

**335-13-1-.03 Definitions.** For the purpose of these rules and regulations, the following words and phrases shall have the meanings ascribed to them in this rule and as ascribed by law unless the context of the regulations indicate differently.

(1) Act - the "Solid Wastes and Recyclable Materials Management Act", Act No. 151, Regular Session 2008 as amended (formerly the "Solid Waste Disposal Act, Act No. 771 Regular Session, 1969, as amended by Act No. 2247 Regular Session, 1971) Code of Alabama 1975, § 22-27-1 et. seq.

(2) Active Life - the period of operation beginning with the initial receipt of solid waste and ending at completion of closure activities in accordance with the applicable requirements of rule 335-13-4-.20.

(3) Active Portion (or Active Footprint) - that part of a facility or unit that has received, is receiving, or is authorized and maintained as capable to receive wastes, and that has not been closed in accordance with the applicable requirements of rule 335-13-4-.20.

(4) Adjacent Property Owner - an owner whose property is adjacent to a proposed site.

(5) Agency - any controlling agency, public or private, elected, appointed or volunteer utilizing methods approved by the Health Department or the Department for the purpose of controlling and supervising the collection or management of solid wastes or recyclable materials.

(6) Airport - public-use airport open to the public without prior permission and without restrictions within the physical capacities of available facilities.

(7) Alternative cover – material other than earth used to cover a landfill or sanitary landfill. An alternative cover shall be approved by the Department in compliance with federal law and the USEPA rules for guidance to achieve a level of performance equal to or greater than earthen cover material.

~~(87)~~ Ambient - normal atmospheric conditions.

~~(98)~~ Annular Space of a Well - the space between the bore hole and the casing.

~~(109)~~ Aquifer - a geologic formation, group of formations or part of a formation capable of yielding a significant amount of groundwater to wells, springs or waters of the State.

~~(110)~~ Areas Susceptible To Mass Movement - those areas of influence (i.e., areas characterized as having an active or substantial possibility of mass movement) where the movement of earth material at, beneath, or adjacent to the landfill unit, because of natural or man-induced events, 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.

(1~~2~~1) Ashes - the solid residue from burning of wood, coal, coke or other combustible material used for heating, the burning or incineration of solid wastes, or for the production of electricity at electric generating plants.

(1~~3~~2) ASTM International - American Society for Testing and Materials International. A not-for-profit standards development company with headquarters located at 100 Barr Harbor Drive (PO Box C700) in West Conshohocken, Pennsylvania, 19428-2959, which develops and publishes technical standards for materials, products, systems, and services..

(1~~4~~3) Beach - for this definition, refer to Division 8 of the ADEM Administrative Code.

(1~~5~~4) Bird Hazard - an increase in the likelihood of bird/aircraft collisions that may cause damage to the aircraft or injury to its occupants.

(1~~6~~5) Bladeable - the physical condition of a sludge or similar waste. Physical conditions include, but are not limited to, the absence of free liquids and of a consistency that can be easily managed by heavy equipment normally utilized at a landfill unit.

(1~~7~~6) Bore Hole - a man-made hole in a geological formation which has been drilled, jetted, driven or made by other similar techniques.

(1~~8~~7) CCR unit – 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.

(1~~9~~8) Cell - a volume of compacted solid waste that is covered by means of compacted earth or some other approved alternative cover usually on a daily or weekly basis in a landfill unit.

(2~~0~~19) Certification - a statement of professional opinion based upon knowledge and belief.

(2~~1~~0) CFR - Code of Federal Regulations.

(2~~1~~2) Closure - the process by which a landfill unit permanently ceases to accept waste, to include those actions taken by the permittee or owner of the facility to prepare the site for post-closure monitoring and maintenance or to make it suitable for other uses.

(2~~3~~2) Coal Combustion By-products - fly ash, bottom ash, boiler slag, or flue gas emission control by-products which result primarily from the combustion of coal or other fossil fuels at electric generating plants.

(243) Coastal Area - for this definition, refer to Division 8 of the ADEM Administrative Code.

(254) Coastal Waters - those waters adjacent to the shoreline, which contain a measurable quantity or percentage of seawater, including but not limited to, sounds, bays, lagoons, bayous, ponds and estuaries.

(265) Commercial Solid Waste - all types of solid waste generated by stores, offices, restaurants, warehouses, and other nonmanufacturing activities, excluding residential and industrial wastes.

(276) Composite Liner - a system consisting of two components; the upper component must consist of a minimum 40 mil flexible membrane liner (FML), and the lower component must consist of at least a two-foot layer of compacted soil with a hydraulic conductivity of no more than  $1 \times 10^{-7}$  cm/sec. FML components consisting of High Density Polyethylene (HDPE) shall be at least 60 mil thick. The FML component must be installed in direct and uniform contact with the compacted soil component.

(287) Composting or Compost Plant - an officially controlled method or operation whereby putrescible solid wastes are broken down through microbial action to a material offering no hazard or nuisance factors to public health or well-being.

(298) Construction/Demolition-Inert Landfill Unit (C/DLF) - a discrete area of land or an excavation that receives construction/demolition waste, and/or rubbish and/or water treatment (alum) sludge, foundry waste meeting rule 335-13-4-.26(3), and that is not a land application unit, surface impoundment, or injection well as those terms are defined in this rule.

(3029) Construction/Demolition Waste - waste building materials, packaging, and rubble resulting from construction, remodeling, repair, or demolition operations on houses, commercial buildings, and other structures. Such wastes include, but are not limited to, masonry materials, sheet rock, roofing waste, insulation (not including asbestos), scrap metal, and wood products. Uncontaminated concrete, soil, brick, waste asphalt paving, ash resulting from the combustion of untreated wood, rock, and similar materials are excluded from this definition.

(319) Contingency Plan - a document setting out an organized, planned and coordinated course of action to be followed in case of a fire, explosion or release of solid waste which could threaten human health or the environment.

(321) Cover - soil or ~~other suitable natural or manufactured material specifically marketed as such, or a combination of both, acceptable to~~ alternative material approved by the Department that is used to cover compacted solid waste in a landfill unit.

(332) Decontamination - a process of reducing or eliminating the presence of harmful substances, such as infectious agents, so as to reduce the likelihood of disease transmission from those substances.

(343) Department - the Alabama Department of Environmental Management as established by Code of Alabama 1975, § 22-22A-4.

(354) Destruction or Adverse Modification - 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.

(356) Director - the Director of the Alabama Department of Environmental Management, appointed pursuant to Code of Alabama 1975, § 22-22A-4, or his or her designee.

(376) Discarded Material - material thrown away, abandoned, disposed of, or otherwise given up without intent to reuse, recycle or reclaim.

(387) Discharge - the accidental or intentional spilling, leaking, pumping, emitting, emptying, or dumping of solid waste, including leachate, into or on any land or water.

(398) Disease Vector - an organism that is capable of transmitting a disease from one host to another.

(4039) Displacement - the relative movement of any two sides of a fault measured in any direction.

(401) Disposal - the discharge, deposit, injection, dumping, spilling, leaking or placing of any solid waste into or on any land or water so that the waste or any constituent thereof may enter the environment or be emitted into the air or discharged into any waters, including, but not limited to, groundwaters.

(412) Disposal Area - that portion of the facility that is designated for disposal, as defined in 335-13-1-.03.

(423) Drill Cuttings - solid materials generated by subsurface drilling operations.

(434) Dune - see definition of primary dune system.

(445) Endangered or Threatened Species - any species listed as such pursuant to Section 4 of the Endangered Species Act of 1973, as amended.

(456) Electric Generating Plants - an industrial site, or that portion of an industrial site, that produces electricity, to be used either on-site or off-site.

(467) Engineer - a person currently registered as a professional engineer with the State of Alabama Board of Registration for Professional Engineers and Land Surveyors.

(478) Explosive Gas - a gas that is explosive under ordinary conditions as used herein generally refers to methane (CH<sub>4</sub>).

(498) Facility - all contiguous land, structures and other appurtenances used for the processing, treatment, storage or disposal of solid waste, or the recovery of recyclable materials from solid waste, whether or not authorized or permitted, including, but not limited to, waste disposal areas and waste disposed therein.

(5049) Facility Structures - any buildings and sheds or utility or drainage lines on the facility.

(501) Fault - 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.

(512) Financial Assurance - a financial arrangement by the owner or operator of a municipal solid waste landfill which guarantees the availability of funds which may be used to close, provide post-closure care, or conduct corrective action at that facility if the owner or operator fails to properly execute his or her responsibilities under this article and any rules promulgated by the Department for closure, post-closure care, or corrective action and the terms of any permit issued for operation of that facility.

(523) Floodplain - the lowland and relatively flat areas adjoining inland and coastal waters, including flood prone areas of offshore islands, which are inundated by the 100-year flood.

(534) Foundry Waste - waste, including but not limited to, slag, sand, baghouse dust, etc. generated from foundry smelting and metal casting processes.

(545) Free Liquids - liquids which readily separate from the solid portion of a waste under ambient temperature and pressure as determined by the Paint Filter Test referenced in USEPA Publication SW-846, Method 9095B.

(556) Garbage - putrescible animal and vegetable waste resulting from the handling, preparation, cooking and consumption of food, including, but not limited to, waste from markets, storage facilities, handling and sale of produce and other food products and excepting such materials that may be serviced by garbage grinders and handled as household sewage.

(567) Gas Condensate - the liquid generated as a result of the gas collection and recovery process at the landfill unit.

(578) Generation - the act or process of producing solid waste. Solid waste shall be considered to be generated at the point that waste materials are first discarded or collected, regardless of any subsequent materials recovery or recycling.

(589) Generator - any person who utilizes any process or conducts any activity which results in the production of solid waste.

(5960) Groundwater - water below the land surface in the zone of saturation.

(601) Hazardous constituents - those substances listed in 335-14-2 Appendix VIII and/or 335-14-5 Appendix IX and include hazardous constituents released from solid waste, hazardous waste, or hazardous waste constituents that are reaction by-products.

(612) Hazardous Waste - those wastes defined in, and regulated under, Division 14 of the ADEM Administrative Code, the Alabama Hazardous Wastes Management and Minimization Act of 1978, as amended.

(623) Health Department - an approved county or district health department, including the Alabama State Department of Public Health and the affected state and county health department.

(643) Health Officer - the State or affected county health officer or his or her designee.

(654) Holocene - the most recent epoch of the Quaternary period, extending from the end of the Pleistocene Epoch, at 11,700 years before present, to the present.

(665) Household Waste - any solid waste, including, but not limited to, garbage, trash, and sanitary waste in septic tanks derived from households, including single and multiple residences, hotels and motels, bunkhouses, ranger stations, crew quarters, campgrounds, picnic grounds, and day-use recreation areas. Sanitary waste in septic tanks shall be considered as household waste only when it is disposed in a landfill or unauthorized dump and its inclusion as a household waste shall in no way prohibit or supersede the authority of the Department or the Health Department to regulate onsite sewage systems or the management of sanitary waste in septic tanks.

(676) Incinerator or Combustion Unit - a device designed to burn that portion of garbage and rubbish which will be consumed at temperatures generally ranging 1600 degrees Fahrenheit or over. The unburned residue from an incinerator, including metal, glass, and the like shall be called ashes.

(687) Industrial Landfill (ILF) Unit - a discrete area of land or an excavation that receives industrial solid waste and may in addition receive construction/demolition waste and/or rubbish and that is not a land application unit, surface impoundment, injection well, or waste pile, as those terms are defined in this rule.

(698) Industrial Solid Waste - solid waste generated by manufacturing or industrial processes that is not a hazardous waste regulated under Chapters 22

to 30, inclusive, of Title 22, Code of Alabama 1975, and the regulations promulgated thereunder.

(~~7069~~) Infectious Agent - any organism (such as a virus or a bacterium) that is capable of causing disease or adverse health impacts in humans by invasion and multiplication in body tissues, fluids or secretions.

(~~719~~) Injection Well - a bored, drilled, or driven shaft or dug hole which is used for the injection of pollutants.

(~~721~~) Innocent Landowner - an owner of real property upon which there is located an unauthorized dump and who meets all of the following conditions:

(a) The solid waste was disposed of on the property after the owner acquired title to the property or the waste was disposed of before the owner acquired title to the property and the owner lacked actual knowledge of the waste after conducting reasonable due diligence or title was acquired by bequest or devise.

(b) The owner did not have knowledge that the waste was being disposed of on the property or the owner took steps, including, but not limited to, posting signs to prevent disposal on the property.

(c) The owner did not participate in or consent to the disposal of solid waste on the property.

(d) The owner did not receive any financial benefit from the disposal of solid waste on the property.

(e) Title to the property was not transferred to the owner for the purpose of evading liability for operating an unauthorized dump.

(f) The person or persons responsible for disposing of the solid waste on the property, in doing so, was not acting as an agent for the owner.

(~~732~~) Karst Terrains - areas where karst topography, with its characteristic surface and subterranean features, is developed as the result of dissolution of limestone, dolomite, or other soluble rock. Characteristic physiographic features present in karst terrains include, but are not limited to, sinkholes, sinking streams, caves, large springs, and blind valleys.

(~~743~~) Land Application Unit - an area where wastes are applied onto or incorporated into the soil surface (excluding manure spreading operations) for agricultural purposes or for treatment and disposal.

(~~754~~) Landfill (LF) - a method of compaction and earth or alternative cover of solid wastes other than those containing garbage or other putrescible wastes, including, but not limited to, tree limbs and stumps, demolition materials, incinerator residues, and like materials not constituting a health or nuisance hazard, where cover need not be applied on a per day used basis.

(765) Landfill (LF) Unit - this term shall include MSWLF, C/DLF, ILF units.

(776) Land Surveyor - a person currently registered as a land surveyor with the State of Alabama Board of Registration for Professional Engineers and Land Surveyors.

(787) Lateral Expansion - a horizontal expansion of the waste boundaries of an existing landfill unit.

(798) Leachate - any liquid, including any soluble, suspended or miscible components in the liquid, that has percolated through or emerged from solid waste other than construction/demolition waste and or rubbish.

(8079) Leachate Recirculation - the recycling or reintroduction of leachate into or on a landfill unit constructed with liners and leachate collection systems.

(801) Lift - the compacted vertical thickness of a horizontal series of cells which have been accumulated and covered with earth or some other approved alternative cover. The cover may be either daily, weekly, intermediate, or final as required.

(812) Liquid Waste - any waste material that is determined to contain "free liquids" as defined by Method 9095B (Paint Filter Liquids Test), as described in "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods" (EPA Pub. No. SW-846), and is not considered bladeable.

(823) Lithified Earth Material - 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.

(834) Lower Explosive Limit (LEL) - the lowest percent by volume of a mixture of explosive gases which will propagate a flame in air at 25°C and atmospheric pressure. For methane (CH<sub>4</sub>) the LEL is considered to be 5 percent.

(845) Materials Recovery Facility - a solid waste management facility that provides for the extraction from solid waste of recyclable materials, materials suitable for use as a fuel or soil amendment, or any combination of those materials. A materials recovery facility shall be deemed to be a solid waste treatment facility.

(856) Maximum Contaminant Level (MCL) - the maximum permissible level of a contaminant allowed in the saturated zone unless occurring naturally or found to already exist during background sampling.

(867) Maximum Horizontal Acceleration in Lithified Earth Material - the maximum expected horizontal acceleration depicted on a seismic hazard map,



with a 90 percent or greater probability that the acceleration will not be exceeded in 250 years, or the maximum expected horizontal acceleration based on a site-specific seismic risk assessment.

(878) Medical Waste - any infectious solid or liquid waste from a medical waste generator, as defined in chapter 335-17-1.

(889) Municipal Solid Waste Landfill (MSWLF) Unit - a discrete area of land or an excavation that receives household waste and that is not a land application unit, surface impoundment, injection well, or waste pile. A municipal solid waste landfill may also receive other types of solid wastes, such as commercial solid waste, nonhazardous sludge, very small quantity generator waste, industrial solid waste, construction/demolition waste, and rubbish. A municipal solid waste landfill is a sanitary landfill. Such a landfill may be publicly or privately owned. A MSWLF unit may be a new MSWLF unit, an existing MSWLF unit or a lateral expansion.

(9089) Off-site - not a part of what is defined as on-site.

(910) On-site - the same or geographically contiguous property which may be divided by public or private right-of-way. Non-contiguous properties owned by the same person or entity connected by a right-of-way which he controls and to which the public does not have access, is also considered on-site property.

(912) One Hundred Year Flood - a flood that has a one percent or greater chance of recurring in any given year or a flood of a magnitude equaled or exceeded once in 100 years on the average over a significantly long period.

(923) Open Burning - the combustion of any material without the following characteristics:

(a) Control of combustion air to maintain adequate temperature for efficient combustion.

(b) Containment of the combustion-reaction in an enclosed device to provide sufficient residence time and mixing for complete combustion, and

(c) Control of emission of the gaseous combustion products.

(934) Operating Record - a collection of documents relating to the permitting or operation of any landfill unit as listed in rule 335-13-4-.29.

(945) Operator - the person(s) having direct supervision over and responsibility for the daily operation of a landfill unit or part of a landfill unit.

(956) Owner - the person(s) who owns a facility or part of a facility.

(967) Partial Closure - the closure of a discrete part of a facility in accordance with the applicable closure requirements of rule 335-13-4-.20. For example, partial closure may include the closure of a trench, a unit operation, a

landfill cell or a pit, while other parts of the same facility continue in operation or will be placed in operation in the future.

(978) Permit - written authorization granted to a person by the Department to operate a solid waste management facility for the disposal of solid waste.

(989) Permittee - any person possessing a valid permit issued by the Department to dispose of solid waste. This person is responsible for the overall operation of a solid waste facility.

(99100) Person - any individual, trust, firm, joint stock company, corporation (including a government corporation), partnership, agent, agency, association, State, municipality, commission, political subdivision of a state, any interstate body, or any other private or public legal entity.

(1001) Personnel - all persons who work at or supervise the operations of a solid waste facility, and whose actions or inactions may be responsible for achieving compliance with the requirements of this Division.

(1012) Petroleum Contaminated Waste (PCW) - any material, including but not limited to soil, debris, absorbent pads/booms, oil dry, etc., that has been exposed to petroleum products in such a manner that the petroleum product can be detected by a total petroleum hydrocarbon (TPH) analysis using Standard Method 503 D & E, EPA Methods 9071 or 418.1 (Spectrophotometric, Infrared), and that analysis exceeds 100 ppm TPH.

(1023) Poor Foundation Conditions - those areas where features exist which indicate that a natural or man-induced event may result in inadequate foundation support for the structural components of a landfill unit.

(1034) Post Closure - the activities, including monitoring and maintenance at the site, following completion of closure activities if solid waste will remain at the site after closure.

(1045) Practice - any operating method, technique or procedure for the management of solid waste.

(1065) Primary Dune System - for this definition, refer to Division 8 of the ADEM Administrative Code.

(1076) Private Solid Waste Management Facility - a solid waste management facility that is operated exclusively by and for a private solid waste generator for the purpose of accepting solid waste generated on-site or by the permittee.

(1078) Product - any material which is an intended output or result of a fabrication, manufacturing or production process, and is sold and distributed in the stream of commerce for consumption, use, or further processing into another

desired commodity. A product must be managed as an item of value in a controlled manner and is not to be managed as a discarded material.

(1098) Proposed Site - total acreage as identified by the legal survey included in the application submitted to the Department.

(1109) Public Solid Waste Management Facility - a solid waste management facility that accepts solid waste from the public generally or for a fee, or any solid waste management facility that is not a private solid waste management facility.

(1110) Qualified Groundwater Scientist - a scientist or engineer who has received a baccalaureate or post-graduate degree in the natural sciences or engineering and has sufficient training and experience in groundwater hydrology and related fields as may be demonstrated by state registration, professional certifications, or completion of accredited university programs that enable that individual to make sound professional judgments regarding groundwater monitoring, contaminant fate and transport, and corrective action.

(1121) Recovered Materials - those materials which have known recycling potential; which can be feasibly recycled; which have been diverted or removed from the solid waste stream for recycling, whether or not requiring subsequent separation and processing; and which have a substantial portion that are consistently used in the manufacture of products which may otherwise be produced from raw or virgin materials. Recovered materials shall not include solvents or materials, except sawdust, bark, and paper materials that are destined for incineration, energy recovery, or any use which constitutes disposal. Recovered materials shall only be those materials for which during the calendar year (commencing on January 1), the amount of material recycled or diverted from the solid waste stream for recycling and transferred to a different site for recycling equals at least 75 percent by weight or volume of the amount of that material accumulated at the beginning of the period.

(1132) Recovered Materials Processing Facility - a facility primarily engaged in the storage, processing, and resale or reuse of recovered materials. A recovered materials processing facility is not a solid waste management facility; however, any solid waste resulting from the operation of a facility shall be subject to all applicable laws and regulations relating to solid waste and shall be deemed to be generated for purposes of reporting pursuant to solid waste reduction goals, at the point of collection of the recovered materials from which the solid waste resulted.

(1134) Recyclable Materials - those materials which are capable of being recycled, whether or not the materials have been diverted or removed from the solid waste stream.

(1154) Recycling - any process by which materials are collected, separated, stored, recovered, or processed and reused or returned to use in the form of raw materials or products, but does not include the use of materials as a fuel, or for any use which constitutes disposal.

(11~~65~~) Relevant Point of Compliance - that point within the first saturated zone at which groundwater quality must be in compliance with water quality standards set forth by rule 335-13-4-.27. Groundwater monitoring wells are to be located in order to yield samples that are representative of the quality of groundwater passing the relative point of compliance.

(11~~76~~) Representative Sample - 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 for a discussion and examples of representative samples.

(11~~87~~) Rubbish - nonputrescible solid wastes, excluding ashes, consisting of both combustible and noncombustible wastes. Combustible rubbish includes paper, rags, cartons, wood, furniture, rubber, plastics, and similar materials. Noncombustible rubbish includes glass, crockery, metal cans, metal furniture and like materials which will not burn at ordinary incinerator temperatures, not less than 1600 degree F. Uncontaminated concrete, soil, brick, waste asphalt paving, ash resulting from the combustion of untreated wood, rock, yard trimmings, leaves, stumps, limbs and similar materials are excluded from this definition.

(11~~98~~) Run-Off - any rainwater, leachate, or other liquid that drains over land from any part of a facility.

(12~~019~~) Run-On - any rainwater, leachate, or other liquid that drains over land onto any part of a facility.

(12~~01~~) Salvaging - the controlled removal for reuse of material from a solid waste landfill unit.

(12~~12~~) Sanitary Landfill - a controlled area of land upon which solid waste is deposited and is compacted and covered with compacted earth or an alternative cover each day as deposited, with no on-site burning of wastes, and so located, contoured and drained that it will not constitute a source of water pollution as determined by the Department. See definition of "Municipal Solid Waste Landfill Unit."

(12~~23~~) Sanitary Sewer - any device or system used in the treatment of municipal sewage or industrial waste of a liquid nature. This includes sewers, pipes or other conveyances only if they convey wastewater to a facility providing treatment.

(12~~34~~) Saturated Zone - that part of the earth's crust in which all voids are filled with water.

(12~~45~~) Scavenging - the unauthorized removal of solid waste from a landfill unit permitted under these regulations.

(1265) Seismic Impact Zone - an area with a ten percent or greater probability that the maximum horizontal acceleration in lithified earth material, expressed as a percentage of the earth's gravitational pull (g), will exceed 0.10 g in 250 years.

(1276) Service Area - the geographical area serviced by a solid waste facility from which solid waste is generated and collected, including any interim points, (i.e., transfer stations) at which the solid waste is repacked or reloaded onto vehicles or other methods of transport for delivery to that facility. For public solid waste management facilities, the service area is established as part of the local host government approval process, as described in Code of Alabama 1975, §22-27-48 and 48.1.

(1278) Sludge - any nonhazardous, solid, semi-solid, or liquid waste generated from a municipal, commercial, or industrial wastewater treatment plant, water supply treatment plant, or air pollution control facility exclusive of the treated effluent from a wastewater treatment plant.

(1289) Solid Waste - any garbage, rubbish, construction or demolition debris, ash, or sludge from a waste treatment facility, water supply plant, or air pollution control facility, and any other discarded materials, including solid, liquid, semisolid, or contained gaseous material resulting from industrial, commercial, mining, or agricultural operations or community activities, or materials intended for or capable of recycling, but which have not been diverted or removed from the solid waste stream. The term "solid waste" does not include recovered materials, solid or dissolved materials in domestic sewage, solid or dissolved material in irrigation return flows, or industrial discharges which are point sources subject to the National Pollutant Discharge Elimination System permits under the Federal Water Pollution Control Act, as amended, or the Alabama Water Pollution Control Act, as amended, or source, special, nuclear, or by-product materials as defined by the Atomic Energy Act of 1954, as amended. Also excluded from this definition are land applications of crop residues, animal manure, and ash resulting exclusively from the combustion of wood during accepted agricultural operations, waste from silvicultural operations, or refuse as defined and regulated pursuant to the Alabama Surface Mining Act of 1969 (Article 1, Chapter 16, Title 9, Sections 9-16-1 to 9-16-15, Code of Alabama 1975).

(12930) Solid Waste Boundary - the outermost perimeter of the solid waste, projected in the horizontal plane, as it would exist at completion of the disposal activity.

(1310) Solid Waste Disposal Facility - any landfill or part of a facility where final disposition of solid waste occurs and at which waste may remain after closure.

(1321) Solid Waste Management - the systematic control of solid waste including its storage, processing, treatment, recovery of materials from solid waste, or disposal.

(1332) Solid Waste Management Facility - any solid waste volume reduction plant, transfer station, material recovery facility, or other facility, the purpose of which is the storage, treatment, utilization, processing, disposal, or recovery of materials from solid waste, or any combination thereof.

(1343) Special Waste - those wastes requiring specific processing, handling or disposal techniques as determined necessary by the Department which are different from the techniques normally utilized for handling or disposal. Examples of such waste types may include, but are not limited to: mining waste, fly ash, bottom ash, sludges, friable asbestos, industrial waste, liquid waste, large dead animals or large quantities of dead animals and residue, medical waste, foundry waste, petroleum contaminated wastes, municipal solid waste ash, or contaminated soil and water from the cleanup of a spill.

(1345) Spill - the unplanned, accidental or unpermitted discharge, deposit, injection, leaking, pumping, pouring, emitting, dumping, placing or releasing of solid or medical waste, or materials which when spilled become solid or medical waste, into or on the land, the air or the water.

(1365) State - the State of Alabama.

(1376) State Health Department - the Alabama Department of Public Health as defined by § 22-1-1, Code of Alabama 1975.

(1387) State Health Officer - the Health Officer for the State of Alabama as set out in § 22-2-8, Code of Alabama 1975, or his or her designee provided by law.

(1398) Structural Components - liners, leachate collection systems, final covers, run-on/run-off systems, and any other component used in the construction and operation of the landfill unit that is necessary for protection of human health and the environment.

(14039) Surface Impoundment or Impoundment - a facility or part of a facility that is a natural topographic depression, human-made excavation, or diked area formed primarily of earthen materials (although it may be lined with human-made materials), that is designed to hold an accumulation of liquid wastes or wastes containing free liquids and that is not an injection well. Examples of surface impoundments are holding, storage, settling, and aeration pits, ponds and lagoons.

(1401) Twenty-Four Hour, Twenty-Five Year Storm (24 hour, 25 year Storm) - the maximum 24 hour precipitation event with a probable reoccurrence interval of once in twenty-five years as defined by the National Weather Service and Technical Paper No. 40, "Rainfall Frequency Atlas of the U. S.", May 1961, and subsequent amendments or equivalent regional or rainfall probability information developed therefrom.

(1412) Unauthorized Dump - any collection of solid wastes either dumped or caused to be dumped or placed on any public or private property, whether or

not regularly used, and not having a permit from the Department. Abandoned automobiles, large appliances or similar large items of solid waste shall be considered as forming an unauthorized dump within the meaning of this Division. The careless littering of a relatively few, smaller individual items such as tires, bottles, cans and the like shall not be considered an unauthorized dump, unless the accumulation of the solid waste poses a threat to human health or the environment. An unauthorized dump shall also mean any solid waste disposal site which does not meet the regulatory provisions of this Division.

(1423) Unstable Area - a location that is susceptible to natural or human-induced events or forces capable of impairing the integrity of some or all of the landfill structural components responsible for preventing releases from a landfill. Unstable areas can include poor foundation conditions, areas susceptible to mass movements, and karst terrains.

(1434) Uppermost Aquifer - 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.

(1445) Washout - the carrying away of solid waste or ~~earth~~-cover by waters of ~~the base flood~~ a 100-year flood.

(1456) Waste Management Unit Boundary - a vertical surface located at the hydraulically downgradient limit of the unit. This vertical surface extends down into the uppermost aquifer.

(1467) Waste Pile or Pile - any noncontainerized accumulation of solid, non-flowing waste that is used for treatment or storage.

(1478) Waters of the State (Waters) - all waters of any river, stream, watercourse, pond, lake, coastal, ground or surface water, wholly or partially within the State, natural or artificial. This does not include waters which are entirely confined and retained completely upon the property of a single individual, partnership or corporation unless such waters are used in interstate commerce.

(1489) Wetlands - those areas as defined by the U.S. Army Corps of Engineers regulations.

(14950) Wood Ash Waste – solid waste resulting from the burning of untreated wood with minimal amounts (<10% of total fuel based on a mass input basis) of other non-coal permitted solid fuels. Ash resulting exclusively from the combustion of non-processed and untreated wood is excluded from the definition of wood ash waste.

(151) Working Face – the area within a solid waste disposal facility that is actively receiving solid waste for compaction and cover.

**Author:** Russell A. Kelly; Phillip D. Davis; James L. Bryant, Eric L. Sanderson, S. Scott Story, Heather M. Jones.

**Statutory Authority:** Code of Alabama 1975, §§ 22-27-2, 22-27-7, 22-27-9, and 22-27-12.

**History:** Effective: November 18, 1981.

**Amended:** Effective: July 21, 1988. **Amended:** Effective: October 2, 1990.

**Amended:** Effective: November 2, 1993. **Amended:** Effective: July 26, 1996.

**Amended:** Effective: August 3, 2010. **Amended:** Effective: January 16, 2012.

**Amended:** Effective: April 8, 2016. **Amended:** Filed: April 24, 2018; Effective: June 8, 2018. **Amended:** Filed: June 25, 2019; Effective: August 9, 2019.

**Amended:** Proposed: July 20, 2021.



**335-13-1-.07 Appeals.** Any person aggrieved by any administrative action of the Department, with respect to these regulations, is entitled to a hearing before the Commission and has the right of appeal in accordance with procedures established in chapter 335-2-1 of the ADEM Administrative Code.

**Author:** Russell A. Kelly; Phillip D. Davis, Heather M. Jones.

**Statutory Authority:** Code of Alabama 1975, § 22-27-7, 22-27-12, and 22-22A-7.

**History:** Effective: July 26, 1996.

**Amended:** Effective: August 3, 2010. **Amended:** Filed: April 24, 2018; Effective: June 8, 2018. **Amended: Proposed: July 20, 2021.**

**335-13-1-09 [Reserved] Repealer.** ~~All rules and regulations promulgated and adopted by the Department which are in conflict with this Division or any provision thereof are hereby expressly repealed. This Division is intended to be comprehensive and include all the regulations of the Department dealing with solid waste management as enforced by the Solid Waste Branch of the Land Division.~~

**Author:** ~~Russell A. Kelly.~~

**Statutory Authority:** ~~Code of Alabama 1975, § 22-27-7.~~

**History:** ~~July 26, 1996.~~ **Amended:** Proposed: July 20, 2021.

**335-13-1-.11 General.**

(1) All solid waste shall be disposed of in a manner consistent with the requirements of this Division.

(2) Duty to provide information. Any owner or operator subject to the requirements of this Division shall furnish to the Department, within a reasonable time, any relevant information which the Department may request to determine compliance with this Division. The owner or operator shall also furnish to the Department, upon request, copies of records required to be kept by any requirement of this Division.

**Author:** Russell A. Kelly, Heather M. Jones.

**Statutory Authority:** Code of Alabama 1975, §§ 22-22A-4, 22-22A-5, 22- 27-7.

**History:** November 18, 1981.

**Amended:** July 21, 1988; October 2, 1990; November 2, 1993. **Amended:**

Proposed: July 20, 2021.

### **335-13-4-.11 General Design Standards for Disposal Facilities.**

(1) General Standards. 335-13-4-.12 through 335-13-4-.20 provides standards for establishing a landfill unit providing that the siting standards of 335-13-4-.01 have been fully complied with to the satisfaction of the Department. Certain requirements contained in 335-13-4-.01 through 335-13-4-.20 may be enhanced or reduced by the Department as deemed necessary to comply with the Act and this Division.

(2) Hydrogeology Standards.

(a) For purposes of designing the bottom elevation of the ~~liner system~~proposed cell, the applicant shall measure the groundwater elevation at the location of the proposed cell or liner system. Such determinations shall be based on groundwater measurements taken in the area of the proposed cell or liner system as approved by the Department. At each measuring location, the applicant shall obtain a minimum of two measurements taken during each of the three consecutive months of February, March and April, or as otherwise approved by the Department, with no two measurements taken within any twelve-day period. Having obtained the measurements, the applicant shall design the facility so that the bottom elevation of the proposed cell or liner system shall be a minimum of five feet above the highest measured groundwater level. The applicant shall submit to the Department all data known to exist concerning groundwater elevations at the landfill site and shall submit to the Department a location map showing all monitoring wells or piezometers and drilling logs for all monitoring wells or piezometers used to obtain any groundwater elevation data that is submitted. Nothing herein shall prevent the Department from requiring additional groundwater measurements or from requiring an additional buffer as it may deem appropriate with respect to a particular site.

(b) When the geological and hydrological data so indicate, the Department may specify greater separation distances, a liner(s), or a leachate collection system, or combination of the above to protect the groundwater.

(c) When the geological and hydrological data so indicate, the Department may allow engineering controls to remove, divert, drain, or otherwise modify zones of saturation above the uppermost aquifer.

**Author:** Russell A. Kelly, S. Scott Story.

**Statutory Authority:** Code of Alabama 1975, §§ 22-27-3, 22-27-7.

**History:** November 18, 1981.

**Amended:** July 21, 1988; November 2, 1993; July 26, 1996; November 28, 1996.

**Amended: Proposed: July 20, 2021.**

**335-13-4-.15 Cover.** Daily, weekly, or some other periodic cover shall be required at all landfill units, as determined by the Department.

(1) The suitability and volume of any soils for daily, intermediate and final cover requirements shall be determined by soil borings and analysis.

(2) Any proposal to use alternate~~e~~ive cover systems shall be submitted to and approved by the Department prior to implementation.

(3) Alternative cover shall be approved by the Department in compliance with federal law and the USEPA rules for guidance to achieve a level of performance equal to or greater than earthen cover material.

**Author:** Russell A. Kelly, Heather M. Jones.

**Statutory Authority:** Code of Alabama 1975, §§ 22-27-3, 22-27-7.

**History:** November 18, 1981.

**Amended:** July 21, 1988; November 2, 1993. **Amended: Proposed: July 20, 2021.**

**335-13-4-.16 Explosive Gases.** The generation of explosive gases, especially methane (CH<sub>4</sub>), at a landfill unit which accepts organic waste shall be considered in the design and operation of the facility. Special attention shall be given to control and monitoring of explosive gases as follows:

(1) Control.

(a) Explosive gases shall not exceed the lower explosive limit (LEL) at the facility boundary.

(b) Explosive gases shall not exceed 25 percent of the LEL in facility structures except for gas control or recovery system components.

(c) Facility structures shall be designed and constructed so as not to allow explosive gases to collect in, under or around structures in concentrations exceeding the requirements of this rule.

(2) Monitoring.

(a) Gas monitoring equipment as required by the Department shall be provided at the landfill unit by the operating agency.

(b) The Department, upon review of waste type, facility structures, site geology and surrounding land use, may require installation of permanent gas monitoring structures, gas vents, gas control or recovery systems.

(c) An explosive gas monitoring and reporting plan shall be prepared and filed at the facility for all landfill units receiving organic wastes. All sites required to monitor for explosive gases shall submit a plan which indicates permanent monitoring points. The plan shall also include what measures shall be taken by the permittee, landfill supervisor, and any operators present on-site to protect human health and property should explosive gases be detected which exceed the LEL. The plan must be prepared by a registered professional engineer and include seal or signature and registration number in accordance with rule 335-13-5-.02(1)(~~ea~~15.(i)) of the ADEM Administrative Code.

1. The type and frequency of monitoring must be determined based on the following factors:

- (i) Soil conditions;
- (ii) Hydrogeological conditions surrounding the landfill unit;
- (iii) Hydraulic conditions surrounding the landfill unit;
- (iv) Location of the facility structures and property boundaries;
- (v) Location of structures adjacent to facility.

2. The minimum frequency for monitoring shall be quarterly for MSWLF and yearly for C/DLF and ILF.

(i) All monitoring reports shall be submitted to the Department and placed in the operating record of the facility within 30 days of the monitoring event.

(ii) Levels of gas detected shall be expressed in percent LEL and percent volume.

3. If explosive gas levels exceeds the limits specified in this rule, the permittee shall:

(i) Immediately take all necessary steps to ensure protection of human health and property and notify the Department;

(ii) Within 7 days of detection, place in the operating record of the facility the explosive gas levels detected and the immediate steps taken to protect human health and property;

(iii) Within 20 days of detection, submit to the Department for approval a remedial plan for the explosive gas releases. This plan shall describe the nature and extent of the problem and the proposed remedy. The plan shall be implemented upon approval by the Department, but within 60 days of detection. Also, within 60 days of detection, a copy of the plan shall be placed in the operating record of the facility and the Department notified that the plan has been implemented.

4. Monitoring points shall be located every 300 feet along the landfill permit boundaries. In areas where a dwelling is within 1000 feet of the boundaries, the monitoring points shall be 100 feet apart or as otherwise directed by the Department.

(i) Monitoring shall be conducted in structures, culverts, under bridges, drop inlets, and any other place that is conducive to gas accumulation.

(ii) Permanent gas monitoring structures, or use of the bar hole punch method, are required by the Department.

(iii) A minimum depth of six feet must be obtained for permanent monitoring structures and four feet when using the bar hole punch method.

**Author:** Russell A. Kelly, Eric L. Sanderson, S. Scott Story.

**Statutory Authority:** Code of Alabama 1975, §§ 22-27-3, 22-27-7.

**History:** Effective: November 18, 1981. **Amended:** Effective: July 21, 1988. **Amended:** Effective: November 2, 1993. **Amended:** Effective: July 26, 1996. **Amended:** Filed: April 24, 2018; Effective: June 8, 2018. **Amended: Proposed: July 20, 2021.**

### **335-13-4-.20 Closure and Post-Closure.**

(1) Submittal. The owner or operator must submit a closure/post-closure plan to the Department and place in the operating record, no later than the effective date of these regulations or by the initial receipt of waste, whichever is later.

(2) Closure. The requirements for closure of existing and proposed landfill units shall include the following unless otherwise noted.

(a) The owner or operator must prepare a written closure plan that describes the steps necessary to close all existing and proposed landfill units at any point during their active life in accordance with the cover design requirements in 335-13-4-.20(2)(b). The owner or operator must submit the closure plan as part of the permit application to the Department. The closure plan, at a minimum, must include the following information:

1. A description of the final cover, designed in accordance with 335-13-4-.20(2)(b) and the methods and procedures to be used to install the cover;

2. An estimate of the largest area of the landfill unit ever requiring a final cover as required under 335-13-4-.20(2)(b) at any time during the active life;

3. An estimate of the maximum inventory of wastes ever on-site over the active life of the facility; and

4. A schedule for completing all activities necessary to satisfy the closure criteria in this rule.

(b) A final cover system must be installed which is designed to minimize infiltration and erosion. The final cover system must be comprised of an erosion layer(s) underlain by an infiltration layer(s) as follows:

1. The infiltration layer for MSWLF and ILF must be comprised of a minimum of 18 inches of earthen material and/or a synthetic layer that has a permeability 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. The infiltration layer for C/DLF must be comprised of a minimum of 18 inches of compacted earthen material excluding sands, and

2. The erosion layer must consist of a minimum 6 inches of earthen material that is capable of sustaining native plant growth, as specified in 335-13-4-.20(2)(d).

3. The Department may approve an alternative final cover design that includes:

(i) An infiltration layer that achieves an equivalent reduction in infiltration as the infiltration layer specified in 335-13-4-.20(2)(b)1., and

(ii) An erosion layer that provides equivalent protection from wind and water erosion as the erosion layer specified in 335-13-4-.20(2)(b)2.

(c) Final soil cover shall be graded so that:

1. Surface water does not pond over the landfill unit.



2. The maximum final grade of the final cover system shall not exceed 25 percent or as specified by the Department to minimize erosion.

3. Slopes longer than 25 feet shall require horizontal terraces, of sufficient width for equipment operation, for every 20 feet rise in elevation or utilize other erosion control measures approved by the Department.

4. The minimum final grade of the final cover system shall not be less than 5 percent or as specified by the Department to minimize ponding.

5. For a permitted facility utilizing the area fill method or the trench method, final grading of the infiltration layer shall be completed within 90 days after the unit has received the last known receipt of waste.

(d) A vegetative or some other appropriate cover must be established to minimize erosion and, when applicable, maximize evapotranspiration. Within 90 days after completion of final grading requirements on each phase or each trench as specified in 335-13-4-.20(2)(a), the permittee or owner of a permitted landfill unit shall prepare the final cover for the establishment of a vegetative cover or alternative cover. Deep rooted vegetation (roots that may grow below the 6 inch erosion layer) shall be prohibited as vegetative cover. Preparation of a vegetative cover shall include, but not be limited to, the following:

1. Placement of appropriate species of grass seed, fertilizer and mulch; and
2. Watering and maintenance necessary such that germination of grass will occur.

(e) Prior to beginning closure of each landfill unit as specified in this rule, an owner or operator must submit to the Department and place in the operating record a notice of the intent to close the unit.

(f) The owner or operator must begin closure activities of each LF unit no later than 30 days after the date of which the LF unit receives the known final receipt of wastes. If the LF unit has remaining capacity and there is reasonable likelihood that the LF unit will receive additional wastes, closure activities of each LF unit must begin no later than one year after the date of known final receipt of wastes. Extensions beyond the one-year deadline for beginning closure may be granted by the Department if the owner or operator demonstrates that the LF unit has the capacity to receive additional wastes and the owner or operator has taken and will continue to take all steps necessary to prevent threats to human health and the environment from the unclosed LF unit.

(g) The owner or operator of all LF units must complete closure activities of each LF unit in accordance with the closure plan within 180 days following the last known receipt of waste. Extensions of the closure period may be granted by the Department if the owner or operator demonstrates that closure will, of necessity, take longer than 180 days and the owner or operator has taken and will continue to take all steps necessary to prevent threats to human health and the environment from the unclosed LF unit. Extensions granted for closure of each LF unit shall not exceed a total of 180 days.

(h) Following closure of each LF unit, the owner or operator must submit to the Department a certification, signed by an independent registered professional

engineer verifying that closure has been completed in accordance with the closure plan, and a copy placed in the operating record. C/DLF and/or ILF owner or operator may submit certification signed by a registered professional engineer in lieu of an independent registered professional engineer.

(i) Within 90 days after permit expiration, revocation or when final closure requirements in 335-13-4-.20 are achieved as determined by the Department, the permittee or owner of a facility must provide documentation of compliance with the requirements of the Uniform Environmental Covenants Program in ADEM Admin. Code Division 335-5 and shall record a notation onto the land deed containing the property utilized for disposal, and/or some other legal instrument that is normally examined during a title search, that will in perpetuity, notify any potential purchaser of the property that:

1. The land has been used as a solid waste disposal facility landfill unit;
2. Its use is restricted by the items contained in 335-13-4-.20(3)(c) and 335-13-4-.20(3)(d);
3. The locations and dimensions of the landfill unit with respect to permanently surveyed benchmarks and section corners shall be on a plat prepared and sealed by a land surveyor;
4. Contain a note, prominently displayed, which states the name of the permittee or operating agency, the type of landfill unit and the beginning and closure dates of the disposal activity.
5. Certification by an engineer or land surveyor that all closure requirements have been completed as determined necessary by the Department.

(j) For a permitted facility, the permittee or land owner shall submit a certified copy of the recording instrument to the Department and place a copy in the operating record within 120 days after permit expiration, revocation or as otherwise directed by the Department.

(k) Detail design for the closure of existing and proposed LF units shall be shown on a final contour and drainage plan. Items required in 335-13-4-.20(2)(b) through (d), (i), (j), and (3)(a), (d), and (f) shall be included.

(3) Post-closure. The requirements for post-closure of existing and proposed landfill units shall include the following unless otherwise noted.

(a) Following closure of each LF unit, the owner or operator must conduct post-closure care. Post-closure care must be conducted for a minimum of 30 years; or a minimum of 5 years if closed prior to October 9, 1993, or the effective date of § 258.1 of 40 CFR 258, Solid Waste Disposal Criteria, whichever is later; except as provided under 335-13-4-.20(3)(b), and consist of at least the following:

1. Eroded areas shall be filled with suitable soil cover, compacted, graded and appropriate cover established as described in 335-13-4-.20(2)(d).
2. Areas which provide for ponding of surface water shall be filled, graded and an appropriate cover established as described in 335-13-4-.20(2)(d).

3. Landfilled areas with extensive surface cracks in soil cover shall be corrected as necessary, or as determined by the Department, to prevent infiltration of surface water.

4. An appropriate cover shall be maintained on the facility at all times as described in 335-13-4-.20(2)(d).

5. Access control structures shall be maintained or erected and signs shall be posted stating that the facility is closed and giving the location of the nearest permitted landfill unit.

6. Any waste dumped at the landfill unit following closure shall be removed to an approved landfill unit by the permittee, operating agency, or owner.

7. Monitoring devices and pollution control equipment such as groundwater monitoring wells, explosive gas monitoring systems, erosion, and surface water control structures, and leachate facilities shall be maintained. Monitoring requirements shall continue in effect throughout the active life and post-closure care period as determined by the Department unless all solid waste is removed and no unpermitted discharge to waters has occurred.

8. Other deficiencies, such as vector control, which may be observed by the Department shall be corrected.

(b) The length of the post-closure care period may be:

1. Decreased by the Department if the owner or operator demonstrates that the reduced period is sufficient to protect human health and the environment and this demonstration is approved by the Department; or

2. Increased by the Department if the Department determines that the lengthened period is necessary to protect human health and the environment.

(c) The owner or operator of all LF units must submit to the Department and receive approval as part of the permit application, a written post-closure plan. A copy must also be placed in the operating record. The post-closure plan must include, at a minimum, the following information:

1. A description of the monitoring and maintenance activities required in 335-13-4-.20(3)(a) for each LF unit, and the frequency at which these activities will be performed;

2. Name, address, and telephone number of the person or office to contact about the facility during the post-closure period; and

3. A description of the planned uses of the property during the post-closure period.

(d) Post-closure use of the property used for the disposal operation must never be allowed to disturb the integrity of the final cover, liner(s), or any other component of the containment system, or the function of the monitoring systems necessary to comply with the requirements of these rules. The Department may approve any other

disturbance if the owner or operator demonstrates that the disturbance, including any removal of waste, complies with the following:

1. The activities will not increase the potential threat to human health or the environment; or
2. The activities are necessary to reduce a threat to human health or the environment.

(e) Following completion of the post-closure care period for each LF unit, the owner or operator must submit to the Department a certification, signed by an independent registered professional engineer verifying that post-closure care has been completed in accordance with the post-closure plan, and a copy placed in the operating record. A C/DLF owner or operator may submit certification signed by a registered professional engineer in lieu of an independent registered professional engineer.

(f) If the permittee or owner, or any subsequent owner of the land upon which a landfill unit is located wishes to remove waste, waste residues, the liner, if any, or any contaminated soils, the owner must request approval from the Department. The owner may also ask permission to remove the notation from the recording instrument if all waste and contaminated soils are removed from the property and no unpermitted discharges to waters have occurred.

**Author:** Russell A. Kelly; S. Scott Story, [Heather M. Jones](#).

**Statutory Authority:** [Code of Alabama](#) 1975, §§ 22-27-3, 22-27-4, 22-27-7.

**History:** Effective: November 18, 1981. **Amended:** Effective: July 21, 1988. **Amended:** Effective: November 2, 1993. **Amended:** Effective: July 26, 1996. **Amended:** Filed: April 24, 2018; Effective: June 8, 2018. **Amended: Proposed: July 20, 2021.**

**335-13-4-.21 General Operational Standards for Landfill Units.** Any person or agency operating or planning to operate a landfill unit shall operate and maintain the facility consistent with this Division. General requirements for operating and maintaining an acceptable landfill unit shall be:

(1) General Operation.

(a) The operation and use of the landfill unit shall be as stipulated in the permit.

(b) Waste accepted at the facility shall be strictly controlled so as to allow only waste stipulated on the permit or otherwise as may be approved by the Department. The permittee of any facility permitted under these rules must have in the operating record a plan describing procedures the permittee will implement for detecting and preventing the disposal of free liquids, regulated hazardous wastes, regulated medical wastes, and regulated PCB wastes at the facility. This plan must include at a minimum:

1. Random inspections of incoming loads to ensure that incoming loads do not contain free liquids, regulated hazardous wastes, regulated medical wastes, or regulated PCB wastes.

2. Inspection of suspicious loads.

3. Records of all inspections to include the origin of waste suspected to be regulated hazardous, regulated medical, or regulated PCB waste, if known; transporters, to include transfer stations and all handlers of the waste en route to the disposal site; and any certifications from generators provided to the permittee or facility personnel. These records must be maintained on file in the operating record of the facility.

4. Training of facility personnel to recognize free liquids, regulated hazardous wastes, regulated medical wastes, and regulated PCB wastes.

5. Procedures for notifying the proper authorities if free liquids, regulated hazardous wastes, regulated medical wastes, or regulated PCB wastes are discovered at the facility.

6. Methods to identify all industrial users of the facility, producers of special wastes, and transporters of these wastes.

(c) Prior to disposal of industrial waste and/or medical waste, the permittee shall obtain from each generator a written certification that the material to be disposed does not contain free liquids, regulated hazardous wastes, regulated medical wastes, or regulated PCB wastes.

1. This certification may be based on laboratory analysis of the waste on a case-by-case basis, or documentation supporting the generator's knowledge of the wastestream(s), or as may be required by the Department.

2. Copies of the certification shall be submitted to the Department for disposal approval and for any specific requirements prior to disposal. After submittal of the required certification, the Department shall have five (5) working days to respond. If no response is given, the permittee may dispose of the material as proposed.

3. In the case of one-time emergency disposal requests, the permittee shall submit the required certification no later than five (5) days after the disposal of waste.

4. Certification shall be renewed or revised biennially (every two years) or at such time that operational changes at the point of generation could render the waste hazardous, whichever is more frequent and submitted to the Department for approval.

5. Copies of these certifications and approvals shall be maintained on file in the operating record of the facility and shall be made available for the Department upon request.

6. The above requirements notwithstanding and, as may otherwise be required, pursuant to Division 13 rules, generators will not be required to submit certification to the Department provided that:

(i) The waste will be disposed of at a non-commercial industrial waste landfill which has been permitted by the Department, and is owned either exclusively or mutually by the generator(s) of the waste, and which disposes of waste generated only by the owner(s);

(ii) The wastestream(s) to be disposed of are specifically described in the Solid Waste Landfill Permit issued by the Department or in the final application as referenced by the permit for the site designated to receive the waste;

(iii) The required certification, as described above, is maintained on-site by the owner(s) of the landfill; and

(iv) The required certification, as described above, is made available for inspection by the Department upon request.

(d) The landfill unit shall be operated in such a manner that there will be no water pollution or unauthorized discharge.

1. Any discharge resulting from a landfill unit or practice may require:

(i) A National Pollutant Discharge Elimination System (NPDES) permit under the Alabama Water Pollution Control Act as issued by the Department.

(ii) A dredge or fill permit from the Army Corps of Engineers as required under Section 404 of the Clean Water Act, as amended; or

(iii) That a non-point source of surface waters does not violate an area wide or statewide water quality management plan that has been approved under the Alabama Water Pollution Control Act.

2. The groundwater shall not be contaminated as specified by this Division.

(e) The historic and certified disposal areas shall be identified with a sufficient number of permanent markers which are at least visible from one marker to the next.

(f) Measuring or weighing devices shall be required for all municipal solid waste landfill units accepting solid waste. All solid waste shall be properly measured or weighed prior to disposal unless otherwise approved by the Department.

(g) Deep rooted vegetation (with roots that may grow below the six inch erosion layer) shall be prohibited as vegetative cover.

(h) With the exception of very small generator waste disposed of in municipal solid waste landfills, regulated hazardous waste, as defined by Division 14 of the ADEM Administrative Code, is prohibited from disposal in a landfill unit.

(2) Open Burning.

(a) Open burning of solid waste at any landfill unit is prohibited unless approved by the Department as follows:

1. Clearing debris at the landfill unit such as trees and stumps may be burned if prior approval is received from the Department and the Alabama Forestry Commission.

2. Emergency clean-up debris resulting from catastrophic incidents may be burned at a permitted landfill unit if consistent with the intent of this Division and air pollution control requirements. Prior approval must be received from this Department and other appropriate agencies.

3. If approved, the burning shall not occur over previously filled areas or within 200 feet of existing disposal operations unless otherwise specified by the Department and such burning shall not cause a public nuisance or pose a threat to public health.

(b) The person or agency requesting permission to burn solid waste shall apply in writing to the Department, outlining why a burn request should be granted. This request should include, but not be limited to, specifically what areas will be utilized, types of waste to be burned, the projected starting and completion dates for the project, and the projected days and hours of operation.

**Author:** Russell A. Kelly; S. Scott Story; Heather M. Jones.

**Statutory Authority:** Code of Alabama 1975, §§ 22-22A-5, 22-27-3, 22-27-4, 22-27-7, 22-27-47, 22-27-48.

**History:** Effective: November 18, 1981. **Amended:** Effective: March 31, 1988 (Emergency Regulations). **Amended:** Effective: July 21, 1988. **Amended:** Effective: October 2, 1990. **Amended:** Effective: November 2, 1993. **Amended:** Effective: July 26, 1996. **Amended:** Filed: April 24, 2018; Effective: June 8, 2018; **Amended:** Filed: June 25, 2019; Effective: August 9, 2019. **Amended: Proposed: July 20, 2021.**

**335-13-4-.22 Specific Requirements for Municipal Solid Waste Landfills.** The following requirements in conjunction with 335-13-4-.21 shall be for operating and maintaining an acceptable MSWLF:

(1) Daily Operation.

(a) All waste shall be covered as follows:

1. A minimum of six inches of compacted earth or other alternative cover material ~~that includes but is not limited to foams, geosynthetic or waste products, and that~~ is approved by the Department shall be added at the conclusion of each day's operation or as otherwise approved by the Department to control disease vectors, fires, odors, blowing litter, and scavenging.

2. In the event that erosion develops on previously covered disposal areas, or when covered waste otherwise becomes exposed, cover must be re-applied to comply with the minimum cover requirements of subparagraph (1)(a)1. of this section.

3. Final closure shall be carried out in accordance with rule 335-13-4-.20 of this Division.

(b) All waste shall be confined to as small an area as possible within a single working face and spread to a depth not exceeding two feet prior to compaction, and such compaction shall be accomplished on a face slope not to exceed 4 to 1 (25%) or as otherwise approved by the Department.

(c) All waste shall be thoroughly compacted with adequate landfill equipment before the daily cover is applied. A completed daily cell shall not exceed eight feet in vertical thickness measured perpendicular to the slope of the preceding cell.

(d) The site shall be operated in accordance with approved plans and permits.

(e) Adequate personnel shall be provided to ensure continued and smooth operation of the facility.

(f) Adequate equipment shall be provided to ensure continued operation in accordance with permit and regulations.

(g) Provisions shall be made for disposal activities in adverse weather conditions.

(h) The site shall be adequately secured using artificial barriers, natural barriers, or both to prevent entry of unauthorized vehicular traffic.

(i) A sign outlining instructions for use of the site shall be posted at the entrance and shall include:

1. Name of facility,
2. Name of permittee and/or operating agency or person,
3. Days and hours of operation,
4. Disposal fees, and



5. Types of waste accepted if the site is available to the general public or commercial haulers.

(j) Special provisions shall be made for handling large dead animals or highly putrescible waste. Immediately covering the waste with a minimum of 12 inches of cover in a designated area of the facility shall be included in these provisions.

(k) Bulk or noncontainerized liquid waste, or containers capable of holding liquids, shall not be accepted at a landfill unit unless:

1. The liquid is household waste other than septic waste;

2. The liquid is leachate or gas condensate derived from the MSWLF unit, and the MSWLF unit is designed with a minimum composite liner and leachate collection system or approved equivalent liner and leachate collection system; or

3. The containers:

(i) Are similar in size to that normally found in household waste;

(ii) Are designed to hold liquids for use other than storage; or

(iii) Contain household wastes.

(l) Empty containers larger in size than normally found in household waste must be rendered unsuitable for holding liquids prior to disposal in the landfill unit unless otherwise approved by the Department.

(m) Unless otherwise provided by 335-13-4-.22(1)(k), free liquids are prohibited from disposal in the landfill unit.

~~(n)~~ MSWLF units containing sewage sludge and failing to satisfy the criteria in this Division violate Sections 309 and 405(e) of the Clean Water Act.

(2) Routine Maintenance.

(a) Scavenging shall be prohibited and salvaging operations shall be controlled.

(b) Litter shall be controlled within the permitted facility.

(c) An all-weather access road shall be provided to the dumping face.

(d) Measures shall be taken to prevent the breeding or accumulation of disease vectors. If determined necessary by the Department or the State Health Department, additional disease vector control measures shall be conducted.

(e) Environmental monitoring and treatment structures shall be clearly marked and identified, protected and maintained in good repair and shall be easily accessible.

(f) Completed sites or portions of sites shall be properly closed as provided by this Division and approved facility plans.

(g) The average daily volume of waste received at a MSWLF shall be calculated by dividing the total month's receipts by the total number of days in the reporting month. Records shall be maintained on the average daily volume of waste received at MSWLFs. A quarterly report ~~utilizing a format approved by the Department~~ which summarizes the daily volumes, with volumes received reported in a format specified and approved by the Department, shall be submitted to the Department and maintained on file in the operating record of the facility by the permittee. If the average daily volume is exceeded for two or more consecutive quarters, by 20 percent or 100 tons/day, whichever is less, a modification would be required to adjust the permitted average daily volume.

(3) Additional Requirements.

(a) Owners or operators of all MSWLFs must ensure that the units do not violate any applicable requirements developed under a State Implementation Plan (SIP) approved or promulgated by the Administrator pursuant to Section 110 of the Clean Air Act, as amended.

(b) Notwithstanding this rule, additional requirements for operating and maintaining a MSWLF may be imposed by the Department, as deemed necessary, to comply with the Act and this Division.

**Author:** Russell A. Kelly; S. Scott Story; Heather M. Jones.

**Statutory Authority:** Code of Alabama 1975, §§ 22-27-3, 22-27-4, 22-27-7.

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**335-13-4-.23 Specific Requirements for Inert- Construction/Demolition Landfills and Industrial Landfills.** The following requirements in conjunction with 335-13-4-.21 shall be for operating and maintaining an acceptable C/DLF or ILF:

(1) Operation.

(a) All waste shall be covered as follows:

1. A minimum of six inches of compacted earth or other alternative cover material ~~that includes but is not limited to foams, geosynthetic or waste products, and that~~ is approved by the Department shall be added at the conclusion of each week's operation or as otherwise specified by the Department to control disease vectors, fires, odors, blown litter and scavenging.

2. In the event that erosion develops on previously covered disposal areas, or when covered waste otherwise becomes exposed, cover must be re-applied to comply with the minimum cover requirements of subparagraph (1)(a)1. of this section.

3. Final closure shall be carried out in accordance with 335-13-4-.20 of this Division.

(b) All waste shall be thoroughly spread in layers two feet or less in thickness and thoroughly compacted weekly with adequate landfill equipment prior to placing additional layers of waste or placing the weekly cover as specified in 335-13-4-.23(1)(a)1., unless otherwise approved by the Department. Waste, such as construction/demolition waste and other types of waste, which cannot be managed by landfill equipment in this manner shall be managed in a manner approved by the Department.

(c) All waste shall be confined to as small an area as possible within a single working face and placed onto an appropriate slope not to exceed 4 to 1 (25%) or as approved by the Department.

(d) The facility shall be operated in accordance with approved plans and permits.

(e) The site shall be adequately secured to prevent entry except by authorized person(s) unless an operator is on site.

(f) If the site is available to the public or commercial haulers, a sign shall be posted at the landfill stating:

1. Name of permittee,
2. Owner and/or operator,
3. Name of landfill,
4. Days and hours of operation,
5. Waste types accepted, and
6. Disposal fees for use of the landfill.

(g) Provisions shall be made for disposal activities in adverse weather conditions.

(h) Adequate personnel shall be provided to ensure continued and smooth operation of the site.

(i) Adequate equipment shall be provided to ensure continued operation in accordance with permit and regulations.

(j) Bulk or non-containerized liquid waste, or containers capable of holding liquids, shall not be accepted at a C/DLF or ILF unless:

1. The liquid is leachate or gas condensate derived from the C/DLF or ILF unit, and

2. The C/DLF or ILF unit is designed with a minimum single liner and leachate collection system or approved equivalent liner and leachate collection system.

(k) Empty containers larger than 10 gallons in size must be rendered unsuitable for holding liquids prior to disposal in the landfill unit unless otherwise approved by the Department.

(l) Unless otherwise provided by 335-13-4-.23(1)(j), free liquids are prohibited from disposal in the landfill unit.

(2) Routine Maintenance.

(a) Scavenging shall not be permitted, and salvaging operations shall be controlled.

(b) Litter shall be controlled within the permitted facility.

(c) Completed sites or portions of sites shall be properly closed as provided by this Division and approved facility plans.

(d) An all-weather access road shall be provided to the dumping face.

(e) Environmental monitoring and treatment structures shall be protected and maintained in good repair and easily accessible.

(f) The average daily volume of waste received at a C/DLF or ILF shall be calculated by dividing the total month's receipts by the total number of days in the reporting month. Records shall be maintained on the average daily volume of waste received at C/DLFs and ILFs. A quarterly report ~~utilizing a format approved by the Department~~ which summarizes the daily volumes, with volumes received reported in a format specified and approved by the Department, shall be submitted to the Department and maintained on file in the operating record of the facility by the permittee. If the average daily volume is exceeded for two or more consecutive quarters, by 20 percent or 100 tons/day, whichever is less, a modification would be required to adjust the permitted average daily volume.

(g) Measures shall be taken to prevent the breeding or accumulation of disease vectors. If determined necessary by the Department or the State Health Department, additional disease vector control measures shall be conducted.

(3) Additional Requirements.

(a) Notwithstanding this rule, certain requirements for operating and maintaining a C/DLF or ILF may be enhanced or reduced by the Department as deemed necessary to comply with the Act and this Division. Any action by the Department to enhance or reduce the requirement(s) must be done in writing from the Department.

(b) [Reserved]

(c) Industrial landfills which accept coal combustion residuals must also adhere to the applicable requirements of ADEM Admin. Code 335-13-15.

**Author:** Russell A. Kelly, Eric L. Sanderson; Heather M. Jones.

**Statutory Authority:** Code of Alabama 1975, §§ 22-27-3, 22-27-4, 22-27-7.

**History:** Effective: November 18, 1981. **Amended:** Effective: July 21, 1988. **Amended:** Effective: October 2, 1990. **Amended:** Effective: November 2, 1993. **Amended:** Effective: July 26, 1996. **Amended:** Filed: April 24, 2018; Effective: June 8, 2018; **Amended:** Filed: June 25, 2019; Effective: August 9, 2019. **Amended: Proposed: July 20, 2021.**

### **335-13-4-.26 Requirements for Management and Disposal of Special Waste.**

(1) Exceptions.

(a) Requirements for the management and disposal of special waste at a landfill unit permitted by the Department shall meet the requirements of this rule.

(b) Certain requirements may be modified by the Department as deemed necessary to comply with the Act and this Division.

1. Waste types for which specific rules and regulations under this Division have not been developed shall be managed and disposed of in a manner as determined by the Department to be consistent with the intent of the Act and this Division.

2. Generators of a special waste may be required by the Department to provide an analysis and certification that the waste is nonhazardous waste or treated medical waste.

(2) Disposal requirements for friable asbestos. Any person who generates, processes, treats, or disposes of friable asbestos shall comply with the following practices:

(a) Friable asbestos shall be disposed of in a facility permitted by the Department. The friable asbestos shall arrive at the landfill unit in properly labeled, leak-tight containers as determined by the Department's Air Division.

(b) Containers shall be placed intact in a specially prepared place and covered with a minimum of 12 inches of earth or other alternative cover material, as approved by the Department, at the end of each working day. Asbestos waste may be landfilled in an excavation at the bottom of the operating face if no liner is present or the design depth restriction is not exceeded. The waste may also be placed in a separately designated area. If a separate area is utilized, it shall be clearly marked to prevent future excavation into the waste.

(c) Proper handling precautions shall be taken to ensure that containers are not ruptured prior to placing the required daily ~~earth~~ cover as noted in 335-13-4-.26(2)(b). No machinery shall be operated directly over uncovered containers.

(d) Final cover shall be as noted in 335-13-4-.20(2)(b).

(3) Disposal requirements for foundry wastes. Foundry waste which exhibits less than 50 percent of each of the TC Levels for metals as defined by the USEPA's Toxicity Characteristic Leaching Procedure (TCLP) may be managed in the following manner:

(a) Foundry waste may be managed in areas other than

1. Flood Plains;

2. Wetlands;

3. Residential zones; or

4. Areas less than 5 feet above the uppermost aquifer.

(b) Each foundry must maintain records at the manufacturing facility. These records must include:

1. A description of the site to within the ¼, ¼ Section of a specific township and range.
2. Volume of foundry waste disposed of at each location.

(c) The waste must be certified by the generator on a quarterly basis or whenever the process changes which would significantly alter the test results, whichever is more frequent. Certification of the foundry waste shall be accomplished by submitting the following:

1. A completed Solid/Hazardous Waste Determination Form.
2. A TCLP analysis for metals.

(d) Each foundry must contact the Water Division of ADEM with regards to General Stormwater and/or NPDES permits.

(e) Foundry waste from two or more foundries may be managed at one location provided adequate documentation and record keeping is maintained for each foundry.

(f) Foundry waste not meeting the requirements of paragraph (3) of this rule must be managed at an approved recycle/reuse facility or at a landfill unit approved for the disposal of foundry waste and permitted by the Department.

(4) Disposal requirements for petroleum contaminated waste. Any person who disposes of petroleum contaminated waste shall comply with the following practices:

(a) Petroleum contaminated waste must be disposed of in a MSWLF and/or a synthetically lined facility having a solid waste disposal permit issued by the Department and having groundwater monitoring wells.

(b) Prior to disposing of a petroleum contaminated waste in accordance with subparagraph (a) of this paragraph, the generator of the waste must provide the Department with a written certification that the waste is non-hazardous.

1. The generator of a petroleum contaminated waste may use knowledge of the processes producing the waste to certify that the waste is non-hazardous; however the Department, on a case-by-case basis, may require additional information and/or laboratory analyses to support the generator's certification.

2. The written certification that the waste is non-hazardous must include laboratory analysis for metals if the source of the petroleum contamination is leaded gasoline, used automotive crank case oil, or if the generator has reason to believe that the source contains TCLP metals.

(c) Small quantities of petroleum contaminated waste may be disposed in MSWLFs, C/DLFs, or ILFs, and shall not require approval and/or testing, provided that the waste:

1. Contains less than twenty-five (25) gallons of petroleum; and
2. Total material (i.e., soil, rags, sorbent, etc.) is less than five (5) cubic yards per occurrence.

(5) Disposal requirements for municipal solid waste ash. Municipal solid waste ash shall be disposed of at a MSWLF meeting at a minimum the design criteria established under 335-13-4-.18. Alternative disposal methods or uses must be approved by the Department prior to implementation.

(6) Disposal requirements for wood ash waste. Wood ash waste which exhibits less than 50 percent of each of the TC Levels for metals as defined by the USEPA's Toxicity Characteristic Leaching Procedure (TCLP) may be managed in the following manner:

(a) Wood ash waste may be managed in areas other than

1. Flood Plains;
2. Wetlands;
3. Residential zones; or
4. Areas less than 5 feet above the uppermost aquifer.

(b) Facilities managing wood ash waste in an area that is not a permitted landfill unit, not within the property boundaries of the generator, and meets the requirements of 335-13-4-.26 (6)(a) must maintain records at the facility that include the following:

1. A description of the site to within the ¼, ¼ Section of a specific Township and Range.
2. Volume of the wood ash waste disposed of at each location on a quarterly basis.
3. Certification of the wood ash waste on a quarterly basis or whenever the waste generating process changes which would significantly alter the test results, whichever is more frequent. Certification of the wood ash waste must be accomplished by submitting the following:

- (i) A completed Solid/Hazardous Waste Determination Form.
- (ii) A TCLP analysis for metals.

(c) Facilities managing wood ash waste in an area that is not a permitted landfill unit, within the property boundaries of the generator, and meets the requirements of 335-13-4-.26 (6)(a) must maintain records at the facility that include the following:

1. Certification of the wood ash waste on a two (2) year basis or whenever the waste generating process changes which would significantly alter the test results, whichever is more frequent. Certification of the wood ash waste must be accomplished by submitting the following:



(i) A completed Solid/Hazardous Waste Determination Form.

(ii) A TCLP Analysis for metals.

(d) Each facility managing wood ash waste in accordance with 335-13-4-.26(6) shall submit an annual report on or before January 31<sup>st</sup> of each year utilizing a format approved by the Department which contains the following:

1. Summary of the components of 335-13-4-.26(6)(b) and/or (c).

2. Documentation of the non-coal permitted fuel burned on a quarterly basis to include the type, quantity (mass input basis), and the percentage of total fuel, of each type of fuel burned.

(e) Facilities managing wood ash waste in an area that is not a permitted landfill unit and meets the requirements of 335-13-4-.26 (6)(a) must contact the Water Division of the ADEM with regards to NPDES requirements for waste management areas.

(f) Wood ash waste from two or more facilities may be managed at one location provided adequate documentation and record keeping is maintained for each generator.

(g) Wood ash waste not meeting the requirements of paragraph (6) of this rule must be managed at a landfill unit approved for the disposal of wood ash waste and permitted by the Department.

**Author:** Russell A. Kelly, Eric L. Sanderson; S. Scott Story; Heather M. Jones.

**Statutory Authority:** Code of Alabama 1975, §§ 22-27-3, 22-27-4, 22-27-7.

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**335-13-4-.27 Groundwater Monitoring and Corrective Action.** The requirements for groundwater monitoring and corrective action at MSWLFs, C/DLFs, and ILFs are presented in the following paragraphs:

(1) Applicability.

(a) The requirements in this rule shall apply to all MSWLF units and, when determined necessary by the Department to protect public health and the environment, the requirements in this rule or any part thereof shall apply to C/DLF units and/or ILF units, except as provided in subparagraph (b) of this paragraph.

(b) Groundwater monitoring requirements under paragraphs (2) through (4) of this rule may be suspended by the Department for a LF unit if the owner or operator can demonstrate that there is no potential for migration of hazardous constituents from that LF unit to the first saturated zone, as defined in 335-13-1-.03, during the active life of the unit and the post-closure care period. This demonstration must be certified by a qualified groundwater scientist, as defined in 335-13-1-.03, and approved by the Department, and must be based upon:

1. Site-specific field collected measurements, sampling, and analysis of physical, chemical, and biological processes affecting contaminant fate and transport, and

2. Contaminant fate and transport predictions that maximize contaminant migration and consider impacts on human health and environment.

(c) Owners and operators of LF units must comply with the groundwater monitoring requirements of this rule according to the following schedule.

1. All LF units must be in compliance with the groundwater monitoring requirements specified in paragraphs (2) through (4) of this rule.

2. New LF units must be in compliance with the groundwater monitoring requirements specified in paragraphs (2) through (4) of this rule before waste can be placed in the unit.

(d) Once established at a LF unit, groundwater monitoring shall be conducted throughout the active life and post-closure care period of that LF unit as specified in 335-13-4-.20.

(e) The Department may establish alternative schedules for demonstrating compliance with Department notification (and placement of notification in operating record) requirements of this rule.

(2) Groundwater Monitoring Requirements.

(a) A groundwater monitoring system must be installed that consists of a sufficient number of wells, installed at appropriate locations and depths, to yield groundwater samples from the first saturated zone (as defined in 335-13-1-.03 that:

1. Represent the quality of background groundwater that has not been affected by leakage from a unit. A determination of background quality may include

sampling of wells that are not hydraulically upgradient of the waste management area where:

(i) Hydrogeologic conditions do not allow the owner or operator to determine what wells are hydraulically upgradient; 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 upgradient wells; and

2. Represent the quality of groundwater passing the relevant point of compliance specified by the Department under subparagraph (a)3. of this paragraph.

(i) The downgradient monitoring system must be installed at the relevant point of compliance specified by the Department under subparagraph (a)3. of this paragraph that ensures detection of groundwater contamination in the first saturated zone.

(ii) When physical obstacles preclude installation of groundwater monitoring wells at the relevant point of compliance at existing units, the down-gradient monitoring system may be installed at the closest practicable distance hydraulically down-gradient from the relevant point of compliance specified by the Department under subparagraph (a)3. of this paragraph that ensures detection of groundwater contamination in the uppermost aquifer.

3. The relevant point of compliance shall be no more than 150 meters (492 feet) from the waste management unit boundary and shall be located on land owned by the owner of the landfill unit. In determining the relevant point of compliance, the following factors shall be considered, at a minimum:

(i) The hydrogeologic characteristics of the facility and surrounding land;

(ii) The volume and physical and chemical characteristics of the leachate;

(iii) The quantity, quality, and direction of groundwater flow;

(iv) The proximity and withdrawal rate of the groundwater users;

(v) The availability of alternative drinking water supplies;

(vi) The existing quality of the groundwater, including other sources of contamination and their cumulative impacts on the groundwater and whether groundwater is currently used or reasonably expected to be used for drinking water;

(vii) Public health, safety, and welfare effects; and

(viii) Practicable capability of the owner or operator.

(b) The Department may approve a multi-unit groundwater monitoring system instead of separate groundwater monitoring systems for each MSWLF unit when the facility has several units, provided the multi-unit groundwater monitoring system meets the requirement of subparagraph (a) of this paragraph and will be as protective of human health and the environment as individual monitoring systems for each MSWLF unit. This approval will be based on the following factors:

1. Number, spacing, and orientation of the MSWLF units;
2. Hydrogeologic setting;
3. Site history;
4. Engineering design of the MSWLF units; and
5. Type of waste accepted at the MSWLF units.

(c) Well design and construction

1. Groundwater monitoring wells shall be designed and constructed in accordance with the following reference: "Design and Installation of Groundwater Monitoring Wells in Aquifers", ASTM Subcommittee D18.21 on Groundwater Monitoring, or otherwise as specifically approved by the Department.

2. Plans for groundwater monitoring well location, design, construction and/or abandonment shall be submitted to the Department for review and approval prior to installation.

3. The monitoring wells must be cased in a manner that maintains the integrity of the monitoring well bore hole.

(i) This casing must be screened or perforated and packed with gravel or sand, where necessary, to enable collection of groundwater samples.

(ii) The annular space (i.e., the space between the bore hole and well casing) above the sampling depth must be sealed to prevent contamination of samples and the groundwater.

4. The owner or operator must notify the Department that the design, installation, development, and/or abandonment of any monitoring wells, piezometers and other measurement, sampling, and analytical devices has been documented and placed in the operating record; and

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

(e) Abandoned wells and bore holes shall be abandoned in accordance with the following procedures in order to prevent contamination of groundwater resources. A plan of abandonment must be submitted and approved by the Department prior to implementing abandonment of any well.

1. A well shall be measured for depth prior to sealing to ensure that it is free from any obstructions that may interfere with sealing operations.

2. Where feasible, wells shall be completely filled with neat cement. If the well cannot be completely filled, the sealing materials for the top 20 feet must be neat cement and no material that could impart taste, odor, or toxic components to water may be used in the sealing process.

3. Liner pipe shall be removed from each well in order to ensure placement of an effective seal. If the liner pipe cannot be readily removed, it shall be perforated to ensure that proper sealing is obtained.

4. Concrete, cement grout, or neat cement shall be used as primary sealing materials and shall be placed from the bottom upwards using methods that will avoid segregation or dilution of material.

5. Complete, accurate records of the abandonment procedure shall be kept for each well abandoned. The record of abandonment shall include, at a minimum, the depth of each layer of all sealing and backfilling materials, the quantity of sealing materials used, measurements of static water levels and depths, and any changes made in the well during the sealing. A copy of these records shall be submitted to the Department and a copy placed in the operating record.

(f) The number, spacing, and depths of monitoring systems shall be:

1. Determined based upon site-specific technical information that must include thorough characterization of:

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

(ii) 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: thickness, stratigraphy, lithology, hydraulic conductivity, porosity and effective porosity.

2. Certified by a qualified groundwater scientist and approved by the Department. Within 14 days of the Department's approval, the owner or operator must notify the Department that the certification has been placed in the operating record.

(g) The groundwater monitoring program must include consistent sampling and analytical methods that are:

1. Designed to ensure monitoring results that provide an accurate representation of groundwater quality at the background and downgradient wells which have been installed in compliance with subparagraph (a) of this paragraph.

(i) The groundwater monitoring program, and subsequent documentation, must be submitted to the Department for approval and appropriate copies placed in the operating record.

(ii) The program must include procedures and techniques for:

(I) Sample collection;

(II) Sample preservation and shipment;

(III) Analytical procedures;

(IV) Chain of custody control; and

(V) Quality assurance and quality control.

2. Appropriate for groundwater sampling and that accurately measure hazardous constituents and other monitoring parameters in groundwater samples.

(h) Groundwater samples shall not be field-filtered prior to laboratory analysis.

(i) The sampling procedures and frequency must be protective of human health and the environment.

1. Groundwater elevations must be measured in each well immediately prior to purging, each time groundwater is sampled.

2. Groundwater elevations in wells which monitor the same waste management area must be measured within a 48 hour period to avoid temporal variations in groundwater flow which could preclude accurate determination of groundwater flow rate and direction.

3. The owner or operator must determine the rate and direction of groundwater flow each time groundwater is sampled.

(j) The owner or operator must establish background groundwater quality in a hydraulically upgradient or background well(s) for each of the monitoring parameters or constituents required in the particular groundwater monitoring program that applies to the LF unit, as determined under subparagraphs (3)(a) or (4)(a) of this rule. Background groundwater quality may be established at wells that are not located hydraulically upgradient from the LF unit if it meets the requirements of subparagraph (a)1. of this paragraph.

(k) The number of samples collected to establish groundwater quality data must be consistent with the appropriate statistical procedures determined pursuant to subparagraph (l) of this paragraph. The sampling procedures shall be those specified under subparagraph (3)(b) of this rule for detection monitoring, subparagraphs (4)(b) and (4)(d) of this rule for assessment monitoring, and subparagraph (5)(b) of this rule for corrective action.

(l) The owner or operator must specify in writing to the Department and place in the operating record one of the following statistical methods to be used in evaluating groundwater monitoring data for each hazardous constituent. The statistical test chosen shall be conducted separately for each hazardous constituent in each well.

1. A parametric analysis of variance (ANOVA) followed by multiple comparisons 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 (ANOVA) based on ranks followed by multiple comparisons 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 subparagraph (m) of this paragraph. The owner or operator must place a justification for this alternative in the operating record and submit it to the Department for approval to use this alternative test. The justification must demonstrate that the alternative method meets the performance standards of subparagraph (m) of this paragraph.

(m) Any statistical method chosen under subparagraph (l) of this paragraph shall comply with the following performance standards, as appropriate:

1. The statistical method used to evaluate groundwater monitoring data shall be appropriate for the distribution of chemical parameters or hazardous constituents. If the distribution of the chemical parameters or hazardous constituents is shown by the owner or operator to be inappropriate for a normal theory test, then the data should be transformed or a distribution-free theory test should 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 comparisons 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 protective of human health and the environment. The 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.

4. If a tolerance interval or a prediction 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 protective of human health and the environment. 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 shall account for data below the limit of detection with one or more statistical procedures that are protective of human health and the environment. Any practical quantitation limit (pql) 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 shall include procedures to control or correct for seasonal and spatial variability, as well as temporal correlation in the data.

(n) The owner or operator must determine and certify in writing to the Department if there is a statistically significant increase (SSI) over background values for each parameter or constituent required in the groundwater monitoring program.

1. In determining whether an SSI has occurred, the owner or operator must compare the groundwater quality of each parameter or constituent at each monitoring well to the background value of that constituent, according to the statistical procedures and performance standards specified under this rule.

2. Within 30 days after completing sampling and receiving analytical results, the owner or operator must determine whether there has been an SSI over background at each monitoring well.

3. If an SSI over background groundwater quality is detected, the owner/operator must notify the Department within 14 days of this event.

(3) Detection Monitoring.

(a) Detection monitoring is required at LF units for all groundwater monitoring wells defined under subparagraphs (2)(a)1.(i) and (ii) of this rule.

1. At a minimum, a detection monitoring program for MSWLF units must include monitoring for the constituents listed in Appendix I of this chapter.

2. Detection monitoring programs for C/DLFs or ILFs may include monitoring for constituents listed in Appendix I of this chapter, or an alternative list, as specified by the Department.

3. The Department may delete any of the detection monitoring parameters for a LF unit if it can be shown that the removed constituents are not reasonably expected to be contained in or derived from the waste contained in the unit.

4. The Department may establish an alternative list of indicator parameters for a MSWLF unit, in addition to the Appendix I constituents, if the additional parameters provide a reliable indication of releases from the MSWLF unit to the groundwater. In determining alternative parameters, the Department shall consider the following factors:

(i) The types, quantities, and concentrations of constituents in waste managed at the LF unit;

(ii) The mobility, stability, and persistence of waste constituents or their reaction products in the unsaturated zone beneath the LF unit;

(iii) The detectability of indicator parameters, waste constituents, and reaction products in the groundwater; and

(iv) The concentration or values and coefficients of variation of monitoring parameters or constituents in the groundwater background.

(b) Frequency.



1. The monitoring frequency for all constituents listed in Appendix I, or in the alternative list approved in accordance with subparagraph (a). of this paragraph, shall be at least semiannual during the active life of the facility (including closure) and the post-closure period. The owner or operator must submit a semi-annual report to the Department to coincide with and report the results of the semi-annual sampling event within ninety (90) days of the date of sampling. The report shall be certified by a qualified groundwater scientist.

(i) A minimum of four independent samples from each well (background and downgradient) must be collected and analyzed for the Appendix I constituents, or the alternative list approved in accordance with subparagraph (a) of this paragraph, during the first semiannual sampling event.

(ii) At least one sample from each well (background and downgradient) must be collected and analyzed during subsequent semiannual sampling events.

2. The Department may specify an appropriate alternative frequency for repeated sampling and analysis for Appendix I constituents, or the alternative list approved in accordance with subparagraph (a) of this paragraph, during the active life (including closure) and the post-closure care period.

(i) The alternative frequency during the active life (including closure) shall be no less than annual.

(ii) The alternative frequency shall 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;

(III) Groundwater flow rates;

(IV) Minimum distance between upgradient edge of the LF unit and downgradient monitoring well screen (minimum distance of travel); and

(V) Resource value of the aquifer.

(c) If the owner or operator determines, pursuant to subparagraph (2)(l) of this rule, that there is an SSI over background for one or more of the constituents listed in Appendix I, or in the alternative list approved in accordance with subparagraph (a) of this paragraph, at any monitoring well at the boundary specified under subparagraph (2)(a)1.(ii) of this rule, the owner or operator:

1. Must, within 14 days of this finding, place a notice in the operating record, and submit a copy of this notice to the Department, indicating which constituents have shown statistically significant changes from background levels, and notify the Department that this notice was placed in the operating record; and

2. Must establish an assessment monitoring program meeting the requirements of subparagraphs (4)(a) through (j) of this rule within 90 days except as provided for under subparagraph (2)(c)3. of this rule.

3. May demonstrate that a source other than a LF unit caused the contamination or that the SSI resulted from an error in sampling, analysis, statistical evaluation, or natural variation in groundwater quality.

(i) A report documenting this demonstration must be certified by a qualified groundwater scientist, approved by the Department and be placed in the operating record.

(ii) If a successful demonstration is made and documented, the owner or operator may continue detection monitoring as specified in this rule. If, after 90 days, a successful demonstration is not made, the owner or operator must initiate an assessment monitoring program as required in subparagraphs (4)(a) through (j) of this rule.

(4) Assessment Monitoring.

(a) Assessment monitoring is required whenever an SSI over background has been detected for one or more of the constituents listed in Appendix I or in the alternative list approved in accordance with subparagraph (3)(a) of this rule.

(b) Frequency.

1. Within 90 days of triggering an assessment monitoring program, and annually thereafter, the owner or operator must sample and analyze the groundwater for all constituents identified in Appendix II of this Chapter.

(i) A minimum of one sample from each downgradient well must be collected and analyzed during each sampling event.

(ii) For any constituent detected in the downgradient wells as the result of the complete Appendix II analysis, a minimum of four independent samples from each well (background and downgradient) must be collected and analyzed to establish background for the new constituents.

2. The Department may specify an appropriate subset of wells to be sampled and analyzed for Appendix II constituents during assessment monitoring. The Department may delete any of the Appendix II monitoring parameters for a LF unit if it can be shown that the removed constituents are not reasonably expected to be in or derived from the waste contained in the unit. The Department may establish an alternative list of parameters for a facility required to conduct groundwater monitoring, in addition to the Appendix II constituents, if the addition of the parameters is warranted based on waste handling practices at the facility. In determining alternative parameters, the Department shall consider the factors listed in 335-4-.27(3)(a)4.(i) through (iv).

(c) The Department may specify an appropriate alternate frequency for repeated sampling and analysis for the full set of Appendix II constituents, or the alternative list approved in accordance with subparagraph (4)(b)2. of this rule, during the active life (including closure) and post-closure care of the unit considering the following factors:

1. Lithology of the aquifer and unsaturated zone;
2. Hydraulic conductivity of the aquifer and unsaturated zone;

3. Groundwater flow rates;
4. Minimum distance between upgradient edge of the LF unit and downgradient monitoring well screen (minimum distance of travel);
5. Resource value of the aquifer; and
6. Nature (fate and transport) of any constituents detected in response to this rule.

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

1. Within 14 days, place a notice in the operating record identifying the Appendix II constituents, or the alternative list approved in accordance with subparagraph (4)(b)2. of this rule, that have been detected and notify the Department that this notice has been placed in the operating record;

2. Within 90 days, and on at least a semiannual basis thereafter,

- (i) Resample all wells specified by subparagraph (2)(a) of this rule with a minimum of one sample from each well (background and downgradient) being collected and analyzed during these sampling events,

- (ii) Conduct analyses for all constituents in Appendix I or in the alternative list approved in accordance with subparagraph (3)(a) of this rule, and for those constituents in Appendix II, or in the alternative list approved in accordance with subparagraph (4)(b)2. of this rule, that are detected in response to subparagraph (b) of this paragraph, and

- (iii) Record their concentrations in the facility operating record.

(iv) The Department may specify an alternative monitoring frequency during the active life (including closure) and the post closure period for the constituents referred to in this paragraph. The alternative frequency for Appendix I constituents, or the alternative list approved in accordance with subparagraph (3)(a) of this rule, during the active life (including closure) shall be no less than annual. The alternative frequency shall be based on consideration of the factors specified in subparagraph (c) of this paragraph;

3. Establish background concentrations for any constituents detected pursuant to subparagraph (b) or subparagraph (d)2. of this paragraph; and

4. Establish groundwater protection standards for all constituents detected pursuant to subparagraph (b) or subparagraph (d)2. of this paragraph. The groundwater protection standards shall be established in accordance with subparagraphs (h) or (i) of this paragraph.

(e) If the concentrations of all Appendix II constituents, or the alternative list approved in accordance with subparagraph (4)(b)2. of this rule, are shown to be at or below background values, using the statistical procedures in subparagraph (2)(l) of this rule, for two consecutive sampling events, the owner or operator must notify the Department of this finding and may return to detection monitoring.

(f) If the concentrations of any Appendix II constituents, or the alternative list approved in accordance with subparagraph (4)(b)2. of this rule, are above background values, but all concentrations are below the groundwater protection standard established under subparagraphs (h) or (i) of this paragraph, using the statistical procedures in subparagraph (2)(1) of this rule, the owner or operator must continue assessment monitoring in accordance with this rule.

(g) If one or more Appendix II constituents, or the alternative list approved in accordance with subparagraph (4)(b)2. of this rule, are detected at statistically significant levels above the groundwater protection standard established under subparagraphs (h) or (i) of this paragraph in any sampling event, within 14 days of this finding, the owner or operator must:

1. Place a notice in the operating record identifying the Appendix II constituents, or the alternative list approved in accordance with subparagraph (4)(b)2. of this rule, that have exceeded the groundwater protection standard and

2. Notify the Department and all appropriate local government officials that the notice has been placed in the operating record.

3. And must, either:

(i) Characterize the nature and extent of the release by installing additional monitoring wells as necessary,

(ii) Install at least one additional monitoring well at the facility boundary in the direction of contaminant migration and sample this well in accordance with subparagraph (d)2. of this paragraph,

(iii) 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 as indicated by sampling of wells in accordance with subparagraphs (g)3.(i) and (ii) of this paragraph, and

(iv) Initiate an assessment of corrective measures as required by subparagraphs (5)(a) through (d) of this rule within 90 days;

4. Or may demonstrate that a source other than a LF unit caused the contamination, or that the SSI resulted from error in sampling, analysis, statistical evaluation, or natural variation in groundwater quality. A report documenting this demonstration must be certified by a qualified groundwater scientist or approved by the Department and placed in the operating record. If a successful demonstration is made, the owner or operator must continue monitoring in accordance with the assessment monitoring program pursuant to subparagraphs (a) through (j) of this paragraph, and may return to detection monitoring if the Appendix II constituents, or the alternative list approved in accordance with subparagraph (4)(b)2. of this rule, are at or below background as specified in subparagraph (e) of this paragraph. Until a successful demonstration is made, the owner or operator must comply with subparagraph (g) of this paragraph, including initiating an assessment of corrective measures.

(h) The owner or operator must establish a groundwater protection standard for each Appendix II constituent, or each constituent in the alternative list approved in

accordance with subparagraph (4)(b)2. of this rule, detected in the groundwater. The groundwater protection standard shall be:

1. For constituents for which a maximum contaminant level (MCL) has been promulgated under Section 1412 of the Safe Drinking Water Act (codified) under 40 CFR 141, the MCL for that constituent;

2. For constituents for which MCLs have not been promulgated, the background concentration for the constituent established from wells in accordance with subparagraph (2)(a)1. of this rule; or

3. For constituents for which the background level is higher than the MCL identified under subparagraph (h)1. of this paragraph or health based levels identified under subparagraph (i)1. of this paragraph, the background concentration.

(i) The Department may establish an alternative groundwater protection standard for constituents for which MCLs have not been established. These groundwater protection standards shall be appropriate health based levels that satisfy the following criteria:

1. The level is derived in a manner consistent with EPA guidelines for assessing the health risks of environmental pollutants (51 FR 33992, 34006, 34014, 34028, September 24, 1986);

2. The level is based on scientifically valid studies conducted in accordance with the Toxic Substances Control Act Good Laboratory Practice Standards (40 CFR 792) or equivalent;

3. For carcinogens, the level represents a concentration associated with an excess lifetime cancer risk level (due to continuous lifetime exposure) with the  $1 \times 10^{-4}$  to  $1 \times 10^{-6}$  range; and

4. For systemic toxicants, the level represents a concentration to which the human population (including sensitive subgroups) could be exposed to on a daily basis that is likely to be without appreciable risk of deleterious effects during a lifetime. For purposes of this rule, systemic toxicants include toxic chemicals that cause effects other than cancer or mutation.

(j) In establishing groundwater protection standards under subparagraph (i) of this paragraph, the Department may consider the following:

1. Multiple contaminants in the groundwater;
2. Exposure threats to sensitive environmental receptors; and
3. Other site-specific exposure or potential exposure to groundwater.

(5) Corrective Action Requirements.

(a) Within 90 days of finding that any of the constituents listed in Appendix II or in the alternative list approved in accordance with subparagraph (4)(b)2. of this rule, have been detected at a statistically significant level exceeding the groundwater protection standards defined under subparagraphs (4)(h) or (i) of this rule, the owner or

operator must initiate an assessment of corrective measures. Such an assessment must be completed within a reasonable period of time.

(b) The owner or operator must continue to monitor in accordance with the assessment monitoring program as specified in subparagraphs (4)(a) through (j) of this rule.

(c) The assessment shall include an analysis of the effectiveness of potential corrective measures in meeting all of the requirements and objectives of the remedy as described under subparagraphs (c) through (i) of this paragraph, 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 costs of remedy implementation; and
4. 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 discuss the results of the corrective measures assessment, prior to the selection of remedy, in a public meeting with interested and affected parties.

(e) Based on the results of the corrective measures assessment conducted under subparagraphs (5)(a) through (d) of this paragraph, the owner or operator must select a remedy that, at a minimum, meets the standards listed in this paragraph. The owner or operator must notify the Department, within 14 days of selecting a remedy, that a report describing the selected remedy has been placed in the operating record and how it meets the standards in this paragraph. Remedies must:

1. Be protective of human health and the environment;
2. Attain the groundwater protection standard as specified pursuant to subparagraphs (4)(h) or (i) of this rule;
3. Control the source(s) of releases so as to reduce or eliminate, to the maximum extent practicable, further releases of Appendix II constituents, or the alternative list approved in accordance with subparagraph (4)(b)2. of this rule, into the environment that may pose a threat to human health or the environment; and
4. Comply with standards for management of wastes as specified in subparagraph (m) of this paragraph.

(f) In selecting a remedy that meets the standards of subparagraph (e) of this paragraph, the owner or operator shall consider the following evaluation factors:

1. The long- and short-term effectiveness and protectiveness of the potential remedy(ies), 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 waste 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, workers, or the environment during implementation of such a remedy, including potential threats to human health and the environment associated with excavation, transportation, and redisposal or containment;
- (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, redisposal, 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;
- (ii) The extent to which treatment technologies may be used.

3. The ease or difficulty of implementing a potential remedy(ies) 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. Practicable capability of the owner or operator, including a consideration of the technical and economic capability.

5. The degree to which community concerns are addressed by a potential remedy(ies).

(g) The owner or operator shall specify as part of the selected remedy a schedule(s) for initiating and completing remedial activities. Such a schedule must require the initiation of remedial activities within a reasonable period of time taking into consideration the factors set forth in this paragraph. The owner or operator must consider the following factors in determining the schedule of remedial activities:

1. Extent and nature of contamination;
2. Practical capabilities of remedial technologies in achieving compliance with groundwater protection standards established under subparagraphs (4)(h) or (i) of this rule and other objectives of the remedy;
3. Availability of treatment or disposal capacity for wastes managed during implementation of the remedy;
4. Desirability of utilizing technologies that are not currently available, but which may offer significant advantages over already available technologies in terms of effectiveness, reliability, safety, or ability to achieve remedial objectives;
5. Potential risks to human health and the environment from exposure to contamination prior to completion of the remedy;
6. 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 waste constituents;
  - (v) The hydrogeologic characteristic of the facility and surrounding land;
  - (vi) Groundwater removal and treatment costs; and
  - (vii) The cost and availability of alternative water supplies.
7. Practicable capability of the owner or operator.
8. Other relevant factors.

(h) The Department may determine that remediation of a release of an Appendix II constituent, or a constituent in the alternative list approved in accordance with subparagraph (4)(b)2. of this rule, from a LF unit is not necessary if the owner or operator demonstrates to the Department that:

1. The groundwater is additionally contaminated by substances that have originated from a source other than a LF unit and those substances are present in concentrations such that cleanup of the release from the LF unit would provide no significant reduction in risk to actual or potential receptors; or
2. The constituent(s) is present in groundwater that:



(i) Is not currently or reasonably expected to be a source of drinking water;  
and

(ii) Is not hydraulically connected with waters to which the hazardous constituents are migrating or are likely to migrate in a concentration(s) that would exceed the groundwater protection standards established under subparagraphs (4)(h) or (i) of this rule; or

3. Remediation of the release(s) is technically impracticable; or

4. Remediation results in unacceptable cross-media impacts.

(i) A determination by the Department pursuant to subparagraph (h) of this paragraph shall not affect the authority of the State to require the owner or operator to undertake source control measures or other measures that may be necessary to eliminate or minimize further releases to the groundwater, to prevent exposure to the groundwater, or to remediate the groundwater to concentrations that are technically practicable and significantly reduce threats to human health or the environment.

(j) Based on the schedule established under subparagraph (g) of this paragraph for initiation and completion of remedial activities the owner/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 subparagraphs (4)(a) through (j) of this rule;

(ii) Indicates the effectiveness of the corrective action remedy; and

(iii) Demonstrates compliance with groundwater protection standards pursuant to subparagraph (n) of this paragraph.

2. Implement the corrective action remedy selected under subparagraphs (e) through (i) of this paragraph; and

3. Take any interim measures necessary to ensure the protection of human health and the environment. Interim measures should, to the greatest extent practicable, be consistent with the objectives of and contribute to the performance of any remedy that may be required pursuant to subparagraphs (e) through (i) of this paragraph. 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 hazardous constituents;

(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 hazardous constituents to migrate or be released;

(vi) Risks of fire or explosion, or potential for exposure to hazardous constituents 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.

(k) An owner or operator may determine, based on information developed after implementation of the remedy has begun or other information, that compliance with requirements of subparagraph (e) of this paragraph are not being achieved through the remedy selected. In such cases, the owner or operator must implement other methods or techniques that could practicably achieve compliance with the requirements, unless the owner or operator makes the determination under subparagraph (l) of this paragraph.

(l) If the owner or operator determines that compliance with requirements under subparagraph (e) of this paragraph cannot be practically achieved with any currently available methods, the owner or operator must:

1. Obtain certification of a qualified groundwater scientist or approval by the Department that compliance with requirements under subparagraph (e) of this paragraph cannot be practically achieved with any currently available methods;

2. Implement alternate measures to control exposure of humans or the environment to residual contamination, as necessary to protect human health and the environment; and

3. Implement alternate measures for control of the sources of contamination, or for removal or decontamination of equipment, units, devices, or structures that are:

(i) Technically practicable; and

(ii) Consistent with the overall objective of the remedy.

4. Notify the Department within 14 days that a report justifying the alternative measures prior to implementing the alternative measures has been placed in the operating record.

(m) All solid wastes that are managed pursuant to a remedy required under subparagraphs (e) through (i) of this paragraph, or an interim measure required under subparagraph (j)3. of this paragraph, shall be managed in a manner:

1. That is protective of human health and the environment; and

2. That complies with applicable RCRA requirements.

(n) Remedies selected pursuant to subparagraphs (e) through (i) of this paragraph shall be considered complete when:

1. The owner or operator complies with the groundwater protection standards established under subparagraphs (4)(h) or (i) of this rule at all points within

the plume of contamination that lie beyond the groundwater monitoring well system established under subparagraph (3)(a) of this rule.

2. Compliance with the groundwater protection standards established under subparagraphs (4)(h) or (i) of this rule has been achieved by demonstrating that concentrations of Appendix II constituents, or the alternative list approved in accordance with subparagraph (4)(b)2. of this rule, have not exceeded the groundwater protection standard(s) for a period of three consecutive years using the statistical procedures and performance standards in subparagraphs (4)(l) and (m) of this rule. The Department may specify an alternative length of time during which the owner or operator must demonstrate that concentrations of Appendix II constituents, or the alternative list approved in accordance with subparagraph (4)(b)2. of this rule, have not exceeded the groundwater protection standard(s) taking into consideration:

- (i) Extent and concentration of the release(s);
- (ii) Behavior characteristics of the hazardous constituents in the groundwater;
- (iii) Accuracy of monitoring or modeling techniques, including any seasonal, meteorological, or other environmental variabilities that may affect the accuracy; and
- (iv) Characteristics of the groundwater.

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

(o) Upon completion of the remedy, the owner or operator must notify the Department within 14 days that a certification that the remedy has been completed in compliance with the requirements of subparagraph (n) of this paragraph has been placed in the operating record. The certification must be signed by the owner or operator and by a qualified groundwater scientist or approved by the Department.

(p) When, upon completion of the certification, the owner or operator determines that the corrective action remedy has been completed in accordance with the requirements under subparagraph (n) of this paragraph, the owner or operator shall be released from the requirements for financial assurance for corrective action under 335-13-4-.28(4).

**Author:** Russell A. Kelly, Heather M. Jones.

**Statutory Authority:** Code of Alabama 1975, §§ 22-27-3, 22-27-4, 22-27-7.

**History:** Effective: November 2, 1993. **Amended:** Effective: July 26, 1996. **Amended:** Filed: April 24, 2018; Effective: June 8, 2018; **Amended:** Filed: June 25, 2019; Effective: August 9, 2019. **Amended: Proposed: July 20, 2021.**

**335-13-5-.01 ~~Disposal Permits.~~** ~~All~~ Solid waste management subject to this Division shall take place in a ~~be disposed of in a landfill~~ unit(s) permitted by the Department. Rules 335-13-5-.02 through 335-13-5-.07 establish the minimum requirements and procedures for obtaining a solid waste ~~disposal facility~~ landfill permit, composting facility permit or CCR facility permit for existing and proposed facilities. The technical standards used to determine the requirements of a permit are set out in chapter 335-13-4 for landfills, 335-13-14 for composting facilities and 335-13-15 for CCR units.

**Author:** Russell A. Kelly, Heather M. Jones.

**Statutory Authority:** Code of Alabama 1975, §§ 22-22A-5, 22-27-3, 22-27-5, 22-27-7.

**History:** November 18, 1981.

**Amended:** July 21, 1988; November 2, 1993. **Amended:** Proposed: July 20, 2021.

**335-13-5-.02 Permit Application.** Any person who requires a permit pursuant to this Division shall complete, sign, and submit to the Department an application for each permit required under 335-13-5-.01.

~~Existing and proposed landfill units shall obtain permits to construct and/or operate in accordance with the following:~~

~~(1) Application Requirements.~~

~~(a) Solid Waste Landfills. Landfill units proposed after the effective date of this Division shall obtain permits to construct and/or operate by submitting a permit application consisting of the following in order to request a permit:~~

~~Landfill units proposed after the effective date of this Division shall submit the following in order to request a permit:~~

~~(a)1.~~ A completed application form designated by the Department, with applicable fees;

~~(b)2.~~ Documentation of host government approval, as provided in the Code of Alabama 1975, § 22-27-48 and 48.1;

~~(c)3.~~ Facility design plans and operational procedures in accordance with Permit Application Procedures for Solid Waste Disposal Facilities as prepared by the Department; ~~and~~

~~(d)4.~~ Technical data and reports to comply with 335-13-4-.01, 335-13-4-.11 through 335-13-4-.24 and this Division; and

~~(e)5.~~ All technical reports, plans and specifications, plats, geological and hydrological reports required by this Division, prepared under the following:

~~(i)1.~~ Plans, specifications, operational procedures, letters of final construction certification and other technical data, except as provided in 335-13-5-.02(1)(~~ea~~)5.(ii)2. and ~~3(iii)~~ for the construction and operation of a facility shall be prepared by ~~a~~ professional engineer. The seal or signature and registration number of the design engineer shall be affixed to the plans, specifications and reports.

~~(ii)2.~~ Reports, letters of certification and other documents and technical data concerning the siting standards of 335-13-4-.01 shall be prepared by a person with technical expertise in the field of concern.

~~(iii)3.~~ Legal property descriptions and survey plats shall be prepared by a land surveyor with the seal or signature and registration number of the land surveyor affixed.

~~(f)6.~~ The name and mailing address of all property owners whose property, per county tax records, is adjacent to the proposed site shall be submitted as part of a landfill unit's permit application.

~~(g)7.~~ ~~In addition to the requirements listed in (a) through (f) above,~~ ~~the~~ Department may waive certain requirements of ~~(a)3.(e)~~ and ~~(d)4.~~ for those landfill units that will receive for disposal only construction and demolition type waste. A permit application for a C/DLF ~~will~~ shall be submitted on a permit application form ~~developed~~ designated by the Department, which shall specify the minimum requirements for a complete application. The C/DLF permit application shall also include statements signed by ~~a~~ professional engineer and a representative of the facility owner/operator certifying that the information being submitted is accurate and correct. The submittal of false or inaccurate information shall result in the C/DLF permit application being suspended or denied.

(b) Composting Facilities.

1. The owner or operator of each composting facility in existence on April 3, 2012, shall file an application, including applicable fees, for a permit with the Department no later than June 1, 2012. The owner or operator of each new composting facility desiring to begin operation after April 3, 2012, shall obtain a permit prior to commencing composting activities.

2. Each owner or operator of a composting facility shall submit a permit application prepared by a professional engineer to the Department utilizing a form designated by the Department. In addition to the designated application form, the following information shall be submitted as part of the permit application:

(i) Documentation of host government approval as provided in the Code of Alabama 1975, § 22-27-48 and 48.1.

(ii) List of feed stocks to be accepted at the composting facility.

(iii) The operational capacity of the composting facility.

(iv) Legal property description and plat prepared by a land surveyor with the seal or signature and registration number of the land surveyor affixed.

(v) Composting facility design plans and operational plans in accordance with 335-13-14. Design plans and operational plans shall be prepared by a professional engineer. The seal or signature and registration number of the design engineer shall be affixed to the plans.

(vi) A process flow diagram of the entire facility.

(vii) A fire prevention plan.

(viii) A closure plan that at a minimum includes:

(I) Information detailing the removal of all remaining solid waste material from the site as required by rule 335-13-14-.09;

(II) A detailed written estimate, in current dollars, of the cost required to complete closure of the composting facility in accordance with rule 335-13-14-.09; and

(III) A demonstration by the applicant of the ability to provide adequate financial coverage equal to the amount required in rule 335-13-5-.02(1)(b)2.(viii)(II) for the closure of the composting facility.

(ix) The names and mailing address of all property owners whose properties, per county tax records, are adjacent to the proposed site.

(c) CCR Facilities. All solid waste management of CCR generated from the combustion of coal at electrical utilities and independent power producers shall take place in a unit permitted by the Department. New and existing CCR landfills and surface impoundments shall obtain permits for construction, operation, closure and/or post-closure in accordance with the following:

1. Existing CCR Surface Impoundments. Except as provided in 335-13-5-.02(1)(c)3., for existing CCR surface impoundments, the owner or operator shall submit the following in order to request a permit:

(i) A completed application form designated by the Department, with applicable fees.

(ii) Boundary plat and legal property description prepared, signed, and sealed by a land surveyor of the boundary of the facility and disposal area of the CCR unit.

(iii) Technical data and reports documenting compliance with the following location requirements:

(I) Five foot separation of the base of the CCR unit and the uppermost aquifer as specified in 335-13-15-.03(1);

(II) Wetland and endangered species requirements under 335-13-15-.03(2);

(III) Fault area requirements under 335-13-15-.03(3);

(IV) Seismic impact zones requirements under 335-13-15-.03(4);

(V) Unstable area requirements under 335-13-15-.03(5); and

(VI) The location requirements under 335-13-15-.01(2)(b) and 335-13-15-.03(6).

(iv) Detailed presentation of geological and hydrogeological units within the disposal site, with typical sections of disposal method and plan and profile sheets on all areas or trenches.

(v) Technical report of the determination of the liner design and type as required by 335-13-15-.04(2).

(vi) Technical report for the hazard potential classification as outlined in 335-13-15-.04(4)(a)2. and the Emergency Action Plan (EAP), if necessary, developed under 335-13-15-.04(4)(a)3.

(vii) For existing CCR surface impoundments that have a height of five feet or more and a storage volume of 20 acre-feet or more, or an existing surface impoundment with a height of 20 feet or more, the application shall include the following:

(I) All the information required by 335-13-15-.04(4)(c)1.(i) through (xii).

(II) Results of the structural stability assessment as required by 335-13-15-.04(4)(d).

(III) Results of the safety factor assessment as required by 335-13-15-.04(4)(e).

(viii) Sufficient control points on-site to provide for accurate horizontal and vertical control for facility construction, operation and closure and post-closure.

(ix) Topographical maps at contour intervals of not more than five feet for the existing ground surface elevation, initial disposal area elevation, and final disposal area elevation. The maps shall also show buffer zones.

(x) Quality assurance/quality control (QA/QC) plan for all components of the final cover system.

(xi) An operation plan that includes at a minimum:

(I) A CCR fugitive dust control plan developed in accordance with 335-13-15-.05(1).

(II) An inflow design flood control system plan developed in accordance with 335-13-15-.05(3).

(III) All technical reports, plans and specifications documenting compliance with the requirements of 335-13-15-.05(4) and 335-13-15-.05(6).



(IV) A detailed description of the groundwater monitoring and analysis program developed in accordance with 335-13-15-.06.

(V) Procedures for compliance with recordkeeping, notification and internet posting as required under 335-13-15-.08.

(VI) Procedures for updating all plans and assessments periodically as required by 335-13-15.

(xii) The written closure and post-closure or retrofit plan developed in accordance with 335-13-15-.07.

(xiii) Any additional information that may be required by the Department.

(xiv) The name and mailing address of all property owners whose property, per county tax records, is adjacent to the proposed site.

(xv) Plans, specifications, operational procedures, letters of final construction certification and other technical data required as part of the application, except as provided in 335-13-5-.02(1)(c)1.(ii) and (xiv), shall be certified by a professional engineer. The seal or signature and registration number of the design engineer shall be affixed to the plans, specifications and reports.

2. New CCR surface impoundments and any lateral expansion of a CCR surface impoundment. For new CCR surface impoundments and any lateral expansion of a CCR surface impoundment, the owner or operator shall submit the following in order to request a permit:

(i) Except for the requirements of 335-13-5-.02(1)(c)1.(v), (vi), and (vii), the requirements for an existing CCR surface impoundment in 335-13-5-.02(1)(c)1.

(ii) Technical report for the hazard potential classification as outlined in 335-13-15-.04(5)(a)2. and the Emergency Action Plan (EAP), if necessary, under 335-13-15-.04(5)(a)3.

(iii) For new CCR surface impoundments that have a height of five feet or more and a storage volume of 20 acre-feet or more, or a surface impoundment with a height of 20 feet or more, the application shall include the following:

(I) All the information required by 335-13-15-.04(5)(c)1.(i) through (xii).

(II) Results of the structural stability assessment as required by 335-13-15-.04(5)(d).

(III) Results of the safety factor assessment as required by 335-13-15-.04(5)(e).

(iv) Design for the liner as required by 335-13-15-.04(3).

(v) Quality assurance/quality control (QA/QC) plan for all components of the liner.

(vi) Plans, specifications, operational procedures, letters of final construction certification and other technical data required as part of the application, except as provided in 335-13-5-.02(1)(c)1.(ii) and (xiv)., shall be certified by a professional engineer. The seal or signature and registration number of the design engineer shall be affixed to the plans, specifications and reports.

3. For existing CCR surface impoundments that have initiated closure or are otherwise subject to the closure requirements of 335-13-15-.07(2), the owner or operator shall submit all the information as required for an existing CCR surface impoundment in 335-13-5-.02(1)(c)1., except for the requirements of 335-13-5-.02(1)(c)1.(iii), (iv) and (v), to request a closure or post-closure permit or a permit for such operations as may be authorized by 335-13-15-.07(4).

~~(h)4. Existing CCR Landfills. In addition to the requirements listed in (a) through (f) above, a~~For existing CCR landfills, the owner or operator shall ~~submit permit application for an existing CCR landfill shall also include~~ the following ~~to request a permit:~~

(i) Except for the requirements of 335-13-5-.02(1)(c)1.(iii), (v), (vi), (vii) and (xi)(II) and (III), the requirements for an existing CCR surface impoundment in 335-13-5-.02(1)(c)1.

~~(ii)1.~~ Technical data and reports documenting compliance with the following:

~~(I) Unstable area requirements in 335-13-15-.03(5);~~

~~(II) The location requirements under 335-13-15-.01(2)(b) and 335-13-15-.03(6);~~

~~(III) Cover requirements under 335-13-15-.05(7)(a);~~

~~(IV) Access control requirements of 335-13-15-.05(6)(e);~~

~~(iii) An operation plan that includes, at a minimum:~~

~~2.(I)~~ A run-on and run-off control system plan developed in accordance with 335-13-15-.05(2)(c), which should include existing and proposed surface drainage patterns and control structures designed to handle run-on and run-off.

(II) Details of plans for permanent all weather access roads.

(III) All technical reports, plans and specifications documenting compliance with the operational requirements of 335-13-15-.05(1)(d), 335-13-15-.05(5), (6) and (7).

~~3. A detailed description of the groundwater monitoring and analysis program developed in accordance with 335-13-15-.06.~~

~~4. Procedures for complying with recordkeeping and notification as required under 335-13-15-.08.~~

~~5. Procedures for updating all plans and assessments periodically as required by ADEM Admin. Code 335-13-15-.~~

~~6. Any additional information that may be required by the Department.~~

~~5.(i)~~ New CCR Landfills and any lateral expansion of a CCR Landfill. In addition to the requirements listed in ~~335-13-5-.02(1)(c)4.(a) through (f) and (h)~~ above, applications for new CCR landfills and any lateral expansion of a CCR landfill shall include the following in order to request a permit:

~~(i)1-~~ Technical data and reports documenting compliance with the following location requirements:

~~(i)~~ Five foot separation of the base of the CCR unit above the uppermost aquifer as specified in 335-13-15-.03(1).

~~(ii)~~ Wetland and endangered species requirements under 335-13-15-.03(2).

~~(iii)~~ Fault area requirements under 335-13-15-.03(3).

~~(iv)~~ Seismic impact zones under 335-13-15-.03(4).

~~(ii)2-~~ Design of the liner and leachate collection and removal system as required by 335-13-15-.04(1), including a quality assurance/quality control (QA/QC) plan for all components of the liner, leachate collection, and final cover system.

~~(d)~~ In addition to the requirements listed in 335-13-5-.02(1), the permit application shall also include statements signed by a professional engineer and a representative of the facility owner/operator certifying that the information being submitted is accurate and correct. The submittal of false or inaccurate information shall result in the permit application being suspended or denied.

(2) Permit Renewal Application Requirements.

(a) Permittees requesting to renew an existing permit must do so by submitting a permit renewal application consisting of the following:

1. A completed application form designated by the Department, with applicable fees;

2. Updated technical data, plans or reports, where applicable, as required under the following:

(i) 335-13-5-.02(1)(a)3. and/or 4. for landfills;

(ii) 335-13-5-.02(1)(b)2. (ii) through (viii) for composting facilities; and

(iii) 335-13-5-.02(1)(c) for CCR units.

3. The name and mailing address of all property owners whose property, per county tax records, is adjacent to the site shall be submitted as part of a renewal application.

4. All renewal applications and supporting documentation shall be prepared in accordance with 335-13-5-.02(1)(d).

(23) Permit Duration. ~~Solid waste disposal p~~Permits obtained in compliance with this Division shall be valid for the design life of the facility or as otherwise determined by the Department, but no longer than a period of ten years. Permits, however, are subject to revocation under 335-13-5-.05 of this Division.

(43) Filing Deadline. ~~Applications Request~~ for an extension, renewal, or a new permit for any landfill unit/facility, -composting facility or CCR facility shall be filed with the Department by the ~~operating agency~~owner or operator at least 180 days prior to the expiration date for existing permits or the proposed construction date for new facilities. Applications for an initial permit for CCR facilities shall be filed with the Department within 180 after the original effective date of 335-13-15.

(54) Modifications. Prior to any change listed in the permitted service area, increasing the volume of waste received or changing the design or operating procedure as described in 335-13-5-.06(1) and (2) and the current permit, the permittee shall request a modification of the permit as described in 335-13-5-.06(3). A request for modification described in 335-13-5-.06(1) and (2) must be filed with the Department at least 90~~120~~ days prior to the anticipated change and shall receive approval from the Department prior to the implementation of the proposed change.

(65) Effect of non-compliance.

(a) As determined by the Director, substantial non-compliance with Department regulations or permits at any facility owned or operated by the applicant, including any facility for which the pending permit application is requested, will be grounds for denial of the application, or alternatively, for suspension of further consideration of the application until such non-compliance is corrected.

(b) In addition to the foregoing, the Director may deny a permit application if:

1. The Director determines that a permit could not be issued that would result in compliance with applicable solid waste standards; or

2. The applicant could not comply with the permit as issued.

**Author:** Russell A. Kelly, Eric L. Sanderson, S. Scott Story, Heather M. Jones.

**Statutory Authority:** Code of Alabama 1975, §§ 22-27-3, 22-27-5, 22-27-7, and 22-27-48 and 48.1.

**History:** Effective: November 18, 1981. **Amended:** Effective: March 31, 1988 (Emergency Regulations). **Amended:** Effective: July 21, 1988. **Amended:** Effective: October 2, 1990. **Amended:** Effective: November 2, 1993. **Amended:** Effective: July 26, 1996. **Amended:** Filed: April 24, 2018; Effective: June 8, 2018. **Amended:** Filed: June 25, 2019; Effective: August 9, 2019; **Amended:** Filed: December 31, 2020; Effective: February 15, 2021. **Amended: Proposed: July 20, 2021.**

**335-13-5-.03 Public Notice.**

(1) Notice Requirements.

(a) The Department shall provide notice and an opportunity for a public hearing and comment on any solid waste landfill unit, composting facility or CCR facility -permit initial issuance, renewal, a modification listed in 335-13-5-.06(1) or (2) (b) to the facility permit, or if otherwise determined necessary to meet the requirements of this Division.

(b) The following procedures shall be observed-:

1. The Department shall send a copy of the notice to persons on a mailing list developed by:

(i) Including those who request in writing to be on the list;

(ii) Notifying the public of the opportunity to be put on the mailing list through the Department's website, periodic publication in the public press and in such publications as regional and state funded newsletters, environmental bulletins, or state law journals (the Director may update the mailing list from time to time by requesting written indication of continued interest from those listed and may delete from the list the name of any person who fails to respond to such a request);

2. The Department shall notify interested and potentially interested persons of the proposed permit action for a solid waste landfill, composting or CCR unit-facility by publishing-posting a notice to the Department's website. The draft permit action shall be posted on the website for the duration of the public comment period.in a newspaper of general circulation in the area.

3. The notice shall be given not less than 35 days prior to the proposed issuance of a permit action.

4. The notice shall contain the specific type and nature of the solid waste landfill, composting or CCR unitfacility, the type of waste to be disposed or accepted, as applicable, the person or agencyowner or operator requesting the permit action, and the descriptive location of the solid waste landfill, composting or CCR unitfacility, address and telephone number of the Department, and how the public may submit comments and that interested persons may request a public hearing on the proposed landfill-unitpermit action.

5. The Department shall send by certified mail, a written copy of the public notice to landowners adjacent to the subject solid waste landfill, composting or CCR unit-facility at the address as indicated on county tax

records and provided by the applicant as part of the permit application. The list and addresses of adjacent ~~land~~ owners, as provided in the permit application, shall be verified and/or updated by the applicant and such documentation shall be provided to the Department within 90 days prior to the public notice date. Documentation that notice was sent shall include copies of the signed receipts of certified mail delivery or a copy of any returned certified mail item, that is refused or otherwise undeliverable.

(2) Departmental Action. After the comment period closes, The Department shall review, consider and respond to all public comments received by the close of the comment period and take one of the following actions ~~after the hearing~~:

(a) Deny the permitting action, stating in writing the reasons for denial and informing the person requesting the permitting action of appeal procedures in chapter 335-2-1;

(b) Issue the permitting action if the application complies with this Division; or

(c) Require additional information, or additional elements of design for the facility. If required, the applicant must~~and~~ specify procedures for inclusion into the permit of any additional information prior to issuance of the permit action.

**Author:** Russell A. Kelly; S. Scott Story; Heather M. Jones.

**Statutory Authority:** Code of Alabama 1975, §§ 22-22A-5, and 22-27-7.

**History:** Effective: November 18, 1981. **Amended:** Effective: July 21, 1988.

**Amended:** Effective: November 2, 1993. **Amended:** Effective: July 26, 1996.

**Amended:** Filed: April 24, 2018; Effective: June 8, 2018. **Amended:** Filed: June 25, 2019; Effective: August 9, 2019. **Amended: Proposed: July 20, 2021.**

#### **335-13-5-.04 Public Hearing.**

(1) Authorization. The Department shall authorize a public hearing at its discretion, or upon receipt of significant number of technical requests as provided in 335-13-5-.04(2).

(2) Procedures.

(a) Requests for public hearings shall be submitted in writing to the Department ~~by interested persons.~~

1. Frivolous or nontechnical requests shall be denied by the Department.

2. Requests for public hearings must be submitted within 35 days after the publication of the public notice and must contain the following:

(i) The name, address and telephone number of the person requesting the hearing.

(ii) A brief statement of the person's interest and the information the person wishes to submit.

(iii) The person's signature, if an individual, or the signature of a responsible officer of an organization or legal entity.

(b) When a hearing has been authorized, the Department shall appoint a hearing officer to conduct the hearing and shall establish a time, date, and location for the hearing. The location for the hearing shall comply with the requirements of the Americans with Disabilities Act.

(c) The Department shall give notice of the public hearing in the manner set forth in 335-13-5-.03(1), and also to the persons requesting the hearing in 335-13-5-.04(2). The notice shall be given not less than 35 days prior to the time of the public hearing and shall include:

1. A summary of the proposed permitting action.

2. The place, time, and date of the hearing.

3. The name, address, and telephone number of an office at which interested persons may receive further information.

(3) Departmental Action. After the public hearing and close of the comment period, ~~T~~the Department shall review, consider, and respond to comments received by the close of the comment period and take one of the following actions ~~after the hearing:~~



(a) Deny the permitting action, stating in writing the reasons for denial and inform the person requesting the permitting action of appeal procedures in chapter 335-2-1335-13-1-07;

(b) Issue the permitting action if the application complies with this Division; or

(c) Require additional information, or additional elements of design for the facility. If required, the applicant must~~and~~ specify procedures for inclusion into the permit of any additional information prior to issuance of the permit action.

**Author:** Russell A. Kelly; S. Scott Story; Heather M. Jones.

**Statutory Authority:** Code of Alabama 1975, §§ 22-22A-5 and 22-27-7.

**History:** Effective: November 18, 1981. **Amended:** Effective: July 21, 1988.

**Amended:** Effective: November 2, 1993. **Amended:** Effective: July 26, 1996.

**Amended:** Filed: April 24, 2018; Effective: June 8, 2018. **Amended: Proposed:** July 20, 2021.

**335-13-5-.05 Permit Denial, Suspension or Revocation.**

(1) Conditions. The Department may deny, suspend or revoke any operating permit if:

(a) The permittee is found to be in violation of any of the permit conditions;

(b) The permittee fails to perform the permitted activity in accordance with the approved permit application, operational plan/narrative or engineering drawings;

(c) The permittee fails to seek a modification of the permit as required by ~~the rules~~335-13-5-.06;

(d) An active solid waste landfill site stops receiving waste as specified in 335-13-4-.20(2)(f)~~for more than one year~~;

~~(e) An active composting facility stops accepting and processing raw material as specified by 335-13-14-.09(2);~~

~~(f) An active CCR facility stops receiving waste as specified by 335-13-15-.07(3)(e); or~~

~~(g) The design and/or operations creates a nuisance or is inconsistent with the Act or this Division.~~

(2) Written Notice. In the event of denial, suspension or revocation of an operating permit, the Department shall serve written notice of such action on the permittee and shall set forth in such notice the reason for such action.

(3) Closure. Upon revocation or suspension of the operating permit, or denial of the renewal of the permit, the permittee shall meet the closure requirements found in 335-13-4-.20 for solid waste landfill units, 335-13-14-.09 for composting facilities or 335-13-15-.07 for CCR units.

**Author:** Russell A. Kelly; S. Scott Story; Heather M. Jones.

**Statutory Authority:** Code of Alabama 1975, §§ 22-22A-5, 22-27-3, 22-27-5, and 22-27-7.

**History:** Effective: November 18, 1981. **Amended:** Effective: March 31, 1988 (Emergency Regulations). **Amended:** Effective: July 21, 1988. **Amended:** Effective: October 2, 1990. **Amended:** Effective: November 2, 1993. **Amended:** Effective: July 26, 1996. **Amended:** Filed: April 24, 2018. Effective: June 8, 2018. **Amended:** Proposed: July 20, 2021.

**335-13-5-.06 Permit Modification.** The Department may modify any permit after receiving a satisfactory ~~request for modification application~~ that is found in compliance with ADEM rules and regulations. Permit modifications shall be requested in writing utilizing application forms designated by the Department (ADEM Form 439 for MSWLFs, ILFs and CCR facilities, ADEM Form 305 for C/DLFs or ADEM Form 018 for composting facilities) when the permittee proposes to modify its operation in any of the ways listed in 335-13-5-.06(1) or (2).

(1) Major Modifications.

~~(a) Permit modification shall be requested utilizing forms designated by the Department when the permittee proposes to modify its operation in any of the following ways~~Major modifications are limited to the following actions:

1. There is any change in the permitted service area. The Director may temporarily or on a one-time basis waive permit modification requirements related to service area on a case-by-case basis, ~~for special waste or other solid waste~~ if it is demonstrated that a disposal alternative is needed immediately to protect human health or the environment.

2. Convert an industrial landfill (ILF) or construction/demolition landfill (C/DLF) to a municipal solid waste landfill (MSWLF) or convert a construction/demolition landfill (C/DLF) to an industrial landfill (ILF).

3. Addition of a liner and /or leachate collection system or any design change in the existing permitted liner and /or leachate collection system.

4. Addition of acreage to the facility boundary or addition of disposal acreage inside the permitted perimeter where design plans have not been previously submitted.

(b) Modifications required under this paragraph are subject to the provisions of rules 335-13-5-.03 and 335-13-5-.04, which require a public notice and may require a public hearing.

(2) Minor Modifications.

~~(a) Except as provided in 335-13-5-.06(2)(b), minor modifications are limited to the following actions~~A permit modification shall be required, utilizing forms designated by the Department, when the permittee proposes to modify its operations or design in any of the following ways:

1. ~~Addition of a waste stream to a ILF or C/DLF.~~Correction of typographical errors and informational changes as requested by the permittee.

~~2. Addition or relocation of a monitoring well. Changes to remove permit conditions to conform with revised Department guidance or regulations (i.e., permit conditions that are no longer applicable because the standards upon which they were based are no longer applicable to the facility).~~

~~3. Changes, by the permittee, to approved applicable plans, as included in the permit application, that increase the frequency, duration or stringency of the actions covered by the applicable plan(s).~~

~~4. Addition of a new groundwater monitoring well or replacement of an existing monitoring well (i.e., one that has been damaged or rendered inoperable, as close as possible to the original location, and of similar design and depth).~~

~~5. Changes in the statistical analysis method (e.g. changing from interwell or intrawell analysis).~~

~~6. Changes in the stormwater conveyance system including, but not limited to, the addition of a sedimentation basins.~~

~~7. Any change in the permitted final fill elevations. Changes in fill sequence.~~

~~8. The average daily volume of waste specified by the permit for a landfill unit is proposed to be exceeded, or is exceeded for two or more consecutive reporting quarters, by 20 percent, or 100 tons/day, whichever is less.~~

~~(i) The average daily volume of waste received at a landfill unit shall be calculated by dividing the total month's receipts by the total number of days in the reporting month.~~

~~(ii) Volumes received shall be reported to the Department in a format specified by the Department.~~

~~(b)~~

~~9. Modifications required by this paragraph 335-13-5-.06(2)(a) are not subject to the provisions of rules 335-13-5-.03 and 335-13-5-.04, and do not require public notice or a public hearing.~~

~~(b) Other Minor Modifications. Modifications not explicitly listed in 335-13-5-.06(1) or (2)(a), will be considered a minor modification that would be subject to the provisions of 335-13-5-.03 for public notice and may require a public hearing under 335-13-5-.04. Applicable actions include, but are not limited to, the following:~~

~~1. Addition of a waste stream to an ILF, C/DLF or CCR unit.~~

2. An increase in the average daily volume specified by the permit for a landfill or CCR unit. The Director may temporarily or on a one-time basis waive permit modification requirements related to an increase in the average daily volume on a case-by-case basis, if it is demonstrated that a disposal alternative is needed immediately to protect human health or the environment.

3. Addition of an alternative cover material for daily or weekly cover.

4. For landfill or CCR units undergoing corrective action, incorporation of approved final remedies into the permit, or any changes to the approved final remedy.

5. Any changes to the permitted final fill elevations.

6. Any change to the approved final closure method, as detailed in the closure plan submitted with the approved permit application.

(c) For any proposed change covered under 335-13-5-.06(2)(b), the permittee may request a determination by the Department that the modification application should be reviewed and approved as a minor modification under 335-13-5-.06(2)(a). To do so, the permittee must provide the Department with the necessary information to support the requested classification. In determining the appropriate classification for a specific modification, the Department shall consider:

1. The similarity of the modification to other modifications listed in 335-13-5-.06(2)(a); and

2. The criteria that the modification(s) apply only to changes that:

(i) Keep the permit current with routine changes to the facility or its operation; and

(ii) Do not substantially alter the permit conditions.

(3) Procedures. Permittee shall request a permit modification in accordance with the following procedures:

(a) Submit a request for modification to the Department at least 90~~120~~ days prior to the anticipated change.

(b) Identify each and every part of the permit or plans to be modified.

(c) Submit revised plans and narratives as required by the Department.

(d) For those modifications subject to the provisions of 335-13-5-.03 for public notice that may require a public hearing under 335-13-5-.04, the name and mailing address of all property owners whose property, per county

tax records, is adjacent to the site shall be submitted as part of the permit modification application.

(~~e~~) Receive approval from the Department prior to implementing the modification.

**Author:** Russell A. Kelly; S. Scott Story.

**Statutory Authority:** Code of Alabama 1975, §§ 22-22A-5, 22-27-3, 22-27-5, and 22-27-7.

**History:** Effective: November 2, 1993. **Amended:** Effective: July 26, 1996.

**Amended:** Filed: April 24, 2018; Effective: June 8, 2018. **Amended: Proposed: July 20, 2021.**

**335-13-5-.07 Transfer of Permit.** Permits are not transferable except as follows:

(1) A notification must be submitted to and approved by the Department prior to any proposed transfer from one person or company to another or for the name change of any permitted facility.

(a) The notification must be submitted to the Department at least 30 days prior to the proposed transfer or name change.

(b) Information regarding the transfer or name change must be submitted on form(s) designated by the Department.

(2) [Reserved]

**Author:** Russell A. Kelly, Heather M. Jones.

**Statutory Authority:** Code of Alabama 1975, §§ 22-22-A-5, 22-27-7.

**History:** November 18, 1981.

**Amended:** March 31, 1988 (Emergency Regulations); July 21, 1988; November 2, 1993. **Amended: Proposed: July 20, 2021.**

**335-13-8-.01 Variances.** The Department may grant individual variances from the specific provisions of ~~the~~ Division 13 based upon the procedures of 335-13-8-.02 through 335-13-8-.05 whenever it is found by the Department, upon presentation of adequate proof, that ~~the requested variance~~~~non-compliance with Division 13~~ will not threaten the public health or unreasonably create environmental pollution. Specifically, variances may only be granted for those provisions of Division 13 that are in addition to or more stringent than analogous federal regulations. Variance requests will not be granted for provisions of Division 13 that are identical to a federal rule (i.e. those provisions that are not a state specific rule). Variances per se are not favored by the Department.

**Author:** Russell A. Kelly, S. Scott Story.

**Statutory Authority:** Code of Alabama 1975, § 22-27-7.

**History:** November 18, 1981.

**Amended:** July 21, 1988; July 26, 1996. **Amended: Proposed: July 20, 2021.**



### **335-13-8-.02 Petition for Variance.**

(1) Applicability. Any person may request a variance from specific provisions of Division 13 by filing a Petition for Variance with the Department at least 120 days prior to the anticipated change and shall receive approval from the Department prior to the implementation of the proposed change.

(2) Petition Requirements. To enable the Department to rule on the Petition for Variance, the following information, where determined applicable by the Department, shall be included in the petition:

(a) A clear and complete statement of the precise extent of the relief sought including specific identification of the particular provisions of the regulations from which the variance is sought;

(b) An assessment, with supporting factual information, of the impact that the variance will impose on the public health and the environment in the affected area.

(c) Any additional information requested by the Department as necessary to evaluate the variance request.

(d) A concise factual statement of the reasons the petitioner believes that non-compliance with the particular provisions of Division 13 will not threaten the public health or unreasonably create environmental pollution.

(e) Applicable fees in accordance with Division 1.

(f) The name and mailing address of all property owners whose property, per county tax records, is adjacent to the proposed site shall be submitted as part of a Petition for Variance.

**Author:** Russell A. Kelly., S. Scott Story.

**Statutory Authority:** Code of Alabama 1975, § 22-27-7.

**History:** November 18, 1981.

**Amended:** July 21, 1988; July 26, 1996. **Amended: Proposed: July 20, 2021.**

**335-13-8-.03 Extension of Prior or Existing Variance.** A petition to extend a prior or existing variance granted by the Department shall be commenced by filing a Petition for Variance with the Department in accordance with the requirements of 335-13-8-.02.

(1) ~~For petitions to extend an existing variance, To the extent that~~ the information required by 335-13-8-.02 ~~has that was been~~ included in the prior Petition for Variance for which extension is sought, ~~a submission of that information~~ shall be submitted, along with any additional information as necessary to update the existing Petition for Variance. ~~required provided that the petition shall request the incorporation of the record, opinion and order in the prior proceeding into the new petition.~~

(2) A petition to extend a prior or existing variance shall be a new petition for Variance before the Department and shall be subject to all of the requirements of this Division except as provided in 335-13-8-.03(1).

**Author:** Russell A. Kelly; Heather M. Jones.

**Statutory Authority:** Code of Alabama 1975, § 22-27-7.

**History:** November 18, 1981.

**Amended:** July 21, 1988. **Amended: Proposed: July 20, 2021.**

**335-13-8-.04** ~~[Reserved]Department Action on Petitions for Variance.~~ On receipt of a Variance Petition the Department will authorize one of the following actions, as they shall determine:

(1) — The petition may be dismissed if the Department determines that it is not adequate under ~~335-13-8-.02~~.

(2) — The Department may grant the variance as petitioned or by imposing such conditions as the Division may require, including the establishment of schedules of compliance and monitoring requirements.

(3) The Department may deny the petition. If such a denial is made, the Department shall notify the petitioner in writing the reasons for denial and outline procedures for appeal.

**Author:** Russell A. Kelly.

**Statutory Authority:** ~~Code of Alabama 1975, § 22-27-7.~~

**History:** November 18, 1981.

**Amended:** ~~July 21, 1988; July 26, 1996.~~ **Amended:** Proposed: July 20, 2021.

**335-13-8-.12 Public Notice.**

(1) Notice Requirements.

(a) The Department shall provide notice and an opportunity for a public hearing on Petition for Variance from a specific provision of this Division.

(b) The following procedures shall be observed:

1. The Department shall send a copy of the notice to persons on a mailing list developed by:

(i) Including those who request in writing to be on the list;

(ii) Notifying the public of the opportunity to be put on the mailing list through the Department's website, periodic publication in the public press and in such publications as regional and state funded newsletters, environmental bulletins, or state law journals (the Director may update the mailing list from time to time by requesting written indication of continued interest from those listed and may delete from the list the name of any person who fails to respond to such a request);

2. The Department shall notify interested and potentially interested persons of the Petition for Variance by posting a notice to the Department's website. The Petition for Variance shall be posted on the website for the duration of the public comment period.

3. The notice shall be given not less than 35 days prior to the proposed approval of the petition.

4. The notice shall contain the specific type and nature of the petition, the owner or operator requesting the petition, and the descriptive location of the subject facility or unit, address and telephone number of the Department, and how the public may submit comments and request a public hearing on the proposed petition.

5. The Department shall send by certified mail, a written copy of the public notice to landowners adjacent to the subject facility at the address as indicated on county tax records and provided by the applicant as part of the Petition for Variance. The list and addresses of adjacent land owners, as provided in the Petition for Variance, shall be verified and/or updated by the applicant and such documentation shall be provided to the Department within 90 days prior to the public notice date. Documentation that notice was sent shall include copies of the signed receipts of certified mail delivery or a copy of any returned certified mail item, that is refused or otherwise undeliverable.

(2) Departmental Action. After the comment period closes, the Department shall review, consider and respond to all public comments received by the close of the comment period and take one of the following actions:

(a) The petition may be dismissed if the Department determines that it is not adequate under 335-13-8-.02;

(b) The Department may grant the variance as petitioned or by imposing such conditions as the Division may require, including the establishment of schedules of compliance and monitoring requirements; or

(c) The Department may deny the petition. If such a denial is made, the Department shall notify the petitioner in writing the reasons for denial and outline procedures for appeal.

**Author:** Heather M. Jones.

**Statutory Authority:** Code of Alabama 1975, §§ 22-22A-5, and 22-27-7.

**History: Amended:** Proposed: July 20, 2021.

**335-13-8-.13 Public Hearing.**

(1) Authorization. The Department shall authorize a public hearing at its discretion, or upon receipt of significant number of technical requests as provided in 335-13-8-.13(2).

(2) Procedures.

(a) Requests for public hearings shall be submitted in writing to the Department.

1. Frivolous or nontechnical requests shall be denied by the Department.

2. Requests for public hearings must be submitted within 35 days after the publication of the public notice and must contain the following:

(i) The name, address and telephone number of the person requesting the hearing.

(ii) A brief statement of the person's interest and the information the person wishes to submit.

(iii) The person's signature, if an individual, or the signature of a responsible officer of an organization or legal entity.

(b) When a hearing has been authorized, the Department shall appoint a hearing officer to conduct the hearing and shall establish a time, date, and location for the hearing. The location for the hearing shall comply with the requirements of the Americans with Disabilities Act.

(c) The Department shall give notice of the public hearing in the manner set forth in 335-13-8-.13(1), and also to the persons requesting the hearing in 335-13-8-.13(2). The notice shall be given not less than 35 days prior to the time of the public hearing and shall include:

1. A summary of the Petition for Variance.

2. The place, time, and date of the hearing.

3. The name, address, and telephone number of an office at which interested persons may receive further information.

(3) Departmental Action. After the public hearing and close of the comment period, the Department shall review, consider and respond to comments received by the close of the comment period and take one of the following actions:

(a) The petition may be dismissed if the Department determines that it is not adequate under 335-13-8-.02;

(b) The Department may grant the variance as petitioned or by imposing such conditions as the Division may require, including the establishment of schedules of compliance and monitoring requirements; or

(c) The Department may deny the petition. If such a denial is made, the Department shall notify the petitioner in writing the reasons for denial and outline procedures for appeal.

**Author:** Heather M. Jones.

**Statutory Authority:** Code of Alabama 1975, §§ 22-22A-5 and 22-27-7.

**History: Amended:** Proposed: July 20, 2021.

**335-13-14-.01 Purpose.** The purpose of these regulations is to establish procedures to encourage and regulate the production and use of compost made from solid waste within the State of Alabama.

**Author:** Phillip D. Davis, S. Scott Story, Jonathan E. Crosby.

**Statutory Authority:** Code of Alabama 1975, §§ 22-27-9 and 22-27-12.

**History:** Effective: April 3, 2012. **Amended:** Filed: April 24, 2018; Effective: June 8, 2018. Amended: Proposed: July 20, 2021.



### **335-13-14-.03 Applicability.**

(1) The following requirements shall be for operating and maintaining an acceptable "Composting Facility" as defined by rule 335-13-14-.02.

(2) No person may receive, store or process solid waste for composting or operate a composting facility without being properly permitted by the Department, except as described by rule 335-13-14-.03(3). ADEM Admin. Code 335-13-5 outlines the procedures for obtaining a permit for new and existing composting facilities. Any person who operates a composting facility, without having applied for and been issued a permit from the Department shall be considered to be operating an unpermitted solid waste facility and shall be subject to enforcement action in accordance with this Division.~~No person may operate a composting facility without a permit from the Department, except as defined by rule 335-13-14-.03(3).~~

(3) Exceptions.

(a) Composting of agricultural waste as defined and regulated by rule 335-6-7-.02~~are regulated by the requirements of that chapter.~~

(b) On-site composting as defined by rule 335-13-14-.02. However, if any on-site compost is used for revenue generation, then the generator is not exempt and shall comply with the requirements of this chapter.

(c) Facilities that receive solid waste and generate compost for use solely at their site.

(d) Facilities in operation on or before the effective date of this rule, shall be exempt from the requirements of rules 335-13-~~514-.042(31)~~~~(ab)~~2.(i) and 335-13-14-.05, except for any major modifications that may occur after said date.

**Author:** Phillip D. Davis, S. Scott Story, Jonathan E. Crosby.

**Statutory Authority:** Code of Alabama 1975, §§ 22-27-9 and 22-27-12.

**History:** Effective: April 3, 2012. **Amended:** Filed: April 24, 2018; Effective: June 8, 2018. **Amended: Proposed: July 20, 2021.**

### **335-13-14-.04 Application Requirements.[Reserved]**

~~(1) — No person may receive, store or process solid waste for composting without being properly permitted by the Department, except as described by rule 335-13-14-.03(3). Any person who operates a composting facility, without having applied for a permit with the Department shall be considered to be operating an unpermitted solid waste facility and shall be subject to enforcement action in accordance with this division.~~

~~(2) — The owner or operator of each composting facility in existence on the effective date of this rule shall file an application for a permit with ADEM not later than June 1, 2012. The owner or operator of each new composting facility desiring to begin operation after the effective date of this chapter shall obtain a permit prior to commencing composting activities.~~

~~(3) — Each owner or operator of a composting facility shall file an application prepared by a professional engineer for a permit with ADEM utilizing a form designated by the Department. In addition to the designated form, the following information shall be submitted:~~

~~(a) — Documentation of host government approval as provided in the Code of Alabama 1975, § 22-27-48 and 48.1.~~

~~(b) — List of feed stocks to be accepted at the composting facility and the operational capacity.~~

~~(c) — Legal property description and plat prepared by a land surveyor with the seal or signature and registration number of the land surveyor affixed.~~

~~(d) — Composting facility design plans and operational plan in accordance with this chapter. Design plans and operational plans shall be prepared by a professional engineer. The seal or signature and registration number of the design engineer shall be affixed to the plans.~~

~~(e) — A process flow diagram of the entire facility.~~

~~(f) — Fire prevention plan.~~

~~(g) — A closure plan, approved by the Department, that at a minimum includes:~~

~~1. — Information detailing the removal of all remaining solid waste material from the site as required by rule 335-13-14-.09;~~

~~2. — A detailed written estimate, in current dollars, of the cost required to complete closure of the composting facility in accordance with rule 335-13-14-.09; and~~

~~3. — A demonstration by the applicant of its ability to provide adequate financial coverage equal to the amount required in rule 335-13-14-.04(3)(g)2. for the closure of the composting facility.~~

~~(h) — The names and addresses of all property owners whose properties are adjacent to the proposed site.~~

**Author:** ~~Phillip D. Davis, Eric L. Sanderson, S. Scott Story.~~

**Statutory Authority:** ~~Code of Alabama 1975, §§ 22-27-9 and 22-27-12.~~

**History:** ~~Effective: April 3, 2012. Amended: Filed: April 24, 2018; Effective: June 8, 2018. Amended: Proposed: July 20, 2021.~~

### **335-13-14-.07 [Reserved] Permitting Requirements.**

~~(1) — Permit Duration. Composting facility permits obtained under compliance with this Division shall be valid for the design life of the facility or as otherwise determined by the Department, but no longer than a period of ten years. Permits, however, are subject to suspension or revocation under rule 335-13-14-.07(5) of this Chapter.~~

~~(2) — Filing Deadline. Request for extension, renewal, or a new permit for a composting facility shall be filed with the Department by the operating agency at least 270 days prior to expiration date for existing permits or proposed construction date for new facilities.~~

~~(3) — Modifications. Prior to any change in the permitted design plans, operational plans and closure plans, the request for modification must be filed with the Department at least 90 days prior to the anticipated change and shall receive approval from the Department prior to the implementation of the proposed change. Any modification subject to local host government review and approval shall constitute a major modification and shall be subject to the requirements of rule 335-13-14-.10~~

~~(4) — Permit Application Denial.~~

~~(a) — As determined by the Director, substantial non-compliance with Department regulations or permits at any facility in the State of Alabama owned or operated by the applicant, including any facility for which the pending permit application is requested, will be grounds for denial of the application, or alternatively, for suspension of further consideration of the application until such noncompliance is corrected.~~

~~(b) — In addition to the foregoing, the Director may deny a permit application if:~~

~~1. — The Director determines that a permit could not be issued that would result in compliance with applicable solid waste standards;~~

~~2. — The applicant could not comply with the permit as issued; or~~

~~3. — The applicant is found to have submitted false or inaccurate information.~~

~~(c) — Upon denial of an application for permit renewal, the applicant shall meet the closure requirements of rule 335-13-14-.09.~~

~~(5) — Permit Suspension or Revocation.~~

~~(a) — The Department may suspend or revoke any permit issued under this chapter if any of the following conditions are true:~~

~~1. — The permittee is determined by the Department to be in violation of any permit condition;~~

~~2. — The permittee fails to perform the permitted activities in accordance with the approved permit application, operational plan/narrative, or engineering drawings;~~

~~3.—The permittee fails to apply for a permit modification, as required by the rules,~~

~~4.—The permittee stops accepting and processing raw material for more than 180 days, or~~

~~5.—The permittee's operations are determined to create a nuisance or are inconsistent with the requirements of the Act or this Division.~~

~~(b)—In the event of suspension or revocation of a permit, the Department shall serve notice of such action on the permittee and shall set forth in such notice the reason or reasons for such action.~~

~~(c)—Upon revocation or suspension of the permit, the permittee shall meet the closure requirements of rule 335-13-14-.09.~~

~~**Author:** Phillip D. Davis, S. Scott Story.~~

~~**Statutory Authority:** Code of Alabama 1975, §§ 22-27-9 and 22-27-12.~~

~~**History:** Effective: April 3, 2012. **Amended:** Filed: April 24, 2018; Effective: June 8, 2018; **Amended:** Filed: June 25, 2019; Effective: August 9, 2019. **Amended: Proposed:** July 20, 2021.~~

**335-13-14-.10 ~~[Reserved] Public Notice.~~**

~~(1) — Notice Requirements.~~

~~(a) — The Department shall provide notice and an opportunity for a public hearing on any composting facility permit initial issuance, renewal, modification subject to local host government review and approval, or if otherwise determined by ADEM to be necessary to meet the requirements of this Division.~~

~~(b) — The following procedures shall be observed:~~

~~1. — The Department shall notify interested and potentially interested persons of the proposed composting facility by publishing a notice in a newspaper of general circulation in the area.~~

~~(i) — The notice shall be given not less than 35 days prior to the proposed issuance of a permit.~~

~~(ii) — The notice shall contain the specific type and nature of the composting facility, the type of waste to be accepted, the person or agency requesting the permit, and the descriptive location of the processing area, address and telephone number of the Department, and that interested persons may request a public hearing on the proposed composting facility.~~

~~2. — Landowners adjacent to a proposed composting facility shall receive a copy of the public notice.~~

~~(2) — Departmental Action. The Department shall take one of the following actions after the completion of the notice period:~~

~~(a) — Deny the permit, stating in writing the reasons for denial and inform the person requesting the permit of appeal procedures in rule 335-13-1-.07;~~

~~(b) — Issue the permit if the application complies with this Division; or~~

~~(c) — Require additional information, elements of design for the facility, and specify procedures for inclusion into the permit prior to issuance of the permit.~~

**Author:** Phillip D. Davis, S. Scott Story.

**Statutory Authority:** Code of Alabama 1975, §§ 22-27-9 and 22-27-12.

**History:** Effective: April 3, 2012. **Amended:** Filed: April 24, 2018; Effective: June 8, 2018. **Amended:** Proposed: July 20, 2021.

**335-13-14-.11 ~~[Reserved] Public Hearing.~~**

~~(1) — Authorization. The Department shall authorize a public hearing at its discretion, or upon receipt of significant number of technical requests as provided in rule 335-13-14-.11(2).~~

~~(2) — Procedures.~~

~~(a) — Requests for public hearings shall be submitted in writing to the Department by interested persons.~~

~~1. — Frivolous or nontechnical requests shall be denied by the Department.~~

~~2. — Requests for public hearings must be submitted within 35 days after the publication of the public notice and must contain the following:~~

~~(i) — The name, address and telephone number of the person requesting the hearing.~~

~~(ii) — A brief statement of the person's interest and a summary of the information the person wishes to submit at the hearing.~~

~~(iii) — The person's signature, if an individual, or the signature of a responsible officer of an organization or legal entity.~~

~~(b) — When a hearing has been authorized, the Department shall appoint a hearing officer to conduct the hearing and shall establish a time, date, and location for the hearing.~~

~~(c) — The Department shall give notice of the public hearing in the manner set forth in rule 335-13-14-.10, and as applicable, to the persons requesting the hearing in rule 335-13-14-.11(2). The notice given not less than 35 days prior to the time of the public hearing shall include:~~

~~1. — A summary of the proposed permit.~~

~~2. — The place, time, and date of the hearing.~~

~~3. — The name, address and telephone number of an office at which interested persons may receive further information regarding the proposed permit.~~

~~(3) — Departmental Action. The Department shall take one of the following actions after the hearing and completion of the notice period:~~

~~(a) — Deny the permit, stating in writing the reasons for denial and informing the applicant requesting the permit of the appeal procedures in rule 335-13-1-.07;~~

~~(b) — Issue the permit if the application complies with this Division; or~~

~~(c) — Require additional information, elements of design for the facility, and specify procedures for inclusion into the permit prior to issuance of the permit.~~

~~**Author:** Phillip D. Davis, S. Scott Story.~~

~~**Statutory Authority:** Code of Alabama 1975, §§22-27-9 and 22-27-12.~~

~~**History:** Effective: April 3, 2012. **Amended:** Filed: April 24, 2018; Effective: June 8, 2018. **Amended:** Proposed: July 20, 2021.~~



### **335-13-15-.01 General Provisions.**

(1) Scope and purpose.

(a) This chapter applies to owners and operators of new and existing landfills 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 chapter, these requirements also apply to disposal units located off-site of the electric utility or independent power producer. This chapter also applies to any practice that does not meet the definition of a beneficial use of CCR.

(b) This chapter 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.

(c) This chapter does not apply to CCR landfills that have ceased receiving CCR prior to October 19, 2015.

(d) This chapter does not apply to electric utilities or independent power producers that have ceased producing electricity prior to October 19, 2015.

(e) This chapter 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 chapter 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.

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

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

(h) This chapter does not apply to municipal solid waste landfills that receive CCR.

[\(i\) ADEM Admin. Code ch. 335-13-5 outlines the procedures for obtaining a permit for new and existing CCR surface impoundments and landfills, including lateral expansions of such units.](#)

(2) Applicability of other regulations.

(a) Compliance with the requirements of this chapter 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, 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 following:

1. ~~requirements in~~ Facilities or practices in floodplains shall not restrict the flow of a 100-year 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; ~~335-13-4-.01(1)(a),~~

2. ~~Facilities or practices shall not cause or contribute to the taking of any endangered or threatened species of plants, fish, or wildlife or result in the destruction or adverse modification of the critical habitat of endangered or threatened species as identified in 50 CFR part 17;~~

~~335-13-4-.01(1)(b)~~

3. ~~CCR units shall not be located on a site that is archaeologically or historically sensitive as determined by the Alabama Historical Commission. Written certification must be provided from the State Historic Preservation Officer; and, ~~335-13-4-.01(1)(e) and~~~~

4. ~~A CCR unit shall be located so as to not adversely impact water quality by complying with the following:~~

(i) ~~A CCR unit shall not cause a discharge of pollutants into waters of the State, including wetlands, that is in violation of the requirements of the National Pollutant Discharge Elimination System (NPDES), Alabama Water Pollution Control Act, Code of Alabama 1975, §§ 22-22-1 to 22-22-14 and/or section 404 of the Clean Water Act, as amended.~~

(ii) ~~A CCR unit shall not cause non-point source pollution of waters of the State, including wetlands, that violates any requirements of an area wide and statewide water quality management plan that has been approved under the Alabama Water Pollution Control Act.~~

(iii) ~~CCR units, including buffer zones, shall not be permissible in wetlands, beaches or dunes.~~

(iv) ~~CCR units shall not be permissible in any location where the disposal of solid waste would significantly degrade wetlands, beaches or dunes.~~

(v) ~~CCR units shall be located outside the boundaries of the coastal area, unless no other reasonable alternative is available. If a site within the coastal area is proposed for development as a CCR unit, it shall be demonstrated to the satisfaction~~

of the Department that siting, design, construction, and operation will ensure that present levels of coastal plants and animals will be maintained.~~335-13-4-.01(2).~~

**Author:** Eric L. Sanderson, S. Scott Story, Heather M. Jones

**Statutory Authority:** Code of Alabama 1975, §§ 22-27-3 and 22-27-7

**History:** Filed: April 24, 2018; Effective: June 8, 2018. Amended: Proposed: July 20, 2021.

**335-13-15-.02 Definitions.** The following definitions apply to this chapter. Terms not defined in this chapter have the meaning given in 335-13-1-.03.

(1) Acre foot - the volume of one acre of surface area to a depth of one foot.

(2) Active facility or active electric utilities or independent power producers - any facility subject to the requirements of this chapter 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.

(3) Active life or in operation - 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 335-13-15-.07(3).

(4) Active portion - 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 335-13-15-.07(3).

(5) Aquifer - a geologic formation, group of formations, or portion of a formation capable of yielding usable quantities of groundwater to wells, springs or waters of the state.

(6) Area-capacity curves - 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 contained in the reservoir at various elevations.

(7) Areas susceptible to mass movement - 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.

(8) Beneficial use of CCR - the CCR meet all of the following conditions:

(a) The CCR must provide a functional benefit;

(b) 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;

(c) 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

(d) When unencapsulated use of CCR involves 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.

(9) Closed - placement of CCR in a CCR unit has ceased, and the owner or operator has completed closure of the CCR unit in accordance with 335-13-15-.07(3) and has initiated post-closure care in accordance with 335-13-15-.07(5).

(10) Coal combustion residuals (CCR) - 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.

(11) CCR fugitive dust - solid airborne particulate matter that contains or is derived from CCR, emitted from any source other than a stack or chimney.

(12) CCR landfill or landfill - 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 chapter, 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.

(13) CCR pile or pile - any non-containerized accumulation of solid, non-flowing CCR that is placed on the land. CCR that is beneficially used off-site is not a CCR pile.

(14) CCR surface impoundment or impoundment - 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.

(15) CCR unit - 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.

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

(17) Disposal - the discharge, deposit, injection, dumping, spilling, leaking, or placing of any solid waste as defined in 335-13-1-.03 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. Disposal does not include the storage or the beneficial use of CCR.

(18) Downstream toe - the junction of the downstream slope or face of the CCR surface impoundment with the ground surface.

(19) Eligible unlined CCR surface impoundment - an existing CCR surface impoundment that meets all of the following conditions:

(a) The owner or operator has documented that the CCR unit is in compliance with the location restrictions specified in 335-13-15-.03(1) through (5);

(b) The owner or operator has documented that the CCR unit is in compliance with the periodic safety factor assessment requirements in 335-13-15-.04(4)(e) and (f); and

(c) No constituent listed in Appendix IV to this chapter has been detected at a statistically significant level exceeding a groundwater protection standard defined in 335-13-15-.06(6)(h).

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

(20) Encapsulated beneficial use - a beneficial use of CCR that binds the CCR into a solid matrix that minimizes its mobilization into the surrounding environment.~~Eligible unlined CCR surface impoundment - an existing CCR surface impoundment that meets all of the following conditions:~~

~~(a) The owner or operator has documented that the CCR unit is in compliance with the location restrictions specified in 335-13-15-.03(1) through (5);~~

~~(b) The owner or operator has documented that the CCR unit is in compliance with the periodic safety factor assessment requirements in 335-13-15-.04(4)(e) and (f); and~~

~~(c) No constituent listed in Appendix IV to this chapter has been~~

~~detected at a statistically significant level exceeding a groundwater protection standard defined in 335-13-15-06(6)(h).~~

(21) Existing CCR landfill - 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.

(22) Existing CCR surface impoundment - 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.

(23) Facility - 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 treatment, storage, or disposal operational units (e.g., one or more landfills, surface impoundments, or combinations of them).

(24) Factor of safety (Safety factor) - 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.

(25) Flood hydrograph - a graph showing, for a given point on a stream, the discharge, height, or other characteristic of a flood as a function of time.

(26) Freeboard - the vertical distance between the lowest point on the crest of the impoundment dike and the surface of the waste contained therein.

(27) Hazard potential classification - 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:

(a) High hazard potential CCR surface impoundment - a diked surface impoundment where failure or mis-operation will probably cause loss of human life.

(b) Low hazard potential CCR surface impoundment - 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.

(c) Significant hazard potential CCR surface impoundment - 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.

(28) Height - the vertical measurement from the downstream toe of the CCR surface impoundment at its lowest point to the lowest elevation of the crest of the CCR surface impoundment.

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

(30) Inactive CCR surface impoundment - 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.

(31) Incised CCR surface impoundment - 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.

(32) Indian country or Indian lands:

(a) 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;

(b) 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 Alabama; and

(c) All Indian allotments, the Indian titles to which have not been extinguished, including rights-of-way running through the same.

(33) Indian Tribe or Tribe - any Indian tribe, band, nation, or community recognized by the Secretary of the Interior and exercising substantial governmental duties and powers on Indian lands.

(34) Inflow design flood - the flood hydrograph that is used in the design or modification of the CCR surface impoundments and its appurtenant works.

(35) In operation - the same as active life.



(36) Karst terrain - 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 terrains include, but are not limited to, dolines, collapse shafts (sinkholes), sinking streams, caves, seeps, large springs, and blind valleys.

(37) Lateral expansion - a horizontal expansion of the waste boundaries of an existing CCR landfill or existing CCR surface impoundment made after October 19, 2015.

(38) Liquefaction factor of safety - the factor of safety (safety factor) determined using analysis under liquefaction conditions.

(39) Maximum horizontal acceleration in lithified earth material - 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.

(40) New CCR landfill - 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.

(41) New CCR surface impoundment - 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.

(42) Operator - the person(s) responsible for the overall operation of a CCR unit.

(43) Overfill - a new CCR landfill constructed over a closed CCR surface impoundment.

(44) Owner - the person(s) who owns a CCR unit or part of a CCR unit.

(45) Poor foundation conditions - 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 335-13-15-.04(4)(e) and 335-13-15-.04(5)(e) would cause a poor foundation condition.

(46) Probable maximum flood - 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.

(47) Qualified person - 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.

(48) Qualified professional engineer - an individual who is licensed by the State of Alabama 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 chapter.

(49) Recognized and generally accepted good engineering practices - 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.

(50) Retrofit - to remove all CCR and contaminated soils and sediments from the CCR surface impoundment, and to ensure the unit complies with the requirements in 335-13-15-.04(3).

(51) Run-off - any rainwater, leachate, or other liquid that drains over land from any part of a CCR landfill or lateral expansion of a CCR landfill.

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

(53) Sand and gravel pit or quarry - 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.

(54) Seismic factor of safety - 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.

(55) Seismic impact zone - 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.

(56) Slope protection - 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.

(57) Solid waste management or management - the systematic administration of the activities which provide for the collection, source separation, storage, transportation, processing, treatment, or disposal of solid waste.

(58) Static factor of safety - the factor of safety (safety factor) determined using analysis under the long-term, maximum storage pool loading condition, the maximum surcharge pool loading condition, and under the end-of-construction loading condition.

(59) Structural components - 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.

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

~~(61)~~ Technically feasible - possible to do in a way that would likely be successful.

~~(62)~~ Technically infeasible - not possible to do in a way that would likely be successful.

~~(63)~~ Unstable area - 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.

~~(64)~~ Uppermost aquifer - 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.

(654) Waste boundary - a vertical surface located at the hydraulically downgradient limit of the CCR unit. The vertical surface extends down into the uppermost aquifer.

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#### **335-13-15-.04 Design Criteria.**

(1) 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 335-13-15-.04(1)(b) or an alternative composite liner that meets the requirements in 335-13-15-.04(1)(c), and a leachate collection and removal system that meets the requirements of 335-13-15-.04(1)(d).

2. Prior to construction of an overfill, the underlying surface impoundment must meet the requirements of 335-13-15-.07(3)(d).

(b) A composite liner must consist of two components; the upper component consisting of, at a minimum, a 40-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 40-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 335-13-15-.04(1)(b)1. through 4.

4. The installation of composite liners shall be as recommended by the manufacturer providing that:

(i) The installation recommendations of the manufacturer to be used are provided to the Department for review.

(ii) The Department finds that the recommended installation procedures are consistent with the intent of this chapter.

(iii) The installation of the liner shall be under the supervision of an engineer who shall certify to the Department that the liner was installed and maintained in accordance with this Division, QA/QC plans, and approved design plans.

(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 335-13-15-.08(1)(f), the notification requirements specified in 335-13-15-.08(2)(f), and the internet requirements specified in 335-13-15-.08(3)(f).

(2) Liner design criteria for existing CCR surface impoundments.

(a) 1. No later than October 17, 2016, 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) [Reserved]

(ii) A composite liner that meets the requirements of 335-13-15-.04(1)(b); or

(iii) An alternative composite liner that meets the requirements of 335-13-15-.04(1)(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 335-13-15-.04(2)(a)1.(ii) or (iii); 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 335-13-15-.04(2)(a)1.(ii) or (iii).

4. All existing unlined CCR surface impoundments are subject to the requirements of 335-13-15-.07(2)(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 335-13-15-.04(2)(a) is accurate. This certification must be submitted to the Department.

(c) The owner or operator of the CCR unit must comply with the recordkeeping requirements specified in 335-13-15-.08(1)(f), the notification requirements specified in 335-13-15-.08(2)(f), and the internet requirements specified in 335-13-15-.08(3)(f).

(3) Liner design criteria for new CCR surface impoundments and any lateral expansion of a CCR surface impoundment.

(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 335-13-15-.04(1)(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. This certification must be submitted to the Department.

(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 335-13-15-.08(1)(f), the notification requirements specified in 335-13-15-.08(2)(f), and the internet requirements specified in 335-13-15-.08(3)(f).

(4) Structural integrity criteria for existing CCR surface impoundments.

(a) The requirements of 335-13-15-.04(4)(a)1. through 4. 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 335-13-15-.04(4)(a)1. through 4.

1. No later than December 17, 2015, 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 335-13-15-.04(4)(f). 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 335-13-15-.04(4)(a)2.(i) was conducted in accordance with the requirements of this section. This certification must be submitted to the Department.

3. Emergency Action Plan (EAP).

(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 335-13-15-.04(4)(a)2. must prepare and maintain a written EAP. At a minimum, the EAP must:

(I) 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;

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

(III) Provide contact information of emergency responders;

(IV) 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

(V) 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.

(I) The owner or operator of a CCR unit subject to the requirements of 335-13-15-.04(4)(a)3.(i) may amend the written EAP at any time provided the revised plan is placed in the facility's operating record as required by 335-13-15-.08(1)(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.

(II) The written EAP must be evaluated, at a minimum, every five years to ensure the information required in 335-13-15-.04(4)(a)3.(i) is accurate. As necessary, the EAP must be updated and a revised EAP placed in the facility's operating record as required by 335-13-15-.08(1)(f)6.

(iii) Changes in hazard potential classification.

(I) 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 335-13-15-.08(1)(f)5.

(II) 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 335-13-15-.04(4)(a)3.(i) 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 335-13-15-.04(4)(a)3. The EAP, as well as the certification from a qualified professional engineer, must be submitted to the Department for approval.

(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. Deep rooted vegetation (roots that may grow below the six inch erosion layer) shall be prohibited as vegetative cover.

(b) The requirements of 335-13-15-.04(4)(c) through (e) 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, 2016, 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 335-13-15-.04(4)(c)1.(i) through (xi).

(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) 7½ 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 feature 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 335-13-15-.04(4)(c)1., 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 335-13-15-.08(1)(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 include deep rooted vegetation (roots that may grow below the six inch erosion layer);

(v) A single spillway or a combination of spillways configured as specified in 335-13-15-.04(4)(d)1.(v)(I). 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 335-13-15-.04(4)(d)1.(v)(II).

(I) All spillways must be either:

I. Of non-erodible construction and designed to carry sustained flows;  
or

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

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

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

II. 1000-year flood for a significant hazard potential CCR surface impoundment; or

III. 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 335-13-15-.04(4)(d)1. 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 of a CCR unit must remedy the deficiency or release as soon as feasible and prepare a report detailing the corrective measures taken. This report must be submitted to the Department for review and approval.

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. This certification must be submitted to the Department.

(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 335-13-15-.04(4)(e)1.(i) through (iv) 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 335-13-15-.04(4)(e)1. meets the requirements of this section. This certification must be submitted to the Department.

(f) Timeframes for periodic assessments.

1. Initial assessments. Except as provided by 335-13-15-.04(4)(f)2., the owner or operator of the CCR unit must complete the initial assessments required by 335-13-15-.04(4)(a)2., (d), and (e) no later than October 17, 2016. The owner or operator has completed an initial assessment when the owner or

operator has placed the assessment required by 335-13-15-.04(4)(a)2., (d) and (e) in the facility's operating record as required by 335-13-15-.08(1)(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 335-13-15-.04(4)(a)2., (d), and (e) 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 335-13-15-.04(4)(a)2., (d), and (e).

3. Frequency for conducting periodic assessments. The owner or operator of the CCR unit must conduct and complete the assessments required by 335-13-15-.04(4)(a)2., (d), and (e) 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 335-13-15-.04(4)(f)2., 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. The owner or operator has completed an assessment when the relevant assessment(s) required by 335-13-15-.04(4)(a)2., (d), and (e) has been placed in the facility's operating record as required by 335-13-15-.08(1)(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 335-13-15-.04(4)(e) is subject to the requirements of 335-13-15-.07(2)(b)2.

(g) The owner or operator of the CCR unit must comply with the recordkeeping requirements specified in 335-13-15-.08(1)(f), the notification requirements specified in 335-13-15-.08(2)(f), and the internet requirements specified in 335-13-15-.08(3)(f).

(5) Structural integrity criteria for new CCR surface impoundments and any lateral expansion of a CCR surface impoundment.

(a) The requirements of 335-13-15-.04(5)(a)1. through 4. 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 335-13-15-.04(5)(a)1. through 4.

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 335-13-15-.04(5)(f). 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 335-13-15-.04(5)(a)2.(i) was conducted in accordance with the requirements of this section. This certification must be submitted to the Department.

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 335-13-15-.04(5)(a)2. must prepare and maintain a written EAP. At a minimum, the EAP must:

(I) 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;

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

(III) Provide contact information of emergency responders;



(IV) 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

(V) 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.

(I) The owner or operator of a CCR unit subject to the requirements of 335-13-15-.04(5)(a)3.(i) may amend the written EAP at any time provided the revised plan is placed in the facility's operating record as required by 335-13-15-.08(1)(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.

(II) The written EAP must be evaluated, at a minimum, every five years to ensure the information required in 335-13-15-.04(5)(a)3.(i) is accurate. As necessary, the EAP must be updated and a revised EAP placed in the facility's operating record as required by 335-13-15-.08(1)(f)6.

(iii) Changes in hazard potential classification.

(I) 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 335-13-15-.08(1)(f)5.

(II) 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 335-13-15-.04(5)(a)3.(i) 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 335-13-15-.04(5)(a)3. The EAP, as well as the certification from a qualified professional engineer, must be submitted to the Department for approval.

(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. Deep rooted vegetation (roots that may grow below the six inch erosion layer) shall be prohibited as vegetative cover.

(b) The requirements of 335-13-15-.04(5)(c) through (e) 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 of a CCR unit must compile the design and construction plans for the CCR unit, which must include, to the extent feasible, the information specified in 335-13-15-.04(5)(c)1.(i) through (xi).

(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<sup>1/2</sup> 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 feature 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 335-13-15-.04(5)(c)1., 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 335-13-15-.08(1)(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 include deep rooted vegetation (roots that may grow below the six inch erosion layer);

(v) A single spillway or a combination of spillways configured as specified in 335-13-15-.04(5)(d)1.(v)(I). 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 335-13-15-.04(5)(d)1.(v)(II).

(I) All spillways must be either:

I. Of non-erodible construction and designed to carry sustained flows;  
or

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

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

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

II. 1000-year flood for a significant hazard potential CCR surface impoundment; or

III. 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 335-13-15-.04(5)(d)1. 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 of a CCR unit must remedy the deficiency or release as soon as feasible and prepare a report detailing the corrective measures taken. This report must be submitted to the Department for review and approval.

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. This certification must be submitted to the Department.

(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 335-13-15-.04(5)(e)1.(i) through (v) 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 335-13-15-.04(5)(e)1. meets the requirements of this section. This certification must be submitted to the Department.

(f) Timeframes for periodic assessments.

1. Initial assessments. Except as provided by 335-13-15-.04(5)(f)2., the owner or operator of the CCR unit must complete the initial assessments required by 335-13-15-.04(5)(a)2., (d), and (e) 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 335-13-15-.04(5)(a)2., (d), and (e) in the facility's operating record as required by 335-13-15-.08(1)(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 335-13-15-.04(5)(a)2., (d), and (e) 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, the owner or operator has completed an assessment when the relevant assessment(s) required by 335-13-15-.04(5)(a)2., (d), and (e) has been placed in the facility's operating record as required by 335-13-15-.08(1)(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 335-13-15-.04(5)(e)1.(i) through (v), 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 335-13-15-.04(5)(e) is subject to the requirements of 335-13-15-.07(2)(c).

(g) The owner or operator of the CCR unit must comply with the recordkeeping requirements specified in 335-13-15-.08(1)(f), the notification requirements specified in 335-13-15-.08(2)(f), and the internet requirements specified in 335-13-15-.08(3)(f).

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### **335-13-15-.05 Operating Criteria.**

(1) Air criteria.

(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 335-13-15-.05(1)(b)1. through 7. 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 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 chapter 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 335-13-15-.08(1)(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 335-13-15-.08(1)(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. The CCR fugitive dust control plan, as well as the certification from a qualified professional engineer must be submitted to the Department for approval.

(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. The owner or operator has completed the annual CCR fugitive dust control report when the report has been submitted to the Department and placed in the facility's operating record as required by 335-13-15-.08(1)(g)2.

(d) The owner or operator of the CCR unit must comply with the recordkeeping requirements specified in 335-13-15-.08(1)(g), the notification requirements specified in 335-13-15-.08(2)(g), and the internet requirements specified in 335-13-15-.08(3)(g).

(2) 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 and/or closed 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 and/or closed 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 and/or closed portion of the CCR unit must be handled in accordance with the surface water requirements under 335-13-415-.01(2)(b)4.(ai) and (bij).

(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 335-13-15-.05(2)(c)3. and 4. 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 335-13-15-.08(1)(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 335-13-15-.08(1)(g)3. The owner or operator must amend the written run-on and run-off 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 run-off control system plan no later than 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 run-off control system plans required by 335-13-15-.05(2)(c)1. 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. 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 335-13-15-.08(1)(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. The run-on and run-off control system plans, as well as the certification from a qualified professional engineer, must be submitted to the Department for approval.

(d) The owner or operator of the CCR unit must comply with the recordkeeping requirements specified in 335-13-15-.08(1)(g), the notification requirements specified in 335-13-15-.08(2)(g), and the internet requirements specified in 335-13-15-.08(3)(g).

(3) 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 335-13-15-.05(3)(a)1. and 2.

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 335-13-15-.05(3)(a)3.

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 335-13-15-.05(3)(a)3.

3. The inflow design flood is:

(i) For a high hazard potential CCR surface impoundment, as determined under 335-13-15-.04(4)(a)2. or 335-13-15-.04(5)(a)2., the probable maximum flood;

(ii) For a significant hazard potential CCR surface impoundment, as determined under 335-13-15-.04(4)(a)2. or 335-13-15-.04(5)(a)2., the 1,000-year flood;

(iii) For a low hazard potential CCR surface impoundment, as determined under 335-13-15-.04(4)(a)2. or 335-13-15-.04(5)(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 335-13-~~415~~-.01(2)(~~b~~4).(~~ia~~) and (~~b~~ii).

(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 335-13-15-.05(3)(c)3 and 4. 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 335-13-15-.08(1)(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 335-13-15-.08(1)(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.

(i) Existing CCR surface impoundments. The owner or operator of the CCR unit must prepare the initial inflow design flood control system plan no later 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.

4. Frequency for revising the plan. The owner or operator must prepare periodic inflow design flood control system plans required by 335-13-15-.05(3)(c)1. 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. 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 335-13-15-.08(1)(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 335-13-15-.08(1)(g), the notification

requirements specified in 335-13-15-.08(2)(g), and the internet requirements specified in 335-13-15-.08(3)(g).

(4) 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 335-13-15-.08(1)(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 335-13-15-.05(4)(a) no later than 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 335-13-15-.05(4)(a) upon initial receipt of CCR by the CCR unit.

(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 335-13-15-.04(4)(d) or 335-13-15-.04(5)(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 335-13-15-.04(4)(c)1. and 335-13-15-.04(5)(c)1., previous periodic structural stability assessments required under 335-13-15-.04(4)(d) and 335-13-15-.04(5)(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 335-13-15-.05(4)(b)1. and 2. no later than January 19, 2016.

(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 335-13-15-.05(4)(b)1. and 2. no later than 14 months following the date of initial receipt of CCR in the CCR unit.

4. Frequency of inspections.

(i) Except as provided for in 335-13-15-.05(4)(b)4.(ii), the owner or operator of the CCR unit must conduct the inspection required by 335-13-15-.05(4)(b)1. and 2. 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. The owner or operator has completed an inspection when the inspection report has been placed in the facility's operating record as required by 335-13-15-.08(1)(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 335-13-15-.04(4)(d) and 335-13-15-.04(5)(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, 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 a report detailing the corrective measures taken. This report must be submitted to the Department for review and approval.

(c) The owner or operator of the CCR unit must comply with the recordkeeping requirements specified in 335-13-15-.08(1)(g), the notification requirements specified in 335-13-15-.08(2)(g), and the internet requirements specified in 335-13-15-.08(3)(g).

(5) 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 335-13-15-.08(1)(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 335-13-15-.05(5)(a) no later than 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 335-13-15-.05(5)(a) 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 335-13-15-.05(5)(b)1. and 2. no later than January 19, 2016.

(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 335-13-15-.05(5)(b)1. and 2. 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 335-13-15-.05(5)(b)1. and 2. 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. The owner or operator has completed an inspection when the inspection report has been placed in the facility's operating record as required by 335-13-15-.08(1)(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 a report detailing the corrective measures taken. This report must be submitted to the Department for review and approval.

(c) The owner or operator of the CCR unit must comply with the recordkeeping requirements specified in 335-13-15-.08(1)(g), the notification requirements specified in 335-13-15-.08(2)(g), and the internet requirements specified in 335-13-15-.08(3)(g).

(6) General operational standards for CCR units.

(a) The operation and use of the CCR unit shall be as stipulated in the approved plans and the permit.

(b) The disposal area shall be identified with a sufficient number of permanent markers which are at least visible from one marker to the next.

(c) Open Burning.



1. Open burning at any CCR unit is prohibited unless approved by the Department as follows:

(i) Clearing debris at the CCR unit such as trees and stumps may be burned if prior approval is received from the Department and the Alabama Forestry Commission.

(ii) If approved, burning shall not occur within 200 feet of existing disposal operations unless otherwise specified by the Department and such burning shall not cause a public nuisance or pose a threat to public health.

2. The person or agency requesting permission to burn shall apply in writing to the Department, outlining why a burn request should be granted. This request should include, but not be limited to, specifically what areas will be utilized, types of waste to be burned, the projected starting and completion dates for the project, and the projected days and hours of operation.

~~(d) The owner or operator of a CCR landfill unit must prevent the disposal of free liquids in the CCR landfill.~~

(de) Adequate equipment shall be provided to ensure continued operation in accordance with the permit and regulations.

~~(ef) The owner or operator of the facility must control public access and prevent unauthorized vehicular traffic and illegal dumping of wastes by using artificial barriers, natural barriers, or both, as appropriate to protect human health and the environment. The site shall be adequately secured using artificial barriers, natural barriers, or both to prevent entry of unauthorized vehicular traffic.~~

(fg) Adequate personnel shall be provided to ensure continued and smooth operation of the facility.

(gh) Provisions shall be made for disposal activities in adverse weather conditions.

(hi) Environmental monitoring and treatment structures shall be clearly marked and identified, protected and maintained in good repair and shall be easily accessible.

~~(i) All CCR material to be disposed shall be properly measured or weighed prior to disposal unless otherwise approved by the Department. The average daily volume of waste received at a CCR unit shall be calculated by dividing the total month's receipts by the total number of days in the reporting month. Records shall be maintained on the average daily volume of waste received at the CCR unit. A quarterly report which summarizes the daily volumes, with volumes received reported in a format specified and approved by the Department, shall be submitted to the Department and maintained on file in the operating record of the facility by the~~

permittee.

(j) The CCR unit shall be operated in such a manner that there will be no water pollution or unauthorized discharge.

1. Any discharge resulting from a CCR unit or practice may require:

(i) A National Pollutant Discharge Elimination System (NPDES) permit under the Alabama Water Pollution Control Act as issued by the Department.

(ii) A dredge or fill permit from the Army Corps of Engineers as required under Section 404 of the Clean Water Act, as amended; or

(iii) That a non-point source of surface waters does not violate an area wide or statewide water quality management plan that has been approved under the Alabama Water Pollution Control Act.

2. The groundwater shall not be contaminated as specified by this chapter.

(k) Notwithstanding this rule, additional requirements for operating and maintaining a CCR unit may be imposed by the Department, as deemed necessary, to comply with this Division.

(7) General operational standards for CCR landfills. In addition the requirements of 335-13-15-.05(6), the following also apply to CCR landfills:

(a) Daily, weekly, or some other periodic cover shall be required at all CCR landfill units, as determined by the Department.

1. The suitability and volume of any soils for daily, intermediate and final cover requirements shall be determined by soil borings and analysis.

2. Any proposal to use alternative cover systems shall be submitted to and approved by the Department prior to implementation.

3. Alternative cover shall be approved by the Department in compliance with federal law and the USEPA rules of guidance to achieve a level of performance equal to or greater than earthen cover material.

(b) All waste shall be covered as follows:

1. A minimum of six inches of compacted earth or other alternative cover material shown to achieve a level of performance equal to or greater than earthen cover material and that is approved by the Department shall be added at the conclusion of each week's operation or as otherwise specified by the Department.

2. In the event that erosion develops on previously covered disposal areas, or when covered waste otherwise becomes exposed, cover must be re-applied to

comply with the minimum cover requirements of subparagraph (7)(b)1. of this section.

3. Final closure shall be carried out in accordance with 335-13-15-.07.

(c) All waste shall be thoroughly spread in layers two feet or less in thickness and thoroughly compacted weekly with adequate equipment prior to placing additional layers of waste or placing the weekly cover as specified in 335-13-15-.05(7)(b)1., unless otherwise approved by the Department. Waste which cannot be managed by equipment in this manner shall be managed in a manner approved by the Department.

(d) All waste shall be placed onto an appropriate slope not to exceed 4 to 1 (25%) or as approved by the Department.

(e) ~~(d)~~—The owner or operator of a CCR landfill unit must prevent the disposal of free liquids in the CCR landfill.

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**335-13-15-.06** Groundwater Monitoring and Corrective Action.

(1) Applicability.

(a) All CCR landfills, CCR surface impoundments, and lateral expansions of CCR units are subject to the groundwater monitoring and corrective action requirements under 335-13-15-.06(1) through 335-13-15-.06(9).

(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 335-13-15-.06(2);

(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 335-13-15-.06(4);

(iii) Initiate the detection monitoring program to include obtaining a minimum of eight independent samples for each background and downgradient well as required by 335-13-15-.06(5)(b); and

(iv) Begin evaluating the groundwater monitoring data for statistically significant increases over background levels for the constituents listed in Appendix III as required by 335-13-15-.06(5).

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 335-13-15-.06(1)(b)1.(i) and (ii). 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 335-13-15-.06(5)(b).

(c) Once a groundwater monitoring system and groundwater monitoring program has been established at the CCR unit as required by this chapter, 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 335-13-15-.06(7), 335-13-15-.06(8), and 335-13-15-.06(9).

(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 chapter, 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. The owner or operator has prepared the annual report when the report is submitted to the Department and placed in the facility's operating record as required by 335-13-15-.08(1)(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 upgradient) 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 335-13-15-.06(1) through 335-13-15-.06(9), 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 as a statistically significant increase over background levels); and

5. Other information required to be included in the annual report as specified in 335-13-15-.06(1) through 335-13-15-.06(9).

6. A section at the beginning of the annual report that provides an

overview of the current status of groundwater monitoring and corrective action programs for the CCR unit. At a minimum, the summary must specify all of the following:

(i) At the start of the current annual reporting period, whether the CCR unit was operating under the detection monitoring program in 335-13-15-.06(5) or the assessment monitoring program in 335-13-15-.06(6);

(ii) At the end of the current annual reporting period, whether the CCR unit was operating under the detection monitoring program in 335-13-15-.06(5) or the assessment monitoring program in 335-13-15-.06(6);

(iii) If it was determined that there was a statistically significant increase over background for one or more constituents listed in Appendix III pursuant to 335-13-15-.06(5)(e):

I. Identify those constituents listed in Appendix III and the names of the monitoring wells associated with such an increase; and

II. Provide the date when the assessment monitoring program was initiated for the CCR unit.

(iv) If it was determined that there was a statistically significant level above the groundwater protection standard for one or more constituents listed in Appendix IV pursuant to 335-13-15-.06(6)(g) include all of the following:

I. Identify those constituents listed in Appendix IV and the names of the monitoring wells associated with such an increase;

II. Provide the date when the assessment of corrective measures was initiated for the CCR unit;

III. Provide the date when the public meeting was held for the assessment of corrective measures for the CCR unit; and

IV. Provide the date when the assessment of corrective measures was completed for the CCR unit.

(v) Whether a remedy was selected pursuant to 335-13-15-.06(8) during the current annual reporting period, and if so, the date of remedy selection; and

(vi) Whether remedial activities were initiated or are ongoing pursuant to 335-13-15-.06(9) during the current annual reporting period.

(f) Semi-annual groundwater monitoring report. The owner or operator of a CCR unit must submit a semi-annual groundwater monitoring report to the Department to coincide with the semi-annual sampling event. The report shall

be certified by a qualified professional engineer. The semi-annual report must document the status of the groundwater monitoring program for the CCR unit. The owner or operator has prepared the semi-annual report when the report is submitted to the Department and placed in the facility's operating record as required by 335-13-15-.08(1)(h)14. At a minimum, the semi-annual groundwater monitoring 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 upgradient) 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 semi-annual period;

3. In addition to all the monitoring data obtained under 335-13-15-.06(1) through 335-13-15-.06(9), 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; and

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 as a statistically significant increase over background levels).

(g) The owner or operator of the CCR unit must comply with the recordkeeping requirements specified in 335-13-15-.08(1)(h), the notification requirements specified in 335-13-15-.08(2)(h), and the internet requirements specified in 335-13-15-.08(3)(h).

(2) 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 upgradient of the CCR management area where:

(i) Hydrogeologic conditions do not allow the owner or operator of the CCR unit to determine what wells are hydraulically upgradient; 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 upgradient 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.

3. The number, spacing, and depth of the monitoring system developed under 335-13-15-.06(2) shall be certified by a qualified professional engineer and submitted to the Department for approval. Within 14 days of the Department's approval, the owner or operator must notify the Department that the certification has been placed in the facility operating record.

(c) The groundwater monitoring system must include, at a minimum, the number of monitoring wells necessary to meet the performance standards specified in 335-13-15-.06(2)(a), based on the site-specific information specified in 335-13-15-.06(2)(b). The groundwater monitoring system must contain:

1. A minimum of one upgradient 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 335-13-15-.06(2)(a) through (c) for each CCR unit based on the following factors:

- (i) Number, spacing, and orientation of each CCR unit;
- (ii) Hydrogeologic setting;
- (iii) Site history; and
- (iv) Engineering design of the CCR unit.

2. [Reserved]

(e) Well design and construction.

1. Groundwater monitoring wells shall be designed and constructed in accordance with the following reference: "Design and Installation of Groundwater Monitoring Wells in Aquifers", ASTM Subcommittee D18.21 on Groundwater Monitoring or otherwise as specifically approved by the Department.

2. Plans for groundwater monitoring well location, design, construction and/or abandonment shall be submitted to the Department for review and approval prior to installation or abandonment.

3. 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.

4. 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 335-13-15-.06(2)(f).

5. 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 335-13-15-.06(2)(c)1., the certification must document the basis supporting this determination. Once completed, the certification must be submitted to the Department and placed in the operating record in accordance with 335-13-15-.08(1)(h)3.

(g) Abandoned wells and bore holes shall be abandoned in accordance with the following procedures in order to prevent contamination of groundwater resources. A plan of abandonment must be submitted and approved by the Department prior to implementing abandonment of any well.

1. A well shall be measured for depth prior to sealing to ensure that it is free from any obstructions that may interfere with sealing operations.

2. Where feasible, wells shall be completely filled with neat cement. If the well cannot be completely filled, the sealing materials for the top 20 feet must be neat cement and no material that could impart taste, odor, or toxic components to water may be used in the sealing process.

3. Liner pipe shall be removed from each well in order to ensure placement of an effective seal. If the liner pipe cannot be readily removed, it shall be perforated to ensure that proper sealing is obtained.

4. Concrete, cement grout, or neat cement shall be used as primary sealing materials and shall be placed from the bottom upwards using methods that will avoid segregation or dilution of material.

5. Complete, accurate records of the abandonment procedure shall be kept for each well abandoned. The record of abandonment shall include, at a minimum, the depth of each layer of all sealing and backfilling materials, the quantity of sealing materials used, measurements of static water levels and depth, and any changes made in the well during the sealing. A copy of these records shall be submitted to the Department and a copy placed in the operating record.

(h) The owner or operator of the CCR unit must comply with the recordkeeping requirements specified in 335-13-15-.08(1)(h), the notification requirements specified in 335-13-15-.08(2)(h), and the internet requirements specified in 335-13-15-.08(3)(h).

(3) [Reserved]

(4) 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 335-13-15-.06(2). The owner or operator of the CCR unit must develop, and submit to the Department for approval, 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 335-13-15-.06(1) through 335-13-15-.06(9), the term constituent refers to both hazardous constituents and other monitoring parameters listed in either Appendix III or IV.

(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 upgradient 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 335-13-15-.06(5)(a) or 335-13-15-.06(6)(a). Background groundwater quality may be established at wells that are not located hydraulically upgradient from the CCR unit if it meets the requirements of 335-13-15-.06(2)(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 335-13-15-.06(4)(f) and the performance standards under 335-13-15-.06(4)(g). The sampling procedures shall be those specified under 335-13-15-.06(5)(b) through (d) for detection monitoring, 335-13-15-.06(6)(b) through (d) for assessment monitoring, and 335-13-15-.06(7)(b) for corrective action.

(f) The owner or operator of the CCR unit must specify in writing to

the Department and place in the operating record one of the statistical methods specified in 335-13-15-.06(4)(f)1. through 5. 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 335-13-15-.06(4)(g). The owner or operator must place a justification for this alternative in the operating record and submit it to the Department for approval to use this alternative method. The justification must demonstrate that the alternative method meets the performance standards of 335-13-15-.06(4)(g).

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 335-13-15-.06(4)(f) 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 and certify in writing to the Department if there is a statistically significant increase over background values or the groundwater protection standard for each constituent required in the particular groundwater monitoring program that

applies to the CCR unit, as determined under 335-13-15-.06(5)(a) or 335-13-15-.06(6)(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 335-13-15-.06(2)(a)2. or (d)1. to the background value of that constituent when in detection monitoring or to the groundwater protection standard when in assessment monitoring, according to the statistical procedures and performance standards specified under 335-13-15-.06(4)(f) and (g).

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 when in detection monitoring or to the groundwater protection standard when in assessment monitoring for any constituent at each monitoring well.

3. If a statistically significant increase is detected over background groundwater quality when in detection monitoring or over the groundwater protection standard when in assessment monitoring, the owner or operator must notify the Department in writing within 14 days of this event.

(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 335-13-15-.08(1)(h), the notification requirements specified in 335-13-15-.08(2)(h), and the internet requirements specified in 335-13-15-.08(3)(h).

(5) 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 the constituents listed in Appendix III of this chapter.

(b) Except as provided in 335-13-15-.06(5)(d), the monitoring frequency for the constituents listed in Appendix III 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 Appendix IV, for the purpose of establishing background

concentrations 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 Appendix III and Appendix IV for the purpose of establishing background concentrations 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 335-13-15-.06(4)(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 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 335-13-15-.06(5)(d)1. and 2.

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 submit the demonstration providing the basis for the alternative monitoring frequency and the certification by a qualified professional engineer to the Department for approval. If Departmental approval is granted, the owner or operator must place the demonstration in the annual groundwater monitoring and corrective action report required by 335-13-15-.06(1)(e).

(e) If the owner or operator of the CCR unit determines, pursuant to 335-13-15-.06(4)(h) that there is a statistically significant increase over background levels for one or more of the constituents listed in Appendix III at any monitoring well at the waste boundary specified under 335-13-15-.06(2)(a)2., the owner or operator must:

1. Except as provided for in 335-13-15-.06(5)(e)2., within 90 days of detecting a statistically significant increase over background levels for any constituent, establish an assessment monitoring program meeting the requirements of 335-13-15-.06(6).

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. A report documenting this demonstration must be certified by a qualified professional engineer verifying the accuracy of the information in the report, and placed in the operating record. 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, subject to subsequent review and approval from the Department. 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 335-13-15-.06(6). The owner or operator must also include the demonstration in the annual groundwater monitoring and corrective action report required by 335-13-15-.06(1)(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 335-13-15-.08(1)(h)5; and

4. Must, within 14 days of this finding, place a notice in the operating record, and submit a copy of this notice to the Department, stating that a statistically significant increase over background has been detected and indicate which constituents have shown statistically significant changes from background levels.

(f) The owner or operator of the CCR unit must comply with the recordkeeping requirements specified in 335-13-15-.08(1)(h), the notification requirements specified in 335-13-15-.08(2)(h), and the internet requirements specified in 335-13-15-.08(3)(h).

(6) 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.

(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 III and Appendix IV. The number of samples collected and analyzed for each well during each sampling event must be consistent with 335-13-15-.06(4)(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 III and Appendix IV 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 335-13-15-.06(6)(c)1. and 2.

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;
- (iii) Groundwater flow rates; and
- (iv) Nature (fate and transport) of any constituents detected in response to this rule.

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 submit the demonstration providing the basis for the alternative monitoring frequency and the certification by a qualified professional engineer to the Department for approval. If Departmental approval is granted, the owner or operator must place the demonstration in the annual

groundwater monitoring and corrective action report required by 335-13-15-.06(1)(e).

(d) After obtaining the results from the initial and subsequent sampling events required in 335-13-15-.06(6)(b), the owner or operator must:

1. Within 14 days, place a notice in the operating record and submit a copy of this notice to the Department identifying the Appendix IV constituents that have been detected;

2. 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 335-13-15-.06(2), conduct analyses for all parameters in Appendix III and for those constituents in Appendix IV that are detected in response to 335-13-15-.06(6)(b), 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 335-13-15-.06(4)(e), and must account for any unique characteristics of the site, but must be at least one sample from each background and downgradient well;

3. Establish groundwater protection standards for all Appendix IV constituents detected pursuant to 335-13-15-.06(6)(b) or (d). The groundwater protection standards must be established in accordance with 335-13-15-.06(6)(h); and

4. Include the recorded concentrations required by 335-13-15-.06(6)(d)2., identify the background concentrations established under 335-13-15-.06(5)(b), and identify the groundwater protection standards established under 335-13-15-.06(6)(d)3. in the annual groundwater monitoring and corrective action report required by 335-13-15-.06(1)(e) and the semi-annual groundwater monitoring report required by 335-13-15-.06(1)(f).

(e) If the concentrations of all constituents listed in Appendix III and Appendix IV are shown to be at or below background values, using the statistical procedures in 335-13-15-.06(4)(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 335-13-15-.08(1)(h)7. and submitted to the Department.

(f) If the concentrations of any constituent in Appendix III and Appendix IV are above background values, but all concentrations are below the groundwater protection standard established under 335-13-15-.06(6)(h), using the statistical procedures in 335-13-15-.06(4)(g), the owner or operator must continue assessment monitoring in accordance with this section.

(g) If one or more constituents in Appendix IV are detected at statistically significant levels above the groundwater protection standard established under 335-13-15-.06(6)(h) in any sampling event, the owner or operator must prepare a notification identifying the constituents in Appendix IV 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 335-13-15-.08(1)(h)8. The owner or operator of the CCR unit also must:

1. Submit a copy of the notification to the Department and all appropriate local government officials, if the facility is subject to the local host government approval requirements ~~as specified in 335-13-5-.02(a)~~ as provided in the Code of Alabama 1975, § 22-27-48 and 48.1; and

2. 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 335-13-15-.06(7). 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 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 335-13-15-.06(6)(d)2.; and

(iv) Sample all wells in accordance with 335-13-15-.06(6)(d)2. to characterize the nature and extent of the release.

3. 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 335-13-15-.06(6)(g)2. The owner or operator has completed the notifications when they are placed in the facility's operating record as required by 335-13-15-.08(1)(h)8.

4. Within 90 days of finding that any of the constituents listed in Appendix IV 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 335-

13-15-.06(7); 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 and approved by the Department. 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 Appendix III and Appendix IV are at or below background as specified in 335-13-15-.06(6)(e). The owner or operator must also include the demonstration in the annual groundwater monitoring and corrective action report required by 335-13-15-.06(1)(e), in addition to the certification by a qualified professional engineer.

5. If a successful determination has not been made at the end of the 90 day period provided by 335-13-15-.06(6)(g)4., the owner or operator of the CCR unit must initiate the assessment of corrective measures requirements under 335-13-15-.06(7).

6. 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 detected in the groundwater. The groundwater protection standard shall be:

1. For constituents for which a maximum contaminant level (MCL) has been established under 335-7-2-.03(1) and 335-7-2-.08(1) and (2), the MCL for that constituent;

2. For the following constituents:

- (i) Cobalt 6 micrograms per liter ( $\mu\text{g/L}$ );
- (ii) Lead 15  $\mu\text{g/L}$ ;
- (iii) Lithium 40  $\mu\text{g/L}$ ; and
- (iv) Molybdenum 100  $\mu\text{g/L}$ .

3. For constituents for which the background level is higher than the levels identified under 335-13-15-.06(6)(h)1. or (h)2., the background concentration.

(i) The owner or operator of the CCR unit must comply with the recordkeeping requirements specified in 335-13-15-.08(1)(h), the notification requirements specified in 335-13-15-.08(2)(h), and the internet requirements specified in 335-13-15-.08(3)(h).

(7) Assessment of corrective measures.

(a) Within 90 days of finding that any constituent listed in Appendix IV has been detected at a statistically significant level exceeding the groundwater protection standard defined under 335-13-15-.06(6)(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 areas 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 and submit the demonstration to the Department for approval. 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 335-13-15-.06(1)(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 335-13-15-.06(6).

(c) The assessment under 335-13-15-.06(7)(a) 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 335-13-15-.06(8) 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 335-13-15-.08(1)(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 335-13-15-.08(1)(h), the notification requirements specified in 335-13-15-.08(2)(h), and the internet requirements specified in 335-13-15-.08(3)(h).

(8) Selection of remedy.

(a) Based on the results of the corrective measures assessment conducted under 335-13-15-.06(7), the owner or operator must, as soon as feasible, select a remedy that, at a minimum, meets the standards listed in 335-13-15-.06(8)(b). This requirement applies in addition 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 335-13-15-.06(8)(b). The owner or operator must obtain a certification from a qualified professional engineer that the remedy selected meets the requirements of this section. Within 14 days of selecting a remedy, the owner or operator must submit the report to the Department for approval of the selected remedy. The report has been completed when it is placed in the operating record as required by 335-13-15-.08(1)(h)12.

(b) Remedies must:

1. Be protective of human health and the environment;
2. Attain the groundwater protection standard as specified pursuant to 335-13-15-.06(6)(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 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 335-13-15-.06(9)(d).

(c) In selecting a remedy that meets the standards of 335-13-15-.06(8)(b), 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 335-13-15-.06(8)(d)1. through 6. 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 335-13-15-.06(6)(g);

2. Reasonable probabilities of remedial technologies in achieving compliance with the groundwater protection standards established under 335-13-15-.06(6)(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 hydrogeologic 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 335-13-15-.08(1)(h), the notification requirements specified in 335-13-15-.08(2)(h), and the internet requirements specified in 335-13-15-.08(3)(h).

(9) Implementation of the corrective action program.

(a) Within 90 days of selecting a remedy under 335-13-15-.06(8), the owner or operator must initiate remedial activities. Based on the schedule established under 335-13-15-.06(8)(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 335-13-15-.06(6);

(ii) Documents the effectiveness of the corrective action remedy; and

(iii) Demonstrates compliance with the groundwater protection standard pursuant to 335-13-15-.06(9)(c).

2. Implement the corrective action remedy selected under 335-13-15-.06(8); 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 335-13-15-.06(8). 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;

(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 migrate or be released;

(vi) Potential for exposure to any of the constituents listed in Appendix IV 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 335-13-15-.06(8)(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 335-13-15-.06(8) shall be considered complete when:

1. The owner or operator of the CCR unit demonstrates compliance with the groundwater protection standards established under 335-13-15-.06(6)(h) has been achieved at all points within the plume of contamination that lie beyond the groundwater monitoring well system established under 335-13-15-.06(2).

2. Compliance with the groundwater protection standards established under 335-13-15-.06(6)(h) has been achieved by demonstrating that concentrations of constituents listed in Appendix IV have not exceeded the groundwater protection standard(s) for a period of three consecutive years using the statistical procedures and performance standards in 335-13-15-.06(4)(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 335-13-15-.06(8), or an interim measure required under 335-13-15-.06(9)(a)3., shall be managed in a manner that complies with all applicable state and/or federal requirements.

(e) Upon completion of the remedy, the owner or operator must notify the Department within 14 days that a certification from a qualified professional engineer attesting that the remedy has been completed in compliance with the requirements of 335-13-15-.06(9)(c) has been placed in the operating record. The certification must be signed by the owner or operator and by a qualified professional engineer and approved by the Department. The report has been completed when it is placed in the operating record as required by 335-13-15-.08(1)(h)13.

(f) The owner or operator of the CCR unit must comply with the recordkeeping requirements specified in 335-13-15-.08(1)(h), the notification requirements specified in 335-13-15-.08(2)(h), and the internet requirements specified in 335-13-15-.08(3)(h).

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**335-13-15-.07 Closure and Post-Closure Care.**

(1) Inactive CCR surface impoundments.

(a) Inactive CCR surface impoundments are subject to all of the requirements of this chapter applicable to existing CCR surface impoundments.

(b) [Reserved]

(c) [Reserved]

(d) [Reserved]

(e) Timeframes for certain inactive CCR surface impoundments.

1. An inactive CCR surface impoundment for which the owner or operator has completed the actions by the deadlines specified in 335-13-15-.07(1)(e)1.(i) through (iii) is eligible for the alternative timeframes specified in 335-13-15-.07(1)(e)2. through 6. The owner or operator of the CCR unit must comply with the applicable recordkeeping, notification, and internet requirements associated with these provisions. For the inactive CCR surface impoundment:

(i) The owner or operator must have prepared and placed in the facility's operating record by December 17, 2015, a notification of intent to initiate closure of the inactive CCR surface impoundment pursuant to 335-13-15-.08(1)(i)1.;

(ii) The owner or operator must have provided notification to the Director by January 19, 2016, of the intent to initiate closure of the inactive CCR surface impoundment pursuant to 335-13-15-.08(2)(i)1; and

(iii) The owner or operator must have placed on its CCR website by January 19, 2016, the notification of intent to initiate closure of the inactive CCR surface impoundment pursuant to 335-13-15-.08(3)(i)1.

2. Location restrictions.

(i) No later than April 16, 2020, the owner or operator of the inactive CCR surface impoundment must:

(I) Complete the demonstration for placement above the uppermost aquifer as set forth by 335-13-15-.03(1)(a), (b), (c) and (d)3.;

(II) Complete the demonstration for wetlands as set forth by 335-13-15-.03(2)(a), (b), and (c)3.;

(III) Complete the demonstration for fault areas as set forth by 335-13-15-.03(3)(a), (b), and (c)3.;

(IV) Complete the demonstration for seismic impact zones as set forth by 335-13-15-.03(4)(a), (b), and (c)3.; and

(V) Complete the demonstration for unstable areas as set forth by 335-13-15-.03(5)(a), (b), (c), and (d)3.

(ii) An owner or operator of an inactive CCR surface impoundment who fails to demonstrate compliance with the requirements of 335-13-15-.07(1)(e)2.(i) is subject to the closure requirements of 335-13-.15-.07(2)(b)1.

3. Design criteria. The owner or operator of the inactive CCR surface impoundment must:

(i) No later than April 17, 2018, complete the documentation of liner type as set forth by 335-13-15-.04(2)(a) and (b).

(ii) No later than June 16, 2017, place on or immediately adjacent to the CCR unit the permanent identification marker as set forth by 335-13-15-.04(4)(a)1.

(iii) No later than October 16, 2018, prepare and maintain an Emergency Action Plan as set forth by 335-13-15-.04(4)(a)3.

(iv) No later than April 17, 2018, compile a history of construction as set forth by 335-13-15-.04(4)(b) and (c).

(v) No later than April 17, 2018, complete the initial hazard potential classification, structural stability, and safety factor assessments as set forth by 335-13-15-.04(4)(a)2., (b), (d), (e), and (f).

4. Operating criteria. The owner or operator of the inactive CCR surface impoundment must:

(i) No later than April 18, 2017, prepare the initial CCR fugitive dust control plan as set forth in 335-13-15-.05(1)(b).

(ii) No later than April 17, 2018, prepare the initial inflow design flood control system plan as set forth in 335-13-15-.05(3)(c).

(iii) No later than April 18, 2017, initiate the inspections by a qualified person as set forth by 335-13-15-.05(4)(a).

(iv) No later than July 19, 2017, complete the initial annual inspection by a qualified professional engineer as set forth by 335-13-15-.05(4)(b).

5. Groundwater monitoring and corrective action. The owner or operator of the inactive CCR surface impoundment must:

(i) No later than April 17, 2019, comply with groundwater monitoring requirements set forth in 335-13-15-.06(1)(b) and 335-13-15-.06(5)(b); and

(ii) No later than August 1, 2019, prepare the initial groundwater monitoring and corrective action report as set forth in 335-13-15-.06(1)(e).

6. Closure and post-closure care. The owner or operator of the inactive CCR surface impoundment must:

(i) No later than April 17, 2018, prepare an initial written closure plan as set forth in 335-13-15-.07(3)(b); and

(ii) No later than April 17, 2018, prepare an initial written post-closure care plan as set forth in 335-13-15-.07(5)(d).

(2) Closure or retrofit of CCR units.

(a) The owner or operator of an existing unlined CCR surface impoundment, as determined under 335-13-15-.04(2)(a), is subject to the requirements of 335-13-15-.07(2)(a)1.

1. Except as provided by 335-13-15-.07(2)(a)3., as soon as technically feasible, but not later than April 11, 2021, an owner or operator of an existing unlined CCR surface impoundment must cease placing CCR and non-CCR wastestreams into such CCR surface impoundment and either retrofit or close the CCR unit in accordance with the requirements of 335-13-15-.07(3).

2. An owner or operator of an existing unlined CCR surface impoundment that closes in accordance with 335-13-15-.07(2)(a)1. must include a statement in the notification required under 335-13-15-.07(3)(g) or (l)5. that the CCR surface impoundment is closing or retrofitting under the requirements of 335-13-15-.07(2)(a)1.

3. The timeframe specified in 335-13-15-.07(2)(a)1. does not apply if the owner or operator complies with the alternative closure procedures specified in 335-13-15-.07(4).

4. At any time after the initiation of closure under 335-13-15-.07(2)(a)1., the owner or operator may cease closure activities and initiate a retrofit of the CCR unit in accordance with the requirements of 335-13-15-.07(3)(l).

(b) The owner or operator of an existing CCR surface impoundment is subject to the requirements of 335-13-15-.07(2)(b)1.

1. (i) Location standard under 335-13-15-.03(1). Except as

provided by 335-13-15-.07(2)(b)4., the owner or operator of an existing CCR surface impoundment that has not demonstrated compliance with the location standard specified in 335-13-15-.03(1)(a) must cease placing CCR and non-CCR wastestreams into such CCR unit as soon as technically feasible, but no later than April 11, 2021, and close the CCR unit in accordance with the requirements of 335-13-15-.07(3).

(ii) Location standards under 335-13-15-.03(2) through 335-13-15-.03(5). Except as provided by 335-13-15-.07(2)(b)4., within six months of determining that an existing CCR surface impoundment has not demonstrated compliance with any location standard specified in 335-13-15-.03(2)(a), 335-13-15-.03(3)(a), 335-13-15-.03(4)(a), and 335-13-15-.03(5)(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 335-13-15-.07(3).

2. Within six months of either failing to complete the initial or any subsequent periodic safety factor assessment required by 335-13-15-.04(4)(e) by the deadlines specified in 335-13-15-.04(4)(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 335-13-15-.04(4)(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 335-13-15-.07(3).

3. An owner or operator of an existing CCR surface impoundment that closes in accordance with 335-13-15-.07(2)(b)1. or 2. must include a statement in the notification required under 335-13-15-.07(3)(g) that the CCR surface impoundment is closing under the requirements of 335-13-15-.07(2)(b)1. or 2.

4. The timeframe specified in 335-13-15-.07(2)(b)1. does not apply if the owner or operator complies with the alternative closure procedures specified in 335-13-15-.07(4).

(c) The owner or operator of a new CCR surface impoundment is subject to the requirements of 335-13-15-.07(2)(c)1.

1. Within six months of either failing to complete the initial or any subsequent periodic safety factor assessment required by 335-13-15-.04(5)(e) by the deadlines specified in 335-13-15-.04(5)(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 335-13-15-.04(5)(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 335-13-15-.07(3).

2. An owner or operator of a new CCR surface impoundment that

closes in accordance with 335-13-15-.07(2)(c)1. must include a statement in the notification required under 335-13-15-.07(3)(g) that the CCR surface impoundment is closing under the requirements of 335-13-15-.07(2)(c)1.

(d) The owner or operator of an existing CCR landfill is subject to the requirements of 335-13-15-.07(2)(d)1.

1. Except as provided by 335-13-15-.07(2)(d)3., within six months of determining that an existing CCR landfill has not demonstrated compliance with the location restriction for unstable areas specified in 335-13-15-.03(5)(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 335-13-15-.07(3).

2. An owner or operator of an existing CCR landfill that closes in accordance with 335-13-15-.07(2)(d)1. must include a statement in the notification required under 335-13-15-.07(3)(g) that the CCR landfill is closing under the requirements of 335-13-15-.07(2)(d)1.

3. The timeframe specified in 335-13-15-.07(2)(d)1. does not apply if the owner or operator complies with the alternative closure procedures specified in 335-13-15-.07(4).

(3) Criteria for conducting the closure or retrofit of CCR units.

(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 335-13-15-.07(3)(b) through (j). Retrofit of a CCR surface impoundment must be completed in accordance with the requirements in 335-13-15-.07(3)(l).

(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 owner or operator must submit the closure plan as part of the permit application to the Department. The written closure plan must include, at a minimum, the information specified in 335-13-15-.07(3)(b)1.(i) through (vi).

(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 335-13-15-.07(3)(c).

(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 335-13-15-.07(3)(d), 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 335-13-15-.07(3)(d).

(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 335-13-15-.07(3)(d) 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 335-13-15-.07(3)(f)1., the written closure plan must include the site-specific information, factors and considerations that would support any time extension sought under 335-13-15-.07(3)(f)2.

## 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 335-13-15-.07(3)(b)1.

(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 335-13-15-.07(3)(b)1.

(iii) The owner or operator has completed the written closure plan when the plan, including the certification required by 335-13-15-.07(3)(b)4., has been placed in the facility's operating record as required by 335-13-15-.08(1)(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 335-13-15-.07(3)(b)1. at any time.

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

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

(II) 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. The closure plan, as well as the certification from a qualified professional engineer, must be submitted to the Department for approval.

(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 335-13-15-.06(6)(h) for constituents listed in Appendix IV.

(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 run-off 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 335-13-15-.07(3)(d)2.(i) and (ii) prior to installing the final cover system required under 335-13-15-.07(3)(d)3.

(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 335-13-15-.07(3)(d)3.(ii)(I) through (III), or the requirements of the alternative final cover system specified in 335-13-15-.07(3)(d)3.(ii).

(i) The final cover system must be designed and constructed to meet the criteria in 335-13-15-.07(3)(d)3.(i)(I) through (VII). The design of the final cover system must be included in the written closure plan required by 335-13-15-.07(3)(b).

(I) 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.

(II) 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.

(III) The minimum final grade of the final cover system shall not be less than 5 percent.

(IV) The maximum final grade of the final cover system shall not exceed 25 percent, or as specified by the Department, to minimize erosion.

(V) Slopes longer than 25 feet shall require horizontal terraces, of

sufficient width for equipment operation, for every 20 feet rise in elevation or utilize other erosion control measures approved by the Department.

(VI) 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.

(VII) 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 335-13-15-.07(3)(d)3.(i)(I) through (IV). The design of the final cover system must be included in the written closure plan required by 335-13-15-.07(3)(b).

(I) 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 335-13-15-.07(3)(d)3.(i)(I) and (II).

(II) 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 335-13-15-.07(3)(d)3.(i)(VI).

(III) 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 and submit to the Department 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 335-13-15-.07(3)(e)4. and 335-13-15-.07(4), the owner or operator of a CCR unit must commence closure of the CCR unit no later than the applicable timeframes specified in either 335-13-15-.07(3)(e)1. or 2.

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 335-13-15-.07(3)(e)2.(ii), 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 335-13-15-.07(3)(e)2.(i), the owner or operator of the CCR unit may request an additional two years to initiate closure of the idle unit provided the owner or operator provides written documentation to the Department 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 335-13-15-.07(3)(e)2.(ii)(I) and (II). The Department may approve 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 submit each completed demonstration, if more than one time extension is sought, to the Department for approval and place in the facility's operating record as required by 335-13-15-.08(1)(i)5. prior to the end of any two-year period.

(I) 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

(II) Information demonstrating that ~~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 335-13-15-.07(3)(e)2.(ii)(II)I. through IV. 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.

I. 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.

II. 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.

III. 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.

IV. 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 335-13-15-.07(3)(e)2.(i), the owner or operator of the CCR unit must include with the demonstration required by 335-13-15-.07(3)(e)2.(ii) 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 chapter, 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 335-13-15-.07(3)(b);

(ii) 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 335-13-15-.07(3)(e)1. and 2. do not apply to any of the following owners or operators:

(i) [Reserved]

(ii) An owner or operator of an existing unlined CCR surface impoundment closing the CCR unit as required by 335-13-15-.07(2)(a);

(iii) An owner or operator of an existing CCR surface impoundment closing the CCR unit as required by 335-13-15-.07(2)(b); or

(iv) An owner or operator of a new CCR surface impoundment closing the CCR unit as required by 335-13-15-.07(2)(c); or

(v) An owner or operator of an existing CCR landfill closing the CCR unit as required by 335-13-15-.07(2)(d).

(f) Completion of closure activities.

1. Except as provided for in 335-13-15-.07(3)(f)2., 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 335-13-15-.07(3)(f)1. may be extended if the owner or operator can demonstrate to the Department 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 335-13-15-.07(3)(b)1., 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 submit each completed demonstration, if more than one time extension is sought, to the Department for approval and place in the facility's operating record as required by 335-13-15-.08(1)(i)6. prior to the end of any two-year period. Factors that may support such a demonstration include:

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

(II) 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; or

(III) The geology and terrain surrounding the CCR unit will affect the amount of material needed to close the CCR unit.

(ii) Maximum time extensions.

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

(II) 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.

(III) 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 335-13-15-.07(3)(f)1., the owner or operator of the CCR unit must include with the demonstration required by 335-13-15-.07(3)(f)2.(i) 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 335-13-15-.07(3)(b) 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 335-13-15-.07(3)(d)3.(iii), if applicable. The owner or operator has completed the notification when it has been submitted to the Department and placed in the facility’s operating record as required by 335-13-15-.08(1)(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 335-13-15-.07(3)(f)3. The owner or operator has completed the notification when it has been submitted to the Department and placed in the facility’s operating record as required by 335-13-15-.08(1)(i)8.

(i) Deed notations.

1. Except as provided by 335-13-15-.07(3)(i)4., 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 335-13-15-.07(5)(d)1.(iii).

(iii) The locations and dimensions of the CCR unit with respect to permanently surveyed benchmarks and section corners shall be on a plat prepared and sealed by a land surveyor.

(iv) Contain a note, prominently displayed, which states the name of the permittee or operating agency, the type of CCR unit and the beginning and closure dates of the disposal activity.

(v) Certification by an engineer that all closure requirements have been completed as determined necessary by the Department.

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 335-13-15-.08(1)(i)9. and documentation of the recording of the notation on the deed has been submitted to the Department.

4. An owner or operator that closes a CCR unit in accordance with 335-13-15-.07(3)(c) is not subject to the requirements of 335-13-15-.07(3)(i)1. through 3.

(j) Following closure, the owner or operator of a CCR unit must provide an environmental covenant to the Department in compliance with 335-5. The owner or operator must place the executed environmental covenant in the facility's operating record as required by 335-13-15-.08(1)(i)10.

(k) The owner or operator of the CCR unit must comply with the closure recordkeeping requirements specified in 335-13-15-.08(1)(i), the closure notification requirements specified in 335-13-15-.08(2)(i), and the closure internet requirements specified in 335-13-15-.08(3)(i).

(l) 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 335-13-15-.04(3).

(iii) A CCR surface impoundment undergoing a retrofit remains subject to all other requirements of this chapter, 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:

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

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

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

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

(V) 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.

(I) No later than 60 days prior to the date of initiating retrofit activities, the owner or operator must prepare an initial written retrofit plan consistent with the requirements specified in 335-13-15-.07(3)(l)2. For purposes of this chapter, 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:

I. Taken any steps necessary to implement the written retrofit plan; or

II. 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.

(II) The owner or operator has completed the written retrofit plan when

the plan, including the certification required by 335-13-15-.07(3)(l)2.(iv), has been placed in the facility's operating record as required by 335-13-15-.08(1)(j)1.

(iii) Amendment of a written retrofit plan.

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

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

I. There is a change in the operation of the CCR unit that would substantially affect the written retrofit plan in effect; or

II. Before or after retrofit activities have commenced, unanticipated events necessitate a revision of the written retrofit plan.

(III) 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. The retrofit plan, as well as the certification from a qualified professional engineer, must be submitted to the Department for approval.

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 335-13-15-.07(3)(f) or, where applicable, 335-13-15-.07(4).

4. Upon completion, the owner or operator must obtain and submit to the Department a certification from a qualified professional engineer verifying that the retrofit activities have been completed in accordance with the retrofit plan specified in 335-13-15-.07(3)(l)2. 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 335-13-15-.08(1)(j)5.

6. Within 30 days of completing the retrofit activities specified in 335-13-15-.07(3)(l)1., 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 335-13-15-.07(3)(l)4. The owner or operator has completed the notification when it has been placed in the facility's operating record as required by 335-13-15-.08(1)(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 335-13-15-.07(3).

8. The owner or operator of the CCR unit must comply with the retrofit recordkeeping requirements specified in 335-13-15-.08(1)(j), the retrofit notification requirements specified in 335-13-15-.08(2)(j), and the retrofit internet requirements specified in 335-13-15-.08(3)(j).

(4) Alternative closure requirements. 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 335-13-15-.07(2)(a), (b)1., or (d) may nevertheless continue to receive the wastes specified in either 335-13-15-.07(4)(a), (b), (f)1., or (f)2. in the unit, provided the owner or operator meets all the requirements in the respective paragraph.

(a) CCR Landfills

1. No alternative CCR disposal capacity. Notwithstanding the provisions of 335-13-15-.07(2)(d), a CCR landfill may continue to receive CCR if the owner or operator of the CCR ~~landfill unit~~ certifies that the CCR must continue to be managed in that CCR landfill due to the absence of alternative disposal capacity both on-site and off-site of the facility. To qualify under this paragraph, the owner or operator of the CCR ~~unit~~landfill must submit a plan to the Department for approval which demonstrates 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 335-13-15-.07(4)(a) 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 chapter, including the requirement to conduct any necessary corrective action; and

(iv) The owner or operator must prepare and submit to the Department the annual progress report specified in 335-13-15-.07(4)(c) 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 landfill must cease receiving CCR and initiate closure following the timeframes in 335-13-15-.07(3)(e).

3. If no alternative capacity is identified within five years after the initial certification, the CCR landfill must cease receiving CCR and close in accordance with the timeframes in 335-13-15-.07(3)(e) and (f).

(b) CCR Landfills.

1. Permanent cessation of a coal-fired boiler(s) by a certain date. Notwithstanding the provisions of 335-13-15-.07(2)(d), a CCR landfill 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 335-13-15-.07(4)(b)4., but in the interim period (prior to closure of the coal-fired boiler), the facility must continue to use the CCR landfill due to the absence of alternative disposal capacity both on-site and off-site of the facility. To qualify under this paragraph, the owner or operator of the CCR landfill must submit a plan to the Department for approval which demonstrates 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 chapter, including the requirement to conduct any necessary corrective action; and

(iii) The owner or operator must prepare and submit to the Department the annual progress report specified in 335-13-15-.07(4)(c) documenting the continued lack of alternative capacity and the progress towards the closure of the coal-fired boiler.

2. [Reserved]

3. [Reserved]

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 for CCR Landfills. An owner or operator of a CCR landfill that closes in accordance with 335-13-15-.07(4)(a) or (b) must complete the notices and progress reports specified in 335-13-15-.07(4)(c)1. through 3.

1. Within six months of becoming subject to closure pursuant to 335-13-15-.07(2)(d), the owner or operator must prepare, submit to the Department for approval and place in the facility's operating record a request to comply with the alternative closure requirements of this section. The request must describe why the CCR unit qualifies for the alternative closure provisions under either 335-13-15-.07(4)(a) or (b), in addition to providing the documentation and certifications required by 335-13-15-.07(4)(a) or (b).

2. The owner or operator must prepare the periodic progress reports required by 335-13-15-.07(4)(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 request to comply with the alternative closure requirements required by 335-13-15-.07(4)(c)1.

(ii) The second annual progress report must be prepared no later than 12 months after completing the first annual progress report. Subsequent 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 335-13-15-.07(4)(c)2. when the reports are submitted to the Department and placed in the facility's operating record as required by 335-13-15-.08(1)(i)12.

3. An owner or operator of a CCR landfill must also prepare the notification of intent to close a CCR unit as required by 335-13-15-.07(3)(g).

(d) CCR landfill recordkeeping. The owner or operator of the CCR landfill must comply with the recordkeeping requirements specified in 335-13-15-.08(1)(i), the notification requirements specified in 335-13-15-.08(2)(i), and the internet requirements specified in 335-13-15-.08(3)(i).

(e) [Reserved]

(f) Site-specific alternative deadlines to initiate closure of CCR surface impoundments. Notwithstanding the provisions of 335-13-15-.07(2)(a) and (b)1., a CCR surface impoundment may continue to receive the waste specified in 335-13-

15-.07(4)(f)1. or (f)2., provided the owner or operator submits a demonstration that the criteria in either 335-13-15-.07(4)(f)1. or (f)2. have been met. The demonstration must be submitted to the Director for approval no later than the relevant deadline in 335-13-15-.07(4)(f)3. The Director will act on the submission in accordance with the procedures in 335-13-15-.07(4)(f)3.

1. Development of alternative capacity is technically infeasible. Notwithstanding the provisions of 335-13-15-.07(2)(a) and (b)1., a CCR surface impoundment may continue to receive the waste specified in 335-13-15-.07(4)(f)1.(ii)(I) or (II), provided the owner or operator demonstrates the wastestream(s) must continue to be managed in that CCR surface impoundment because it was technically infeasible to complete the measures necessary to provide alternative disposal capacity on or off-site of the facility by April 11, 2021. To obtain approval under 335-13-15-.07(4)(f)1., all of the following criteria must be met:

(i) No alternative disposal capacity is available on or off-site. An increase in costs or the inconvenience of existing capacity is not sufficient to support qualification under this section;

(ii) (I) For units closing pursuant to 335-13-15-.07(2)(a) and (b)1.(i), CCR and/or non-CCR wastestreams must continue to be managed in that CCR surface impoundment because it was technically infeasible to complete the measures necessary to obtain alternative disposal capacity either on or off-site of the facility by April 11, 2021.

(II) For units closing pursuant to 335-13-15-.07(2)(b)1.(ii), CCR must continue to be managed in that CCR surface impoundment because it was technically infeasible to complete the measures necessary to obtain alternative disposal capacity either on or off-site of the facility by April 11, 2021.

(iii) The facility is in compliance with all of the requirements of this chapter.

(iv) The owner or operator of the CCR surface impoundment must submit documentation that the criteria in 335-13-15-.07(4)(f)1.(i) through (iii) have been met by submitting to the Director all of the following:

(I) To demonstrate that the criteria in 335-13-15-.07(4)(f)1.(i) and (ii) have been met the owner or operator must submit a workplan that contains all of the following elements:

I. A written narrative discussing the options considered both on and off-site to obtain alternative capacity for each CCR and/or non-CCR wastestreams, the technical infeasibility of obtaining alternative capacity prior to April 11, 2021, and the option selected and justification for the alternative capacity selected. The narrative must also include all of the following:

A. An in-depth analysis of the site and any site-specific conditions that led to the decision to select the alternative capacity being developed;

B. An analysis of the adverse impact to plant operations if the CCR surface impoundment in question were to no longer be available for use; and

C. A detailed explanation and justification for the amount of time being requested and how it is the fastest technically feasible time to complete the development of the alternative capacity;

II. A detailed schedule of the fastest technically feasible time to complete the measures necessary for alternative capacity to be available including a visual timeline representation. The visual timeline must clearly show all of the following:

A. How each phase and the steps within that phase interact with or are dependent on each other and the other phases;

B. All of the steps and phases that can be completed concurrently;

C. The total time needed to obtain the alternative capacity and how long each phase and step within each phase will take; and

D. At a minimum, the following phases: engineering and design, contractor selection, equipment fabrication and delivery, construction, and start up and implementation-;

III. A narrative discussion of the schedule and visual timeline representation, which must discuss all of the following:

A. Why the length of time for each phase and step is needed and a discussion of the tasks that occur during the specific step;

B. Why each phase and step shown on the chart must happen in the order it is occurring;

C. The tasks that occur during each of the steps within the phase; and

D. Anticipated worker schedules; and

IV. A narrative discussion of the progress the owner or operator has made to obtain alternative capacity for the CCR and/or non-CCR wastestreams. The narrative must discuss all the steps taken, starting from when the owner or operator initiated the design phase up to the steps occurring when the demonstration is being compiled. It must discuss where the facility currently is on the timeline and the efforts that are currently being undertaken to develop alternative capacity.



(II) To demonstrate that the criteria in 335-13-15-.07(4)(f)1.(iii) have been met, the owner or operator must submit all of the following:

I. A certification signed by the owner or operator that the facility is in compliance with all of the requirements of this chapter;

II. Visual representation of hydrogeologic information at and around the CCR unit(s) that supports the design, construction and installation of the groundwater monitoring system. This includes all of the following:

A. Map(s) of groundwater monitoring well locations in relation to the CCR unit(s);

B. Well construction diagrams and drilling logs for all groundwater monitoring wells; and

C. Maps that characterize the direction of groundwater flow accounting for seasonal variations;

III. Constituent concentrations, summarized in table form, at each groundwater monitoring well monitored during each sampling event;

IV. A description of site hydrogeology including stratigraphic cross-sections;

V. Any corrective measures assessment conducted as required by 335-13-15-.06(7);

VI. Any progress reports on corrective action remedy selection and design and the report of final remedy selection required at 335-13-15-.06(8)(a);

VII. The most recent structural stability assessment required by 335-13-15-.04(4)(d); and

VIII. The most recent safety factor assessment required by 335-13-15-.04(4)(e).

(v) As soon as alternative capacity for any CCR or non-CCR wastestream is available, the CCR surface impoundment must cease receiving that CCR or non-CCR wastestream. Once the CCR surface impoundment ceases receipt of all CCR and/or non-CCR wastestreams, the CCR surface impoundment must initiate closure following the timeframes in 335-13-15-.07(3)(e) and (f).

(vi) Maximum time frames. All CCR surface impoundments covered by ~~this section~~ 335-13-15-.07(4)(f)1. must cease receiving waste by the deadlines specified in 335-13-15-.07(4)(f)1.(vi)(I) and (II) and close in accordance with the timeframes in 335-13-15-.07(3)(e) and (f).

(I) Except as provided by 335-13-15-.07(4)(f)1.(vi)(II), no later than October 15, 2023.

(II) An eligible unlined CCR surface impoundment must cease receiving CCR and/or non-CCR wastestreams no later than October 15, 2024. In order to continue to operate until October 15, 2024, the owner or operator must include in their demonstration to the Department as required by 335-13-15-.07(4)(f), documentation that the unit meets the definition of an eligible unlined CCR surface impoundment.

(vii) An owner or operator may seek additional time beyond the time granted in the initial approval by making the showing in 335-13-15-.07(4)(f)1.(i) through (iv), provided that no facility may be granted time to operate the impoundment beyond the maximum allowable time frames provided in 335-13-15-.07(4)(f)1.(vi).

(viii) The owner or operator at all times bears responsibility for demonstrating to the Department qualification under this section. Failure to remain in compliance with any of the requirements of this chapter will result in the automatic loss of authorization under this section.

(ix) The owner or operator must:

(I) Upon submission of the demonstration to the Director, prepare and place in the facility's operating record a notification that the demonstration has been submitted, along with a copy of the demonstration. An owner or operator that claims confidential business information in the demonstration may post a redacted version of the demonstration to its publicly accessible CCR internet site provided that it contains sufficient detail so that the public can meaningfully comment on the demonstration. Information submitted to the Department may be considered confidential in accordance with the requirements of rule 335-1-1-.06(2), if requested by the facility in writing.

(II) Upon receipt of a decision pursuant to 335-13-15-.07(4)(f)3., must prepare and place in the facility's operating record a copy of the decision.

(III) If an extension of an approved deadline pursuant to 335-13-15-.07(4)(f)1.(vii) has been requested, place a copy of the request submitted to the Director in the facility's operating record.

(x) The owner or operator must prepare semi-annual progress reports. The semi-annual progress reports must contain all of the following elements:

(I) Discussion of the progress made to date in obtaining alternative capacity, including:

I. Discussion of the current stage of obtaining the capacity in reference to the timeline required under 335-13-15-.07(4)(f)1.(iv)(I);

II. Discussion of whether the owner or operator is on schedule for obtaining alternative capacity;

III. If the owner or operator is not on or ahead of schedule for obtaining alternative capacity, the following must be included:

A. Discussion of any problems encountered, and a description of the actions taken or planned to resolve the problems and get back on schedule; and

B. Discussion of the goals for the next six months and major milestones to be achieved for obtaining alternative capacity; and

(II) Discussion of any planned operational changes at the facility.

(xi) The progress reports must be completed according to the following schedule:

(I) The semi-annual progress reports must be prepared no later than April 30 and October 31 of each year for the duration of the alternative cease receipt of waste deadline.

(II) The first semi-annual progress report must be prepared by whichever date, April 30 or October 31, is soonest after receiving approval from the Director; and

(III) The owner or operator has completed the progress reports specified in 335-13-15-.07(4)(f)1.(x) when the reports have been placed in the facility's operating record as required by 335-13-15-.08(1)(i)18.

(xii) The owner or operator must prepare the notification of intent to close a CCR surface impoundment as required by 335-13-15-.07(3)(g).

(xiii) The owner or operator must comply with the recordkeeping requirements specified in 335-13-15-.08(1)(i), the notification requirements specified in 335-13-15-.08(2)(i), and the internet posting requirements specified in 335-13-15-.08(3)(i).

2. Permanent cessation of a coal-fired boiler(s) by a date certain. Notwithstanding the provisions of 335-13-15-.07(2)(a) and (b)1., a CCR surface impoundment may continue to receive CCR and/or non-CCR wastestreams if the facility will cease operation of the coal-fired boiler(s) and complete closure of the impoundment within the timeframes specified in 335-13-15-.07(4)(f)2.(iv), but in the interim period (prior to closure of the coal-fired boiler), the facility must continue to use the CCR surface impoundment due to the absence of alternative disposal capacity

both on and off-site of the facility. To qualify under 335-13-15-.07(4)(f)2., all of the following criteria must be met:

(i) No alternative disposal capacity is available on or off-site. An increase in costs or the inconvenience of existing capacity is not sufficient to support qualification under this section.

(ii) Potential risks to human health and the environment from the continued operation of the CCR surface impoundment have been adequately mitigated;

(iii) The facility is in compliance with all other requirements of this chapter, including the requirement to conduct any necessary corrective action; and

(iv) The coal-fired boilers must cease operation and closure of the impoundment must be completed within the following timeframes:

(I) For a CCR surface impoundment that is 40 acres or smaller, the coal-fired boiler(s) must cease operation and the CCR surface impoundment must complete closure no later than October 17, 2023.

(II) For a CCR surface impoundment that is larger than 40 acres, the coal-fired boiler(s) must cease operation, and the CCR surface impoundment must complete closure no later than October 17, 2028.

(v) The owner or operator of the CCR surface impoundment must submit to the Department the following documentation that the criteria in 335-13-15-.07(4)(f)2.(i) through (iv) have been met, as specified in 335-13-15-.07(4)(f)2.(v)(I) through (IV).

(I) To demonstrate that the criteria in 335-13-15-.07(4)(f)2.(i) have been met the owner or operator must submit a narrative that explains the options considered to obtain alternative capacity for CCR and/or non-CCR wastestreams both on and off-site.

(II) To demonstrate that the criteria in 335-13-15-.07(4)(f)2.(ii) have been met, the owner or operator must submit a risk mitigation plan describing the measures that will be taken to expedite any required corrective action, and that contains all of the following elements:

I. A discussion of any physical or chemical measures a facility can take to limit any future releases to groundwater during operation.

II. A discussion of the surface impoundment's groundwater monitoring data and any found exceedances; the delineation of the plume (if necessary based on the groundwater monitoring data); identification of any nearby receptors that might

be exposed to current or future groundwater contamination; and how such exposures could be promptly mitigated.

III. A plan to expedite and maintain the containment of any contaminant plume that is either present or identified during continued operation of the unit.

(III) To demonstrate that the criteria in 335-13-15-.07(4)(f)2.(iii) have been met, the owner or operator must submit all of the following:

I. A certification signed by the owner or operator that the facility is in compliance with all of the requirements of this chapter;

II. Visual representation of hydrogeologic information at and around the CCR unit(s) that supports the design, construction and installation of the groundwater monitoring system. This includes all of the following:

A. Map(s) of groundwater monitoring well locations in relation to the CCR unit;

B. Well construction diagrams and drilling logs for all groundwater monitoring wells; and

C. Maps that characterize the direction of groundwater flow accounting for seasonal variations;

III. Constituent concentrations, summarized in table form, at each groundwater monitoring well monitored during each sampling event;

IV. Description of site hydrogeology including stratigraphic cross-sections;

V. Any corrective measures assessment required by 335-13-15-.06(7);

VI. Any progress reports on remedy selection and design and the report of final remedy selection required by 335-13-15-.06(8);

VII. The most recent structural stability assessment required by 335-13-15-.04(4)(d); and

VIII. The most recent safety factor assessment required by 335-13-15-.04(4)(e).

(IV) To demonstrate that the criteria in 335-13-15-.07(4)(f)2.(iv) have been met, the owner or operator must submit the closure plan required by 335-13-15-.07(3)(b) and a narrative that specifies and justifies the date by which they intend to cease receipt of waste into the unit in order to meet the closure deadlines.

(vi) The owner or operator at all times bears responsibility for demonstrating to the Department qualification for authorization under this section. Failure to remain in compliance with any of the requirements of this chapter will result in the automatic loss of authorization under this section.

(vii) The owner or operator must comply with the recordkeeping requirements specified in 335-13-15-.08(1)(i), the notification requirements specified in 335-13-15-.08(2)(i) and the internet posting requirements specified in 335-13-15-.08(3)(i).

(viii) Upon submission of the demonstration to the Director, the owner or operator must prepare and place in the facility's operating record and on its publicly accessible CCR internet site a notification that the demonstration has been submitted, along with a copy of the demonstration.

(ix) Upon receipt of a decision pursuant to 335-13-15-.07(4)(f)3., the owner or operator must place a copy of the decision in the facility's operating record and on the facility's publicly accessible CCR internet site.

(x) 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 CCR surface impoundment. The owner or operator has completed the progress report when the report has been submitted to the Department and placed in the facility's operating record as required by 335-13-15-.08(1)(i)(21).

### 3. Process to Obtain Authorization.

#### (i) Deadlines for Submission.

(I) The owner or operator must submit the demonstration required under 335-13-15-.07(4)(f)1.(iv), for an alternative cease receipt of waste deadline for a CCR surface impoundment pursuant to 335-13-15-.07(4)(f)1., to the Director for approval no later than November 30, 2020.

(II) An owner or operator may seek additional time beyond the time granted in the initial approval, in accordance with 335-13-15-.07(4)(f)1.(vii), by submitting a new demonstration, as required under 335-13-15-.07(4)(f)1.(iv), to the Director for approval, no later than fourteen days from determining that the cease receipt of waste deadline will not be met.

(III) The owner or operator must submit the demonstration required under 335-13-15-.07(4)(f)2.(v) to the Director for approval no later than November 30, 2020.

(ii) The Department will evaluate the demonstration and may request additional information to complete its review. Submission of a complete demonstration will toll the facility's deadline to cease receipt of waste until issuance of a decision under 335-13-15-.07(4)(f)3.(iv). Incomplete submissions will not toll the

facility's deadline and will be denied. The owner or operator will be notified in writing if the request is denied, and informed of the reasons for the denial and the appeal procedures as provided in chapter 335-2-1 of the ADEM Administrative Code.~~13-1-.07.~~ All decisions issued under 335-13-15-.07(4)(f)3.(ii) or (iv) will contain the facility's deadline to cease receipt of waste.

(iii) The Department shall provide notice and an opportunity for public comment on its proposed decision on a complete demonstration. The public comment period will close 30 days after the notice is published in a newspaper of general circulation in the area where the CCR unit is located.

(iv) After consideration of the comments, the Department will issue its decision on the alternative compliance deadline within a reasonable timeframe.

4. Transferring between site-specific alternatives. An owner or operator authorized to continue operating a CCR surface impoundment under this section may at any time request authorization to continue operating the impoundment pursuant to another paragraph of 335-13-15-.07(4)(f), by submitting the information in 335-13-15-.07(4)(f)4.(i) or (ii).

(i) Transfer from 335-13-15-.07(4)(f)1. to 335-13-15-.07(4)(f)2. The owner or operator of a surface impoundment authorized to operate pursuant to 335-13-15-.07(4)(f)1. may request authorization to instead operate the surface impoundment in accordance with the requirements of 335-13-15-.07(4)(f)2., by submitting a new demonstration that meets the requirements of 335-13-15-.07(4)(f)2.(v) to the Director. The Department may approve the request only upon determining that the criteria in 335-13-15-.07(4)(f)2.(i) through (iv) have been met.

(ii) Transfer from 335-13-15-.07(4)(f)2. to 335-13-15-.07(4)(f)1. The owner or operator of a surface impoundment authorized to operate pursuant to 335-13-15-.07(4)(f)2. may request authorization to instead operate the surface impoundment in accordance with the requirements of 335-13-15-.07(4)(f)1., by submitting a new demonstration that meets the requirements of 335-13-15-.07(4)(f)1.(iv) to the Director. The Department may approve the request only upon determining that the criteria at 335-13-15-.07(4)(f)1.(i) through (iii) and (vi) have been met.

(iii) The procedures in 335-13-15-.07(4)(f)3. will apply to all requests for transfer under 335-13-15-.07(4)(f)4.

(5) Post-closure care requirements.

(a) Applicability.

1. Except as provided by 335-13-15-.07(5)(a)2., this section applies to owners or operators of CCR landfills, CCR surface impoundments, and all lateral expansions of CCR units that are subject to the closure criteria under 335-13-15-.07(3).

2. An owner or operator of a CCR unit that elects to close a CCR unit by removing CCR as provided by 335-13-15-.07(3)(c) 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 335-13-15-.04(1), 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 335-13-15-.04(1); and

3. Maintaining the groundwater monitoring system and monitoring the groundwater in accordance with the requirements of 335-13-15-.06(1) through 335-13-15-.06(9).

(c) Post-closure care period.

1. Except as provided by 335-13-15-.07(5)(c)2., 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 335-13-15-.06(6), the owner or operator must continue to conduct post-closure care until the owner or operator returns to detection monitoring in accordance with 335-13-15-.06(6)(e).

(d) Written post-closure plan.

1. Content of the plan. The owner or operator of a CCR unit must prepare and submit to the Department as part of the permit application a written post-closure plan that includes, at a minimum, the information specified in 335-13-15-.07(5)(d)1.(i) through (iii).

(i) A description of the monitoring and maintenance activities required in 335-13-15-.07(5)(b) 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 chapter. Any other disturbance may be approved by the Department 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, submitted to the Department for approval and 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 335-13-15-.07(5)(d)1.

(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 335-13-15-.07(5)(d)1.

(iii) The owner or operator has completed the written post-closure plan when the plan, including the certification required by 335-13-15-.07(5)(d)4., has been placed in the facility's operating record as required by 335-13-15-.08(1)(i)13.

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 335-13-15-.07(5)(d)1. at any time.

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

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

(II) 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. The post-closure plan, as well as the certification from a qualified professional engineer, must be submitted to the Department for approval.

(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 335-13-15-.07(5)(d) and the requirements of this section. The owner or operator has completed the notification when it has been submitted to the Department and placed in the facility's operating record as required by 335-13-15-.08(1)(i)14.

(f) The owner or operator of the CCR unit must comply with the recordkeeping requirements specified in 335-13-15-.08(1)(i), the notification requirements specified in 335-13-15-.08(2)(i), and the internet requirements specified in 335-13-15-.08(3)(i).

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**335-13-15-.08 Recordkeeping, Notification, and Posting of Information to the Internet.**

(1) Recordkeeping requirements.

(a) Each owner or operator of a CCR unit subject to the requirements of this chapter 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 chapter 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 Department any demonstration or documentation that is required by this chapter, or any other demonstration or documentation, if requested.

(e) Location restrictions. The owner or operator of a CCR unit subject to this chapter must place the demonstrations documenting whether or not the CCR unit is in compliance with the requirements under 335-13-15-.03(1)(a), 335-13-15-.03(2)(a), 335-13-15-.03(3)(a), 335-13-15-.03(4)(a), and 335-13-15-.03(5)(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 chapter must place the following information, as it becomes available, in the facility's operating record:

1. The design and construction certifications as required by 335-13-15-.04(1)(e) and (f).

2. The documentation of liner type as required by 335-13-15-.04(2)(a).

3. The design and construction certifications as required by 335-13-15-.04(3)(c) and (d).

4. Documentation prepared by the owner or operator stating that the permanent identification marker was installed as required by 335-13-15-.04(4)(a)1. and 335-13-15-.04(5)(a)1.

5. The initial and periodic hazard potential classification assessments

as required by 335-13-15-.04(4)(a)2. and 335-13-15-.04(5)(a)2.

6. The emergency action plan (EAP), and any amendment of the EAP, as required by 335-13-15-.04(4)(a)3. and 335-13-15-.04(5)(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 335-13-15-.08(1)(b).

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 335-13-15-.04(4)(a)3.(i)(V) and 335-13-15-.04(5)(a)3.(i)(V).

8. Documentation prepared by the owner or operator recording all activations of the Emergency Action Plan (EAP) as required by 335-13-15-.04(4)(a)3.(v) and 335-13-15-.04(5)(a)3.(v).

9. The history of construction, and any revisions of it, as required by 335-13-15-.04(4)(c), except that these files must be maintained until the CCR unit completes closure of the unit in accordance with 335-13-15-.07(3).

10. The initial and periodic structural stability assessments as required by 335-13-15-.04(4)(d) and 335-13-15-.04(5)(d).

11. Documentation detailing the corrective measures taken to remedy the deficiency or release as required by 335-13-15-.04(4)(d)2. and 335-13-15-.04(5)(d)2.

12. The initial and periodic safety factor assessments as required by 335-13-15-.04(4)(e) and 335-13-15-.04(5)(e).

13. The design and construction plans, and any revisions of it, as required by 335-13-15-.04(5)(c), except that these files must be maintained until the CCR unit completes closure of the unit in accordance with 335-13-15-.07(3).

(g) Operating criteria. The owner or operator of a CCR unit subject to this chapter 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 335-13-15-.05(1)(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 335-13-15-.08(1)(b).

2. The annual CCR fugitive dust control report required by 335-13-15-.05(1)(c).

3. The initial and periodic run-on and run-off control system plans as

required by 335-13-15-.05(2)(c).

4. The initial and periodic inflow design flood control system plan as required by 335-13-15-.05(3)(c).

5. Documentation recording the results of each inspection and instrumentation monitoring by a qualified person as required by 335-13-15-.05(4)(a).

6. The periodic inspection report as required by 335-13-15-.05(4)(b)2.

7. Documentation detailing the corrective measures taken to remedy the deficiency or release as required by 335-13-15-.05(4)(b)5. and 335-13-15-.05(5)(b)5.

8. Documentation recording the results of the weekly inspection by a qualified person as required by 335-13-15-.05(5)(a)1.(ii).

9. The periodic inspection report as required by 335-13-15-.05(5)(b)2.

(h) Groundwater monitoring and corrective action. The owner or operator of a CCR unit subject to this chapter 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 335-13-15-.06(1)(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 335-13-15-.06(2)(e)4.

3. The groundwater monitoring system certification as required by 335-13-15-.06(2)(f).

4. The selection of a statistical method certification as required by 335-13-15-.06(4)(f)6.

5. Within 30 days of establishing an assessment monitoring program, the notification as required by 335-13-15-.06(5)(e)3.

6. The results of Appendices III and IV constituent concentrations as required by 335-13-15-.06(6)(d)2.

7. Within 30 days of returning to a detection monitoring program, the notification as required by 335-13-15-.06(6)(e).

8. Within 30 days of detecting one or more constituents in Appendix

IV at statistically significant levels above the groundwater protection standard, the notifications as required by 335-13-15-.06(6)(g).

9. Within 30 days of initiating the assessment of corrective measures requirements, the notification as required by 335-13-15-.06(6)(g)6.

10. The completed assessment of corrective measures as required by 335-13-15-.06(7)(d).

11. Documentation prepared by the owner or operator recording the public meeting for the corrective measures assessment as required by 335-13-15-.06(7)(e).

12. The semiannual report describing the progress in selecting and designing the remedy and the selection of remedy report as required by 335-13-15-.06(8)(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 335-13-15-.06(9)(e).

14. The semi-annual groundwater monitoring report as required by 335-13-15-.06(1)(f).

(i) Closure and post-closure care. The owner or operator of a CCR unit subject to this chapter 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 335-13-15-.07(1)(e)1.(i).

2. [Reserved]

3. [Reserved]

4. The written closure plan, and any amendment of the plan, as required by 335-13-15-.07(3)(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 335-13-15-.08(1)(b).

5. The written demonstration(s), including the certification required by 335-13-15-.07(3)(e)2.(iii), for a time extension for initiating closure as required by 335-13-15-.07(3)(e)2.(ii).

6. The written demonstration(s), including the certification required by 335-13-15-.07(3)(f)2.(iii), for a time extension for completing closure as required by 335-13-15-.07(3)(f)2.(i).

7. The notification of intent to close a CCR unit as required by 335-13-15-.07(3)(g).

8. The notification of completion of closure of a CCR unit as required by 335-13-15-.07(3)(h).

9. The notification recording a notation on the deed as required by 335-13-15-.07(3)(i).

10. The notification recording an environmental covenant as required by 335-13-15-.07(3)(j).

11. The notification of intent to comply with the alternative closure requirements as required by 335-13-15-.07(4)(c)1.

12. The annual progress reports under the alternative closure requirements as required by 335-13-15-.07(4)(c)2.

13. The written post-closure plan, and any amendment of the plan, as required by 335-13-15-.07(5)(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 335-13-15-.08(1)(b).

14. The notification of completion of post-closure care period as required by 335-13-15-.07(5)(e).

15. The notification of intent to comply with the site-specific alternative to initiation of closure due to the development of alternative capacity being technically infeasible as required by 335-13-15-.07(4)(f)1.(ix)(I).

16. The approved or denied demonstration for the site-specific alternative to initiation of closure due to the development of alternative capacity being technically infeasible as required by 335-13-15-.07(4)(f)1.(ix)(II).

17. The notification for requesting additional time to the alternative cease receipt of waste deadline as required by 335-13-15-.07(4)(f)1.(ix)(III).

18. The semi-annual progress reports for the site-specific alternative to initiation of closure due to the development of alternative capacity being technically infeasible as required by 335-13-15-.07(4)(f)1.(xi).

19. The notification of intent to comply with the site-specific alternative to initiation of closure due to permanent cessation of a coal-fired boiler(s) by a date certain as required by 335-13-15-.07(4)(f)2.(viii).

20. The approved or denied demonstration for the site-specific alternative

to initiation of closure due to permanent cessation of a coal-fired boiler(s) by a date certain as required by 335-13-15-.07(4)(f)2.(ix).

21. The annual progress report for the site-specific alternative to initiation of closure due to permanent cessation of a coal-fired boiler(s) by a date certain as required by 335-13-15-.07(4)(f)2.(x).

(j) Retrofit criteria. The owner or operator of a CCR unit subject to this chapter 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 335-13-15-.07(3)(l)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 335-13-15-.08(1)(b).

2. The notification of intent that the retrofit activities will proceed in accordance with the alternative procedures in 335-13-15-.07(4).

3. The annual progress reports required under the alternative requirements as required by 335-13-15-.07(4).

4. The written demonstration(s), including the certification in 335-13-15-.07(3)(f)2.(iii), for a time extension for completing retrofit activities as required by 335-13-15-.07(3)(l)3.

5. The notification of intent to initiate retrofit of a CCR unit as required by 335-13-15-.07(3)(l)5.

6. The notification of completion of retrofit activities as required by 335-13-15-.07(3)(l)6.

(2) Notification requirements.

(a) The notifications required under 335-13-15-.08(2)(e) through (i) must be sent to the Director 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 state 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 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 Director within 30 days of placing in the operating record the information required by 335-13-15-.08(1).

(e) Location restrictions. The owner or operator of a CCR unit subject to the requirements of this chapter must notify the Director that each demonstration specified under 335-13-15-.08(1)(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 chapter must notify the Director 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 335-13-15-.08(1)(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 Director 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 335-13-15-.08(1)(f)1. or 3.

3. Provide notification of the availability of the documentation of liner type specified under 335-13-15-.08(1)(f)2.

4. Provide notification of the availability of the initial and periodic hazard potential classification assessments specified under 335-13-15-.08(1)(f)5.

5. Provide notification of the availability of Emergency Action Plan (EAP), and any revisions of the EAP, specified under 335-13-15-.08(1)(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 335-13-15-.08(1)(f)7.

7. Provide notification of documentation prepared by the owner or operator recording all activations of the Emergency Action Plan (EAP) specified under 335-13-15-.08(1)(f)8.

8. Provide notification of the availability of the history of construction, and any revision of it, specified under 335-13-15-.08(1)(f)9.

9. Provide notification of the availability of the initial and periodic structural stability assessments specified under 335-13-15-.08(1)(f)10.

10. Provide notification of the availability of the documentation detailing the corrective measures taken to remedy the deficiency or release specified under 335-13-15-.08(1)(f)11.

11. Provide notification of the availability of the initial and periodic safety factor assessments specified under 335-13-15-.08(1)(f)12.

12. Provide notification of the availability of the design and construction plans, and any revision of them, specified under 335-13-15-.08(1)(f)13.

(g) Operating criteria. The owner or operator of a CCR unit subject to this chapter must notify the Director when information has been placed in the operating record. 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 335-13-15-.08(1)(g)1.

2. Provide notification of the availability of the annual CCR fugitive dust control report specified under 335-13-15-.08(1)(g)2.

3. Provide notification of the availability of the initial and periodic run-on and run-off control system plans specified under 335-13-15-.08(1)(g)3.

4. Provide notification of the availability of the initial and periodic inflow design flood control system plans specified under 335-13-15-.08(1)(g)4.

5. Provide notification of the availability of the periodic inspection reports specified under 335-13-15-.08(1)(g)6.

6. Provide notification of the availability of the documentation detailing the corrective measures taken to remedy the deficiency or release specified under 335-13-15-.08(1)(g)7.

7. Provide notification of the availability of the periodic inspection reports specified under 335-13-15-.08(1)(g)9.

(h) Groundwater monitoring and corrective action. The owner or operator of a CCR unit subject to this chapter must notify the Director 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 335-13-15-.08(1)(h)1.

2. Provide notification of the availability of the groundwater monitoring system certification specified under 335-13-15-.08(1)(h)3.

3. Provide notification of the availability of the selection of a statistical method certification specified under 335-13-15-.08(1)(h)4.

4. Provide notification that an assessment monitoring program has been established as specified under 335-13-15-.08(1)(h)5.

5. Provide notification that the CCR unit is returning to a detection monitoring program as specified under 335-13-15-.08(1)(h)7.

6. Provide notification that one or more constituents in Appendix IV have been detected at statistically significant levels above the groundwater protection standard and the notifications to land owners as specified under 335-13-15-.08(1)(h)8.

7. Provide notification that an assessment of corrective measures has been initiated as specified under 335-13-15-.08(1)(h)9.

8. Provide notification of the availability of assessment of corrective measures as specified under 335-13-15-.08(1)(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 335-13-15-.08(1)(h)12.

10. Provide notification of the completion of the remedy specified under 335-13-15-.08(1)(h)13.

(i) Closure and post-closure care. The owner or operator of a CCR unit subject to this chapter must notify the Director 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 335-13-15-.08(1)(i)1.

2. [Reserved]

3. [Reserved]

4. Provide notification of the availability of the written closure plan, and any amendment of the plan, specified under 335-13-15-.08(1)(i)4.

5. Provide notification of the availability of the demonstration(s) for a time extension for initiating closure specified under 335-13-15-.08(1)(i)5.

6. Provide notification of the availability of the demonstration(s) for a time extension for completing closure specified under 335-13-15-.08(1)(i)6.

7. Provide notification of intent to close a CCR unit specified under 335-13-15-.08(1)(i)7.

8. Provide notification of completion of closure of a CCR unit specified under 335-13-15-.08(1)(i)8.

9. Provide notification of the deed notation as required by 335-13-15-.08(1)(i)9.

10. Provide notification of the environmental covenant as required by 335-13-15-.08(1)(i)10.

11. Provide notification of intent to comply with the alternative closure requirements specified under 335-13-15-.08(1)(i)11.

12. The annual progress reports under the alternative closure requirements as required by 335-13-15-.08(1)(i)12.

13. Provide notification of the availability of the written post-closure plan, and any amendment of the plan, specified under 335-13-15-.08(1)(i)13.

14. Provide notification of completion of post-closure care as specified under 335-13-15-.08(1)(i)14.

15. Provide the notification of intent to comply with the site-specific alternative to initiation of closure due to the development of alternative capacity being technically infeasible as specified under 335-13-15-.08(1)(i)15.

16. Provide the approved or denied demonstration for the site-specific alternative to initiation of closure due to the development of alternative capacity being technically infeasible as specified under 335-13-15-.08(1)(i)16.

17. Provide the notification for requesting additional time to the alternative cease receipt of waste deadline as required by 335-13-15-.08(1)(i)17.

18. The semi-annual progress reports for the site-specific alternative to initiation of closure due to the development of alternative capacity being technically infeasible as specified under 335-13-15-.08(1)(i)18.

19. Provide the notification of intent to comply with the site-specific

alternative to initiation of closure due to permanent cessation of a coal-fired boiler(s) by a date certain as specified under 335-13-15-.08(1)(i)19.

20. Provide the approved or denied demonstration for the site-specific alternative to initiation of closure due to permanent cessation of a coal-fired boiler(s) by a date certain as required by 335-13-15-.08(1)(i)20.

21. The annual progress report for the site-specific alternative to initiation of closure due to permanent cessation of a coal-fired boiler(s) by a date certain as required by 335-13-15-.08(1)(i)(21).

(j) Retrofit criteria. The owner or operator of a CCR unit subject to this chapter must notify the Director 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 335-13-15-.08(1)(j)1.

2. Provide notification of intent to comply with the alternative retrofit requirements specified under 335-13-15-.08(1)(j)2.

3. The annual progress reports under the alternative retrofit requirements as required by 335-13-15-.08(1)(j)3.

4. Provide notification of the availability of the demonstration(s) for a time extension for completing retrofit activities specified under 335-13-15-.08(1)(j)4.

5. Provide notification of intent to initiate retrofit of a CCR unit specified under 335-13-15-.08(1)(j)5.

6. Provide notification of completion of retrofit activities specified under 335-13-15-.08(1)(j)6.

(3) Publicly accessible internet site requirements.

(a) Each owner or operator of a CCR unit subject to the requirements of this chapter must maintain a publicly accessible internet site (CCR website) containing the information specified in this section. The owner or operator's website must be titled "CCR Rule Compliance Data and Information." The website must ensure that all information required to be posted is immediately available to anyone visiting the site, without requiring any prerequisite, such as registration or a requirement to submit a document request. All required information must be clearly identifiable and must be able to be immediately printed and downloaded by anyone accessing the site. If the owner/operator changes the web address (i.e., Uniform Resource Locator (URL)) at any point,

they must notify Director within 14 days of making the change. The facility's CCR website must also have a "contact us" form or a specific email address posted on the website for the public to use to submit questions and issues relating to the availability of information on the website.

(b) An owner or operator of more than one CCR unit subject to the provisions of this chapter may comply with the requirements of this section by using the same internet site for multiple CCR units provided the CCR website 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 website 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 website.

(d) Unless otherwise required in this section, the information must be posted to the CCR website within 30 days of placing the pertinent information required by 335-13-15-.08(1) in the operating record.

(e) Location restrictions. The owner or operator of a CCR unit subject to this chapter must place each demonstration specified under 335-13-15-.08(1)(e) on the owner or operator's CCR website.

(f) Design criteria. The owner or operator of a CCR unit subject to this chapter must place the following information on the owner or operator's CCR website:

1. Within 60 days of commencing construction of a new unit, the design certification specified under 335-13-15-.08(1)(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 335-13-15-.08(1)(f)1. or 3.

3. The documentation of liner type specified under 335-13-15-.08(1)(f)2.

4. The initial and periodic hazard potential classification assessments specified under 335-13-15-.08(1)(f)5.

5. The Emergency Action Plan (EAP) specified under 335-13-15-.08(1)(f)6., except that only the most recent EAP must be maintained on the CCR website irrespective of the time requirement specified in 335-13-15-.08(3)(c).

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 335-13-15-.08(1)(f)7.

7. Documentation prepared by the owner or operator recording any activation of the Emergency Action Plan (EAP) specified under 335-13-15-.08(1)(f)8.

8. The history of construction, and any revisions of it, specified under 335-13-15-.08(1)(f)9.

9. The initial and periodic structural stability assessments specified under 335-13-15-.08(1)(f)10.

10. The documentation detailing the corrective measures taken to remedy the deficiency or release specified under 335-13-15-.08(1)(f)11.

11. The initial and periodic safety factor assessments specified under 335-13-15-.08(1)(f)12.

12. The design and construction plans, and any revisions of them, specified under 335-13-15-.08(1)(f)13.

(g) Operating criteria. The owner or operator of a CCR unit subject to this chapter must place the following information on the owner or operator's CCR website:

1. The CCR fugitive dust control plan, or any subsequent amendment of the plan, specified under 335-13-15-.08(1)(g)1. except that only the most recent plan must be maintained on the CCR website irrespective of the time requirement specified in 335-13-15-.08(3)(c).

2. The annual CCR fugitive dust control report specified under 335-13-15-.08(1)(g)2.

3. The initial and periodic run-on and run-off control system plans specified under 335-13-15-.08(1)(g)3.

4. The initial and periodic inflow design flood control system plans specified under 335-13-15-.08(1)(g)4.

5. The periodic inspection reports specified under 335-13-15-.08(1)(g)6.

6. The documentation detailing the corrective measures taken to remedy the deficiency or release specified under 335-13-15-.08(1)(g)7.

7. The periodic inspection reports specified under 335-13-15-.08(1)(g)9.

(h) Groundwater monitoring and corrective action. The owner or operator of a CCR unit subject to this chapter must place the following information on the owner or operator's CCR website:

1. The annual groundwater monitoring and corrective action report specified under 335-13-15-.08(1)(h)1.

2. The groundwater monitoring system certification specified under 335-13-15-.08(1)(h)3.

3. The selection of a statistical method certification specified under 335-13-15-.08(1)(h)4.

4. The notification that an assessment monitoring program has been established as specified under 335-13-15-.08(1)(h)5.

5. The notification that the CCR unit is returning to a detection monitoring program as specified under 335-13-15-.08(1)(h)7.

6. The notification that one or more constituents in Appendix IV have been detected at statistically significant levels above the groundwater protection standard and the notifications to land owners specified under 335-13-15-.08(1)(h)8.

7. The notification that an assessment of corrective measures has been initiated specified under 335-13-15-.08(1)(h)9.

8. The assessment of corrective measures specified under 335-13-15-.08(1)(h)10.

9. The semiannual reports describing the progress in selecting and designing the remedy and the selection of remedy report specified under 335-13-15-.08(1)(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 335-13-15-.08(1)(h)13.

11. The semi-annual groundwater monitoring report specified under 335-13-15-.08(1)(h)14.

(i) Closure and post-closure care. The owner or operator of a CCR unit subject to this chapter must place the following information on the owner or operator's CCR website:

1. The notification of intent to initiate closure of the CCR unit specified under 335-13-15-.08(1)(i)1.



2. [Reserved]
3. [Reserved]
4. The written closure plan, and any amendment of the plan, specified under 335-13-15-.08(1)(i)4.
5. The demonstration(s) for a time extension for initiating closure specified under 335-13-15-.08(1)(i)5.
6. The demonstration(s) for a time extension for completing closure specified under 335-13-15-.08(1)(i)6.
7. The notification of intent to close a CCR unit specified under 335-13-15-.08(1)(i)7.
8. The notification of completion of closure of a CCR unit specified under 335-13-15-.08(1)(i)8.
9. The notification recording a notation on the deed as required by 335-13-15-.08(1)(i)9.
10. The notification recording an environmental covenant as required by 335-13-15-.08(1)(i)10.
11. The notification of intent to comply with the alternative closure requirements as required by 335-13-15-.08(1)(i)11.
12. The annual progress reports under the alternative closure requirements as required by 335-13-15-.08(1)(i)12.
13. The written post-closure plan, and any amendment of the plan, specified under 335-13-15-.08(1)(i)13.
14. The notification of completion of post-closure care specified under 335-13-15-.08(1)(i)14.
15. The notification of intent to comply with the site-specific alternative to initiation of closure due to the development of alternative capacity being technically infeasible as specified under 335-13-15-.08(1)(i)15.
16. The approved or denied demonstration for the site-specific alternative to initiation of closure due to the development of alternative capacity being technically infeasible ~~as required by~~ as specified under 335-13-15-.08(1)(i)16.
17. The notification for requesting additional time to the alternative cease

receipt of waste deadline as required by 335-13-15-.08(1)(i)17.

18. The semi-annual progress reports for the site-specific alternative to initiation of closure due to the development of alternative capacity being technically infeasible as specified under 335-13-15-.08(1)(i)18.

19. The notification of intent to comply with the site-specific alternative to initiation of closure due to permanent cessation of a coal-fired boiler(s) by a date certain as specified under 335-13-15-.08(1)(i)19.

20. The approved or denied demonstration for the site-specific alternative to initiation of closure due to permanent cessation of a coal-fired boiler(s) by a date certain as required by 335-13-15-.08(1)(i)20.

21. The annual progress report for the site-specific alternative to initiation of closure due to permanent cessation of a coal-fired boiler(s) by a date certain as required by 335-13-15-.08(1)(i)21.

(j) Retrofit criteria. The owner or operator of a CCR unit subject to this chapter must place the following information on the owner or operator's CCR website:

1. The written retrofit plan, and any amendment of the plan, specified under 335-13-15-.08(1)(j)1.

2. The notification of intent to comply with the alternative retrofit requirements as required by 335-13-15-.08(1)(j)2.

3. The annual progress reports under the alternative retrofit requirements as required by 335-13-15-.08(1)(j)3.

4. The demonstration(s) for a time extension for completing retrofit activities specified under 335-13-15-.08(1)(j)4.

5. The notification of intent to retrofit a CCR unit specified under 335-13-15-.08(1)(j)5.

6. The notification of completion of retrofit activities specified under 335-13-15-.08(1)(j)6.

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**Statutory Authority:** Code of Alabama 1975, §§ 22-27-3 and 22-27-7

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**335-13-15-.09 [Reserved] Permit Application.** ~~All solid waste management of CCR generated from the combustion of coal at electrical utilities and independent power producers shall take place in a CCR unit permitted by the Department. ADEM Admin. Code 335-13-5 outlines the procedures for obtaining a Solid Waste Disposal Permit for new and existing CCR Landfills, including lateral expansions of such units. The following section establishes the minimum requirements and procedures for obtaining a permit for new and existing surface impoundments, including any lateral expansions of such units. New and existing CCR surface impoundments shall obtain permits for construction, operation, closure and/or post-closure in accordance with the following:~~

~~(1) Application Requirements.~~

~~(a) Existing CCR Surface Impoundments. Except as provided in 335-13-15-.09(1)(e), for existing CCR surface impoundments, the owner or operator shall submit the following in order to request a permit:~~

~~1. A completed form designated by the Department.~~

~~2. Boundary plat and legal property description prepared, signed, and sealed by a land surveyor of the proposed boundary of the facility and disposal area of the CCR unit.~~

~~3. Technical data and reports documenting compliance with the following location requirements:~~

~~(i) Five foot separation of the base of the CCR unit and the uppermost aquifer in compliance with 335-13-15-.03(1).~~

~~(ii) Wetland and endangered species requirements under 335-13-15-.03(2).~~

~~(iii) Fault area requirements under 335-13-15-.03(3).~~

~~(iv) Seismic impact zones requirements under 335-13-15-.03(4).~~

~~(v) Unstable area requirements under 335-13-15-.03(5)~~

~~4. Detailed presentation of geological and hydrogeological units within the disposal site, with typical sections of disposal method and plan and profile sheets on all areas or trenches.~~

~~5. Technical report of the determination of the liner design and type as required by 335-13-15-.04(2).~~

~~6. Technical report for the hazardous potential classification as outlined in 335-13-15-.04(4)(a)2. and the Emergency Action Plan (EAP), if necessary, developed under 335-13-15-.04(4)(a)3.~~

~~7. For existing CCR surface impoundments that have a height of five feet or more and a storage volume of 20 acre feet or more, or an existing surface impoundment with a height of 20 feet or more, the application shall include the following:~~

~~(i) All the information required by 335-13-15-.04(4)(c)1.(i) through (xii).~~

~~(ii) Results of the structural stability assessment as required by 335-13-15-.04(4)(d).~~

~~(iii) Results of the safety factor assessment as required by 335-13-15-.04(4)(e).~~

~~8. Sufficient control points on site to provide for accurate horizontal and vertical control for facility construction, operation and closure and post closure.~~

~~9. Topographical maps at contour intervals of not more than five feet for the existing ground surface elevation, initial disposal area elevation, and final disposal area elevation. The maps shall also show buffer zones.~~

~~10. Quality assurance/quality control (QA/QC) plan for all components of the final cover system.~~

~~11. An operation plan that includes at a minimum:~~

~~(i) A CCR fugitive dust control plan developed in accordance with 335-13-15-.05(1).~~

~~(ii) An inflow design flood control system developed in accordance with 335-13-15-.05(3).~~

~~(iii) A detailed description of the groundwater monitoring and analysis program developed in accordance with 335-13-15-.06.~~

~~(iii) Procedures for compliance with recordkeeping and notification as required under 335-13-15-.08.~~

~~(iv) Procedures for updating all plans and assessments periodically as required by this chapter.~~

~~12. The written closure and post-closure plan developed in accordance with 335-13-15-.07.~~

~~13. Any additional information that may be required by the Department.~~

~~14. The name and mailing address of all property owners whose property is~~

adjacent to the CCR surface impoundment.

~~15. Plans, specifications, operational procedures, letters of final construction certification and other technical data required as part of the application, except as provided in 335-13-15-.09(1)(a)2. and 14., shall be certified by a professional engineer. The seal or signature and registration number of the design engineer shall be affixed to the plans, specifications and reports.~~

~~(b) New CCR surface impoundments and any lateral expansion of a CCR surface impoundment. For new CCR surface impoundments and any lateral expansion of a CCR surface impoundment, the owner or operator shall submit the following in order to request a permit:~~

~~1. Except for the requirements of 335-13-15-.09(1)(a)5., 6., and 7., the requirements for an existing CCR surface impoundment in 335-13-15-.09(1)(a).~~

~~2. Technical report for the hazardous potential classification as outlined in 335-13-15-.04(5)(a)2. and the Emergency Action Plan (EAP), if necessary, under 335-13-15-.04(5)(a)3.~~

~~3. For new CCR surface impoundments that has a height of five feet or more and a storage volume of 20 acre-feet or more, or a surface impoundment with a height of 20 feet or more, the application shall include the following:~~

~~(i) All the information contained in 335-13-15-.04(5)(c)1.(i) through (xii).~~

~~(ii) Structural stability assessment as required by 335-13-15-.04(5)(d).~~

~~(iii) Safety factor assessment as required by 335-13-15-.04(5)(e).~~

~~4. Design for the liner and leachate collection and removal system as required by 335-13-15-.04(3).~~

~~5. Quality assurance/quality control (QA/QC) plan for all components of the liner and leachate collection system.~~

~~6. Plans, specifications, operational procedures, letters of final construction certification and other technical data required as part of the application, except as provided in 335-13-15-.09(1)(a)2. and 14., shall be certified by a professional engineer. The seal or signature and registration number of the design engineer shall be affixed to the plans, specifications and reports.~~

~~(c) For existing CCR surface impoundments that have initiated closure or are otherwise subject to the closure requirements of 335-13-15-.07(2), the owner or operator shall submit all the information as required for an existing CCR surface impoundment in 335-13-15-.09(1)(a), except for the requirements of 335-13-15-.09(1)(a)3., 4. and 5., to request a closure or post-closure permit or a permit for such~~

~~operations as may be authorized by 335-13-15-.07(4).~~

~~(2) — In addition to the requirements listed in 335-13-15-.09(1), the permit application shall also include statements signed by a professional engineer and a representative of the facility owner/operator certifying that the information being submitted is accurate and correct. The submittal of false or inaccurate information shall result in the permit application being suspended or denied.~~

~~(3) — Permit Duration. CCR surface impoundment permits obtained in compliance with this chapter shall be valid for the design life of the facility or as otherwise determined by the Department, but no longer than a period of ten years. Permits, however, are subject to revocation under 335-13-15-.12.~~

~~(4) — Filing Deadline. Requests for an initial permit for an existing surface impoundment shall be filed with the Department within 180 days after the effective date of these rules. Requests for extension, renewal or a new permit for any CCR surface impoundment shall be filed with the Department by the operating agency at least 180 days prior to the expiration date for existing permits or proposed construction date for new facilities.~~

~~(5) — Modifications. Prior to any change listed in 335-13-15-.13(1) and (2), the permittee shall request a modification of the permit as described in 335-13-15-.13(3). A modification request described in 335-13-15-.13(1) and (2) must be filed with the Department at least 90 days prior to the anticipated change and shall receive approval from the Department prior to the implementation of the proposed change.~~

~~(6) — Effect of non-compliance.~~

~~(a) — As determined by the Director, substantial non-compliance with Department regulations or permits at any facility owned or operated by the applicant, including any facility for which the pending permit application is requested, will be grounds for denial of the application, or alternatively, for suspension of further consideration of the application until such non-compliance is corrected.~~

~~(b) — In addition to the foregoing, the Director may deny a permit application if:~~

~~1. — The Director determines that a permit could not be issued that would result in compliance with applicable solid waste standards; or~~

~~2. — The applicant could not comply with the permit as issued.~~

**Author:** Eric L. Sanderson; S. Scott Story, Heather M. Jones.

**Statutory Authority:** Code of Alabama 1975, §§ 22-27-3, 22-27-7, and 22-27-12

**History:** Filed: April 24, 2018; Effective: June 8, 2018. **Amended:** Filed: June 25, 2019; Effective: August 9, 2019. **Amended:** Filed: December 31, 2020; Effective:

~~February 15, 2021.~~ **Amended:** Proposed: July 20, 2021.

|

**335-13-15-.10 Public Notice.[Reserved]**

~~(1) — Notice Requirements.~~

~~(a) — The Department shall provide notice and an opportunity for a public hearing prior to issuing an initial CCR surface impoundment permit, renewing a CCR surface impoundment permit, or making any change listed in 335-13-15-.13(1) to the facility permit.~~

~~(b) — The following procedures shall be observed:~~

~~1. — The Department shall notify interested and potentially interested persons of the proposed CCR surface impoundment permit by publishing a notice in a newspaper of general circulation in the area.~~

~~(i) — The notice shall be given not less than 35 days prior to the proposed issuance of a permit.~~

~~(ii) — The notice shall contain the specific type and nature of the CCR surface impoundment, the type of waste to be disposed, the person or agency requesting the permit, and the descriptive location of the CCR surface impoundment, address and telephone number of the Department, and that interested persons may request a public hearing on the proposed CCR surface impoundment.~~

~~2. — Landowners adjacent to a proposed CCR surface impoundment shall receive a copy of the public notice.~~

~~(2) — Departmental Action. The Department shall take one of the following actions after the public notice:~~

~~(a) — Deny the permit, stating in writing the reasons for denial and inform the person requesting the permit of appeal procedures in 335-13-1-.07;~~

~~(b) — Issue the permit if the application complies with this Division; or~~

~~(c) — Require additional information, elements of design for the facility, and specify procedures for inclusion into the permit prior to issuance of the permit.~~

**Author:** S. Scott Story

**Statutory Authority:** Code of Alabama 1975, §§ 22-22A-5, 22-27-3 and 22-27-7

**History:** Filed: April 24, 2018; Effective: June 8, 2018. Amended: Proposed: July 20, 2021.



**335-13-15-.11 ~~[Reserved]Public Hearing.~~**

~~(1) — Authorization. The Department shall authorize a public hearing upon receipt of a significant number of technical requests as provided in 335-13-15-.11(2).~~

~~(2) — Procedures.~~

~~(a) — Requests for public hearings shall be submitted in writing to the Department by interested persons.~~

~~1. — Frivolous or nontechnical requests shall be denied by the Department.~~

~~2. — Requests for public hearings must be submitted within 35 days after the publication of the public notice and must contain the following:~~

~~(i) — The name, address and telephone number of the person requesting the hearing.~~

~~(ii) — A brief statement of the person's interest and the information the person wishes to submit.~~

~~(iii) — The person's signature, if an individual, or the signature of a responsible officer of an organization or legal entity.~~

~~(b) — When a hearing has been authorized, the Department shall appoint a hearing officer to conduct the hearing and shall establish a time, date, and location for the hearing. The location for the hearing shall comply with the requirements of the Americans with Disabilities Act.~~

~~(c) — The Department shall give notice of the public hearing in the manner set forth in 335-13-15-.10(1), and also to the persons requesting the hearing in 335-13-15-.11(2). The notice given not less than 35 days prior to the time of the public hearing shall include:~~

~~1. — A summary of the proposed permit.~~

~~2. — The place, time, and date of the hearing.~~

~~3. — The name, address and telephone number of an office at which interested persons may receive further information.~~

~~(3) — Departmental Action. The Department shall take one of the following actions after the hearing:~~

~~(a) — Deny the permit, stating in writing the reasons for denial and inform the person requesting the permit of appeal procedures in 335-13-1-.07;~~

~~(b) Issue the permit if the application complies with this Division; or~~

~~(c) Require additional information, elements of design for the facility, and specify procedures for inclusion into the permit prior to issuance of the permit.~~

**Author:** S. Scott Story

**Statutory Authority:** ~~Code of Alabama 1975, §§ 22-22A-5, 22-27-3 and 22-27-7~~

**History:** Filed: April 24, 2018; Effective: June 8, 2018. ~~Amended: Proposed: July 20, 2021.~~

**335-13-15-.12** ~~**[Reserved] Permit Denial, Suspension or Revocation.**~~

~~(1) Conditions. The Department may deny, suspend or revoke any permit if:~~

~~(a) The permittee is found to be in violation of any of the permit conditions,~~

~~(b) The permittee fails to perform the permitted activity in accordance with the approved operational narrative or engineering drawings,~~

~~(c) The permittee fails to seek a modification of the permit as required by the rules,~~

~~(d) An active site stops receiving waste for more than two years, or~~

~~(e) The design operations creates a nuisance or is inconsistent with the Act or this Division.~~

~~(2) Written Notice. In the event of denial, suspension or revocation of a permit, the Department shall serve written notice of such action on the permittee and shall set forth in such notice the reason for such action.~~

~~(3) Closure. Upon revocation or suspension of the permit, or denial of the renewal of the permit, the permittee shall meet the closure requirements found in 335-13-15-.07.~~

**Author:** Eric L. Sanderson

**Statutory Authority:** ~~Code of Alabama 1975, §§ 22-22A-5, 22-27-3, 22-27-7, and 22-27-12~~

**History:** Filed: April 24, 2018; Effective: June 8, 2018. ~~Amended: Proposed: July 20, 2021.~~

**335-13-15-.13 [Reserved] Permit Modification.** ~~The Department may modify any permit after receiving a satisfactory application that is found in compliance with ADEM rules and regulations.~~

~~(1) — Major Modifications.~~

~~(a) — Permit modification shall be requested utilizing forms designated by the Department when the permittee proposes to modify its operation in any of the following ways:~~

- ~~1. — There is any change in the permitted service area.~~
- ~~2. — Addition of acreage to the facility boundary.~~
- ~~3. — Addition of disposal acreage inside the permitted perimeter where design plans have not been previously submitted.~~
- ~~4. — Any design change in the liner and/or leachate collection system.~~

~~(b) — Modifications required under this paragraph are subject to the provisions of rules 335-13-15-.10 and 335-13-15-.11, which require a public notice and may require a public hearing.~~

~~(2) — Minor Modifications.~~

~~(a) — A permit modification shall be required, utilizing forms designated by the Department, when the permittee proposes to modify its operations or design in any of the following ways:~~

- ~~1. — Addition of a waste stream.~~
- ~~2. — Any change to the CCR surface impoundment design, groundwater monitoring system, or operating procedure in which the change is not listed in 335-13-15-.13(1).~~
- ~~3. — An increase in the average daily volume of waste specified by the permit for a CCR surface impoundment is proposed to be exceeded, or is exceeded for two or more consecutive reporting quarters, by 20 percent, or 100 tons/day, whichever is less.~~

~~(i) — The average daily volume of waste received at a CCR surface impoundment shall be calculated by dividing the total month's receipts by the total number of days in the reporting month.~~

~~(ii) — Volumes received shall be reported to the Department in a format specified by the Department.~~

~~(b) — Modifications required under this paragraph are not subject to the provisions of rules 335-13-15 .10 and 335-13-15 .11, and do not require public notice or public hearing.~~

~~(3) — Procedures. The Permittee shall request a permit modification in accordance with the following procedures:~~

~~(a) — Submit a request for modification to the Department.~~

~~(b) — Identify each and every part of the permit or plans to be modified.~~

~~(c) — Submit revised plans and narratives as required by the Department.~~

~~(d) — Receive approval from the Department prior to implementing the modification.~~

**Author:** S. Scott Story

**Statutory Authority:** ~~Code of Alabama 1975, §§ 22-22A-5, 22-27-3, 22-27-7, and 22-27-12~~

**History:** Filed: April 24, 2018; Effective: June 8, 2018. ~~Amended: Proposed: July 20, 2021.~~

**335-13-15-.14** ~~[Reserved] **Transfer of Permit.** Permits are not transferable except as follows:~~

~~(1) A notification must be submitted to and approved by the Department prior to any proposed transfer from one person or company to another or name change of any permitted facility.~~

~~(a) The notification must be submitted to the Department at least 30 days prior to the proposed transfer.~~

~~(b) Information regarding the transfer must be submitted on form(s) designated by the Department.~~

~~(2) [Reserved]~~

~~**Author:** Eric L. Sanderson~~

~~**Statutory Authority:** Code of Alabama 1975, §§ 22-22A-5, 22-27-3 and 22-27-7~~

~~**History:** Filed: April 24, 2018; Effective: June 8, 2018. **Amended:** Proposed: July 20, 2021.~~

**335-13-15-.15 Variances.** The Department may grant individual variances only from specific provisions of this chapter that are in addition to or more stringent than the federal regulations. The individual variances must be granted based upon the procedures of 335-13-8-.021 through 335-13-8-.05 whenever it is found by the Department, upon presentation of adequate proof, that non-compliance with one or more of these provisions will not threaten the public health or unreasonably create environmental pollution.

**Author:** S. Scott Story.

**Statutory Authority:** Code of Alabama 1975, §§ 22-27-3 and 22-27-7

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