .2105(i)(5) prior to the end of any two-year period.

(A) Information documenting that the CCR unit has remaining storage or disposal capacity or that the CCR unit can have CCR removed for the purpose of beneficial use; and

(B) Information demonstrating that there is a reasonable likelihood that the CCR unit will resume receiving CCR or non-CCR waste streams in the foreseeable future or that CCR can be removed for the purpose of beneficial use. The narrative must include a best estimate as to when the CCR unit will resume receiving CCR or non-CCR waste streams. The situations listed in paragraphs (e)(2)(ii)(B)(1) through (4) of this section are examples of situations that would support a determination that the CCR unit will resume receiving CCR or non-CCR waste streams in the foreseeable future.

(1) Normal plant operations include periods during which the CCR unit does not receive CCR or non-CCR waste streams, such as the alternating use of two or more CCR units whereby at any point in time one CCR unit is receiving CCR while CCR is being removed from a second CCR unit after its dewatering.

(2) The CCR unit is dedicated to a coal-fired boiler unit that is temporarily idled (e.g., CCR is not being generated) and there is a reasonable likelihood that the coal-fired boiler will resume operations in the future.

(3) The CCR unit is dedicated to an operating coal-fired boiler (i.e., CCR is being generated); however, no CCR are being placed in the CCR unit because the CCR are being entirely diverted to beneficial uses, but there is a reasonable likelihood that the CCR unit will again be used in the foreseeable future.

(4) The CCR unit currently receives only non-CCR waste streams and those non-CCR waste streams are not generated for an extended period of time, but there is a reasonable likelihood that the CCR unit will again receive non-CCR waste streams in the future.

(iii) In order to obtain additional time extension(s) to initiate closure of a CCR unit beyond the two years provided by paragraph (e)(2)(i) of this section, the owner or operator of the CCR unit must include with the demonstration required by paragraph (e)(2)(ii) of this section the following statement signed by the owner or operator or an authorized representative:

*I certify under penalty of law that I have personally examined and am familiar with the information submitted in this demonstration and all attached documents, and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.*

(3) For purposes of this subpartSection, closure of the CCR unit has commenced if the owner or operator has ceased placing waste and completes any of the following actions or activities:

(i) Taken any steps necessary to implement the written closure plan required by paragraph (b) of this section;

(ii) Submitted a completed application for any required state or agency permit or permit modification; or

(iii) Taken any steps necessary to comply with any state or other agency standards that are a prerequisite, or are otherwise applicable, to initiating or completing the closure of a CCR unit.

(4) The timeframes specified in paragraphs (e)(1) and (2) of this section do not apply to any of the following owners or operators:

(i) An owner or operator of an inactive CCR surface impoundment closing the CCR unit as required by § 257.15A NCAC 13B .2100(b);

(ii) An owner or operator of an existing unlined CCR surface impoundment closing the CCR unit as required by § 257.15A NCAC 13B .2101(a);

(iii) An owner or operator of an existing CCR surface impoundment closing the CCR unit as required by § 257.15A NCAC 13B .2101(b);

(iv) intentionally left blank An owner or operator of a new CCR surface impoundment closing the CCR unit as required by § 257.101(c); or **(not allowed by CAMA)**

(v) An owner or operator of an existing CCR landfill closing the CCR unit as required by § 257.15A NCAC 13B .2101(d).

(f) Completion of closure activities. (1) Except as provided for in paragraph (f)(2) of this section, the owner or operator must complete closure of the CCR unit:

(i) For existing and new CCR landfills and any lateral expansion of a CCR landfill, within six months of commencing closure activities.

(ii) For existing and new CCR surface impoundments and any lateral expansion of a CCR surface impoundment, within five years of commencing closure activities. (2)(i) Extensions of closure timeframes. The timeframes for completing closure of a CCR unit specified under paragraphs (f)(1) of this section may be extended if the owner or operator can demonstrate that it was not feasible to complete closure of the CCR unit within the required timeframes due to factors beyond the facility's control. If the owner or operator is seeking a time extension beyond the time specified in the written closure plan as required by paragraph (b)(1) of this section, the demonstration must include a narrative discussion providing the basis for additional time beyond that specified in the closure plan. The owner or operator must place each completed demonstration, if more than one-time extension is sought, in the facility's operating record as required by § 257.15A NCAC 13B .2105(i)(6) prior to the end of any two-year period. Factors that may support such a demonstration include

(A) Complications stemming from the climate and weather, such as unusual amounts of precipitation or a significantly shortened construction season;

(B) Time required to dewater a surface impoundment due to the volume of CCR contained in the CCR unit or the characteristics of the CCR in the unit;

(C) The geology and terrain surrounding the CCR unit will affect the amount of material needed to close the CCR unit; or

(D) Time required or delays caused by the need to coordinate with and obtain necessary approvals and permits from a state or other agency.

(ii) Maximum time extensions.

(A) CCR surface impoundments of 40 acres or smaller may extend the time to complete closure by no longer than two years.

(B) CCR surface impoundments larger than 40 acres may extend the timeframe to complete closure of the CCR unit multiple times, in two-year increments. For each two-year extension sought, the owner or operator must substantiate the factual circumstances demonstrating the need for the extension. No more than a total of five two-year extensions may be obtained for any CCR surface impoundment.

(C) CCR landfills may extend the timeframe to complete closure of the CCR unit multiple times, in one-year increments. For each one-year extension sought, the owner or operator must substantiate the factual circumstances demonstrating the need for the extension. No more than a total of two one-year extensions may be obtained for any CCR landfill.

(iii) In order to obtain additional time extension(s) to complete closure of a CCR unit beyond the times provided by paragraph (f)(1) of this section, the owner or operator of the CCR unit must include with the demonstration required by paragraph (f)(2)(i) of this section the following statement signed by the owner or operator or an authorized representative:

*I certify under penalty of law that I have personally examined and am familiar with the information submitted in this demonstration and all attached documents, and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.*

(3) Upon completion, the owner or operator of the CCR unit must obtain a certification from a qualified professional engineer verifying that closure has been completed in accordance with the closure plan specified in paragraph (b) of this section and the requirements of this section.

(g) No later than the date the owner or operator initiates closure of a CCR unit, the owner or operator must prepare a notification of intent to close a CCR unit. The notification must include the certification by a qualified professional engineer for the design of the final cover system as required by § 257.15A NCAC 13B .2102(d)(3)(iii), if applicable. The owner or operator has completed the notification when it has been placed in the facility's operating record as required by § 257.15A NCAC 13B .2105(i)(7).

(h) Within 30 days of completion of closure of the CCR unit, the owner or operator must prepare a notification of closure of a CCR unit. The notification must include the certification by a qualified professional engineer as required by § 257.15A NCAC 13B .2102(f)(3). The owner or operator has completed the notification when it has been placed in the facility's operating record as required by § 257.15A NCAC 13B .2105(i)(8).

(i) Deed notations.

(1) Except as provided by paragraph (i)(4) of this section, following closure of a CCR unit, the owner or operator must record a notation on the deed to the property, or some other instrument that is normally examined during title search.

(2) The notation on the deed must in perpetuity notify any potential purchaser of the property that:

(i) The land has been used as a CCR unit; and

(ii) Its use is restricted under the post-closure care requirements as provided by § 257.15A NCAC 13B .2104(d)(1)(iii).

(3) Within 30 days of recording a notation on the deed to the property, the owner or operator must prepare a notification stating that the notation has been recorded. The owner or operator has completed the notification when it has been placed in the facility's operating record as required by § 257.15A NCAC 13B .2105(i)(9).

(4) An owner or operator that closes a CCR unit in accordance with paragraph (c) of this section is not subject to the requirements of paragraphs (i)(1) through (3) of this section.

(j) The owner or operator of the CCR unit must comply with the closure recordkeeping requirements specified in § 257.15A NCAC 13B .2105(i), the closure notification requirements specified in § 257.15A NCAC 13B .2106(i), and the closure Internet requirements specified in § 257.15A NCAC 13B .2107(i).

(k) Criteria to retrofit an existing CCR surface impoundment.

(1) To retrofit an existing CCR surface impoundment, the owner or operator must:

(i) First remove all CCR, including any contaminated soils and sediments from the CCR unit; and

(ii) Comply with the requirements in § 40 CFR 257.72.

(iii) A CCR surface impoundment undergoing a retrofit remains subject to all other requirements of this subpartSection, including the requirement to conduct any necessary corrective action.

(2) Written retrofit plan—

(i) Content of the plan. The owner or operator must prepare a written retrofit plan that describes the steps necessary to retrofit the CCR unit consistent with recognized and generally accepted good engineering practices. The written retrofit plan must include, at a minimum, all of the following information:

(A) A narrative description of the specific measures that will be taken to retrofit the CCR unit in accordance with this section.

(B) A description of the procedures to remove all CCR and contaminated soils and sediments from the CCR unit.

(C) An estimate of the maximum amount of CCR that will be removed as part of the retrofit operation.

(D) An estimate of the largest area of the CCR unit that will be affected by the retrofit operation.

(E) A schedule for completing all activities necessary to satisfy the retrofit criteria in this section, including an estimate of the year in which retrofit activities of the CCR unit will be completed.

(ii) Timeframes for preparing the initial written retrofit plan.

(A) No later than 60 days prior to date of initiating retrofit activities, the owner or operator must prepare an initial written retrofit plan consistent with the requirements specified in paragraph (k)(2) of this section. For purposes of this subpartSection, initiation of retrofit activities has commenced if the owner or operator has ceased placing waste in the unit and completes any of the following actions or activities:

- (1) Taken any steps necessary to implement the written retrofit plan;
- (2) Submitted a completed application for any required state or agency permit or permit modification; or
- (3) Taken any steps necessary to comply with any state or other agency standards that are a prerequisite, or are otherwise applicable, to initiating or completing the retrofit of a CCR unit.

(B) The owner or operator has completed the written retrofit plan when the plan, including the certification required by paragraph (k)(2)(iv) of this section, has been placed in the facility's operating record as required by § 257.15A NCAC 13B .2105(j)(1).

(iii) Amendment of a written retrofit plan. With respect to the dam safety aspects of CCR impoundments, the plan shall conform to the provisions of G.S. 143-215.27, 143-215.27A, and G.S. 130A-309.214.

A) The owner or operator may amend the initial or any subsequent written retrofit plan at any time.

(B) The owner or operator must amend the written retrofit plan whenever:

- (1) There is a change in the operation of the CCR unit that would substantially affect the written retrofit plan in effect; or
- (2) Before or after retrofit activities have commenced, unanticipated events necessitate a revision of the written retrofit plan.

(C) The owner or operator must amend the retrofit plan at least 60 days prior to a planned change in the operation of the facility or CCR unit, or no later than 60 days after an unanticipated event requires the revision of an existing written retrofit plan. If a written retrofit plan is revised after retrofit activities have commenced for a CCR unit, the owner or operator must amend the current retrofit plan no later than 30 days following the triggering event.

(iv) The owner or operator of the CCR unit must obtain a written certification from a qualified professional engineer that the activities outlined in the written retrofit plan, including any amendment of the plan, meet the requirements of this section.

(3) Deadline for completion of activities related to the retrofit of a CCR unit. Any CCR surface impoundment that is being retrofitted must complete all retrofit activities within the same time frames and procedures specified for the closure of a CCR surface impoundment in § 257.15A NCAC 13B .2102(f) or, where applicable, § 257.15A NCAC 13B .2103.

(4) Upon completion, the owner or operator must obtain a certification from a qualified professional engineer verifying that the retrofit activities have been completed in accordance with the retrofit plan specified in paragraph (k)(2) of this section and the requirements of this section.

(5) No later than the date the owner or operator initiates the retrofit of a CCR unit, the owner or operator must prepare a notification of intent to retrofit a CCR unit. The owner or operator has completed the notification when it has been placed in the facility's operating record as required by § 257.15A NCAC 13B .2105(j)(5).

(6) Within 30 days of completing the retrofit activities specified in paragraph (k)(1) of this section, the owner or operator must prepare a notification of completion of retrofit activities. The notification must include the certification by a qualified professional engineer as required by paragraph (k)(4) of this section. The owner or operator has completed the notification when it has been placed in the facility's operating record as required by § 257.15A NCAC 13B .2105(j)(6).

(7) At any time after the initiation of a CCR unit retrofit, the owner or operator may cease the retrofit and initiate closure of the CCR unit in accordance with the requirements of § 257.15A NCAC 13B .2102.

(8) The owner or operator of the CCR unit must comply with the retrofit recordkeeping requirements specified in § 257.15A NCAC 13B .2105(j), the retrofit notification requirements specified in § 257.15A NCAC 13B .2106(j), and the retrofit Internet requirements specified in § 257.15A NCAC 13B .2107(j).

15A NCAC 13B .2103 language from 40 CFR 257.103 is proposed as a permanent rule

**15A NCAC 13B .2103 § 257.103 Alternative closure requirements.** With respect to the dam safety aspects of CCR impoundments, the plan shall conform to the provisions of G.S. 143-215.27, 143-215.27A, and G.S. 130A-309.214.

The owner or operator of a CCR landfill, CCR surface impoundment, or any lateral expansion of a CCR unit that is subject to closure pursuant to § 257.15A NCAC 13B .2101(a), (b)(1), or (d) may continue to receive CCR in the unit provided the owner or operator meets the requirements of either paragraph (a) or (b) of this section.

(a) (1) No alternative CCR disposal capacity. Notwithstanding the provisions of § 257.15A NCAC 13B .2101(a), (b)(1), or (d), a CCR unit may continue to receive CCR if the owner or operator of the CCR unit certifies that the CCR must continue to be managed in that CCR unit due to the absence



of alternative disposal capacity both on-site and off-site of the facility. To qualify under this paragraph (a)(1), the owner or operator of the CCR unit must document that all of the following conditions have been met:

- (i) No alternative disposal capacity is available on-site or off-site. An increase in costs or the inconvenience of existing capacity is not sufficient to support qualification under this section;
- (ii) The owner or operator has made, and continues to make, efforts to obtain additional capacity. Qualification under this subsection lasts only as long as no alternative capacity is available. Once alternative capacity is identified, the owner or operator must arrange to use such capacity as soon as feasible;
- (iii) The owner or operator must remain in compliance with all other requirements of this subpartSection, including the requirement to conduct any necessary corrective action; and
- (iv) The owner or operator must prepare an annual progress report documenting the continued lack of alternative capacity and the progress towards the development of alternative CCR disposal capacity.

(2) Once alternative capacity is available, the CCR unit must cease receiving CCR and initiate closure following the timeframes in § 257.15A NCAC 13B .2102(e) and (f).

(3) If no alternative capacity is identified within five years after the initial certification, the CCR unit must cease receiving CCR and close in accordance with the timeframes in § 257.15A NCAC 13B .2102(e) and (f).

(b) (1) Permanent cessation of a coal fired boiler(s) by a date certain. Notwithstanding the provisions of § 257.15A NCAC 13B .2101(a), (b)(1), and (d), a CCR unit may continue to receive CCR if the owner or operator certifies that the facility will cease operation of the coal fired boilers within the timeframes specified in paragraphs (b)(2) through (4) of this section, but in the interim period (prior to closure of the coal-fired boiler), the facility must continue to use the CCR unit due to the absence of alternative disposal capacity both onsite and off-site of the facility. To qualify under this paragraph (b)(1), the owner or operator of the CCR unit must document that all of the following conditions have been met:

- (i) No alternative disposal capacity is available on-site or off-site. An increase in costs or the inconvenience of existing capacity is not sufficient to support qualification under this section.
- (ii) The owner or operator must remain in compliance with all other requirements of this subpartSection, including the requirement to conduct any necessary corrective action; and
- (iii) The owner or operator must prepare an annual progress report documenting the continued lack of alternative capacity and the progress towards the closure of the coal-fired boiler.

(2) For a CCR surface impoundment that is 40 acres or smaller, the coal-fired boiler must cease operation and the CCR surface impoundment must have completed closure no later than October 17, 2023.

(3) For a CCR surface impoundment that is larger than 40 acres, the coal-fired boiler must cease operation, and the CCR surface impoundment must complete closure no later than October 17, 2028.

(4) For a CCR landfill, the coal-fired boiler must cease operation, and the CCR landfill must complete closure no later than April 19, 2021.

(c) Required notices and progress reports. An owner or operator of a CCR unit that closes in accordance with paragraphs (a) or (b) of this section must complete the notices and progress reports specified in paragraphs (c)(1) through (3) of this section.

(1) Within six months of becoming subject to closure pursuant to § 257.15A NCAC 13B .2101(a), (b)(1), or (d), the owner or operator must prepare and place in the facility's operating record a notification of intent to comply with the alternative closure requirements of this section. The notification must describe why the CCR unit qualifies for the alternative closure provisions under either paragraph (a) or (b) of this section, in addition to providing the documentation and certifications required by paragraph (a) or (b) of this section.

(2) The owner or operator must prepare the periodic progress reports required by paragraphs (a)(1)(iv) or (b)(1)(iii), in addition to describing any problems encountered and a description of the actions taken to resolve the problems. The annual progress reports must be completed according to the following schedule:

(i) The first annual progress report must be prepared no later than 13 months after completing the notification of intent to comply with the alternative closure requirements required by paragraph (c)(1) of this section.

(ii) The second annual progress report must be prepared no later than 12 months after completing the first annual progress report. Additional annual progress reports must be prepared within 12 months of completing the previous annual progress report.

(iii) The owner or operator has completed the progress reports specified in paragraph (c)(2) of this section when the reports are placed in the facility's operating record as required by § 257.15A NCAC 13B .2105(i)(10).

(3) An owner or operator of a CCR unit must also prepare the notification of intent to close a CCR unit as required by § 257.15A NCAC 13B .2102(g).

(d) The owner or operator of the CCR unit must comply with the recordkeeping requirements specified in § 257.15A NCAC 13B .2105(i), the notification requirements specified in § 257.15A NCAC 13B .2106(i), and the Internet requirements specified in § 257.15A NCAC 13B .2107(i).

15A NCAC 13B .2104 language from 40 CFR 257.104 is proposed as a permanent rule.

**15A NCAC 13B .2104 § 257.104 Post-closure care requirements.**

(a) Applicability.

(1) Except as provided by either paragraph (a)(2) or (3) of this section, § 257.15A NCAC 13B .2104 applies to the owners or operators of CCR landfills, CCR surface impoundments, and all lateral expansions of CCR units that are subject to the closure criteria under § 257.15A NCAC 13B .2102.

(2) An owner or operator of a CCR unit that elects to close a CCR unit by removing CCR as provided by § 257.15A NCAC 13B .2102(c) is not subject to the post-closure care criteria under this section.

(3) An owner or operator of an inactive CCR surface impoundment that elects to close a CCR unit pursuant to the requirements under § 257.15A NCAC 13B .2100(b) is not subject to the post-closure care criteria under this section.

(b) Post-closure care maintenance requirements. Following closure of the CCR unit, the owner or operator must conduct post-closure care for the CCR unit, which must consist of at least the following:

(1) Maintaining the integrity and effectiveness of the final cover system, including making repairs to the final cover as necessary to correct the effects of settlement, subsidence, erosion, or other events, and preventing run-on and run-off from eroding or otherwise damaging the final cover;

(2) If the CCR unit is subject to the design criteria under § 257.15A NCAC 13B .2070, maintaining the integrity and effectiveness of the leachate collection and removal system and operating the leachate collection and removal system in accordance with the requirements of § 257.15A NCAC 13B .2070; and

(3) Maintaining the groundwater monitoring system and monitoring the groundwater in accordance with the requirements of §§ 257.15A NCAC 13B .2090 through 257.98.

(c) Post-closure care period.

(1) Except as provided by paragraph (c)(2) of this section, the owner or operator of the CCR unit must conduct post-closure care for 30 years.

(2) If at the end of the post-closure care period the owner or operator of the CCR unit is operating under assessment monitoring in accordance with § 257.15A NCAC 13B .2095, the owner or operator must continue to conduct post-closure care until the owner or operator returns to detection monitoring in accordance with § 257.15A NCAC 13B .2095.

(d) Written post-closure plan—

(1) Content of the plan. The owner or operator of a CCR unit must prepare a written post-closure plan that includes, at a minimum, the information specified in paragraphs (d)(1)(i) through (iii) of this section.

(i) A description of the monitoring and maintenance activities required in paragraph (b) of this section for the CCR unit, and the frequency at which these activities will be performed;

(ii) The name, address, telephone number, and email address of the person or office to contact about the facility during the post-closure care period; and

(iii) A description of the planned uses of the property during the post-closure period. Post-closure use of the property shall not disturb the integrity of the final cover, liner(s), or any other component of the containment system, or the function of the monitoring systems unless necessary to comply with the requirements in this subpartSection. Any other disturbance is allowed if the owner or operator of the CCR unit demonstrates that disturbance of the final cover, liner, or other component of the containment system, including any removal of CCR, will not increase the potential threat to human health or the environment. The demonstration must be certified by a qualified professional engineer, and notification shall be provided to the State Director that the demonstration has been placed in the operating record and on the owners or operator's publicly accessible Internet site.

(2) Deadline to prepare the initial written post-closure plan—

(i) Existing CCR landfills and existing CCR surface impoundments. No later than October 17, 2016, the owner or operator of the CCR unit must prepare an initial written post-closure plan consistent with the requirements specified in paragraph (d)(1) of this section.

(ii) New CCR landfills, new CCR surface impoundments, and any lateral expansion of a CCR unit. No later than the date of the initial receipt of CCR in the CCR unit, the owner or operator must prepare an initial written post-closure plan consistent with the requirements specified in paragraph (d)(1) of this section.

(iii) The owner or operator has completed the written post-closure plan when the plan, including the certification required by paragraph (d)(4) of this section, has been placed in the facility's operating record as required by § 257.15A NCAC 13B .2105(i)(4).

(3) Amendment of a written post-closure plan.

(i) The owner or operator may amend the initial or any subsequent written post-closure plan developed pursuant to paragraph (d)(1) of this section at any time.

(ii) The owner or operator must amend the written closure plan whenever:

(A) There is a change in the operation of the CCR unit that would substantially affect the written post-closure plan in effect; or

(B) After post-closure activities have commenced, unanticipated events necessitate a revision of the written post-closure plan.

(iii) The owner or operator must amend the written post-closure plan at least 60 days prior to a planned change in the operation of the facility or CCR unit, or no later than 60 days after an unanticipated event requires the need to revise an existing written post-closure plan. If a written post-closure plan is revised after post-closure activities have

commenced for a CCR unit, the owner or operator must amend the written post-closure plan no later than 30 days following the triggering event.

(4) The owner or operator of the CCR unit must obtain a written certification from a qualified professional engineer that the initial and any amendment of the written post-closure plan meets the requirements of this section.

(e) Notification of completion of post-closure care period. No later than 60 days following the completion of the post-closure care period, the owner or operator of the CCR unit must prepare a notification verifying that post-closure care has been completed. The notification must include the certification by a qualified professional engineer verifying that post-closure care has been completed in accordance with the closure plan specified in paragraph (d) of this section and the requirements of this section. The owner or operator has completed the notification when it has been placed in the facility's operating record as required by § 257.15A NCAC 13B .2105(i)(13).

(f) The owner or operator of the CCR unit must comply with the recordkeeping requirements specified in § 257.15A NCAC 13B .2105(i), the notification requirements specified in § 257.15A NCAC 13B .2106(i), and the Internet requirements specified in § 257.15A NCAC 13B .2107(i).

15A NCAC 13B .2105 language from 40 CFR 257.105 is proposed as a permanent rule.

#### **15A NCAC 13B .2105**

##### **§ 257.105 Recordkeeping requirements.**

(a) Each owner or operator of a CCR unit subject to the requirements of this subpartSection must maintain files of all information required by this section in a written operating record at their facility.

(b) Unless specified otherwise, each file must be retained for at least five years following the date of each occurrence, measurement, maintenance, corrective action, report, record, or study.

(c) An owner or operator of more than one CCR unit subject to the provisions of this subpartSection may comply with the requirements of this section in one recordkeeping system provided the system identifies each file by the name of each CCR unit. The files may be maintained on microfilm, on a computer, on computer disks, on a storage system accessible by a computer, on magnetic tape disks, or on microfiche.

(d) The owner or operator of a CCR unit must submit to the State Director and/or appropriate Tribal authority any demonstration or documentation required by this subpartSection, if requested, when such information is not otherwise available on the owner or operator's publicly accessible Internet site.

(e) Location restrictions. The owner or operator of a CCR unit subject to this subpartSection must place the demonstrations documenting whether or not the CCR unit is in compliance with the requirements under §§ 257.15A NCAC 13B .2060(a), 257.61(a), 257.62(a), 257.63(a), and 257.64(a), as it becomes available, in the facility's operating record.

(f) Design criteria. The owner or operator of a CCR unit subject to this subpartSection must place the following information, as it becomes available, in the facility's operating record:

- (1) The design and construction certifications as required by § 257.15A NCAC 13B .2070(e) and (f).
- (2) The documentation of liner type as required by § 40 CFR 257.71(a).
- (3) The design and construction certifications as required by § 40 CFR 257.72(c) and (d).
- (4) Documentation prepared by the owner or operator stating that the permanent identification marker was installed as required by §§ 40 CFR 257.73(a)(1) and 257.74(a)(1).
- (5) The initial and periodic hazard potential classification assessments as required by §§ 257.15A NCAC 13B .2073(a)(2) and 257.74(a)(2)..
- (6) The emergency action plan (EAP), and any amendment of the EAP, as required by §§ 257.15A NCAC 13B .2073(a)(3) and 257.74(a)(3), except that only the most recent EAP must be maintained in the facility's operating record irrespective of the time requirement specified in paragraph (b) of this section.
- (7) Documentation prepared by the owner or operator recording the annual face-to-face meeting or exercise between representatives of the owner or operator of the CCR unit and the local emergency responders as required by §§ 257.15A NCAC 13B .2073(a)(3)(i)(E) and 257.74(a)(3)(i)(E).
- (8) Documentation prepared by the owner or operator recording all activations of the emergency action plan as required by §§ 257.15A NCAC 13B .2073(a)(3)(v) and 257.74(a)(3)(v).
- (9) The history of construction, and any revisions of it, as required by § 257.73(c), except that these files must be maintained until the CCR unit completes closure of the unit in accordance with § 257.15A NCAC 13B .2102.
- (10) The initial and periodic structural stability assessments as required by §§ 257.15A NCAC 13B .2073(d) and 257.74(d).
- (11) Documentation detailing the corrective measures taken to remedy the deficiency or release as required by §§ 257.15A NCAC 13B .2073(d)(2) and 257.74(d)(2).
- (12) The initial and periodic safety factor assessments as required by §§ 257.15A NCAC 13B .2073(e) and 257.74(e).
- (13) The design and construction plans, and any revisions of it, as required by § 257.74(c), except that these files must be maintained until the CCR unit completes closure of the unit in accordance with § 257.15A NCAC 13B .2102.

(g) Operating criteria. The owner or operator of a CCR unit subject to this subpartSection must place the following information, as it becomes available, in the facility's operating record:

- (1) The CCR fugitive dust control plan, and any subsequent amendment of the plan, required by § 257.15A NCAC 13B .2080(b), except that only the most recent control plan must be maintained in the facility's operating record irrespective of the time requirement specified in paragraph (b) of this section.

- (2) The annual CCR fugitive dust control report required by § 257.15A NCAC 13B .2080(c).
- (3) The initial and periodic run-on and run-off control system plans as required by § 257.15A NCAC 13B .2081(c).
- (4) The initial and periodic inflow design flood control system plan as required by § 257.15A NCAC 13B .2082(c).
- (5) Documentation recording the results of each inspection and instrumentation monitoring by a qualified person as required by § 257.15A NCAC 13B .2083(a).
- (6) The periodic inspection report as required by § 257.15A NCAC 13B .2083(b)(2).
- (7) Documentation detailing the corrective measures taken to remedy the deficiency or release as required by §§ 257.15A NCAC 13B .2083(b)(5) and 257..2084(b)(5).
- (8) Documentation recording the results of the weekly inspection by a qualified person as required by § 257.15A NCAC 13B .2084(a).
- (9) The periodic inspection report as required by § 257.15A NCAC 13B .2084(b)(2).

(h) Groundwater monitoring and corrective action. The owner or operator of a CCR unit subject to this subpartSection must place the following information, as it becomes available, in the facility's operating record:

- (1) The annual groundwater monitoring and corrective action report as required by § 257.15A NCAC 13B .2090(e).
- (2) Documentation of the design, installation, development, and decommissioning of any monitoring wells, piezometers and other measurement, sampling, and analytical devices as required by § 257.15A NCAC 13B .2091(e)(1).
- (3) The groundwater monitoring system certification as required by § 257.15A NCAC 13B .2091(f).
- (4) The selection of a statistical method certification as required by § 257.15A NCAC 13B .2093(f)(6).
- (5) Within 30 days of establishing an assessment monitoring program, the notification as required by § 257.15A NCAC 13B .2094(e)(3).
- (6) The results of appendices III and IV to this part constituent concentrations as required by § 257.15A NCAC 13B .2095(d)(1).
- (7) Within 30 days of returning to a detection monitoring program, the notification as required by § 257.15A NCAC 13B .2095(e).
- (8) Within 30 days of detecting one or more constituents in appendix IV to this part at statistically significant levels above the groundwater protection standard, the notifications as required by § 257.15A NCAC 13B .2095(g).

(9) Within 30 days of initiating the assessment of corrective measures requirements, the notification as required by § 257.15A NCAC 13B .2095(g)(5).

(10) The completed assessment of corrective measures as required by § 257.15A NCAC 13B .2096(d).

(11) Documentation prepared by the owner or operator recording the public meeting for the corrective measures assessment as required by § 257.15A NCAC 13B .2096(e).

(12) The semiannual report describing the progress in selecting and designing the remedy and the selection of remedy report as required by § 257.15A NCAC 13B .2097(a), except that the selection of remedy report must be maintained until the remedy has been completed.

(13) Within 30 days of completing the remedy, the notification as required by § 257.15A NCAC 13B .2098(e).

(i) Closure and post-closure care. The owner or operator of a CCR unit subject to this subpartSection must place the following information, as it becomes available, in the facility's operating record:

(1) The notification of intent to initiate closure of the CCR unit as required by § 257.15A NCAC 13B .2100(c)(1).

(2) The annual progress reports of closure implementation as required by § 257.15A NCAC 13B .2100(c)(2)(i) and (ii).

(3) The notification of closure completion as required by § 257.15A NCAC 13B .2100(c)(3).

(4) The written closure plan, and any amendment of the plan, as required by § 257.15A NCAC 13B .2102(b), except that only the most recent closure plan must be maintained in the facility's operating record irrespective of the time requirement specified in paragraph (b) of this section.

(5) The written demonstration(s), including the certification required by § 257.15A NCAC 13B .2102(e)(2)(iii), for a time extension for initiating closure as required by § 257.15A NCAC 13B .2102(e)(2)(ii).

(6) The written demonstration(s), including the certification required by § 257.15A NCAC 13B .2102(f)(2)(iii), for a time extension for completing closure as required by § 257.15A NCAC 13B .2102(f)(2)(i).

(7) The notification of intent to close a CCR unit as required by § 257.15A NCAC 13B .102102(g).

(8) The notification of completion of closure of a CCR unit as required by § 257.15A NCAC 13B .2102(h).

(9) The notification recording a notation on the deed as required by § 257.15A NCAC 13B .2102(i).

(10) The notification of intent to comply with the alternative closure requirements as required by § 257.15A NCAC 13B .2103(c)(1).

(11) The annual progress reports under the alternative closure requirements as required by § 257.15A NCAC 13B .2103(c)(2).



(12) The written post-closure plan, and any amendment of the plan, as required by § 257.15A NCAC 13B .2104(d), except that only the most recent closure plan must be maintained in the facility's operating record irrespective of the time requirement specified in paragraph (b) of this section.

(13) The notification of completion of post-closure care period as required by § 257.15A NCAC 13B .2104(e).

(j) Retrofit criteria. The owner or operator of a CCR unit subject to this subpartSection must place the following information, as it becomes available, in the facility's operating record:

(1) The written retrofit plan, and any amendment of the plan, as required by § 257.15A NCAC 13B .2102(k)(2), except that only the most recent retrofit plan must be maintained in the facility's operating record irrespective of the time requirement specified in paragraph (b) of this section.

(2) The notification of intent that the retrofit activities will proceed in accordance with the alternative procedures in § 257.15A NCAC 13B .2103.

(3) The annual progress reports required under the alternative requirements as required by § 257.15A NCAC 13B .2103.

(4) The written demonstration(s), including the certification in § 257.15A NCAC 13B .102(f)(2)(iii), for a time extension for completing retrofit activities as required by § 257.15A NCAC 13B .2102(k)(3).

(5) The notification of intent to initiate retrofit of a CCR unit as required by § 257.15A NCAC 13B .2102(k)(5).

(6) The notification of completion of retrofit activities as required by § 257.15A NCAC 13B .2102(k)(6).

15A NCAC 13B .2106 language from 40 CFR 257.106 is proposed as a permanent rule.

**15A NCAC 13B .2106 § 257.106 Notification requirements.**

(a) The notifications required under paragraphs (e) through (i) of this section must be sent to the relevant State Director and/or appropriate Tribal authority before the close of business on the day the notification is required to be completed. For purposes of this section, before the close of business means the notification must be postmarked or sent by electronic mail (email). If a notification deadline falls on a weekend or federal holiday, the notification deadline is automatically extended to the next business day.

(b) If any CCR unit is located in its entirety within Indian Country, the notifications of this section must be sent to the appropriate Tribal authority. If any CCR unit is located in part within Indian Country, the notifications of this section must be sent both to the appropriate State Director and Tribal authority.

(c) Notifications may be combined as long as the deadline requirement for each notification is met.

(d) Unless otherwise required in this section, the notifications specified in this section must be sent to the State Director and/or appropriate Tribal authority within 30 days of placing in the operating record the information required by § 257.15A NCAC 13B .2105.

(e) Location restrictions. The owner or operator of a CCR unit subject to the requirements of this subpartSection must notify the State Director and/or appropriate Tribal authority that each demonstration specified under § 257.15A NCAC 13B .2105(e) has been placed in the operating record and on the owner or operator's publicly accessible internet site.

(f) Design criteria. The owner or operator of a CCR unit subject to this subpartSection must notify the State Director and/or appropriate Tribal authority when information has been placed in the operating record and on the owner or operator's publicly accessible internet site. The owner or operator must:

(1) Within 60 days of commencing construction of a new CCR unit, provide notification of the availability of the design certification specified under § 257.15A NCAC 13B .2105(f)(1) or (3). If the owner or operator of the CCR unit elects to install an alternative composite liner, the owner or operator must also submit to the State Director and/or appropriate Tribal authority a copy of the alternative composite liner design.

(2) No later than the date of initial receipt of CCR by a new CCR unit, provide notification of the availability of the construction certification specified under § 257.15A NCAC 13B .2105(f)(1) or (3).

(3) Provide notification of the availability of the documentation of liner type specified under § 257.15A NCAC 13B .2105(f)(2).

(4) Provide notification of the availability of the initial and periodic hazard potential classification assessments specified under § 257.15A NCAC 13B .2105(f)(5).

(5) Provide notification of the availability of emergency action plan (EAP), and any revisions of the EAP, specified under § 257.15A NCAC 13B .2105(f)(6).

(6) Provide notification of the availability of documentation prepared by the owner or operator recording the annual face-to-face meeting or exercise between representatives of the owner or operator of the CCR unit and the local emergency responders specified under § 257.15A NCAC 13B .2105(f)(7).

(7) Provide notification of documentation prepared by the owner or operator recording all activations of the emergency action plan specified under § 257.15A NCAC 13B .2105(f)(8).

(8) Provide notification of the availability of the history of construction, and any revision of it, specified under § 257.15A NCAC 13B .2105(f)(9).

(9) Provide notification of the availability of the initial and periodic structural stability assessments specified under § 257.15A NCAC 13B .2105(f)(10).

(10) Provide notification of the availability of the documentation detailing the corrective measures taken to remedy the deficiency or release specified under § 257.15A NCAC 13B .2105(f)(11).

(11) Provide notification of the availability of the initial and periodic safety factor assessments specified under § 257.15A NCAC 13B .2105(f)(12).

(12) Provide notification of the availability of the design and construction plans, and any revision of them, specified under § 257.15A NCAC 13B .2105(f)(13).

(g) Operating criteria. The owner or operator of a CCR unit subject to this subpartSection must notify the State Director and/or appropriate Tribal authority when information has been placed in the operating record and on the owner or operator's publicly accessible internet site. The owner or operator must:

(1) Provide notification of the availability of the CCR fugitive dust control plan, or any subsequent amendment of the plan, specified under § 257.15A NCAC 13B .2105(g)(1).

(2) Provide notification of the availability of the annual CCR fugitive dust control report specified under § 257.15A NCAC 13B .2105(g)(2).

(3) Provide notification of the availability of the initial and periodic run-on and run-off control system plans specified under § 257.15A NCAC 13B .2105(g)(3).

(4) Provide notification of the availability of the initial and periodic inflow design flood control system plans specified under § 257.15A NCAC 13B .2105(g)(4).

(5) Provide notification of the availability of the periodic inspection reports specified under § 257.15A NCAC 13B .2105(g)(6).

(6) Provide notification of the availability of the documentation detailing the corrective measures taken to remedy the deficiency or release specified under § 257.15A NCAC 13B .2105(g)(7).

(7) Provide notification of the availability of the periodic inspection reports specified under § 257.15A NCAC 13B .2105(g)(9).

(h) Groundwater monitoring and corrective action. The owner or operator of a CCR unit subject to this subpartSection must notify the State Director and/or appropriate Tribal authority when information has been placed in the operating record and on the owner or operator's publicly accessible internet site. The owner or operator must:

(1) Provide notification of the availability of the annual groundwater monitoring and corrective action report specified under § 257.15A NCAC 13B .2105(h)(1).

(2) Provide notification of the availability of the groundwater monitoring system certification specified under § 257.15A NCAC 13B .2105(h)(3).

(3) Provide notification of the availability of the selection of a statistical method certification specified under § 257.15A NCAC 13B .2105(h)(4).

(4) Provide notification that an assessment monitoring programs has been established specified under § 257.15A NCAC 13B .2105(h)(5).

(5) Provide notification that the CCR unit is returning to a detection monitoring program specified under § 257.15A NCAC 13B .2105(h)(7).

(6) Provide notification that one or more constituents in appendix IV to this part have been detected at statistically significant levels above the groundwater protection standard and the notifications to land owners specified under § 257.15A NCAC 13B .2105(h)(8).

(7) Provide notification that an assessment of corrective measures has been initiated specified under § 257.15A NCAC 13B .2105(h)(9).

(8) Provide notification of the availability of assessment of corrective measures specified under § 257.15A NCAC 13B .2105(h)(10).

(9) Provide notification of the availability of the semiannual report describing the progress in selecting and designing the remedy and the selection of remedy report specified under § 257.15A NCAC 13B .2105(h)(12).

(10) Provide notification of the completion of the remedy specified under § 257.15A NCAC 13B .2105(h)(13).

(i) Closure and post-closure care. The owner or operator of a CCR unit subject to this subpartSection must notify the State Director and/or appropriate Tribal authority when information has been placed in the operating record and on the owner or operator's publicly accessible Internet site. The owner or operator must:

(1) Provide notification of the intent to initiate closure of the CCR unit specified under § 257.15A NCAC 13B .2105(i)(1).

(2) Provide notification of the availability of the annual progress reports of closure implementation specified under § 257.15A NCAC 13B .2105(i)(2).

(3) Provide notification of closure completion specified under § 257.15A NCAC 13B .2105(i)(3).

(4) Provide notification of the availability of the written closure plan, and any amendment of the plan, specified under § 257.15A NCAC 13B .2105(i)(4).

(5) Provide notification of the availability of the demonstration(s) for a time extension for initiating closure specified under § 257.15A NCAC 13B .2105(i)(5).

(6) Provide notification of the availability of the demonstration(s) for a time extension for completing closure specified under § 257.15A NCAC 13B .2105(i)(6).

(7) Provide notification of intent to close a CCR unit specified under § 257.15A NCAC 13B .2105(i)(7).

(8) Provide notification of completion of closure of a CCR unit specified under § 257.15A NCAC 13B .2105(i)(8).

(9) Provide notification of the deed notation as required by § 257.15A NCAC 13B .2105(i)(9). (10) Provide notification of intent to comply with the alternative closure requirements specified under § 257.15A NCAC 13B .2105(i)(10).

(11) The annual progress reports under the alternative closure requirements as required by § 257.15A NCAC 13B .2105(i)(11).

(12) Provide notification of the availability of the written post-closure plan, and any amendment of the plan, specified under § 257.15A NCAC 13B .2105(i)(12).

(13) Provide notification of completion of post-closure care specified under § 257.15A NCAC 13B .2105(i)(13).

(j) Retrofit criteria. The owner or operator of a CCR unit subject to this subpartSection must notify the State Director and/or appropriate Tribal authority when information has been placed in the operating record and on the owner or operator's publicly accessible Internet site. The owner or operator must:

(1) Provide notification of the availability of the written retrofit plan, and any amendment of the plan, specified under § 257.15A NCAC 13B .2105(j)(1).

(2) Provide notification of intent to comply with the alternative retrofit requirements specified under § 257.15A NCAC 13B .2105(j)(2).

(3) The annual progress reports under the alternative retrofit requirements as required by § 257.15A NCAC 13B .2105(j)(3).

(4) Provide notification of the availability of the demonstration(s) for a time extension for completing retrofit activities specified under § 257.15A NCAC 13B .2105(j)(4).

(5) Provide notification of intent to initiate retrofit of a CCR unit specified under § 257.15A NCAC 13B .2105(j)(5).

(6) Provide notification of completion of retrofit activities specified under § 257.15A NCAC 13B .2105(j)(6).

15A NCAC 13B .2107 language from 40 CFR 257.107 is proposed as a permanent rule.

**15A NCAC 13B .2107 § 257.107 Publicly accessible Internet site requirements.**

(a) Each owner or operator of a CCR unit subject to the requirements of this subpartSection must maintain a publicly accessible Internet site (CCR Web site) containing the information specified in this section. The owner or operator's Web site must be titled "CCR Rule Compliance Data and Information."

(b) An owner or operator of more than one CCR unit subject to the provisions of this subpartSection may comply with the requirements of this section by using the same Internet site for multiple CCR units provided the CCR Web site clearly delineates information by the name or identification number of each unit.

(c) Unless otherwise required in this section, the information required to be posted to the CCR Web site must be made available to the public for at least five years following the date on which the information was first posted to the CCR Web site.

(d) Unless otherwise required in this section, the information must be posted to the CCR Web site within 30 days of placing the pertinent information required by § 257.15A NCAC 13B .2105 in the operating record.

(e) Location restrictions. The owner or operator of a CCR unit subject to this subpartSection must place each demonstration specified under § 257.15A NCAC 13B .2105(e) on the owner or operator's CCR Web site.

(f) Design criteria. The owner or operator of a CCR unit subject to this subpartSection must place the following information on the owner or operator's CCR Web site:

(1) Within 60 days of commencing construction of a new unit, the design certification specified under § 257.15A NCAC 13B .2105(f)(1) or (3).

(2) No later than the date of initial receipt of CCR by a new CCR unit, the construction certification specified under § 257.15A NCAC 13B .2105(f)(1) or (3).

(3) The documentation of liner type specified under § 257.15A NCAC 13B .2105(f)(2).

(4) The initial and periodic hazard potential classification assessments specified under § 257.15A NCAC 13B .2105(f)(5).

~~(5) The emergency action plan (EAP) specified under § 257.15A NCAC 13B .2105(f)(6), except that only the most recent EAP must be maintained on the CCR Web site irrespective of the time requirement specified in paragraph (c) of this section.~~

~~(6) Documentation prepared by the owner or operator recording the annual face to face meeting or exercise between representatives of the owner or operator of the CCR unit and the local emergency responders specified under § 257.15A NCAC 13B .2105(f)(7).~~

~~(7) Documentation prepared by the owner or operator recording any activation of the emergency action plan specified under § 257.15A NCAC 13B .2105(f)(8).~~

(8) The history of construction, and any revisions of it, specified under § 257.15A NCAC 13B .2105(f)(9).

(9) The initial and periodic structural stability assessments specified under § 257.15A NCAC 13B .2105(f)(10).

(10) The documentation detailing the corrective measures taken to remedy the deficiency or release specified under § 257.15A NCAC 13B .2105(f)(11).

(11) The initial and periodic safety factor assessments specified under § 257.15A NCAC 13B .2105(f)(12).

(12) The design and construction plans, and any revisions of them, specified under § 257.15A NCAC 13B .2105(f)(13).

(g) Operating criteria. The owner or operator of a CCR unit subject to this subpartSection must place the following information on the owner or operator's CCR Web site:

(1) The CCR fugitive dust control plan, or any subsequent amendment of the plan, specified under § 257.15A NCAC 13B .2105(g)(1) except that only the most recent plan must be maintained on the CCR Web site irrespective of the time requirement specified in paragraph (c) of this section.

- (2) The annual CCR fugitive dust control report specified under § 257.15A NCAC 13B .2105(g)(2).
- (3) The initial and periodic run-on and run-off control system plans specified under § 257.15A NCAC 13B .2105(g)(3).
- (4) The initial and periodic inflow design flood control system plans specified under § 257.15A NCAC 13B .2105(g)(4).
- (5) The periodic inspection reports specified under § 257.15A NCAC 13B .2105(g)(6).
- (6) The documentation detailing the corrective measures taken to remedy the deficiency or release specified under § 257.15A NCAC 13B .2105(g)(7).
- (7) The periodic inspection reports specified under § 257.15A NCAC 13B .2105(g)(9).

(h) Groundwater monitoring and corrective action. The owner or operator of a CCR unit subject to this subpartSection must place the following information on the owner or operator's CCR Web site:

- (1) The annual groundwater monitoring and corrective action report specified under § 257.15A NCAC 13B .2105(h)(1).
- (2) The groundwater monitoring system certification specified under § 257.15A NCAC 13B .2105(h)(3).
- (3) The selection of a statistical method certification specified under § 257.15A NCAC 13B .2105(h)(4).
- (4) The notification that an assessment monitoring programs has been established specified under § 257.15A NCAC 13B .2105(h)(5).
- (5) The notification that the CCR unit is returning to a detection monitoring program specified under § 257.15A NCAC 13B .2105(h)(7).
- (6) The notification that one or more constituents in appendix IV to this part have been detected at statistically significant levels above the groundwater protection standard and the notifications to land owners specified under § 257.15A NCAC 13B .2105(h)(8).
- (7) The notification that an assessment of corrective measures has been initiated specified under § 257.15A NCAC 13B .2105(h)(9).
- (8) The assessment of corrective measures specified under § 257.15A NCAC 13B .2105(h)(10).
- (9) The semiannual reports describing the progress in selecting and designing remedy and the selection of remedy report specified under § 257.15A NCAC 13B .2105(h)(12), except that the selection of the remedy report must be maintained until the remedy has been completed.
- (10) The notification that the remedy has been completed specified under § 257.15A NCAC 13B .2105(h)(13).

(i) Closure and post-closure care. The owner or operator of a CCR unit subject to this subpartSection must place the following information on the owner or operator's CCR Web site:

- (1) The notification of intent to initiate closure of the CCR unit specified under § 257.15A NCAC 13B .2105(i)(1).
- (2) The annual progress reports of closure implementation specified under § 257.15A NCAC 13B .2105(i)(2).
- (3) The notification of closure completion specified under § 257.15A NCAC 13B .2105(i)(3).
- (4) The written closure plan, and any amendment of the plan, specified under § 257.15A NCAC 13B .2105(i)(4).
- (5) The demonstration(s) for a time extension for initiating closure specified under § 257.15A NCAC 13B .2105(i)(5).
- (6) The demonstration(s) for a time extension for completing closure specified under § 257.15A NCAC 13B .2105(i)(6).
- (7) The notification of intent to close a CCR unit specified under § 257.15A NCAC 13B .2105(i)(7).
- (8) The notification of completion of closure of a CCR unit specified under § 257.15A NCAC 13B .2105(i)(8).
- (9) The notification recording a notation on the deed as required by § 257.15A NCAC 13B .2105(i)(9).
- (10) The notification of intent to comply with the alternative closure requirements as required by § 257.15A NCAC 13B .2105(i)(10).
- (11) The annual progress reports under the alternative closure requirements as required by § 257.15A NCAC 13B .2105(i)(11).
- (12) The written post-closure plan, and any amendment of the plan, specified under § 257.15A NCAC 13B .2105(i)(12).
- (13) The notification of completion of post-closure care specified under § 257.15A NCAC 13B .2105(i)(13).

(j) Retrofit criteria. The owner or operator of a CCR unit subject to this subpartSection must place the following information on the owner or operator's CCR Web site:

- (1) The written retrofit plan, and any amendment of the plan, specified under § 257.15A NCAC 13B .2105(j)(1).
- (2) The notification of intent to comply with the alternative retrofit requirements as required by § 257.15A NCAC 13B .2105(j)(2).
- (3) The annual progress reports under the alternative retrofit requirements as required by § 257.15A NCAC 13B .2105(j)(3).
- (4) The demonstration(s) for a time extension for completing retrofit activities specified under § 257.15A NCAC 13B .2105(j)(4).



(5) The notification of intent to retrofit a CCR unit specified under § 257.15A NCAC 13B .2105(j)(5).

(6) The notification of completion of retrofit activities specified under § 257.15A NCAC 13B .2105(j)(6).

15A NCAC 13B .2110 language from 40 CFR 257 Appendix III and Appendix IV is proposed as a permanent rule.

**15A NCAC 13B .2110 CFR Appendix III to Part 257—Constituents for Detection Monitoring as published April 17, 2015**

**Common name<sup>1</sup>**

Boron

Calcium

Chloride

Fluoride

pH

Sulfate

Total Dissolved Solids (TDS)

<sup>1</sup> Common names are those widely used in government regulations, scientific publications, and commerce; synonyms exist for many chemicals.

15A NCAC 13B .2111 language from 40 CFR 257 Appendix III and Appendix IV is proposed as a permanent rule.

**15A NCAC 13B .2111 CFR Appendix IV to Part 257—Constituents for Detection Monitoring as published April 17, 2015**

**Appendix IV to Part 257—Constituents for Assessment Monitoring**

**Common name<sup>1</sup>**

Antimony

Arsenic

Barium

Beryllium

Cadmium

Chromium

Cobalt

Fluoride

Lead

Lithium

Mercury

Molybdenum

Selenium

Thallium

Radium 226 and 228 combined

<sup>1</sup> Common names are those widely used in government regulations, scientific publications, and commerce; synonyms exist for many chemicals.

## **PART 261—IDENTIFICATION AND LISTING OF HAZARDOUS WASTE**

### **§ 261.4 Exclusions.**

\* \* \* \* \*

(b) \* \* \*

(4) (i) Fly ash waste, bottom ash waste, slag waste, and flue gas emission control waste generated primarily from the combustion of coal or other fossil fuels, except as provided by § 266.112 of this chapter for facilities that burn or process hazardous waste.

(ii) The following wastes generated primarily from processes that support the combustion of coal or other fossil fuels that are co-disposed with the wastes in paragraph (b)(4)(i) of this section, except as provided by § 266.112 of this chapter for facilities that burn or process hazardous waste:

(A) Coal pile run-off. For purposes of paragraph (b)(4) of this section, coal pile run-off means any precipitation that drains off coal piles.

(B) Boiler cleaning solutions. For purposes of paragraph (b)(4) of this section, boiler cleaning solutions means water solutions and chemical solutions used to clean the fire-side and waterside of the boiler.

(C) Boiler blowdown. For purposes of paragraph (b)(4) of this section, boiler blowdown means water purged from boilers used to generate steam.

(D) Process water treatment and demineralizer regeneration wastes. For purposes of paragraph (b)(4) of this section, process water treatment and demineralizer regeneration wastes means sludges, rinses, and spent resins generated from processes to remove dissolved gases, suspended solids, and dissolved chemical salts from combustion system process water.

(E) Cooling tower blowdown. For purposes of paragraph (b)(4) of this section, cooling tower blowdown means water purged from a closed cycle cooling system. Closed cycle cooling systems include cooling towers, cooling ponds, or spray canals.

(F) Air heater and precipitator washes. For purposes of paragraph (b)(4) of this section, air heater and precipitator washes means wastes from cleaning air preheaters and electrostatic precipitators.

(G) Effluents from floor and yard drains and sumps. For purposes of paragraph (b)(4) of this section, effluents from floor and yard drains and sumps means wastewaters, such as wash water, collected by or from floor drains, equipment drains, and sumps located inside the power plant building; and wastewaters, such as rain runoff, collected by yard drains and sumps located outside the power plant building.

(H) Wastewater treatment sludges. For purposes of paragraph (b)(4) of this section, wastewater treatment sludges refers to sludges generated from the treatment of wastewaters specified in paragraphs (b)(4)(ii)(A) through (F) of this section.

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