ILLINOIS POLLUTION CONTROL BOARD
March 3, 2022

IN THE MATTER OF:	)	
	)	
STANDARDS FOR THE DISPOSAL OF	)	R20-19(A)
COAL COMBUSTION RESIDUALS IN	)	(Rulemaking – Land)
SURFACE IMPOUNDMENTS: PROPOSED	)	
NEW 35 ILL. ADM. CODE 845	)	

Proposed Rule. Proposal for Public Comment.

ORDER OF THE BOARD (By B.F. Currie):

On April 15, 2021, the Board adopted rules implementing Section 22.59 of the Environmental Protection Act (Act) (415 ILCS 5/22.59 (2020)). Specifically, the Board added a new Part 845 to its rules, which created standards for the disposal of coal combustion residuals (CCR) within the State. In that rulemaking, docket R20-19, the Board opened sub-docket A to address other issues concerning CCR. Those issues could not be adequately addressed during the limited time allowed for completing R20-19.

Today, in sub-docket A, the Board presents—for a 90-day public comment period—rule text jointly proposed by Environmental Law & Policy Center, Little Village Environmental Justice Organization, Prairie Rivers Network, and Sierra Club. Their proposed rules, which consist of both a new Part 846 and amendments to Part 845, appear in an addendum to this order. The Board will accept comment until June 3, 2022, 90 days after the date of this order. Below, the Board describes the procedural history of this sub-docket, highlights the public comments received, and discusses the next steps in this rulemaking.

PROCEDURAL HISTORY

On May 6, 2021, the hearing officer issued an order requesting comments, information, and proposed rule text from any interested person on four distinct issues:

1. Historic, unconsolidated coal ash fill in the State;
2. The use of temporary storage piles of coal ash, including time and volume limits;
3. Fugitive dust monitoring plans for areas neighboring CCR surface impoundments; and
4. The use of environmental justice screening tools.

Fourteen public comments were filed with the Board, ten of which were filed by members of the general public. The Board cites a public comment as "PC" with a number reflecting its chronological filing in this sub-docket.

PC 1 – Bob Jorgensen
PC 2 – Kristin Camp

PC 3 – Vincent Koers
PC 4 – Katherine Pavlik
PC 5 – Joe Laszlo
PC 6 – Toni Oplt
PC 7 – Kay and Bill Ahaus
PC 8 – Virginia Woulfe-Beile
PC 9 – Illinois Environmental Regulatory Group
PC 10 – Environmental Law & Policy Center, Little Village Environmental Justice Organization, Prairie River Network, and Sierra Club
PC 11 – American Coal Ash Association
PC 12 – Douglas Ower
PC 13 – Clean Power Lake County
PC 14 – Mary Ellen DeClue

PUBLIC COMMENTS

The comments from members of the general public support regulating historic, unconsolidated coal ash fill sites, as well as temporary coal ash storage sites; increasing protections from fugitive coal ash dust; and enhancing environmental justice screening tools. PC 1, 5, 6. Some comments cite particular concern for the areas surrounding the Middle Fork of the Vermillion River (PC 2, 3, 5), the coal-fired power plant in Waukegan (PC 4, 12), the Wood River power plant (PC 7, 8), and the Coffeen power plant (PC 14).

The Illinois Environmental Regulatory Group (IERG) opposes any changes to Part 845. PC 9 at 1. IERG argues that the Board should wait for the final development of the federal CCR rules before considering the sub-docket issues. *Id*.

The American Coal Ash Association (ACAA) also opposes any changes to Part 845. PC 11 at 1. The ACAA requests that the Board consider CCR a "valuable mineral resource, rather than a waste." *Id*. at 1. Further, it argues, "[a]ny movement toward placing unjustified restrictions or cumbersome reporting requirements on [coal combustion products] will only serve to erect barriers that reduce or eliminate the substantial environmental benefits achieved by utilizing a valuable resource rather than placing it in landfills." *Id*. The ACAA is concerned that any additional restrictions on temporary storage piles of CCR will create a barrier to beneficial use. *Id*. at 7. The ACAA describes regulatory measures—such as requiring copies of purchase orders to document the use of storage piles—as "overreach." *Id*. It recommends to the Board "a categorical exemption of reporting requirements for storage that is containerized, not in direct contact with the ground, or located on properties already subject to other regulatory controls such as [the National Pollutant Discharge Elimination System] and facility air permits." *Id*. at 8.

Clean Power Lake County, an environmental justice organization based in Waukegan, requested that the Board pay specific attention to fugitive dust monitoring: "Dust monitors are a key safeguard to ensure controls are effective. Yet, dust monitors are not effective if we do not have access to the results, necessitating adequate reporting requirements to provide accountability for facilities and to ensure any air pollution is addressed in a timely manner." PC 13 at 1.

Four environmental groups—Environmental Law & Policy Center, Little Village Environmental Justice Organization, Prairie Rivers Network, and Sierra Club (Environmental Groups)—jointly provided substantial information and proposed rule text on each of the four sub-docket issues. *See* PC 10.

According to the Environmental Groups, Illinois has several sites with known historic CCR fill but its current laws and regulations are insufficient to address the problem. PC 10 at 2-7. They propose adding a new Part 846 to the Board's regulations, 35 Ill. Adm. Code 846. *Id*. at Appendix 1. As the Board identified in R20-19, there is limited information available on the location of historic CCR fill sites in the State. Standards for the Disposal of Coal Combustion Residuals in Surface Impoundments: Proposed New 35 Ill. Adm. Code 845, R20-19, slip op at 12 (Feb. 4, 2021) (Second Notice). The Environmental Groups say that their proposed Part 846 would establish a system for identifying historic fill sites. PC 10 at 9.

In its second-notice opinion, the Board recognized the environmental threat posed by historic ash fill, as well as temporary ash storage piles. Second Notice at 12. "These unconsolidated coal ash piles do not fit the definition of 'CCR surface impoundments' and would therefore not be regulated by the framework of Part 845, nor were they included in the mandate of Section 22.59(g)." *Id*. The Environmental Groups argue that their proposed changes to Part 845 would restrict the amount of CCR that can be temporarily accumulated. PC 10 at 11. According to the Environmental Groups, their proposed rules include additional measures for preventing groundwater and surface water contamination from temporary CCR piles. *Id*. at 13-14.

During hearings and in public comments for R20-19, participants raised concerns about dust emissions from CCR surface impoundments and advocated requiring fugitive dust monitoring plans. The Board shared these concerns and discussed them in its second-notice opinion:

> [T]he Board shares the concerns raised by the Environmental Groups and members of the public but finds that requiring "one-size-fits-all" dust control measures for every CCR surface impoundment site is not supported by this record. Instead, allowing the owner or operator to tailor the plan's control measures to facility-specific conditions, including the type of work being done, and having that plan [long form] certified as compliant, offers a better way to protect workers and nearby communities. Second Notice at 57.

The Environmental Groups explain that their proposed rules would require fugitive dust monitoring specific to individual projects and sites. PC 10 at According to the Environmental Groups, their proposed rules include additional measures for sites that are closing by removal of CCR. *Id*. at 19.

In R20-19, the Board heard testimony and received many public comments requesting that the environmental justice screening tools be updated. Second Notice at 86-87. The Board found that "the record should be further developed as to whether it should include additional screening tools to consider pollution burden on communities, such as the one used by [the United States Environmental Protection Agency]. The Board asks participants to provide additional

information and develop rule language proposals in the sub-docket being opened." *Id*. at 88. The Environmental Groups point to several states that have developed additional environmental justice screening tools and suggest that the Board consider screening tools that do not rely solely on demographic data. PC 10 at 31-33. "While race and income are indicators of environmental racism and injustice, those demographics might not be captured in the census block for the industry that burdens a community." *Id*. at 33. The Environmental Groups' proposed amendments to Part 845 would add 19 environmental and demographic factors that may be used to determine areas of environmental justice concern. *Id*. at Appendix 4.

DISCUSSION

The Board finds that the issues raised by the commenters should be further explored. To begin doing so, the Board presents the Environmental Group's proposed rule text for public comment. In this sub-docket, only the Environmental Groups' public comment included proposed rules. The Board makes no comment on the substance of those proposed rules, which appear in the addendum to this order.

Public comments on the Environmental Groups' proposed rules must be filed by June 3, 2022. Public comments must be filed electronically through the clerk's Office On-Line (COOL) at pcb.illinois.gov. 35 Ill. Adm. Code 101.100. The Board requests that comments indicate the docket number R 20-19(A) of this rulemaking. Questions about electronic filing should be directed to the Board's Clerk at (312) 814-3461. At the close of this public comment period, the Board will reexamine the issues and determine whether to proceed to hearing.

IT IS SO ORDERED.

I, Don A. Brown, Clerk of the Illinois Pollution Control Board, certify that the Board adopted the above order on March 3, 2022, by a vote of 5-0.

Don A. Brown

Don A. Brown, Clerk
Illinois Pollution Control Board

ADDENDUM
PROPOSED RULES

Jointly Proposed Rules by Environmental Law & Policy Center, Little Village Environmental Justice Organization, Prairie Rivers Network, and Sierra Club

TITLE 35: ENVIRONMENTAL PROTECTION
SUBTITLE G: WASTE DISPOSAL
CHAPTER I: POLLUTION CONTROL BOARD
SUBCHAPTER j: COAL COMBUSTION WASTE SURFACE IMPOUNDMENTS

PART 845
STANDARDS FOR THE DISPOSAL OF COAL COMBUSTION RESIDUALS IN SURFACE IMPOUNDMENTS

SUBPART A: GENERAL PROVISIONS

Section
845.100 Scope and Purpose
845.110 Applicability of Other Regulations
845.120 Definitions
845.130 Surface Impoundment Identification
845.140 Right of Inspection
845.150 Incorporations by Reference
845.160 Severability
845.170 Inactive Closed CCR Surface Impoundments

SUBPART B: PERMITTING

Section
845.200 Permit Requirements and Standards of Issuance
845.210 General Provisions
845.220 Construction Permits
845.230 Operating Permits
845.240 Pre-Application Public Notification and Public Meeting
845.250 Tentative Determination and Draft Permit
845.260 Draft Permit Public Notice and Participation
845.270 Final Permit Determination and Appeal
845.280 Transfer, Modification and Renewal
845.290 Construction Quality Assurance Program

SUBPART C: LOCATION RESTRICTIONS

Section
845.300 Placement Above the Uppermost Aquifer
845.310 Wetlands
845.320 Fault Areas
845.330 Seismic Impact Zones
845.340 Unstable Areas and Floodplains
845.350 Failure to Meet Location Standards

SUBPART D: DESIGN CRITERIA

Section
845.400 Liner Design Criteria for Existing CCR Surface Impoundments
845.410 Liner Design Criteria for New CCR Surface Impoundments and Any Lateral Expansion of a CCR Surface Impoundment
845.420 Leachate Collection and Removal System
845.430 Slope Maintenance
845.440 Hazard Potential Classification Assessment
845.450 Structural Stability Assessment
845.460 Safety Factor Assessment

SUBPART E: OPERATING CRITERIA

Section
845.500 Air Criteria
845.510 Hydrologic and Hydraulic Capacity Requirements for CCR Surface Impoundments
845.520 Emergency Action Plan
845.530 Safety and Health Plan
845.540 Inspection Requirements for CCR Surface Impoundments
845.550 Annual Consolidated Report

SUBPART F: GROUNDWATER MONITORING AND CORRECTIVE ACTION

Section
845.600 Groundwater Protection Standards
845.610 General Requirements
845.620 Hydrogeologic Site Characterization
845.630 Groundwater Monitoring Systems
845.640 Groundwater Sampling and Analysis Requirements
845.650 Groundwater Monitoring Program
845.660 Assessment of Corrective Measures
845.670 Corrective Action Plan
845.680 Implementation of the Corrective Action Plan

SUBPART G: CLOSURE AND POST-CLOSURE CARE

Section
845.700 Required Closure or Retrofit of CCR Surface Impoundments
845.710 Closure Alternatives
845.720 Closure Plan
845.730 Initiation of Closure
845.740 Closure by Removal
845.750 Closure with a Final Cover System
845.760 Completion of Closure Activities
845.770 Retrofitting
845.780 Post-Closure Care Requirements

SUBPART H: RECORDKEEPING

Section
845.800 Facility Operating Record
845.810 Publicly Accessible Internet Site Requirements

SUBPART I: FINANCIAL ASSURANCE

Section
845.900 General Provisions
845.910 Upgrading Financial Assurance
845.920 Release of Financial Institution and Owner or Operator
845.930 Cost Estimates
845.940 Revision of Cost Estimates
845.950 Mechanisms for Financial Assurance
845.960 Trust Fund
845.970 Surety Bond Guaranteeing Payment
845.980 Surety Bond Guaranteeing Performance
845.990 Letter of Credit

AUTHORITY: Implementing Sections 12, 22, and 22.59 of the Environmental Protection Act [415 ILCS 5/12, 22, and 22.59] and authorized by Sections 22.59, 27, and 28 of the Environmental Protection Act [415 ILCS 5/22.59, 27, and 28].

SOURCE: Adopted in R20-19 at 45 Ill. Reg. 5884, effective April 21, 2021; amended in R20-19(A) at 46 Ill. Reg_____, effective _____.

SUBPART A: GENERAL PROVISIONS

Section 845.120 Definitions

Except as stated in this Section, or unless a different meaning of a word or term is clear from the context, the definition of words or terms in this Part will be the same as that applied to the same words or terms in the Environmental Protection Act:

"1000-year flood" means a flood of magnitude (or greater) of 1 in 1000 probability of occurring in any given year.

"Act" means the Illinois Environmental Protection Act [415 ILCS 5].

"Active facility" or "active electric utility" or "independent power producer" means any facility, subject to the requirements of this Part, that is in operation on or after 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 CCR surface

impoundment is in operation if it is accepting or managing CCR on or after October 19, 2015.

"Active life" or "in operation" means the period of operation beginning with the initial placement of CCR in the CCR surface impoundment and ending at completion of closure activities in accordance with Subpart G.

"Agency" means the Illinois Environmental Protection Agency.
"Aquifer" means a geologic formation, group of formations, or portion of a formation capable of yielding usable quantities of groundwater to wells or springs.

"Area-capacity curves" means graphic curves that 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.

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

"Beneficial use of CCR" means CCR that meets the definition of "coal combustion by-product" in Section 3.135 of the Act [415 ILCS 5/3.135] and the definition of "beneficial use of CCR" in 40 CFR 257.53, incorporated by reference in Section 845.150.

"Board" means Illinois Pollution Control Board.

"Certified laboratory" means any laboratory certified under Section 4(o) of the Act or certified by USEPA for the specific constituents to be examined.

"Closed" for purposes of this Part means placement of CCR in a CCR surface impoundment has stopped, and the owner or operator has completed closure of the CCR surface impoundment and has initiated post-closure care in accordance with Subpart G.

"*Coal combustion residuals*" or "*CCR*" *means fly ash, bottom ash, boiler slag, and flue gas desulfurization materials generated from burning coal for the purpose of generating electricity by electric utilities and independent power producers*. [415 ILCS 5/3.142]

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

"CCR storage pile" means any temporary accumulation of solid, non-flowing CCR placed on the land that is designed and managed to control releases of CCR to the

environment, utilizing the measures specified in Section 740(c)(4)(A)-(G) of this Part. CCR contained in an enclosed structure is not a CCR storage pile. ~~Examples of control measures to control releases from CCR storage piles include: periodic wetting, application of surfactants, tarps, or wind barriers to suppress dust; tarps or berms for preventing contact with precipitation and controlling run-on/run-off; and impervious storage pads or geomembrane liners for soil and groundwater protection.~~

"*CCR surface impoundment*" or "*impoundment*" *means a natural topographic depression, man-made excavation, or diked area, which is designed to hold an accumulation of CCR and liquids, and the surface impoundment treats, stores, or disposes of CCR.* [415 ILCS 5/3.143]

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

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

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

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

"Enclosed structure" means:

A completely enclosed, self-supporting structure that is designed and constructed of manmade materials of sufficient strength and thickness to support itself, the CCR, and any personnel and heavy equipment that operate within the structure, and to prevent failure due to settlement, compression, or uplift; climatic conditions; and the stresses of daily operation, including the movement of heavy equipment within the structure and contact of that equipment with containment walls;

The structure has containment walls that are designed to be sufficiently durable to withstand any movement of personnel, CCR, and handling equipment within the structure;

The structure is designed and operated to ensure containment and prevent fugitive dust emissions from openings, such as doors, windows and vents, and the tracking of CCR from the structure by personnel or equipment.

"Exceedance of the groundwater protection standard" means:

> For existing CCR surface impoundments and inactive CCR surface impoundments:
>
> an analytical result with a concentration greater than the numerical value of the constituents listed in Section 845.600(a), in a down gradient well; or
>
> when the up gradient background concentration of a constituent exceeds the numerical value listed in Section 845.600(a), an analytical result with a concentration at a statistically significant level above the up gradient background concentration, in a down gradient well.
>
> For new CCR surface impoundments and lateral expansions of existing CCR surface impoundments, an analytical result with a constituent concentration at a statistically significant level above the up gradient background concentration, in a down gradient well.

"Existing CCR surface impoundment" means a CCR surface impoundment in which CCR is placed both before and after October 19, 2015, or for which construction started before October 19, 2015 and in which CCR is placed on or after October 19, 2015. A CCR surface impoundment has started 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 before October 19, 2015.

"Facility" means all contiguous land, and structures, other appurtenances, and improvements on the land, used for treating, storing, disposing of, 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).

"Factor of safety" or "safety factor" means the ratio of the forces tending to resist the failure of a structure to the forces tending to cause that failure, as determined by accepted engineering practice.

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

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

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

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

"Hazard potential classification" means the possible adverse incremental consequences that result from the release of water or stored contents due to failure of the diked CCR surface impoundment or mis-operation of the diked CCR surface impoundment or its appurtenances. The hazardous potential classifications include Class 1 and Class 2, defined as follows:

> Class 1 CCR surface impoundment means a diked surface impoundment where failure or mis-operation will probably cause loss of human life.
>
> Class 2 CCR surface impoundment means a diked surface impoundment where failure or mis-operation results in no probable loss of human life, but can cause economic loss, environmental damage, disruption of lifeline facilities, or impact other concerns.

"Height" means the vertical measurement from the downstream toe of the CCR surface impoundment at its lowest point to the lowest elevation of the crest of the CCR surface impoundment, not including spillways.

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

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

"Inactive CCR surface impoundment" means a CCR surface impoundment in which CCR was placed before but not after October 19, 2015 and still contains CCR on or after October 19, 2015. Inactive CCR surface impoundments may be located at an active facility or inactive facility.

"Inactive Closed CCR surface impoundment" means an inactive CCR surface impoundment that completed closure before October 19, 2015 with an Agency-approved closure plan.

"Inactive facility" or "inactive electric utilities or independent power producers" means any facility that is not in operation on or after October 19, 2015.

"Incised CCR surface impoundment" means a CCR surface impoundment that 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.

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

"In operation" means the same as "active life".

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

"Lateral expansion" means a horizontal or vertical expansion of the waste boundaries of an existing CCR surface impoundment made after October 19, 2015.

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

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

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

"New CCR surface impoundment" means a CCR surface impoundment or lateral expansion of an existing or new CCR surface impoundment that first receives CCR or starts construction after October 19, 2015. A new CCR surface impoundment has started 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.

"Operator" means the person or persons responsible for the overall operation of a CCR surface impoundment.

"Outermost damage zone of a fault" means the volume of deformed wall rocks around a fault surface that results from the initiation, propagation, interaction and build-up of slip along faults.

"Owner" means the person or persons who own a CCR surface impoundment or part of a CCR surface impoundment.

<u>"PM10" means particulate matter less than or equal to 10 micrometers in diameter.</u>

<u>"PM2.5" means particulate matter less than or equal to 2.5 micrometers in diameter.</u>

"Reportable Action Level" means the positive difference between the level of PM10 or PM2.5 measured at the upwind monitor(s) at a facility and the level of PM10 or PM2.5 measured at the downwind monitor(s) at a facility that will trigger response activities under a mitigation plan pursuant to 845.500(c)(9), as established in a CCR fugitive dust monitoring and mitigation plan under 845.500(c) or a project-specific CCR fugitive dust monitoring and mitigation plan under 845.740(c)(3) or 845.750(e). The Reportable Action Level may vary based on the value of the difference and based on the concentration of PM10 or PM2.5 detected at the downwind monitor(s) at a facility. For example, an exceedance of the Reportable Action Level may be defined as any increase greater than half of the 24-hour NAAQS for PM10 (150 ug/m3) and PM2.5 (35 ug/m3) between the upwind and downwind monitors, assuming that half of the total standard is associated with background. Similar levels should be defined for each additional pollutant tested pursuant to 845.500(c)(3).

"Poor foundation conditions" means 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 surface impoundment. For example, failure to maintain static and seismic factors of safety, as required in Section 845.460, would cause a poor foundation condition.

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

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

"Qualified professional engineer" means an individual who is licensed under the Professional Engineering Practice Act of 1989 [225 ILCS 325] to practice one or more disciplines of engineering and who is qualified by education, technical knowledge and experience to complete the engineering analyses and make the specific technical certifications required under this Part.

"Recognized and generally accepted engineering practices" means engineering maintenance or operation activities based on established codes, widely accepted standards, published technical reports, or a practice widely recommended throughout the industry. These practices generally detail approved ways to perform specific engineering, inspection, or mechanical integrity activities.

"Retrofit" means to remove all CCR and contaminated soils and sediments from the CCR surface impoundment, and to ensure the surface impoundment complies with the requirements in Section 845.410.

"Run-off" means any rainwater, leachate, or other liquid that drains over land from any part of a CCR surface impoundment or lateral expansion of a CCR surface impoundment.

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

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

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

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

"Slope protection" means engineered or non-engineered measures installed on the upstream or downstream slope of the CCR surface impoundment to protect the slope against wave action or erosion, including rock riprap, wooden pile, concrete revetments, vegetated wave berms, concrete facing, gabions, geotextiles, or fascines.

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

"Static factor of safety" means 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 the end-of-construction loading condition.

"Structural components" means 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 surface impoundment that is necessary to ensure the integrity of the surface impoundment and ensure that the contents of the surface impoundment are not released into the environment.

"Temporary accumulation" means an accumulation on the land that is neither permanent nor indefinite. To demonstrate that the accumulation on the land is temporary, all CCR must be removed from the pile at the site. The entity engaged in the activity must have a record in place, such as a contract, purchase order, or facility operation and maintenance

record, ~~or fugitive dust control plan~~, documenting that all the CCR in the pile will be completely removed according to a specific timeline.

"Transfer point" means any location where CCR that was being moved, carried, or conveyed is dropped or deposited.

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

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

"Waste boundary" means a vertical surface located at the hydraulically downgradient limit of the CCR surface impoundment. The vertical surface extends down into the uppermost aquifer.

"Wetlands" means those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.

Section 845.220 Construction Permits

a) All construction permit applications must contain the following information and documents.

1) Design and Construction Plans (Construction History)

A) Identifying Information

i) The name and address of the person or persons owning or operating the CCR surface impoundment;

ii) The name associated with the CCR surface impoundment; and

iii) The identification number of the CCR surface impoundment if one has been assigned by the Agency.

B) A statement of the purpose for which the CCR surface impoundment is being used, how long the CCR surface

impoundment has been in operation, and the types of CCR that have been placed in the CCR surface impoundment.

C) The name and size in acres of the watershed within which the CCR surface impoundment is located.

D) A description of the physical and engineering properties of the foundation and abutment materials on which the CCR surface impoundment is constructed.

E) 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 surface impoundment; the method of site preparation and construction of each zone of the CCR surface impoundment; and the approximate dates of construction of each successive stage of construction of the CCR surface impoundment.

F) At a scale that details engineering structures and appurtenances relevant to the design, construction, operation, and maintenance of the CCR surface impoundment, detailed dimensional drawings of the CCR surface impoundment, including a plan view and cross-sections of the length and width of the CCR surface impoundment, 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 surface impoundment due to malfunction or mis-operation.

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

H) Area-capacity curves for the CCR surface impoundment.

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

J) The construction specifications and provisions for surveillance, maintenance, and repair of the CCR surface impoundment.

K) Any record or knowledge of structural instability of the CCR surface impoundment.

2) Narrative Description of the Facility. The permit application must contain a written description of the facility with supporting documentation describing the procedures and plans that will be used at the facility to comply with the requirements of this Part. The descriptions must include, but are not limited to, the following information:

A) The types of CCR expected in the CCR surface impoundment, including a chemical analysis of each type of expected CCR;

B) An estimate of the maximum capacity of each surface impoundment in gallons or cubic yards;

C) The rate at which CCR and non-CCR waste streams currently enter the CCR surface impoundment in gallons per day and dry tons;

D) The estimated length of time the CCR surface impoundment will receive CCR and non-CCR waste streams; and

E) An on-site transportation plan that includes all existing and planned roads in the facility that will be used during the operation of the CCR surface impoundment.

3) Site Location Map. All permit applications must contain a site location map on the most recent United States Geological Survey (USGS) quadrangle of the area from the 7 ½ minute series (topographic), or on another map whose scale clearly shows the following information:

A) The facility boundaries and all adjacent property, extending at least 1000 meters (3280 feet) beyond the boundary of the facility;

B) All surface waters;

C) The prevailing wind direction;

D) The limits of all 100-year floodplains;

E) All-natural areas designated as a Dedicated Illinois Nature Preserve under the Illinois Natural Areas Preservation Act [525 ILCS 30];

F) All historic and archaeological sites designated by the National Historic Preservation Act (16 USC 470 et seq.) and the Illinois Historic Sites Advisory Council Act [20 ILCS 3410]; and

G) All areas identified as critical habitat under the Endangered Species Act of 1973 (16 USC 1531 et seq.) and the Illinois Endangered Species Protection Act [520 ILCS 10].

4) Site Plan Map. The application must contain maps, including cross-sectional maps of the site boundaries, showing the location of the facility. The following information must be shown:

A) The entire facility, including any proposed and all existing CCR surface impoundment locations;

B) The boundaries, both above and below ground level, of the facility and all CCR surface impoundments or landfills containing CCR included in the facility;

C) All existing and proposed groundwater monitoring wells; and

D) All main service corridors, transportation routes, and access roads to the facility.

5) A closure project-specific fugitive dust monitoring and mitigation plan pursuant to 845.740(c)(3) or 845.750(e).

5) A narrative description of the proposed construction of, or modification to, a CCR surface impoundment and any projected changes in the volume or nature of the CCR or non-CCR waste streams.

6) Plans and specifications fully describing the design, nature, function and interrelationship of each individual component of the facility.

7) A new groundwater monitoring program or any modification to an existing groundwater monitoring program that includes but is not limited to the following information:

A) A hydrogeologic site investigation meeting the requirements of Section 845.620, if applicable;

B) Design and construction plans of a groundwater monitoring system meeting the requirements of Section 845.630; and

C) A proposed groundwater sampling and analysis program that includes selection of the statistical procedures to be used for evaluating groundwater monitoring data (see Sections 845.640 and 845.650).

8) The signature and seal of a qualified professional engineer.

9) Certification that the owner or operator of the CCR surface impoundment completed the public notification and public meetings required under Section 845.240, a summary of the issues raised by the public, a summary of any revisions, determinations, or other considerations made in response to those issues, and a list of interested persons in attendance who would like to be added to the Agency's listserv for the facility.

b) New Construction. In addition to the requirements in subsection (a), all construction permit applications to build a new CCR surface impoundment, lateral expansion of a CCR surface impoundment, or retrofit an existing CCR surface impoundment must also contain the following information and documents:

1) Plans and specifications that demonstrate the proposed CCR surface impoundment will meet the location standards in the following Sections:

A) Section 845.300 (Placement Above the Uppermost Aquifer);

B) Section 845.310 (Wetlands);

C) Section 845.320 (Fault Areas);

D) Section 845.330 (Seismic Impact Zones); and

E) Section 845.340 (Unstable Areas and Floodplains).

2) Plans and specifications that demonstrate the proposed CCR surface impoundment will meet the following design criteria:

A) The CCR surface impoundment will have a liner meeting the liner requirements of Section 845.400(b) or (c);

B) The CCR surface impoundment will have a leachate collection system meeting the requirements of Section 845.420; and

C) The CCR surface impoundment, if not incised, will be constructed with slope protection, as required by Section 845.430.

3) CCR fugitive dust control plan (see Section 845.500(b)).

4) Preliminary written closure plan (see Section 845.720(a)).

5) Initial written post-closure care plan, if applicable (see Section 845.780(d)).

c) Corrective Action Construction. In addition to the requirements in subsection (a), all construction permit applications that include any corrective action performed under Subpart F must also contain the following information and documents:

1) Corrective action plan (see Section 845.670);

2) Groundwater modeling, including:

A) The results of groundwater contaminant transport modeling and calculations showing how the corrective action will achieve compliance with the applicable groundwater standards;

B) All modeling inputs and assumptions;

C) Description of the fate and transport of contaminants with the selected corrective action over time; and

D) Capture zone modeling, if applicable;

3) Any necessary licenses and software needed to review and access both the models and the data contained within the models required by subsection (c)(2);

4) Corrective action groundwater monitoring program, including identification of revisions to the groundwater monitoring system for corrective action; and

5) Any interim measures necessary to reduce the contaminants leaching from the CCR surface impoundment, and/or potential exposures to human or ecological receptors, including an analysis of the factors specified in Section 845.680(a)(3).

d) Closure Construction. In addition to the requirements in subsection (a), all construction permit applications for closure of the CCR surface impoundment under Subpart G must contain the following information and documents:

1) Closure prioritization category , if applicable (see Section 845.700(g));

2) Final closure plan (see Section 845.720(b)), including the closure alternatives analysis required by Section 845.710;

3) Groundwater modeling, including:

A) The results of groundwater contaminant transport modeling and calculations showing how the closure will achieve compliance with the applicable groundwater standards;

B) All modeling inputs and assumptions;

C) Description of the fate and transport of contaminants, with the selected closure over time;

D) Capture zone modeling, if applicable; and

E) Any necessary licenses and software needed to review and access both the model and the data contained within the model.

4) Proposed schedule to complete closure; and

5) Post-closure care plan specified in Section 845.780(d), if applicable.

e) *Owners or operators of CCR surface impoundments who submitted a closure plan to the Agency before May 1, 2019, and who complete closure before July 30, 2021, shall not be required to obtain a construction permit for closure under subsection (d)*. [415 ILCS 5/22.59(e)]

f) A single construction permit application may be submitted for new construction, corrective action, and closure if the construction is related to the same multi-phased project. The permit application for a project with multiple phases must contain all information required by subsections (a), (b), (c), and (d), as applicable.

g) Duration of Construction Permits

1) For any construction permit that is not for the closure or retrofit of the CCR surface impoundment, the construction permit must be issued for fixed terms not to exceed 3 years.

2) For any construction permit for the closure or retrofit of a CCR surface impoundment, the construction permit must be issued for an initial fixed term expiring within the timeframe approved by the Agency in the construction permit or five years, whichever is less. The Agency may renew a construction permit for closure or retrofit in two-year increments under Section 845.760(b).

Section 845.230 Operating Permits

The operating permit applications must contain the following information and documents:

a) Initial operating permit for a new CCR surface impoundment and any lateral expansion of a CCR surface impoundment.

1) A demonstration that the CCR surface impoundment, as built, meets the location standards in the following Sections:

   A) Section 845.300 (Placement Above the Uppermost Aquifer);

   B) Section 845.310 (Wetlands);

   C) Section 845.320 (Fault Areas);

   D) Section 845.330 (Seismic Impact Zones); and

   E) Section 845.340 (Unstable Areas and Floodplains);

2) 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 Section 845.400(b) or (c);

3) Certification from a qualified professional engineer that the leachate collection system has been constructed in accordance with the requirements of Section 845.420, if applicable;

4) Evidence that the permanent markers required by Section 845.130 have been installed;

5) Documentation that the CCR surface impoundment, if not incised, will be operated and maintained with one of the forms of slope protection specified in Section 845.430;

6) Initial hazard potential classification assessment and accompanying certification (see Section 845.440(a)(2));

7) Initial Emergency Action Plan and accompanying certification (see Section 845.520(e));

8) Initial structural stability assessment and accompanying certification (see Section 845.450(c));

9) Initial safety factor assessment and accompanying certification (see Section 845.460(b));

10) Fugitive dust control plan<u>, including a fugitive dust monitoring and mitigation plan,</u> and accompanying certification (see Section 845.500(b)(7));

11) Initial inflow design flood control system plan and accompanying certification (see Section 845.510(c)(3));

12) Proposed groundwater monitoring program, including a minimum of eight independent samples for each background and downgradient well (see Section 840.650(b));

13) Preliminary written closure plan (see Section 845.720(a));

14) Initial written post-closure care plan, if applicable (see Section 845.780(d));

15) An analysis of the chemical constituents found within the CCR to be placed in the CCR surface impoundment;

16) An analysis of the chemical constituents of all waste streams, chemical additives, and sorbent materials entering or contained in the CCR surface impoundment; and

17) A certification that the owner or operator meets the financial assurance requirements of Subpart I.

b) Renewal Operating Permit

1) Documentation that the CCR surface impoundment, if not incised, is being operated and maintained with one of the forms of slope protection specified in Section 845.430;

2) Emergency Action Plan certification if the plan was amended (see Section 845.520);

3) Fugitive dust control plan certification if the plan was amended (see Section 845.500(b)(7));

4) Any significant changes to the design and construction plans compiled under subsection (d)(2)(A) or Section 845.220(a)(1);

5) A statement that the groundwater monitoring has been conducted under an Agency approved groundwater monitoring program;

6) Written preliminary closure plan, if amended (see Section 845.720(a)); and

7) Written post-closure care plan, if amended (see Section 845.780(d)).

c) Post-Closure Care Operating Permit

The owner or operator of a CCR surface impoundment conducting post-closure care under Section 845.780 must maintain an operating permit until the completion of post-closure care. Any changes to the post-closure care plan, groundwater monitoring system, groundwater sampling and analysis program, and groundwater monitoring program must be submitted to the Agency in an operating permit application.

d) Initial Operating Permit for Existing, Inactive and Inactive Closed CCR Surface Impoundments

1) The owner or operator of an existing, inactive or inactive closed CCR surface impoundment who has not completed post-closure care must submit an initial operating permit application to the Agency by October 31, 2021;

2) The initial operating permit application for existing or inactive CCR surface impoundments that have not completed an Agency approved closure before July 30, 2021, must contain the following information and documents on forms prescribed by the Agency:

A) The history of construction specified in Section 845.220(a)(1);

B) An analysis of the chemical constituents found within the CCR to be placed in the CCR surface impoundment;

C) An analysis of the chemical constituents of all waste streams, chemical additives and sorbent materials entering or contained in the CCR surface impoundment;

D) A demonstration that the CCR surface impoundment, as built, meets, or an explanation of how the CCR surface impoundments fails to meet, the location standards in the following Sections:

i) Section 845.300 (Placement Above the Uppermost Aquifer);

ii) Section 845.310 (Wetlands);

iii) Section 845.320 (Fault Areas);

iv) Section 845.330 (Seismic Impact Zones); and

v) Section 845.340 (Unstable Areas);

E) Evidence that the permanent markers required by Section 845.130 have been installed;

F) Documentation that the CCR surface impoundment, if not incised, will be operated and maintained with one of the forms of slope protection specified in Section 845.430;

G) Initial Emergency Action Plan and accompanying certification (see Section 845.520(e));

H) Fugitive dust control plan and accompanying certification (see Section 845.500(b)(7));

I) Groundwater Monitoring Information:

i) A hydrogeologic site characterization (see Section 845.620);

ii) Design and construction plans of a groundwater monitoring system (see Section 845.630);

iii) A groundwater sampling and analysis program that includes selection of the statistical procedures to be used for evaluating groundwater monitoring data (see Section 845.640); and

iv) Proposed groundwater monitoring program that includes a minimum of eight independent samples for each background and downgradient well (see Section 845.650(b));

J) Preliminary written closure plan (see Section 845.720(a));

K) Initial written post-closure care plan, if applicable (see Section 845.780(d));

L) The certification required by Section 845.400(h), or a statement that the CCR surface impoundment does not have a liner that meets the requirements of Section 845.400(b) or (c);

M) History of known exceedances of the groundwater protection standards in Section 845.600, and any corrective action taken to remediate the groundwater;

N) A certification that the owner or operator meets the financial assurance requirements of Subpart I;

O) Hazard potential classification assessment and accompanying certification (see Section 845.440(a)(2));

P) Structural stability assessment and accompanying certification (see Section 845.450(c));

Q) Safety factor assessment and accompanying certification (see Section 845.460(b));

R) Inflow design flood control system plan and accompanying certification (see Section 845.510(c)(3));

S) Safety and health plan (see Section 845.530); and

T) For CCR surface impoundments required to close under 845.700, the proposed closure priority categorization required by Section 845.700(g).

3) The initial operating permit application for an existing or inactive CCR surface impoundment where an Agency approved closure has been completed before July 30, 2021, and where the impoundment is not an inactive closed CCR surface impoundment, must contain the following information and documents on forms prescribed by the Agency:

A) The history of construction specified in Section 845.220(a)(1);

B) Evidence that the permanent markers required by Section 845.130 have been installed;

C) Documentation that the CCR surface impoundment, if not incised, will be operated and maintained with one of the forms of slope protection specified in Section 845.430;

D) Emergency Action Plan certification (see Section 845.520(e));

E) Groundwater monitoring information:

i) A hydrogeologic site characterization meeting the requirements of Section 845.620;

ii) Design and construction plans of a groundwater monitoring system meeting the requirements of Section 845.630;

iii) A groundwater sampling and analysis program that includes selection of the statistical procedures to be used

for evaluating groundwater monitoring data (see Section 845.640); and

iv) Proposed groundwater monitoring program that includes a minimum of eight independent samples for each background and downgradient well (see Section 845.650(b));

F) Written post-closure care plan, if applicable (see Section 845.780(d));

G) History of known exceedances of the groundwater protection standards in Section 845.600, and any corrective action plan taken to remediate the groundwater.

4) The initial operating permit application for inactive closed CCR surface impoundments must contain the following information:

A) Evidence that the permanent markers required by Section 845.130 have been installed;

B) Groundwater monitoring program;

C) Written post-closure care plan (see Section 845.780(d)); and

D) History of known exceedances of the groundwater quality standards in 35 Ill. Adm. Code 620, whether the owner or operator has obtained a groundwater management zone, and any corrective action taken to remediate the groundwater.

e) Operating permits must be issued for fixed terms not to exceed five years.

SUBPART E: OPERATING CRITERIA

Section 845.500 Air Criteria

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

b) CCR Fugitive Dust Control Plan. The owner or operator of the CCR surface impoundment must prepare and operate in accordance with a CCR fugitive dust control plan as specified in this subsection (b). This requirement applies in addition to, not in place of, any applicable standards under the Occupational

Safety and Health Act (29 USC 15), including 29 CFR 1910.1018, 29 CFR 1910.1024, 29 CFR 1910.1025, 29 CFR 1910.1027, and 1910.1053, or any other State or federal law.

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) The CCR fugitive dust control plan must include procedures to log every complaint from members of the public received by the owner or operator involving CCR fugitive dust events at the facility. The owner or operator must:

   A) Include for each logged complaint the date of the complaint, the date of the incident, the name and contact information of the complainant, if given, and all actions taken to assess and resolve the complaint; and

   B) Submit quarterly reports to the Agency no later than 14 days from the end of the quarter of all complaints received in that quarter, including the information required by subsection (b)(2)(A).

3) 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.

4) The owner or operator of a CCR surface impoundment must prepare an initial CCR fugitive dust control plan for the facility by October 31, 2021, or by initial receipt of CCR in any CCR surface impoundment at the facility if the owner or operator becomes subject to this Part after October 31, 2021.

5) Amendment of the Plan. The owner or operator of a CCR surface impoundment subject to the requirements may amend the written CCR fugitive dust control plan at any time provided the revised plan is submitted to the Agency. 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 surface impoundment.

6) The owner or operator must place the initial and any amendments to the fugitive dust control plan in the facility's operating record as required by Section 845.800(d)(7). The most recent fugitive dust control plan must be placed in the facility's operating record and available on the owner's or operator's CCR website before submitting a permit application under this Part.

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

c) CCR Fugitive Dust Monitoring and Mitigation Plan. The owner or operator of the CCRsurface impoundment must prepare and operate in accordance with a CCR fugitive dust monitoring and mitigation plan as specified in this subsection (c). The CCR fugitive dust monitoring and mitigation plan is to be included in the owner or operator's CCR fugitive dustcontrol plan and must meet all applicable requirements of subsection (b).

1) The CCR fugitive dust monitoring and mitigation plan shall describe the placement, operation, and maintenance, according to manufacturer's specifications, of permanent, continuous Federal Equivalent Method (FEM) real-time PM10 and PM2.5 monitors around the perimeter of the facility. At least six monitors for PM10 and six monitors for PM2.5 shall be located at or near the boundaries of the facility to monitor for fugitive dust in the ambient air around the facility, with monitor locations subject to approval of IEPA and consistent with the most recent U.S. EPA protocols and guidance for ambient air quality monitoring siting criteria. At a minimum, one monitor shall be located at each cardinal point (north, south, east, west) of the facility, and two monitors shall be located at downwind locations. Additional monitors should be installed, operated, and maintainedas appropriate depending on the size of the facility and other relevant factors, such as variability of wind direction at the site and the proximity of communities.

2) The CCR fugitive dust monitoring and mitigation plan shall describe the placement, operation, and maintenance, according to manufacturer's specifications, of a weather station or other permanent device to monitor and log wind speed and wind direction at the facility. The weather station shall be located at an unobstructed, unsheltered area, centrally positioned in relation to the facility's surface impoundments, and at a minimumheight of 10 meters above ground level, unless another height is appropriate pursuant to applicable U.S. EPA protocols and guidance.

3) In addition to the required monitoring pursuant to subsection (c)(1) and (2), the owneror operator shall conduct quarterly, 24-hour high volume filter-based air sampling to calibrate the real-time monitoring data. At least one monitor each shall be located at an upwind location and a downwind location for each quarterly sampling event. At a minimum, the high volume samples should test for PM10, PM2.5, total suspended solids, silica, radionuclides, and metals, including hexavalent chromium.

4) All data collected shall be consistent with the units of measurement used in the NAAQS for PM10 and PM2.5, and ambient monitoring practices must comply with current U.S. EPA protocols and guidance for ambient air quality monitoring, including but not limited to those for data completeness, calibration, inspection, maintenance, andsite and instrument logs.

5) A data logger shall be attached to the monitors to record readings from the monitors,and the owner or operator shall notify IEPA, in writing within 24 hours, each time the monitors exceed the applicable Reportable Action Level, and any time monitoring equipment has malfunctioned preventing readings or logging of data.

6) The owner and operator shall maintain a log of all routine and non-routine maintenance and calibration activities associated with each fugitive dust monitor.

7) The CCR fugitive dust monitoring and mitigation plan shall adequately describe the facility's recordkeeping system, which should include a schedule for routine inspection,testing, and maintenance.

8) On a monthly basis, the owner or operator shall submit the hourly data for each monitor in a Microsoft Excel-compatible file type, together with the weather station datafor the same period. The monthly monitoring reports shall be submitted to IEPA within 14 days of the end of the month in which the data was collected, placed in the facility's operating record, and uploaded to a publicly available online database operated by IEPA.

9) The CCR fugitive dust monitoring and mitigation plan shall include a mitigation plan describing the owner or operator's response activities and explaining how those activitieswill adequately minimize releases of dust, in the following circumstances:

A) When the monitors detect exceedances of the applicable Reportable Action Level. The response activities should consist of a range of increasingly aggressivemeasures appropriate to different levels of exceedance.

B) When any visible CCR fugitive dust is detected.

C) In the event of malfunction or failure of the monitors.

10) Prior to the installation of the monitors required by this subsection, the owner or operator shall conduct air modeling to predict fugitive dust emissions caused by a facility's operations. The owner or operator shall utilize conventional air quality dispersion modeling and local records of weather conditions to develop Emissions Factors in accordance with U.S. EPA's AP-42 Compilation of Air Pollutant EmissionsFactors handbook.

~~Annual CCR Fugitive Dust Control Report. The owner or operator of a CCR surface impoundment 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 and the four quarterly fugitive dust complaint reports submitted under subsection (b)(2)(B). The annual CCR fugitive dust control report must be submitted as a part of the annual consolidated report required by Section 845.550.~~

Section 845.680 Implementation of the Corrective Action Plan

a) Within 90 days after the Agency's approval of the corrective action plan submitted under Section 845.670, the owner or operator must initiate corrective action. Based on the schedule approved by the Agency for implementation and completion of corrective action, the owner or operator must:

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

A) At a minimum, meets the requirements of the monitoring program under Section 845.650;

B) Documents the effectiveness of the corrective action remedy; and

C) Demonstrates compliance with the groundwater protection standard under subsection (c).

2) Implement the corrective action remedy approved by the Agency under Section 845.670; and

3) Take any interim measures necessary to reduce the contaminants leaching from the CCR surface impoundment, and/or potential exposures to human or ecological receptors, including utilization of silt curtains for corrective actions at CCR surface impoundments that are adjacent to surface waters. 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 by Section 845.670. The following factors must be considered by an owner or operator in determining whether interim measures are necessary:

A) Time required to develop and implement a final remedy;

B) Actual or potential exposure of nearby populations or environmental receptors to any of the constituents listed in Section 845.600;

C) Actual or potential contamination of sensitive ecosystems or current or potential drinking water supplies;

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

E) Weather conditions that may cause any of the constituents listed in Section 845.600 to migrate or be released;

F) Potential for exposure to any of the constituents listed in Section 845.600 as a result of an accident or failure of a container or handling system; and

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

b) If the Agency or an owner or operator of the CCR surface impoundment determines, at any time, that compliance with the requirements of Section 845.670(d) 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. These methods or techniques must receive approval by the Agency before implementation.

c) Corrective action must be considered complete when:

1) The owner or operator of the CCR surface impoundment demonstrates compliance with the groundwater protection standards established by Section 845.600 has been achieved at all points within the plume of contamination that lies beyond the waste boundary;

2) Compliance with the groundwater protection standards has been achieved by demonstrating that concentrations of constituents listed in Section 845.600 have not exceeded the groundwater protection standards for a period of three consecutive years, using the statistical procedures and performance standards in Section 845.640(f) and (g); and

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

d) All CCR managed under a remedy approved by the Agency under Section 845.670, or an interim measure required under subsection (a)(3), must be managed in a manner that complies with this Part.

e) Upon completion of the corrective action plan, the owner or operator must submit to the Agency a corrective action completion report and certification.

1) The corrective action completion report must contain supporting documentation, including:

A) Any engineering and hydrogeology reports, including, monitoring well completion reports and boring logs, all CQA reports, certifications, and designations of CQA officers-in-absentia required by Section 845.290;

B) A written summary of the implementation of the corrective action plan as stated in the construction permit and this Part;

C) Groundwater monitoring data demonstrating compliance with subsection (c);

D) Any remedial actions completed under subsection(d);

E) Documentation showing compliance with the selected remedy requirements of Section 845.670(b); and

F) Any other information relied upon by the qualified professional engineer in making the closure certification.

2) The corrective action completion certification must include a statement from a qualified professional engineer attesting that the corrective action plan has been completed in compliance with the requirements of subsection (c).

3) The owner or operator must place the corrective action completion report and certification in the facility's operating record as required by Section 845.800(d)(18).

SUBPART G: CLOSURE AND POST-CLOSURE CARE

Section 845.700 Required Closure or Retrofit of CCR Surface Impoundments

a) Required Closure. The owner or operator of the following CCR surface impoundments must stop placing CCR or non-CCR waste streams in the CCR surface impoundment and must initiate closure of the CCR surface impoundment:

1) An existing CCR surface impoundment that has not demonstrated compliance with any of the following location restrictions:

A) Uppermost aquifer location (see Section 845.300);

B) Wetlands (see Section 845.310);

C) Fault areas (see Section 845.320);

D) Seismic impact zones (see Section 845.330); or

E) Unstable areas and floodplains (see Section 845.340).

2) The owner or operator of any CCR surface impoundment that has failed to complete the initial or any subsequent annual safety factor assessment required by Section 845.460 or that has failed to document the calculated factors of safety for the CCR surface impoundment to achieve the minimum safety factors specified in Section 845.460(a).

b) Required Closure or Retrofit. The owner or operator of an existing unlined CCR surface impoundment, as determined under Section 845.400(f), must stop placing CCR and non-CCR waste streams into that CCR surface impoundment and either retrofit or close the CCR surface impoundment in accordance with the requirements of Subpart G. The owner or operator of a CCR surface impoundment electing to retrofit must submit, in accordance with the schedule in subsection (h), the written preliminary retrofit plan under subsection 845.770(a)(3) and a construction permit application to retrofit under Section 845.770;

c) Beginning on April 21, 2021, the owner or operator of the CCR surface impoundment required to close under subsection (a), or electing to close under subsection (b), must immediately take steps to categorize the CCR surface impoundment under subsection (g) and to comply with the closure alternatives analysis requirements in Section 845.710. Within 30 days after April 21, 2021, the owner or operator must send the category designation, including a justification for the category designation, for each CCR surface impoundment to the Agency for review. The owner or operator of the CCR surface impoundment must submit a construction permit application containing a final closure plan under the schedule in subsection (h).

d) Timeframes for Closure

1) Except as provided in subsection (d)(2), the owner or operator must stop placing CCR and non-CCR waste streams in the impoundment and initiate closure within six months after failing to complete any of the demonstrations listed in subsection (a).

2) For CCR surface impoundments required to close under subsection (a)(1) or electing to close under subsection (b):

   A) If, on April 21, 2021, the owner or operator of a CCR surface impoundment has not satisfied an alternative closure requirement of 40 CFR 257.103 that allows for the continued receipt of CCR or non-CCR waste streams, the owner or operator must not place CCR or non-CCR waste streams into the CCR surface impoundment after April 21, 2021.

   B) If, by November 30, 2020, the owner or operator of a CCR surface impoundment has submitted a complete demonstration to USEPA seeking an alternative deadline to stop receiving waste or complete closure under 40 CFR 257.103(f), the deadline to stop receiving waste will be tolled until USEPA issues a decision. If USEPA determines that a submission is incomplete, an owner or operator must immediately stop receiving waste and comply with all applicable deadlines of Section 845.700(d)(1).

   C) If USEPA disapproves the requested alternative deadline to stop receiving waste and complete closure, the owner or operator of the CCR surface impoundment must immediately stop receiving waste and initiate closure within six months after the USEPA denial of the extension and will be subject to Section 845.760(a).

   D) If, USEPA approves a demonstration that alternative disposal capacity is infeasible under 40 CFR 257.103(f)(1), the owner or operator must stop placing CCR or non-CCR waste streams into the CCR surface impoundment by the end of the initial time extension approved under 40 CFR 257.103 or once alternative capacity becomes available, whichever is sooner. In no case may the owner or operator of the CCR surface impoundment place CCR or non-CCR waste streams into an eligible CCR surface impoundment after October 15, 2024, or into any other CCR surface impoundment subject to closure under Section 845.700(a) or (b) after October 15, 2023.

   E) If USEPA approves a demonstration for permanent cessation of coal-fired power boilers by a certain date under 40 CFR 257.103(f)(2), the owner or operator must:

i) For CCR surface impoundments that are 40 acres or smaller, stop operation of the coal-fired boiler and complete closure by October 17, 2023; or

ii) For CCR surface impoundments that are larger than 40 acres, stop operation of the coal-fired boiler and complete closure by October 17, 2028.

F) The USEPA's decision to approve or deny the demonstration requesting an alternative deadline to initiate closure must, within 30 days be submitted to the Agency and placed in the facility's operating record as required by Section 845.800(d)(19).

G) Failure to remain in compliance with any of the requirements of this Part will result in the automatic loss of authorization under subsections (d)(2)(D) and (d)(2)(E).

H) The owner or operator of the CCR surface impoundment with a USEPA-approved extension will not be given extensions of the timeframes for completion of closure under Section 845.760(c).

e) Semi-Annual Reports. The owner or operator of a CCR surface impoundment closing under the time frames in subsections (d)(2)(B) and (d)(2)(C) must prepare semi-annual reports consistent with the requirements in 40 CFR 257.103(f)(1)(x), incorporated by reference in Section 845.150, until the owner or operator has initiated closure.

f) An owner or operator of a CCR surface impoundment required to close under this Section must prepare the notification required under Section 845.730(d) that the CCR surface impoundment is closing under this Section.

g) Closure Prioritization

1) The owner or operator of a CCR surface impoundment required to close under this Section must assign the CCR surface impoundment to one of the following categories. Category 1 has the highest priority for closure. Category 7 has the lowest priority for closure.

A) Category 1 includes CCR surface impoundments that have impacted an existing potable water supply well or that have impacted groundwater quality within the setback of an existing potable water supply well.

B) Category 2 includes CCR surface impoundments that are an imminent threat to human health or the environment or have been designated by the Agency under subsection (g)(5).

C) Category 3 includes CCR surface impoundments located in areas of environmental justice concern, as determined by the Agency under subsection (g)(6).

D) Category 4 includes inactive CCR surface impoundments that have an exceedance of the groundwater protection standards in Section 845.600.

E) Category 5 includes existing CCR surface impoundments that have exceedances of the groundwater protection standards in Section 845.600.

F) Category 6 includes inactive CCR surface impoundments that are in compliance with the groundwater protection standards in Section 845.600.

G) Category 7 includes existing CCR surface impoundments that are in compliance with the groundwater protection standards in Section 845.600.

2) If a CCR surface impoundment can be categorized in more than one category, the owner or operator of the CCR surface impoundment must assign the CCR surface impoundment the highest priority category.

3) Whenever an owner or operator of a CCR surface impoundment has more than one CCR surface impoundment that must close under this Section, the owner or operator must close the CCR surface impoundments in order of priority.

4) If the CCR surface impoundment meets the criteria for Category 1, the owner or operator must take immediate steps to mitigate the impact to any existing potable water supply. The owner or operator of the CCR surface impoundment, must act to replace the water supply with a supply of equal or better quality and quantity within 30 days after notice that the impact has occurred.

5) The Agency may designate a CCR surface impoundment as a Category 2 surface impoundment when:

A) The CCR surface impoundment has failed to document that the calculated factors of safety for the CCR surface impoundment achieve the minimum safety factors specified in Section 845.460(a);

B) The CCR surface impoundment has not demonstrated compliance with the location restrictions in Subpart C;

C) The owner or operator has been enjoined under Section 43 of the Act;

D) An exceedance of the groundwater protection standards in Section 845.600 has migrated off-site; or

E) The Agency finds that an emergency condition exists creating an immediate danger to public health or welfare, or the environment.

6) For purposes of, and only for, this Part, areas of environmental justice concern are identified as any area that meets either of the following:

A) Any area within one mile of a census block group where the number of low-income persons is twice the statewide average, where low income means the number or percent of a census block group's population in households where the household income is less than or equal to twice the federal poverty level; or

B) Any area within one mile of a census block group where the number of minority persons is twice the statewide average, where minority means the number or percent of individuals in a census block group who list their racial status as a race other than white alone or list their ethnicity as Hispanic or Latino.

C) Any area that falls within the top 25 percent of scores based on a cumulative impacts assessment which uses the most recent data from existing methodologies and findings, or factors as indicated by the Illinois Commission on Environmental Justice, that take into account, but is not limited to, the following environmental and demographic factors:

i) Population density;

ii) National-Scale Air Toxics Assessment (NATA) air toxics cancer risk;

iii) NATA respiratory hazard index;

iv) NATA diesel PM;

v) particulate matter;

vi) ozone;

vii) traffic proximity and volume;

viii) lead paint indicator;

ix) proximity to Risk Management Plan sites;

x) proximity to Hazardous Waste Treatment, Storage, and Disposal Facilities;

xi) proximity to National Priorities List sites;

xii) Wastewater Dischargers Indicator;

xiii) percent low-income;

xiv) percent black, indigenous, and people of color;

xv) percent less than a high school education;

xvi) linguistic isolation;

xvii) age (individuals under age 5 or over 64);

xviii) number of asthma-related emergency department visits; and

xix) frequency of low birth weight infants;

Whereby the census block groups must be ranked for each demographic factor listed in (g)(6)(C)(2)-(12) and ranked for each environmental factor listed in (g)(6)(C)(1), (13)-(19), a resulting percentile score must be determined for each census block group, and the percentile scores must be averaged, resulting in an environmental score and a demographic score for each census block group. The two averages must then be multiplied together to determine a single Environmental Justice score for each census block group; or

7) For purposes of subsection (g)(6)(A) and (B), if any part of a facility falls within one mile of the census block group, the entire facility, including all its CCR surface impoundments, must be considered an area of environmental justice concern.

8) For subsection (g)(6)(C), any area that falls within three miles of the census block group with a threshold score must be considered an area of environmental justice concern.

9)~~8)~~ The Agency may designate a CCR surface impoundment as another Category when site-specific conditions contradict the designations provided by the owner or operator in subsection (c) and the categories in subsection (g)(1).

h) Application Schedule

1) Category 1, Category 2, Category 3, and Category 4 CCR surface impoundment owners or operators must submit either a construction permit application containing a final closure plan or a construction permit application to retrofit the CCR surface impoundment in accordance with the requirements of this Part by February 1, 2022.

2) Category 5 CCR surface impoundment owners or operators must submit either a construction permit application containing a final closure plan or a construction permit application to retrofit the CCR surface impoundment in accordance with the requirements of this Part by August 1, 2022.

3) Category 6 and Category 7 CCR surface impoundment owners or operators must submit either a construction permit application containing a final closure plan or a construction permit application to retrofit the CCR surface impoundment in accordance with the requirements of this Part by August 1, 2023.

4) Owners or operators consolidating one or more CCR surface impoundments for closure must meet the application schedule of the highest priority CCR surface impoundment.

5) If the Agency denies a construction permit application submitted under this Section, the owner and operator must submit a revised construction permit application addressing all deficiencies identified by the Agency. The revised construction permit application for closure must be submitted to the Agency within 90 days after the Agency's denial if the Agency's denial is not appealed under Section 845.270. If the Agency's denial is appealed and upheld, the owner or operator must submit a revised construction permit application for closure within 90 days after a final decision by the Board is rendered. The owner or operator of the CCR surface impoundment must discuss the owner's or operator's proposed response to all deficiencies identified by the Agency in a public meeting with interested and affected parties held under Section 845.240.

Section 845.710 Closure Alternatives

a) Closure of a CCR surface impoundment, or any lateral expansion of a CCR surface impoundment, 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 surface impoundment, as described in Sections 845.720 through 845.760.

b) Before selecting a closure method, the owner or operator of each CCR surface impoundment must complete a closure alternatives analysis. The closure alternatives analysis must examine the following for each closure alternative:

1) The long- and short-term effectiveness and protectiveness of the closure method, including identification and analyses of the following factors:

A) The magnitude of reduction of existing risks;

B) The magnitude of residual risks in terms of likelihood of future releases of CCR;

C) The type and degree of long-term management required, including monitoring, operation, and maintenance;

D) The short-term risks that might be posed to the community or the environment during implementation of a closure, including potential threats to human health and the environment associated with excavation, transportation, and re-disposal of contaminants;

E) The time until closure and post-closure care or the completion of groundwater monitoring under Section 845.740(b) is completed;

F) The 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, containment or changes in groundwater flow;

G) The long-term reliability of the engineering and institutional controls, including an analysis of any off-site, nearby destabilizing activities; and

H) Potential need for future corrective action of the closure alternative.

2) The effectiveness of the closure method in controlling future releases based on analyses of the following factors:

A) The extent to which containment practices will reduce further releases; and

B) The extent to which treatment technologies may be used.

3) The ease or difficulty of implementing a potential closure method based on analyses of the following types of factors:

A) Degree of difficulty associated with constructing the technology;

B) Expected operational reliability of the technologies;

C) Need to coordinate with and obtain necessary approvals and permits from other agencies;

D) Availability of necessary equipment and specialists; and

E) Available capacity and location of needed treatment, storage, and disposal services.

4) The degree to which the concerns of the residents living within communities where the CCR will be handled, transported and disposed of are addressed by the closure method.

c) In the closure alternatives analysis, the owner or operator of the CCR surface impoundment must:

1) Analyze complete removal of the CCR as one closure alternative, along with the modes for transporting the removed CCR, including by rail, barge, low-polluting trucks, or a combination of these transportation modes;

2) Identify whether the facility has an onsite landfill with remaining capacity that can legally accept CCR, and, if not, whether constructing an onsite landfill is possible; ~~and~~

3) Specify the maximum volume of CCR that the owner or operator estimates will be excavated from the impoundment over any given three-month period, and provide the basis, including documentation, for that estimate;

4) Specify the dimensions, including height, width, and length, of CCR in a CCR storage pile that contains the maximum volume of CCR that the owner or operator estimates will be excavated from the impoundment over any given three-month period, and provide the basis, including documentation, for that estimate; and

5)~~3)~~ Include any other closure method in the alternatives analysis if requested by the Agency.

d) The analysis for each alternative completed under this Section must:

1) Meet or exceed a class 4 estimate under the AACE Classification Standard, incorporated by reference in Section 845.150, or a comparable classification practice as provided in the AACE Classification Standard;

2) Contain the results of groundwater contaminant transport modeling and calculations showing how the closure alternative will achieve compliance with the applicable groundwater protection standards;

3) Include a description of the fate and transport of contaminants with the closure alternative over time, including consideration of seasonal variations; and

4) Assess impacts to waters in the State.

e) At least 30 days before submission of a construction permit application for closure, the owner or operator of the CCR surface impoundment must discuss the results of the closure alternatives analysis in a public meeting with interested and affected parties (see Section 845.240).

f) After completion of the public meeting under subsection (e), the owner or operator of a CCR surface impoundment must select a closure method and submit a final closure plan to the Agency under Section 845.720(b). All materials demonstrating completion of the closure alternatives analysis specified in this Section must be submitted with the final closure plan.

g) The selected closure method must meet the requirements and standards of this Part, ensure the protection of human health and the environment, and achieve compliance with the groundwater protection standards in Section 845.600.

Section 845.740 Closure by Removal

a) Closure by Removal of CCR. An owner or operator may elect to close a CCR surface impoundment by removing all CCR and decontaminating all areas affected by releases of CCR from the CCR surface impoundment. CCR removal and decontamination of the CCR surface impoundment are complete when all CCR and CCR residues, containment system components such as the impoundment liner and contaminated subsoils, and CCR impoundment structures and ancillary equipment have been removed. Closure by removal must be completed before the completion of a groundwater corrective action under Subpart F.

b) After closure by removal has been completed, the owner or operator must continue groundwater monitoring under Subpart F for three years after the completion of closure or for three years after groundwater monitoring does not

show an exceedance of the groundwater protection standard established under Section 845.600, whichever is longer.

c) The owner or operator of a CCR surface impoundment removing CCR during closure must responsibly handle and transport the CCR consistent with this subsection.

1) Transportation

A) Manifests

i) When transporting CCR off-site by motor vehicle, manifests must be carried as specified in 35 Ill. Adm. Code 809. For purposes of this Part, coal combustion fly ash that is removed from a CCR surface impoundment is not exempt from the manifest requirement.

ii) When transporting CCR off-site by any other mode or method, including trains or barges, manifests must be carried specifying, at a minimum, the following information: the volume of the CCR; the location from which the CCR was loaded onto the mode of transportation and the date the loading took place; and the location where the CCR is being taken and the date it will be delivered.

B) The owner or operator of a CCR surface impoundment from which CCR is removed and transported off-site must develop a CCR transportation plan, which must include:

i) Identification of the transportation method selected, including whether a combination of transportation methods will be used;

ii) The frequency, time of day, and routes of CCR transportation;

iii) Any measures to minimize noise, traffic, and safety concerns caused by the transportation of the CCR;

iv) Measures to limit fugitive dust from any transportation of CCR;

v) Installation and use of a vehicle washing station;

vi) A means of covering the CCR for any mode of CCR transportation, including conveyor belts; and

vii) A requirement that, for transport by motor vehicle, the CCR is transported by a permitted special waste hauler under 35 Ill. Adm. Code 809.201.

2) The owner or operator of a CCR surface impoundment must develop and implement onsite dust controls, which must include:

A) A water spray or other commercial dust suppressant to suppress dust in CCR handling areas and haul roads; and

B) Handling of CCR to minimize airborne particulates and offsite particulate movement during any weather event or condition.

3) Updated CCR Fugitive Dust Monitoring and Mitigation Plan. If a CCR surface impoundment is closed by removal, the owner or operator must prepare and operate in accordance with a project-specific CCR fugitive dust monitoring and mitigation plan as specified in this subsection (c)(3), in addition to the requirements of 845.500(c).

A) The project-specific CCR fugitive dust monitoring and mitigation plan shall describe the placement, operation, and maintenance of continuous FEM real-timePM10 and PM2.5 monitors located in close vicinity to the surface impoundmentsat which closure activities are occurring, and at any transfer point, with monitor locations subject to approval of IEPA and consistent with the most recent U.S. EPA protocols and guidance for ambient air quality monitoring siting criteria.

B) If CCR is removed and transported off-site, the project-specific CCR fugitive dust monitoring and mitigation plan shall describe the placement, operation, and maintenance of continuous FEM real-time PM10 and PM2.5 monitors located at or near the boundaries of the facility where the CCR is being disposed, with monitor locations subject to approval of IEPA and consistent with the most recent U.S. EPA protocols and guidance for ambient air quality monitoring sitingcriteria.

C) The owner or operator shall install and operate at least one video camera and one GPS-enabled, continuously operating webcam on each truck, barge, or railcartransporting CCR, at all times. The cameras and webcams shall at all times be directed at the cover of the truck, barge, or railcar to monitor any CCR fugitive dust emissions or failure of CCR fugitive dust control measures required by the owner or operator's CCR fugitive dust control plan or CCR transportation plan. The owner or operator shall maintain

logs of all video camera and webcam footage and, on a monthly basis, upload the footage to the facility's state CCR website or, at a minimum, submit the footage to IEPA within 14 days of the end of the month in which the data was collected.

D) The owner or operator shall report to IEPA any releases of fugitive CCR dust from a truck, barge, or railcar carrying CCR from its facility within 7 days after any release and place that report in the facility's operating record. The owner or operator shall post that report on the facility's CCR website within 14 days of any release. The report shall include an estimate of the volume of CCR released, the location(s) where the release occurred, the date and time of the release, and any mitigation measures taken to limit the release.

E) The owner or operator shall ensure that all trucks transporting CCR display a clearly visible telephone number and/or website, which community members can call or access to place a fugitive dust complaint. All complaints placed via telephone or website shall be logged in a publicly available database operated byIEPA within 14 days of the complaints being received.

F) The project-specific CCR fugitive dust monitoring and mitigation plan shall comply with the requirements specified in 845.500(c)(3) - (10).

~~The owner or operator of a CCR surface impoundment must provide the following public notices:~~

~~A) Signage must be posted at the property entrance warning of the hazards of CCR dust inhalation; and~~

~~B) When CCR is transported off-site, a written notice explaining the hazards of CCR dust inhalation, the transportation plan, and tentative transportation schedule must be provided to units of local government through which the CCR will be transported.~~

4) The owner or operator of the surface impoundment must take measures to prevent contamination of surface water, groundwater, soil and sediments from the removal of CCR, including the following:

A) CCR removed from the surface impoundment may only be temporarily stored, and must be stored in a lined landfill, CCR surface impoundment, enclosed structure, or CCR storage pile. The total volume of CCR placed in the CCR storage pile at any given time may not exceed the volume specified by the Agency in the final closure construction permit for the impoundment, which

shall be no more than the volume of CCR estimated to be excavated from the CCR surface impoundment in a three-month period.

B) CCR storage piles must:

i) Be tarped or constructed with wind barriers to suppress dust and to limit stormwater contact with storage piles;

ii) Be periodically wetted or have periodic application of dust suppressants;

iii) Have a storage pad, or a geomembrane liner, with a hydraulic conductivity no greater than 1×10^{-7} cm/sec, that is properly sloped to allow appropriate drainage, and that is inspected quarterly for cracks, holes, tears, or other damage, which must be repaired as soon as practicable if found;

iv) Be tarped over the edge of the storage pad where possible;

v) Be constructed with fixed and mobile berms, where appropriate, to reduce run-on and run-off of stormwater to and from the storage pile, and minimize stormwater-CCR contact; and

vi) Have a groundwater monitoring system that is consistent with the requirements of Section 845.630 and approved by the Agency; and ~~.~~

vii) Be located as far as feasible from surface waters.

C) The distance that CCR is dropped from any equipment onto the CCR storage pile must be minimized.

D) ~~C)~~ The owner or operator of the CCR surface impoundment must incorporate general housekeeping procedures such as daily cleanup of CCR, tarping of trucks, maintaining the pad and equipment, and good practices during unloading and loading.

E)~~D)~~ The owner or operator of the CCR must minimize the amount of time the CCR is exposed to precipitation and wind.

F)~~E)~~ The discharge of stormwater runoff that has contact with CCR must be covered by an individual National Pollutant Discharge Elimination System (NPDES) permit. The owner or operator must

develop and implement a Stormwater Pollution Prevention Plan (SWPPP) in addition to any other requirements of the facility's NPDES permit. Any construction permit application for closure must include a copy of the SWPPP.

G) The owner or operator of any CCR surface impoundment located adjacent to any surface water body, including but not limited to a lake, river, or stream, must utilize silt curtains during the removal process to limit the release of CCR.

d) At the end of each month during which CCR is being removed from a CCR surface impoundment, the owner or operator must prepare a report that:

1) Describes the weather, precipitation amounts, the amount of CCR removed from the CCR surface impoundment, the amount and location of CCR being stored on-site, the amount of CCR moved into and out of each CCR storage pile on-site and whether the volume of CCR in the pile was less than the maximum volume of CCR that may be accumulated in the pile, the amount of CCR transported offsite, the implementation of good housekeeping procedures required by subsection (c)(4)(D)~~(C)~~, ~~and~~ the implementation of dust control measures, the results of any inspection required by subsection (c)(4)(B)(iii) during the previous month and any repairs performed as a result of that inspection; and

2) Documents worker safety measures implemented and demonstrates that the volume of CCR in the CCR storage pile has not exceeded the maximum CCR volume for the pile set out in the final closure permit for the impoundment. To make that demonstration, the owner or operator shall include at least two of the following: (a) purchase orders or contracts for transport of CCR from the facility to an offsite location; (b) facility records documenting the placement of CCR into the pile and the removal of ash from the pile; or (c) photographs of the pile during the prior month. The owner or operator of the CCR surface impoundment must place the monthly report in the facility's operating record as required by Section 845.800(d)(23).

e) Upon completion of CCR removal and decontamination of the CCR surface impoundment under subsection (a), the owner or operator of the CCR surface impoundment must submit to the Agency a completion of CCR removal and decontamination report and a certification from a qualified professional engineer that CCR removal and decontamination of the CCR surface impoundment has been completed in accordance with this Section. The owner or operator must place the CCR removal and decontamination report and certification in the facility's operating record as required by Section 845.800(d)(32).

f) Upon completion of groundwater monitoring required under subsection (b), the owner or operator of the CCR surface impoundment must submit to the Agency a completion of groundwater monitoring report and a certification from a qualified professional engineer that groundwater monitoring has been completed in accordance with this Section. The owner or operator must place the groundwater monitoring report and certification in the facility's operating record as required by Section 845.800(d)(24).

Section 845.750 Closure with a Final Cover System

Closure Performance Standard When Leaving CCR in Place:

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

1) 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;

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

3) 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;

4) Minimize the need for further maintenance of the CCR surface impoundment; and

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

b) 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 this subsection (b) before installing the final cover system required by subsection (c).

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

2) Remaining wastes must be stabilized sufficiently to support the final cover system.

c) Final Cover System. If a CCR surface impoundment 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 this subsection (c). The final cover system must consist of a low permeability layer and a final protective layer. The design of the final cover system must be included in the preliminary and final written closure plans required by Section 845.720 and the construction permit application for closure submitted to the Agency.

1) Standards for the Low Permeability Layer. The low permeability layer must have a permeability less than or equal to the permeability of any bottom liner system or natural subsoils present, or a hydraulic conductivity no greater than 1 x 10^{-7} cm/sec, whichever is less. The low permeability layer must be constructed in accordance with the standards in either subsection (c)(1)(A) or (c)(1)(B), unless the owner or operator demonstrates that another low permeability layer construction technique or material provides equivalent or superior performance to the requirements of either subsection (c)(1)(A) or (c)(1)(B) and is approved by the Agency.

   A) A compacted earth layer constructed in accordance with the following standards:

      i) The minimum allowable thickness must be 0.91 meter (three feet); and

      ii) The layer must be compacted to achieve a hydraulic conductivity of 1 x 10^{-7} cm/sec or less and minimize void spaces.

   B) A geomembrane constructed in accordance with the following standards:

      i) The geosynthetic membrane must have a minimum thickness of 40 mil (0.04 inches) and, in terms of hydraulic flux, must be equivalent or superior to a three-foot layer of soil with a hydraulic conductivity of 1 x 10^{-7} cm/sec;

      ii) The geomembrane must have strength to withstand the normal stresses imposed by the waste stabilization process; and

      iii) The geomembrane must be placed over a prepared base free from sharp objects and other materials that may cause damage.

2) Standards for the Final Protective Layer. The final protective layer must meet the following requirements, unless the owner or operator demonstrates that another final protective layer construction technique or

material provides equivalent or superior performance to the requirements of this subsection (c)(2) and is approved by the Agency.

A) Cover the entire low permeability layer;

B) Be at least three feet thick, be sufficient to protect the low permeability layer from freezing, and minimize root penetration of the low permeability layer;

C) Consist of soil material capable of supporting vegetation;

D) Be placed as soon as possible after placement of the low permeability layer; and

E) Be covered with vegetation to minimize wind and water erosion.

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

4) The owner or operator of the CCR surface impoundment must obtain and submit with its construction permit application for closure a written certification from a qualified professional engineer that the design of the final cover system meets the requirements of this Section.

d) This subsection specifies the allowable uses of CCR in the closure of CCR surface impoundments closing under Section 845.700. Notwithstanding the prohibition on further placement in Section 845.700, CCR may be placed in these surface impoundments, but only for purposes of grading and contouring in the design and construction of the final cover system, if:

1) The CCR placed was generated at the facility and is located at the facility at the time closure was initiated;

2) CCR is placed entirely above the elevation of CCR in the surface impoundment, following dewatering and stabilization (see subsection (b));

3) The CCR is placed entirely within the perimeter berms of the CCR surface impoundment; and

4) The final cover system is constructed with either:

A) A slope not steeper than 5% grade after allowance for settlement; or

B) At a steeper grade, if the Agency determines that the steeper slope is necessary, based on conditions at the site, to facilitate run-off

and minimize erosion, and that side slopes are evaluated for erosion potential based on a stability analysis to evaluate possible erosion potential. The stability analysis, at a minimum, must evaluate the site geology; characterize soil shear strength; construct a slope stability model; establish groundwater and seepage conditions, if any; select loading conditions; locate critical failure surface; and iterate until minimum factor of safety is achieved.

e) Updated CCR Fugitive Dust Monitoring and Mitigation Plan. If a CCR surface impoundmentis closed by leaving CCR in place, the owner or operator must prepare and operate in accordancewith a project-specific CCR fugitive dust monitoring and mitigation plan as specified in this subsection (e), in addition to the requirements of 845.500(c).

1) The project-specific CCR fugitive dust monitoring and mitigation plan shall describethe placement, operation, and maintenance of continuous FEM real-time PM10 and PM2.5 monitors located in close vicinity to the surface impoundments at which closureactivities are occurring, with monitor locations subject to approval of IEPA and consistent with the most recent U.S. EPA protocols and guidance for ambient air quality monitoring siting criteria.

2) The project-specific CCR fugitive dust monitoring and mitigation plan shall complywith the requirements specified in 845.500(c)(3) - (10).

SUBPART H: RECORDKEEPING

Section 845.800 Facility Operating Record

a) Each owner or operator of a CCR surface impoundment subject to the requirements of this Part must maintain files of all information required by this Section in a written operating record at the facility.

b) Unless specified otherwise, each file must be retained for at least three years past the date the Agency approved the owner's or operator's request to terminate post-closure care, when closure is with a final cover system, or the completion of groundwater monitoring under Section 845.740(b), when closure is by removal.

c) An owner or operator of more than one CCR surface impoundment subject to the provisions of this Part may comply with the requirements of this Section in one recordkeeping system provided the system identifies each file by the name and identification number of each CCR surface impoundment. 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) Unless otherwise required below, the owner or operator of a CCR surface impoundment must place the following information, as it becomes available, in the facility's operating record:

1) Copies of all permit applications and permits issued under this Part;

2) Documentation recording the public meetings held under Section 845.240;

3) Weekly CQA reports under Section 845.290(b);

4) Hazard potential classification assessments for CCR surface impoundments (see Section 845.440(a)(3)(D));

5) Structural stability assessments for CCR surface impoundments (see Section 845.450(d)(4));

6) Safety factor assessments for CCR surface impoundments (see Section 845.460(c)(4));

7) The CCR fugitive dust control plan, including the CCR fugitive dust monitoring and mitigation plan, and any subsequent amendment of the plan (see Section 845.500(b)(6)), except that only the most recent fugitive dust control plan must be maintained in the facility's operating record, irrespective of the time requirement specified in subsection (b);

8) The monthly reports for CCR fugitive dust monitoring (see Section 845.500(c)(8);

9)~~8)~~ Inflow design flood control system plans for CCR surface impoundments (see Section 845.510(c)(4)(D));

10)~~9)~~ Emergency Action Plan (see Section 845.520(a)), except that only the most recent EAP must be maintained in the facility's operating record irrespective of the time requirement specified in subsection (b);

11)~~10)~~ Documentation prepared by the owner or operator recording all activations of the EAP (see Section 845.520(f));

12)~~11)~~ 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 surface impoundment and the local emergency responders (see Section 845.520(g));

13)~~12)~~ Safety and Health Plan (see Section 845.530(a));

14)~~13)~~ Documentation recording the results of each inspection and instrumentation monitoring by a qualified person (see Section 845.540(a)(2));

15)~~14)~~ Annual consolidated report (see Section 845.550), which contains the following:

A) The annual CCR fugitive dust control report (see Section 845.500(c));

B) The annual inspection report (see Section 845.540(b)(3)); and

C) The annual groundwater monitoring and corrective action report (see Section 845.610(e));

16)~~15)~~ All groundwater monitoring data submitted to the Agency and any analysis performed (see Section 845.610(b)(3)(D));

17)~~16)~~ Within 30 days after detecting one or more monitored constituents above the groundwater protection standard, the notifications required by Section 845.650(d) and (e);

18)~~17)~~ The semi-annual report describing the progress in selecting and designing the remedy (see Section 845.670(a));

19)~~18)~~ Within 30 days after completing the corrective action plan, the notification required by Section 845.680(e);

20)~~19)~~ USEPA-approved or denied demonstration as required by Section 845.700(d)(2)(F);

21)~~20)~~ The preliminary written closure plan and any amendment of the plan (see Section 845.720(a)) except that only the most recent closure plan must be maintained in the facility's operating record, irrespective of the time requirement specified in subsection (b);

22)~~21)~~ The written demonstrations, including the certification required by Section 845.730(b)(3), for a time extension for initiating closure (see Section 845.730(b)(2));

23)~~22)~~ The notification of intent to close a CCR surface impoundment (see Section 845.730(d));

24) The reports documenting CCR fugitive dust releases during the transportation of CCR off-site (see Section 845.740(c)(3)(D));

25) The monthly reports for closure by removal-specific CCR fugitive dust monitoring (see Section 845.740(c)(3)(F));

26) The monthly reports for closure in place-specific CCR fugitive dust monitoring (see Section 845.750(e)(2));

27)~~23)~~ The monthly reports for closure by removal (see Section 845.740(d));

28)~~24)~~ The closure report and certification (see Section 845.760(e)(3)), or the completion of groundwater monitoring report and certification (see Section 845.740(f));

29)~~25)~~ The notification of completion of closure of a CCR surface impoundment (see Section 845.760(f));

30)~~26)~~ The notification recording a notation on the deed (see Section 845.760(h));

31)~~27)~~ The preliminary written retrofit plan for a CCR surface impoundment (see Section 845.770(a)(3));

32)~~28)~~ The notification of intent to initiate retrofit of a CCR surface impoundment (see Section 845.770(d));

33)~~29)~~ The retrofit completion report and certification (see Section 845.770(g)(3));

34)~~30)~~ The notification of completion of retrofit activities (see Section 845.770(h));

35)~~31)~~ The notification of completion of post-closure care period (see Section 845.780(f));

36)~~32)~~ The completion of CCR removal and decontamination report and certification (see Section 845.740(e)); and

37)~~33)~~ The most current cost estimates (see Section 845.940(d)).

TITLE 35: ENVIRONMENTAL PROTECTION
SUBTITLE G: WASTE DISPOSAL
CHAPTER I: POLLUTION CONTROL BOARD
SUBCHAPTER j: COAL COMBUSTION WASTE SURFACE IMPOUNDMENTS

PART 846
(HISTORIC ASH FILL)

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AUTHORITY: Implementing Sections 12, 22, and 22.59 of the Environmental Protection Act [415 ILCS 5/12, 22, and 22.59] and authorized by Sections 22.59, 27, and 28 of the Environmental Protection Act [415 ILCS 5/22.59, 27, and 28].

SOURCE: Adopted in R20-19A at 46 Ill. Reg. _____, effective _____.

SUBPART A: GENERAL PROVISIONS

Section 846.100 Scope and Applicability

a) This Part applies to CCR fill areas containing CCR generated from the combustion of coal at electric utilities and independent power producers.

b) This Part does not apply to CCR fill areas permitted under Part 811 prior to the effective date of these regulations.

c) This Part 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.

d) This Part 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 50% coal on a total heat input or mass input basis, whichever results in the greater mass feed rate of coal.

e) This Part does not apply to CCR placement at active or abandoned underground or surface coal mines.

Section 846.110 Definitions

"CCR fill area" means any area of land located at an active facility or inactive facility that holds an accumulation of CCR and stores or disposes of that CCR, including, but not limited to: (1) scattered ash and any ash that was placed on the surface of the land; (2) any area holding an accumulation of CCR; and (3) CCR fill used for construction, if that CCR does not meet the definition of "coal combustion by-product," 415 ILCS 5/3.135. "CCR fill area" does not include: (1) any area that meets the definition of "CCR surface impoundment," 15 ILCS 5/3.143; 35 IAC 845.120; (2) any area holding an accumulation of CCR when that CCR meets the definition of "coal combustion by-product," 415 ILCS 5/3.135; and (3) any area meeting the definition of "existing CCR landfill" under the federal Standards for the Disposal of Coal Combustion Residuals in Landfills and Surface Impoundments, 40 C.F.R. §257.53.

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

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

"Operator" means the person or persons responsible for the overall operation of a facility where a CCR fill area is located.

"Owner" means the person or persons who own a CCR fill area or facility where a CCR fill area is located.

"Uppermost saturated zone" means the nearest zone below the land surface in which all the pores and rock fractures are filled with water, which is not necessarily an aquifer or hydrologically connected to an aquifer.

Section 846.130 Characterization of a CCR Fill Area

a) CCR Fill Characterization Plan

1) Wherever evidence indicates the presence of a CCR fill area, the owner or operator must immediately submit notification to the Agency that it has knowledge of a CCR fill area within its property or control.

2) After submitting notification to the Agency, the owner or operator must develop a plan to characterize the scope and extent of the CCR fill area, including the vertical and horizontal extent of the CCR fill area.

3) The plan must be submitted to the Agency for approval within 90 days of the owner or operator's notification to the Agency of the presence of CCR fill area. The plan must identify all necessary steps that will be taken to characterize the scope and extent of the CCR fill area. The plan must demonstrate that it will provide adequate information to determine compliance with Sections 846.300 (Placement Above the Uppermost Aquifer or Uppermost Saturated Zone) and 846.310 (Unstable Areas and Floodplains).

4) The plan must include the estimated amount of time it will take the owner or operator to complete the CCR fill characterization.

5) That plan must include a certification from a qualified professional engineer stating that it complies with the requirements of this Section.

b) Public Notice and Agency Approval

1) The owner or operator must place the CCR Fill Characterization Plan on the facility's publicly accessible Internet site (CCR website) under Section 846.700 within 24 hours after the submission to the Agency (see Section 846.700).

2) Within two business days of receiving the CCR Fill Characterization Plan, the Agency must email public notice to its listserv for the facility that the CCR Fill Characterization Plan is available to view on the facility's CCR website. If the facility does not already have a dedicated listserv, the Agency must provide public notice by posting notice on the Agency's website, posting notice on Agency social media, notifying the listserv of the nearest CCR surface impoundments for which there is a facility listserv, and other means deemed adequate by the Agency. The public notice must note that public comments are welcome within 14 days of the notice's service.

3) Members of the public may submit written public comments on the CCR Fill Characterization Plan to the Agency within 14 days after the Agency provides public notice.

4) Within 30 days of the close of the public comment period, the Agency must provide a written response to the owner or operator, either approving or indicating the modifications that need to be made to the Plan. The Agency's approval must set a date for when the CCR fill characterization must be completed.

5) The Agency must mail or email its response to each person who timely submitted a written public comment and supplied a mailing or email address and email its response to the facility listserv, if one exists.

Section 846.140 Severability

If any provision of this Part or its application to any person or under any circumstances is adjudged invalid, that adjudication must not affect the validity of this Part as a whole or of any portion not adjudged invalid.

Section 845.150 Incorporations by Reference

a) For purposes of this Part, the Board incorporates the following material by reference:

1) Non-Regulatory Government Publications and Publications of Recognized Organizations and Associations:

Association for the Advancement of Cost Engineering (AACE), 726 East Park Avenue#180, Fairmont, WV 26544, (304) 296-8444, web.aacei.org.

"Cost Estimate Classification System — As Applied in Engineering, Procurement, and Construction for the Process Industries", TCM Framework: 7.3– Cost Estimating and Budgeting. March 6, 2009, AACE International Recommended Practice No. 18R-97.

NTIS. National Technical Information Service, 5285 Port Royal Road, Springfield VA 22161, (703) 605-6000, www.ntis.gov.

"Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", USEPA Publication No. SW-846, as amended by Updates I, II, IIA, IIB, III, IIIA, and IIIB(Doc. No. 955-001-00000-1) (available online at https://www.epa.gov/hw-

sw846/sw-846-compendium).

2) Code of Federal Regulations, Available from the Superintendent of Documents, U.S. Government Publishing Office, Washington, DC 20401, (202) 783-3238, https://www.ecfr.gov, https:/www.govinfo.gov/app/collection/cfr, or https://www.federalregister.gov:

40 CFR 257.35 (2019) (Definition of "beneficial use of CCR")

40 CFR 257.103(f)(1)(x) (85 Fed. Reg. 53563-64 (Aug. 28, 2020)) (Preparation of Semi-Annual Progress Reports)

b) This Section incorporates no later editions or amendments.

SUBPART B: PERMITTING

Section 846.200 Permit Requirements and Standards of Issuance

a) Permit Requirements

1) No person may undertake construction at, remove, or modify a CCR fill area or related treatment or mitigation facilities, including under corrective action measures under Subpart D, without a construction permit issued by the Agency under this Part.

2) No person may perform corrective action at a CCR fill area without obtaining a construction permit for corrective action.

3) No person may remove or install a cover system at a CCR fill area without obtaining a construction permit issued by the Agency under this Part.

b) Standards for Issuance

1) The Agency may not issue any construction permit required by this Part unless the applicant submits adequate proof that the CCR fill area will be modified so as not to cause a violation of the Act or Board rules.

2) The existence of a violation of the Act, Board regulation, or Agency regulation will not prevent the issuance of a construction permit under this Part if:

A) The applicant has been granted a variance or an adjusted standard from the regulation by the Board;

B) The permit application is for construction, installation, or operation of equipment to alleviate or correct a violation; or

C) The permit application is for construction, installation, or operation of equipment necessary to restore, protect, or enhance the environment.

1) In granting permits, the Agency may impose reasonable conditions specifically related to the applicant's past compliance history with the Act as necessary to correct, detect, or prevent noncompliance. The Agency may impose such other conditions as may be necessary to accomplish the purpose of the Act and as are not inconsistent with this Part. [415 ILCS 5/39(a)]

2) In making its determinations on permit applications under this Part, the Agency may consider prior adjudications of noncompliance with the Act by the applicant that involved a release of a contaminant into the environment. [415 ILCS 5/39(a)]

Section 846.210 General Provisions

a) All permit applications must be made on the forms prescribed by the Agency and must be mailed or delivered to the address designated by the Agency on the forms. The Agency must provide a dated, signed receipt upon request. The Agency's record of the date of filing must be deemed conclusive unless a contrary date is proved by a dated, signed receipt.

b) Required Signatures of Owners or Operators

1) All permit applications must contain the name, address, email address and telephone number of the operator, or duly authorized agent, and the property owner to whom all inquiries and correspondence must be addressed.

2) All permit applications must be signed by the owner, operator or a duly authorized agent of the operator.

3) An application submitted by a corporation must be signed by a principal executive officer of at least the level of vice president, or his or her duly authorized representative, if that representative is responsible for the overall operation of the facility described in the application form. In the case of a partnership or a sole proprietorship, the application must be signed by a general partner or the proprietor, respectively. In the case of a publicly owned facility, the application must be signed by either the principal executive officer, ranking elected official, or other duly authorized employee.

c) Legal Description. All permit applications must contain a legal description of the facility boundary and a description of the boundaries of all units included in the facility.

d) The Agency must mail all notices of final action by certified mail, postmarked with a date stamp and with return receipt requested. Final action must be deemed to have taken place on the postmarked date that the notice is mailed.

e) Violation of any permit condition or failure to comply with the Act or regulations promulgated under the Act must be grounds for enforcement action as provided in the Act, including revocation of a permit.

f) Issuance of a permit under this Part does not relieve the applicant of the obligation to obtain other permits required by law.

g) The owner or operator must place in the facility's CCR fill area record all permit applications submitted to the Agency and all permits issued under this Part (see Section 846.700(d)(1)).

h) Agency Listserv

1) For each facility subject to this Part, the Agency must create and maintain a listserv. Each listserv must include the email addresses of all interested persons who notify the Agency in writing—either directly under subsection (h)(2) or through the facility owner or operator under Section 846.220(a)(6) or 846.230(f)(4)—of their respective email addresses and that they would like to receive emails of notices concerning the facility.

2) The Agency's webpage must specify how interested persons may notify the Agency in writing of their respective email addresses and that they would like to be added to the Agency's listserv for a facility subject to this Part.

3) When this Part requires that the Agency email a notice to the listserv for a facility, the Agency must do so within the timeframe specified, concurrently with other required means of disseminating the notice, or otherwise in a timely manner. When this Part requires an owner or operator to request that the Agency email a notice to the listserv for the facility, the Agency must do so within two business days after receiving the request from the owner or operator.

Section 846.220 Construction Permits

a) All construction permit applications must contain the following information and documents.

1) Site Location Map. All permit applications must contain a site location map on the most recent United States Geological Survey (USGS) quadrangle of the area from the 7 1⁄2 minute series (topographic), or on another such other map whose scale clearly shows the following information:

   A) The facility boundaries and all adjacent property, extending at least 1000 meters (3280 feet) beyond the boundary of the facility;

   B) All surface waters;

   C) The prevailing wind direction;

   D) The limits of all 100-year floodplains;

   E) All-natural areas designated as a Dedicated Illinois Nature Preserve under the Illinois Natural Areas Preservation Act [525 ILCS 30];

   F) All historic and archaeological sites designated by the National Historic Preservation Act (16 USC 470 et seq.) and the Illinois Historic Sites Advisory Council Act [20 ILCS 3410]; and

   G) All areas identified as critical habitat under the Endangered Species Act of 1973 (16 USC 1531 et seq.) and the Illinois Endangered Species Protection Act [520 ILCS 10].

2) Site Plan Map. The application must contain maps, including cross - sectional maps of the site boundaries, showing the location of the facility. The following information must be shown:

   A) The entire facility, including all existing CCR fill area locations;

   B) The boundaries, both above and below ground level, of the facility and all CCR fill areas included in the facility;

   C) All existing and proposed groundwater monitoring wells; and

   D) All main service corridors, transportation routes, and access roads to the facility.

3) A narrative description of the proposed modification to the CCR fill area.

4) A new groundwater monitoring program or any modification to an existing groundwater monitoring program that includes, but is not limited

to, the following information, unless the construction permit application is for removal pursuant to Section 846.600(a):

A) A hydrogeologic site investigation meeting the requirements of Section 846.420, if applicable;

B) Design and construction plans of a groundwater monitoring system meeting the requirements of Section 846.430; and

C) A proposed groundwater sampling and analysis program that includes selection of the statistical procedures to be used for evaluating groundwater monitoring data (see Sections 846.440 and 846.450).

5) The signature and seal of a qualified professional engineer or geologist.

6) Certification that the owner or operator of the property or facility with a CCR fill area completed the public notification and public meetings required under Section 846.230, a summary of the issues raised by the public, a summary of any revisions, determinations, or other considerations made in response to those issues, and a list of interested persons in attendance who would like to be added to the Agency's listserv for the facility.

b) Corrective Action Construction. In addition to the requirements in subsection (a), all construction permit applications that include any corrective action required to be performed under Subpart D must also contain the following information and documents:

1) Corrective action plan (see Section 846.470).

2) Groundwater modeling, including:

A) The results of groundwater contaminant transport modeling and calculations showing how the corrective action will achieve compliance with the applicable groundwater standards;

B) All modeling inputs and assumptions;

C) Description of the fate and transport of contaminants with the selected corrective action over time; and

D) Capture zone modeling, if applicable.

3) Any necessary licenses and software needed to review and access both the models and the data contained within the models required by subsection (c)(2).

4) Corrective action groundwater monitoring program, including identification of any revisions to the groundwater monitoring system for corrective action.

5) Any interim measures necessary to reduce the contaminants leaching from the CCR fill area, and/or potential exposures to human or ecological receptors, including an analysis of the factors specified in Section 846.480(a)(3).

6) Post-cover system care plan specified in Section 846.530(d), if applicable.

7) A demonstration of whether the CCR fill area meets the location standards in the following Sections:

A) Section 846.300 (Placement Above the Uppermost Aquifer or Uppermost Saturated Zone);

B) Section 846.310 (Unstable Areas and Floodplains);

c) Cover System Construction. In addition to the requirements in subsection (a), all construction permit applications to install a cover system at the CCR fill area under Subpart E must contain the following information and documents:

1) Cover system plan (see Section 846.500);

2) Groundwater modeling, including:

A) The results of groundwater contaminant transport modeling and calculations showing how the cover system will achieve compliance, if applicable, with the groundwater standards;

B) All modeling inputs and assumptions;

C) Description of the fate and transport of contaminants, if monitoring shows groundwater contamination, with the selected cover system over time;

D) Capture zone modeling, if applicable; and

E) Any necessary licenses and software needed to review and access both the model and the data contained within the model.

3) Proposed schedule to complete cover system; and

4) A demonstration that the CCR fill area meets the location standards in the following Sections:

A) Section 846.300 (Placement Above the Uppermost Aquifer or Uppermost Saturated Zone);

B) Section 846.310 (Unstable Areas and Floodplains).

d) Removal Construction. In addition to the requirements in subsection (a), all construction permit applications for removal of the CCR fill area under Subpart F must contain the following information and documents:

1) Removal plan (see Section 846.620); and

2) Proposed schedule to complete removal.

e) Duration of Construction Permits

1) For any construction permit that is not for the removal of the CCR fill area, the construction permit must be issued for fixed terms not to exceed 3 years.

2) For any construction permit for the removal of a CCR fill area, the construction permit must be issued for an initial fixed term expiring within the timeframe approved by the Agency in the construction permit or five years, whichever is less. The Agency may renew a construction permit for removal in two-year increments under Section 846.640(b).

Section 846.230 Pre-Application Public Notification and Public Meeting

a) At least 30 days before the submission of a construction permit application, the owner or operator of the property or facility with a CCR fill area must hold at least two public meetings to discuss the proposed construction, with at least one meeting to be held after 5:00p.m. in the evening. Any public meeting held under this Section must be located at a venue that is accessible to persons with disabilities, and the owner or operator must provide reasonable accommodations upon request.

b) The owner or operator must prepare and circulate a notice explaining the proposed construction project and any related activities and the time and place of the public meeting. At least 30 days before the public meeting, the owner or operator of the property or facility with a CCR fill area must:

1) Mail or hand-deliver the notice to the Agency and all residents within a one-mile radius from the facility boundary;

2) Post the notice to the owner's or operator's publicly accessible Internet site under Section 846.710;

3) Post the notice in conspicuous locations throughout villages, towns, or cities within 10 miles of the facility, or use appropriate broadcast media (such as radio or television);

4) Request that the Agency email the notice to the Agency's listserv for the facility; and

5) Include in the notice the owner or operator's contact information, the Internet address where the information in Section 846.230(e) will be posted, and the date on which the information will be posted to the site.

c) When a proposed construction project or any related activity is located in an area with a significant proportion of non-English speaking residents, the notification must be circulated, or broadcast, in both English and the appropriate non-English language, and the owner or operator must provide translation services during the public meetings required by Section 846.230(a), if requested by non-English speaking members of the public.

d) The owner or operator of the property or facility with a CCR fill area must prepare documentation required by Section 846.700(d) recording the public meeting and place the documentation in the facility's CCR fill area record.

e) At least 30 days before a public meeting, the owner or operator of the property or facility with a CCR fill area must post on the owner's or operator's publicly accessible Internet site all documentation relied upon in making a tentative construction permit application.

f) At the public meeting, the owner or operator of the property or facility with a CCR fill area must:

1) Present its decision-making process for the construction permit application, including, when applicable, the corrective action alternatives and the removal alternatives considered. The presentation must include a comparison of projected groundwater impacts for each alternative considered and an objective comparison of the pros and cons of each alternative considered;

2) Include a question/answer portion of the meeting to allow the public to ask questions. There must be representatives from the owner or operator

present who are qualified and knowledgeable enough to answer the questions posed by the public;

3) If there are questions posed by the public at the hearing that cannot be answered in person, or if there are subsequent questions posed by the public following the meeting, the owner or operator of the property or facility with a CCR fill area must respond to those questions in writing within a reasonable timeframe and post the response on the facility's CCR website required by Section 846.710; and

4) Explain that the Agency is creating a listserv for the facility, compile a list of interested persons in attendance—and their respective email addresses—who would like to be added to the listserv from those that attend the public meeting, and transmit that list to the Agency with the permit application.

g) Within 14 days after the public meetings required by Section 846.230, the owner or operator must distribute a general summary of the issues raised by the public, as well as a response to those issues or comments raised by the public. If these comments resulted in a revision, change in a decision, or other considerations or determinations, a summary of these revisions,changes, and considerations must be included in the summary. The summary must be distributed to any attendee who requests a copy at the public meeting.

h) This Section does not apply to applications for minor modifications as described in Section846.270(d).

Section 846.240 Tentative Determination and Draft Permit

a) Following the receipt of a complete application for a construction permit, the Agency must prepare a tentative determination.

1) The tentative determination must include at least the following:

A) A statement regarding whether the permit is to be issued or denied; and

B) If the determination is to issue the permit, a draft permit and a brief description of any conditions contained in the permit.

2) Upon tentative determination to issue or deny the permit:

A) If the determination is to issue the permit, the Agency must notify the applicant in writing of the content of the tentative determination and draft permit and of its intent to circulate public notice of issuance in accordance with Section 846.250;

B) If the determination is to deny the permit, the Agency must notify the applicant in writing of the tentative determination and of its intent to circulate public notice of denial, in accordance with Section 846.250. In the case of denial, notice to the applicant must include a statement of the reasons for denial, as required by Section 39(a) of the Act.

3) The documents supporting the Agency's tentative decision to issue or deny a permit must be made part of the Agency's record.

Section 846.250 Draft Permit Public Notice and Participation

a) The Agency must post a notification that it has received a permit application on the Agency's webpage and must email the notice to the Agency's listserv for the applicant's facility.

b) Public Notice of Draft Permit

1) Not earlier than 15 days following the Agency's notification to the applicant of its tentative decision under Section 846.240 to issue or deny the permit application, the Agency must circulate public notice of the completed application for the permit in a manner designed to inform interested and potentially interested persons of the construction at the CCR fill area and of the proposed determination to issue or deny the permit.

2) The contents of public notice of completed applications for permits must shall include at least the following:

A) Name, address, and telephone number of the Agency;

B) Name and address of the applicant;

C) Brief description of the applicant's activities that result in the construction at the CCR fill area;

D) A statement of the tentative determination to issue or deny the permit;

E) A brief description of the procedures for the formulation of final determinations, including the procedures for submitting comments and the expiration date of the comment period;

F) Address and telephone number of Agency premises at which interested persons may obtain further information and request a copy of the permit application and related documents;

G) A translation of the public notice into the appropriate language or languages if the Agency determines that a project is located within one mile of a significant population of non-English speaking residents;

H) A brief description of how members of the public can request a public hearing under Section 846.250(d); and

I) A brief description of how members of the public can request being added to the Agency's listserv for the facility.

3) Procedures for the circulation of public notice required under this Section must include at least the following concurrent actions:

A) Posting on the Agency's webpage and all the Agency's social media outlets;

B) Mailing the notice to the clerk of the nearest city, town, or village requesting further posting in conspicuous locations throughout the city, town, or village;

C) Requiring the applicant to post the notice near the entrance to the applicant's premises; and

D) Emailing the notice to the Agency's listserv for the facility.

c) Public Comment Period

1) The Agency must accept written comments from interested persons on the draft permit determination for 45 days following the circulation of the public notice under subsection (b).

2) All comments must be submitted to the Agency and to the applicant.

3) All written comments submitted during the 45-day comment period must be retained by the Agency and considered in the formulation of its final determination with respect to the permit application.

4) The period for comment may be extended at the discretion of the Agency.

5) The Agency must consider all timely submitted comments.

d) Public Hearing

1) The Agency must hold a public hearing on the issuance or denial of a draft permit whenever the Agency determines that there exists a significant degree of public interest in the proposed permit.

2) Within the 45-day public comment period, any person, including the applicant, may submit to the Agency a request for a public hearing, which must include the reasons why a hearing is warranted.

3) Hearings held under this Section must be held in the geographical area in which the CCR fill area is located. When determining the hearing location, consideration must be given to facilitating attendance of interested or affected persons and organizations and to accessibility of hearing sites to public transportation.

e) Notice of Public Hearing

1) The Agency must issue notice of a public hearing not less than 30 days before the date of the hearing, under the procedures for the circulation of public notice in subsection (b)(3).

2) The contents of the public notice for the public hearing must include at least the following:

A) Name, address, and telephone number of the Agency;

B) Name and address of each applicant whose application will be considered at the hearing;

C) Brief description of the applicant's activities that result in the construction at the CCR fill area;

D) Information regarding the time and location of the hearing;

E) The purpose of the hearing;

F) A concise statement of the issues to be considered at the hearing;

G) Address and telephone number of premises at which interested persons may obtain further information and request a copy of the draft permit and related documents;

H) A statement that the hearing will be conducted in accordance with this Section; and

I) A translation of the public notice into the appropriate language or languages will be made if the Agency determines that a project is

located within one mile of a significant population of non-English speaking residents.

f) When the Agency receives written comments or holds a public hearing under this Section, the Agency must prepare a responsiveness summary that includes:

1) An identification of the public participation activity conducted;

2) Description of the matter on which the public was consulted;

3) An estimate of the number of persons present at the hearing;

4) A summary of all significant comments, criticisms, and suggestions, whether written or oral, submitted during the public comment period, at the hearing, or during the time that the hearing record was open;

5) The Agency's response to all significant comments, criticisms, and suggestions; and

6) A statement of Agency action, including, when applicable, the issuance or denial of the permit.

Section 846.260 Final Permit Determination and Appeal

a) The Agency must not make a final permit determination until the public participation process in Section 846.250 has concluded.

b) After the consideration of any comments that may have been received, the Agency may either issue or deny the permit.

c) The Agency must provide a notice of the issuance or denial of the permit to the applicant, to any person who provides comments or an email address to the Agency during the public notice period or a public hearing, and to any person on the Agency's listserv for the facility. The Agency must post its final permit determination and, if a public hearing was held, the responsiveness summary, to the Agency's website. The notice must briefly indicate any significant changes that were made from the terms and conditions set forth of the draft permit.

d) In the case of denial, the Agency must inform the applicant of the reasons for denial, as required by Section 39(a) of the Act.

e) Appeal

1) If the Agency refuses to grant, or grants with conditions, a permit under this Part, the applicant or a third party who is or may be adversely affected

by the Agency's decision may petition the Board to appeal the Agency's final decision under Section 40 of the Act.

2) All appeals must be filed with the Board within 35 days after the final action is served on the applicant as specified in Section 846.210(d).

Section 846.270 Transfer, Modification and Renewal of Construction Permits

a) No permit is transferable from one person to another except as approved by the Agency.

b) Agency Initiated Modification. The Agency may modify a permit under the following conditions:

1) Discovery of a typographical or calculation error;

2) Discovery that a determination or condition was based upon false or misleading information;

3) An order of the Board; or

4) Promulgation of new statutes or regulations affecting the permit.

c) The owner or operator of a CCR fill area may initiate modification to its permit by application submittal to the Agency at any time after the permit is approved and before the permit expires.

d) The Agency may make minor modifications to a permit without following the public notice procedures of Section 846.250. Minor modifications may only:

1) Correct typographical errors;

2) Require more frequent monitoring or reporting by the permittee, including the installation of additional groundwater monitoring wells;

3) Allow for a change in ownership or operational control of a facility when the Agency determines that no other change in the permit is necessary, provided that a written agreement containing a specific date for transfer of permit responsibility, coverage, and liability between the current and new permittees has been submitted to the Agency;

4) Change the construction schedule, which does not impact the scheduled date of completion; or

5) Require electronic reporting requirements.

e) An application for renewal of a permit must be filed with the Agency at least 180 days before the expiration date of the existing permit unless the Agency grants a waiver of this requirement. The Agency may grant a waiver of the 180-day requirement only if:

1) The permittee submits a written request to the Agency at least 60 days before the expiration of the permit;

2) The permittee's written request includes the reasonably justifiable causes for not meeting the 180-day requirement; and

3) The permittee's written request includes a date by which the permittee will submit the renewal application.

f) Any Agency decision to deny a waiver request must be made within 21 days after receipt of the waiver request (see subsection (e)(1)).

g) The terms and conditions of an expiring permit remain effective and enforceable against the permittee until the Agency takes final action on the pending permit renewal application, only if the permittee has submitted a timely application under subsection (e) and the Agency, through no fault of the permittee, does not issue a new permit by, on, or before the expiration date of the previous permit.

Section 846.280 Construction Quality Assurance Program

a) The following must be constructed according to a Construction Quality Assurance (CQA) program:

1) Installation of a groundwater collection system and discharge system;

2) Installation of the groundwater monitoring system; and

3) Installation of the final cover system.

b) The CQA program must meet the following requirements:

1) The owner or operator of the CCR fill area must designate a CQA officer who is a qualified professional engineer.

2) At the end of each week of construction, until construction is complete, a summary report must be prepared either by the CQA officer or under the supervision of the CQA officer. The report must include descriptions of the weather, locations where construction occurred during the previous week, materials used, results of testing, inspection reports, and procedures used to perform the inspections. The CQA officer must review and approve the report. The owner or operator of the CCR fill area must place

the weekly reports in the facility's CCR fill area record (see Section 846.700(d)(3)).

3) The CQA officer must certify the following, when applicable:

A) The bedding material contains no undesirable objects;

B) The removal plan, cover system plan, or corrective action plan approved by the construction permit has been followed;

C) The anchor trench and backfill are constructed to prevent damage to a geosynthetic membrane;

D) All tears, rips, punctures, and other damage are repaired;

E) All geosynthetic membrane seams are properly constructed and tested in accordance with the manufacturer's specifications;

F) Any groundwater collection system is constructed to intersect the water table;

G) Any groundwater collection system is properly constructed to slope toward extraction points, and the extraction equipment is properly designed and installed;

H) Appropriate operation and maintenance plans for the groundwater collection system and extraction and discharge equipment are provided;

I) Proper filter material consisting of uniform granular fill, to avoid clogging, isused in construction;

J) The filter material, as placed, possesses structural strength adequate to support the maximum loads imposed by the overlying materials and equipment used atthe facility;

K) CCR stabilization; and

L) Site restoration, if any.

4) The CQA officer must supervise and be responsible for all inspections, testing and other activities required to be implemented as part of the CQA program under this Section.

5) The CQA officer must be present to provide supervision and assume responsibility for performing all inspections of the following activities, when applicable:

A) Compaction of the subgrade and foundation to design parameters;

B) Application of final cover, including installation of the geomembrane; and

C) Installation of the groundwater collection system and discharge system.

6) If the CQA officer is unable to be present as required by subsection (b)(5), the CQA officer must provide the following in writing:

A) The reasons for his or her absence;

B) A designation of a person who must exercise professional judgment in carrying out the duties of the CQA officer-in-absentia; and

C) A signed statement that the CQA officer assumes full responsibility for all inspections performed and reports prepared by the designated CQA officer-in-absentia during the absence of the CQA officer.

7) The CQA program must ensure, at a minimum, that construction materials and operations meet design specifications.

SUBPART C: LOCATION RESTRICTIONS

Section 846.300 Placement Above the Uppermost Aquifer or Uppermost Saturated Zone

a) The base or bottom-most portion of a CCR fill areas must not be located within 1.52 meters (five feet) of the upper limit of the uppermost aquifer and above the uppermost saturated zone, or the owner or operator of a property or facility with a CCR fill area must demonstrate that there will not be an intermittent, recurring, or sustained hydraulic connection between any portion of the base or bottom-most portion of the CCR fill area and the uppermost aquifer and uppermost saturated zone due to normal fluctuations in groundwater elevations (including the seasonal high water table).

b) The owner or operator of the property or facility with a CCR fill area must obtain a certification from a qualified professional engineer stating that the demonstration meets therequirements of subsection (a).

c) The owner or operator of the property or facility with a CCR fill area must complete the demonstration required by subsection (a) and submit the completed demonstration, along with a qualified professional engineer's certification, to the Agency for approval within 30 days of completing the CCR characterization required by Section 846.130 and must place the completed demonstration and certification in the facility's CCR fill area record as required bySection 846.700(d).

Section 846.310 Unstable Areas and Floodplains

a) A CCR fill area must not be located in an unstable area unless the owner or operator demonstrates that recognized and generally accepted engineering practices have been incorporated into the design of the CCR fill area to ensure that the integrity of the structural components of the CCR fill area will not be disrupted.

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

1) On-site or local soil conditions, including but not limited to liquefaction, that may result in significant differential settling;

2) On-site or local geologic or geomorphologic features; and

3) On-site or local human-made features or events (both surface and subsurface).

c) A CCR fill area must not be located in a floodplain unless the owner or operator demonstrates that recognized and generally accepted engineering practices have been incorporated into the design of the CCR fill area to ensure that the CCR fill area will not restrict the flow of the base flood, reduce the temporary water storage capacity of a floodplain, or result in washout of CCR, so as to pose a hazard to human life, wildlife, or land or water resources. For this subsection (c):

1) Base flood means a flood that has a 1 percent or greater chance of recurring in any year or a flood of a magnitude equaled or exceeded once in 100 years on average within the time of historical river level records.

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

3) Washout means the carrying away of CCR by waters of the base flood.

d) The owner or operator of the property or facility with a CCR fill area must obtain a certification from a qualified professional engineer stating that the demonstration meets the requirements of subsection (a).

e) The owner or operator of the property or facility with a CCR fill area must complete the demonstration required by subsection (a) and submit the completed demonstration, along with a qualified professional engineer's certification required by subsection (b), to the Agency for approval within 30 days of completing the CCR characterization required by Section 846.130 and must place the completed demonstration and certification in the facility's CCR fill area record as required by Section 846.700(d).

Section 846.320 Public Notice and Agency Approval of Location Demonstration

a) The owner or operator must place the completed location demonstration, as submitted to the Agency, on the facility's CCR website under Section 846.700 within 24 hours after the submission to the Agency pursuant to Sections 846.300(c)and 846.310(e).

b) Within two business days after receiving the completed location demonstration, the Agency, must email a notice to its listserv for the facility that the location demonstration is available to view on the facility's CCR website. If the facility does not already have a dedicated listserv, the Agency must provide public notice by posting notice on the Agency's website, posting notice on Agency social media, notifying the listserv of the nearest CCR surface impoundments for which there is a facility listserv, and other means deemed adequate by the Agency. The public notice must note that public comments are welcome within 14 days of the notice's service.

c) Members of the public may submit to the Agency written comments on the completed location demonstration within 14 days after the Agency provides public notice.

d) Within 30 days of the close of the public comment period, the Agency must provide a written response to the owner or operator, either approving or disagreeing with the location demonstrations. The Agency's decision is final regarding Section 846.330.

e) The Agency must mail or email its response to each person who timely submitted a written public comment and supplied a mailing or email address and to the listserv for the facility.

Section 846.330 Failure to Meet Location Standards

a) An owner or operator of a property or facility with a CCR fill area who fails to demonstrate compliance with the requirements of this Subpart is subject to the requirements of Subpart F.

b) An owner or operator of a property or facility with a CCR fill area who fails to demonstrate compliance with the requirements of this Section must submit a construction permit application pursuant to Subpart B to the Agency within 180 days of establishing the groundwater monitoring system and the groundwater monitoring program at the CCR fill area within the timeframe required by the Agency's approval pursuant to Section 846.410(c)(5).

SUBPART D: GROUNDWATER MONITORING AND CORRECTIVE ACTION

Section 846.400 Groundwater Protection Standards

a) For CCR fill areas:

1) The groundwater protection standards at the waste boundary must be the standards contained in 35 Ill. Admin. Code 845.600(a).

2) For constituents with a background concentration higher than the levels identified in subsection (a)(1), the background concentration must be the groundwater protection standard.

b) The owner or operator of a property or facility with a CCR fill area may not obtain alternative groundwater quality standards in 35 Ill. Adm. Code 620.450(a)(4) for the constituents in subsections (a) and (b) before the end of post-cover system care under Section 846.530, when installing a cover system, or before the end of groundwater monitoring under Section 846.640(b), when removing.

Section 846.405 General Requirements and Removal Exemption

a) All CCR fill areas are subject to the groundwater monitoring and corrective action requirements of this Subpart.

b) However, in lieu of complying with this Subpart, a CCR fill area may be removed if it meets the following conditions:

1) The CCR fill does not violate the location restrictions in Subpart C.

2) The CCR fill area is not located within 2,500 feet of potable water wells.

c) Owners or operators electing to remove pursuant to subsection (b) must comply with Subpart F. The owner or operator electing to remove pursuant to subsection

(b) must submit notification to the Agency within 30 days of the Agency rendering a decision pursuant toSection 846.320.

Section 846.410: Required Submissions and Agency Approvals for Groundwater Monitoring

a) Within 180 days of the Agency rendering a decision pursuant to Section 846.320, the owner or operator of a property or facility with a CCR fill area who does not or may not elect to remove pursuant to Section 846.405(b) must submit the following to the Agency for approval in a hydrogeologic assessment plan:

1) A hydrogeologic site characterization meeting the requirements of Section 846.420;

2) Design and construction plans of a groundwater monitoring system meeting the requirements of Section 846.430;

3) A groundwater sampling and analysis program that includes selection of the statistical procedures to be used for evaluating groundwater monitoring data as required by Section 846.440; and

4) A monitoring program that includes a minimum of eight independent samples for each background and downgradient well as required by Section 846.450(b).

5) An estimate of how long it will take to establish the groundwater monitoring system and the groundwater monitoring program.

b) The owner or operator of a property or facility with a CCR fill area who does not or may not elect to remove pursuant to Section 846.405(b) must:

1) Conduct groundwater monitoring under a monitoring program approved by the Agency under this Subpart;

2) Evaluate the groundwater monitoring data for statistically significant levels over background levels for the constituents listed in Section 846.400 after each sampling event;

3) Determine compliance with the groundwater protection standards in Section 846.400 after each sampling event; and

4) Submit all groundwater monitoring data to the Agency and any analysis performed under subsections (b)(2) and (b)(3) within 60 days after completion of sampling and place the groundwater monitoring data in the facility's CCR fill area record as required by Section 846.700(d)(15).

c) Public Notice and Agency Approval

1) The owner or operator must place the hydrogeologic assessment plan on the facility's CCR fill record and CCR website under Section 846.700 within 24 hours after the submission to the Agency (see Section 846.700).

2) Within two business days after receiving the hydrogeologic assessment plan, the Agency must email a notice to its listserv for the facility that the hydrogeologic assessment plan is available to view on the facility's CCR website. If the facility does not already have a dedicated listserv, the Agency must provide public notice by posting notice on the Agency's website, posting notice on Agency social media, notifying the listserv of the nearest CCR surface impoundments for which there is a facility listserv, and other means deemed adequate by the Agency. The public notice must note that public comments are welcome within 14 days of the notice's service.

3) Members of the public may submit to the Agency written public comments on the hydrogeologic assessment plan within 14 days after the Agency provides public notice.

4) Within 30 days of the close of the public comment period, the Agency must provide a written response to the owner or operator, either approving or indicating the modifications that need to be made to the plan. The Agency's approval must set a date for when the groundwater monitoring system and the groundwater monitoring program must be established.

5) The Agency must mail or email its response to each person who timely submitted a written public comment and supplied a mailing or email address and to the listserv for the facility.

d) Once the groundwater monitoring system and the groundwater monitoring program have been established at the CCR fill area within the timeframe required by the Agency's approval pursuant to subpart (c)(5), the owner or operator must conduct groundwater monitoring and, if necessary, corrective action throughout the life and post-cover system care period of the CCR fill area or the time period specified in Section 846.640(b) when ash is removed.

e) If a CCR fill area has a release, the owner or operator must immediately take all necessary measures to control all sources of the release to reduce or eliminate, to the maximum extent feasible, further releases of contaminants into the environment. The owner or operator of the property or facility with a CCR fill area must comply with all applicable requirements of Sections 846.460, 846.470, and 846.480.

f) Annual Groundwater Monitoring and Corrective Action Report

1) The owner or operator of a property or facility with a CCR fill area who does not or may not elect to remove pursuant to Section 846.405(b) must prepare and submit to the Agency an annual groundwater monitoring and corrective action report as a part of the annual consolidated report required by Section 846.450.

2) For the preceding calendar year, the annual report must document the status of the groundwater monitoring and corrective action plan for the CCR fill area, summarize key actions completed, including but not limited to the status of permit applications and Agency approvals, describe any problems encountered, discuss actions to resolve the problems, and project key activities for the upcoming year.

3) At a minimum, the annual groundwater monitoring and corrective action report must contain the following information, to the extent available:

   A) A map, aerial image, or diagram showing the CCR fill area, all background (or upgradient) and downgradient monitoring wells, including the well identification numbers, that are part of the groundwater monitoring program for the CCR fill area, and a visual delineation of any exceedances of the groundwater protection standards;

   B) 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;

   C) A potentiometric surface map for each groundwater elevation sampling event required by Section 846.450(b)(2);

   D) In addition to all the monitoring data obtained under this Subpart, a summary including the number of groundwater samples that were collected for analysis for each background and downgradient well, and the dates the samples were collected;

   E) A narrative discussion of any statistically significant increases over background levels for the constituents listed in Section 846.400; and

   F) Other information required to be included in the annual report as specified in this Subpart.

4) A section at the beginning of the annual report must provide an overview of the current status of groundwater monitoring program and corrective action plan for the CCR fill area. At a minimum, the summary must:

A) Specify whether groundwater monitoring data shows a statistically significant increase over background concentrations for one or more constituents listed in Section 846.400;

B) Identify those constituents having a statistically significant increase over background concentrations and the names of the monitoring wells associated with the increase;

C) Specify whether there have been any exceedances of the groundwater protection standards for one or more constituents listed in Section 846.400;

D) Identify those constituents with exceedances of the groundwater protection standards in Section 846.400 and the names of the monitoring wells associated with the exceedance;

E) Provide the date when the assessment of corrective measures was initiated for the CCR fill area;

F) Provide the date when the assessment of corrective measures was completed for the CCR fill area;

G) Specify whether a remedy was selected under Section 846.470 during the current annual reporting period, and if so, the date of remedy selection; and

H) Specify whether remedial activities were initiated or are ongoing under Section 846.480 during the current annual reporting period.

Section 846.420 Hydrogeologic Site Characterization

a) The owner or operator of the property or facility with a CCR fill area not subject to the removal requirements of Section 846.600 must design and implement a hydrogeologic site characterization.

b) The hydrogeologic site characterization must include, but is not limited to, the following:

1) Geologic well logs/boring logs;

2) Vertical and horizontal extent of CCR fill;

3) Climatic aspects of the site, including seasonal and temporal fluctuations in groundwater flow;

4) Identification of nearby surface water bodies and drinking water intakes;

5) Identification of nearby pumping wells and associated uses of the groundwater;

6) Identification of nearby dedicated nature preserves;

7) Geologic setting;

8) Structural characteristics;

9) Geologic cross-sections;

10) Soil characteristics;

11) Identification of confining layers;

12) Identification of potential migration pathways;

13) Groundwater quality data;

14) Vertical and horizontal extent of the geologic layers to a minimum depth of 100 feet below land surface, including lithology and stratigraphy;

15) A map displaying any known underground mines beneath a CCR fill area;

16) Chemical and physical properties of the geologic layers to a minimum depth of 100 feet below land surface;

17) Hydraulic characteristics of the geologic layers identified as migration pathways and geologic layers that limit migration, including:

A) Water table depth;

B) Hydraulic conductivities;

C) Effective and total porosities;

D) Direction and velocity of groundwater flow; and

E) Map of the potentiometric surface;

18) Groundwater classification under 35 Ill. Adm. Code 620; and

19) Any other information requested by the Agency that is relevant to the hydrogeologic site characterization.

Section 846.430 Groundwater Monitoring Systems

a) Performance Standard. The owner or operator of a property or facility with a CCR fill area who does not or may not elect to remove pursuant to Section 846.405(b) must install a groundwater monitoring system that consists of a sufficient number of wells, installed at appropriate locations and depths, to yield groundwater samples that:

1) Accurately represent the quality of background groundwater that has not been affected by CCR fill, leakage from any CCR fill area, or leakage from a CCR surface impoundment. A determination of background quality may include sampling of wells that are not hydraulically upgradient of the CCR management area where:

A) Hydrogeologic conditions do not allow the owner or operator of the property or facility with a CCR fill area to determine what wells are hydraulically upgradient; or

B) Sampling at other wells will provide an indication of background groundwater quality that is demonstratively 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 fill area. The downgradient monitoring system must be installed at the wasteboundary that ensures detection of groundwater contamination. All potential contaminant pathways must be monitored.

b) The number, spacing, and depths of monitoring system wells must be determined based upon site-specific technical information identified in the hydrogeologic site characterization conducted under Section 846.420.

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

1) A minimum of one upgradient, three downgradient monitoring wells, and one monitoring well completed within the CCR fill to monitor groundwater/leachate quality within the central CCR fill area; and

2) Additional monitoring wells as necessary to accurately represent the quality of background groundwater that has not been affected by CCR fill, leakage from any CCR fill area, or leakage from any CCR surface

impoundment and the quality of groundwater passing the waste boundary of the CCR fill area.

d) Multi-unit Groundwater Monitoring System

1) The owner or operator of a property or facility with multiple CCR fill areas may install a multi-unit groundwater monitoring system instead of separate groundwater monitoring systems for each CCR fill area.

2) The multi-unit groundwater monitoring system must be equally as capable of detecting monitored constituents at the waste boundary of the CCR fill area as the individual groundwater monitoring system specified in subsections (a) through (c) for each CCR fill area, based on the following factors:

A) Number, spacing, and orientation of each CCR fill area;

B) Hydrogeologic setting;

C) Site history; and

D) Engineering design of the CCR fill area.

3) Any multi-unit groundwater monitoring system must include one monitoring well completed within the CCR fill to monitor groundwater/leachate quality within the central CCR fill area being monitored.

e) Monitoring wells must be properly constructed in a manner consistent with the standards of 77 Ill. Adm. Code 920.170.

1) The owner or operator must document and include in the facility's CCR fill area 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 by subsection (f).

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

f) The owner or operator must obtain a certification from a qualified professional engineer stating that the groundwater monitoring system has been designed and constructed to meet the requirements of this Section. If the groundwater

monitoring system includes the minimum number of monitoring wells specified in subsection (c)(1), the certification must document the basis supporting this determination. The certification must be submitted to the Agency with the appropriate permit application.

Section 846.440 Groundwater Sampling and Analysis

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 Section 846.430. The owner or operator of the property or facility with a CCR fill area must develop a sampling and analysis program that includes procedures and techniques for:

1) Sample collection;

2) Sample preservation and shipment;

3) Analytical procedures;

4) Chain of custody control; and

5) Quality assurance and quality control.

b) The groundwater monitoring program must include sampling and analytical methods that are appropriate for groundwater sampling and that accurately measure constituents and other monitoring parameters in groundwater samples. For this Subpart, the term "constituent" refers to both constituents and other monitoring parameters listed in Section 846.400.

c) The owner or operator must perform the following each time ground water is sampled:

1) Measure groundwater elevations in each well before purging;

2) Determine the rate and direction of groundwater flow; and

3) Measure groundwater elevations in wells that monitor the same CCR management area within a time period short enough to avoid temporal variations in groundwater flow that could preclude accurate determination of groundwater flow rate and direction.

d) The owner or operator of the property or facility with a CCR fill area must establish background groundwater quality in a hydraulically upgradient or background well for each of the constituents listed in Section 846.400. Background groundwater quality may be established at wells that are not located

hydraulically upgradient from the CCR fill area if it meets the requirements of Section 846.430(a)(1).

e) The number of samples collected when conducting monitoring (for both downgradient and background wells) must be consistent with the statistical procedures chosen under subsection (f) and the performance standards under subsection (g). The sampling procedures must be those specified by Section 846.450(a) through (c).

f) Statistical Methods

1) The owner or operator of the property or facility with a CCR fill area must select one of the statistical methods specified in this subsection to be used in evaluating groundwater monitoring data for each specified constituent. The statistical test chosen must be conducted separately for each constituent in each monitoring well.

A) 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.

B) 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.

C) 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.

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

E) Another statistical test method that meets the performance standards of subsection (g).

2) The owner or operator of the property or facility with a CCR fill area 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 fill area. The certification must include a narrative description of the statistical method selected to evaluate the

groundwater monitoring data. The certification must be submitted to the Agency with the appropriate permit application.

3) The owner or operator of the property or facility with a CCR fill area must submit the following to the Agency in a hydrogeologic assessment plan:

A) Documentation of the statistical method chosen; and

B) The qualified professional engineer certification required under subsection (f)(2).

g) Any statistical method chosen under subsection (f) must 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 must be appropriate for the distribution of constituents. Normal distributions of data values must use parametric methods. Non-normal distributions must use non-parametric methods. If the distribution of the constituents is shown by the owner or operator of the property or facility with a CCR fill area 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 a control chart approach is used to evaluate groundwater monitoring data, the specific type of control chart and its associated constituent values must be such that this approach is at least as effective as any other approach in this Section for evaluating groundwater data. The constituent values must be determined after considering the number of samples in the background database, the data distribution, and the range of the concentration values for each constituent of concern.

3) 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, must be such that this approach is at least as effective as any other approach in this Section for evaluating groundwater data. These constituents must be determined after considering the number of samples in the background database, the data distribution, and the range of the concentration values for each constituent of concern.

4) The statistical method must account for data below the limit of detection with one or more statistical procedures 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 must 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. For the constituents identified in Section 846.400(a)(1), the practical quantitation limit must be less than the groundwater protection standards.

5) 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 property or facility with a CCR fill area must determine whether there is a statistically significant increase over background values for each constituent in Section 846.400.

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 under Section 846.430(a)(2) or (d)(1) to the background value of that constituent, according to the statistical procedures and performance standards specified by subsections (f) and (g).

2) Within 60 days after completing sampling and analysis, the owner or operator must determine whether there has been a statistically significant increase over background for any constituent at each monitoring well.

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

j) All groundwater samples taken under this Subpart must be analyzed by a certified laboratory using Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846, incorporated by reference in Section 846.150.

Section 846.450 Groundwater Monitoring Program

a) The owner or operator of a property or facility with a CCR fill area must conduct groundwater monitoring consistent with this Section. At a minimum, groundwater monitoring must include groundwater monitoring for all constituents with a groundwater protection standard in Section 846.400(a), calcium, and turbidity. The owner or operator ofthe property or facility with a CCR fill area must submit a groundwater monitoring plan to the Agency with its hydrogeologic assessment plan.

b) Monitoring Frequency

1) The monitoring frequency for all constituents with a groundwater protection standard in Section 846.400(a), calcium, and turbidity must be at least quarterly during the period when groundwater in the vicinity of the CCR fill area is being characterized before any remediation and the post-cover system care period or period specified in Section 846.640(b) when corrective action is by removal except as allowed in subsection (b)(4).

2) The groundwater elevation monitoring frequency must be monthly.

3) The elevation of groundwater/leachate within the CCR fill area must be measured each time the groundwater elevations are measured (see Section 846.450(b)(2)).

4) After completion of five years of monitoring under this Part, the owner or operator of a property or facility with a CCR fill area may ask the Agency for approval of a semiannual monitoring frequency by demonstrating all of the following:

A) The groundwater monitoring effectiveness will not be compromised by the reduced frequency of monitoring;

B) Sufficient data has been collected to characterize groundwater;

C) The groundwater monitoring schedule currently does not show any statistically significant increasing trends; and

D) The concentrations of constituents monitored under Section 846.450(a) at the down-gradient monitoring wells are below the applicable groundwater protection standards of Section 846.400.

5) If, after an Agency approval of a semiannual monitoring frequency under subsection (b)(4), a statistically significant increasing trend is detected or an exceedance above the GWPS is detected, the monitoring must revert to a quarterly frequency.

c) The number of samples collected and analyzed for each background well and downgradient well during subsequent quarterly sampling events must be consistent with Section 846.440 and must account for any unique characteristics of the site; but must include at least one sample from each background and downgradient well.

d) If one or more constituents are detected, and confirmed by an immediate resample, to be in exceedance of the groundwater protection standards in Section 846.400 in any sampling event, the owner or operator must notify the Agency which constituent exceeded the groundwater protection standard and place the notification in the facility's CCR fill area record as required by Section

846.700(d)(16). The owner or operator of the property or facility with a CCR fill area also must:

1) Characterize the nature and extent of the release and any relevant site conditions that may affect the remedy ultimately selected. The characterization must be sufficient to support a complete and accurate assessment of the corrective measures necessary to effectively clean up all releases from the CCR fill area under Section 846.460. The owner or operator of the property or facility with a CCR fill area must submit the characterization to the Agency and place the characterization in the facility's CCR fill area record as required by Section 846.700(d)(16). Characterization of the release includes the following minimum measures:

   A) Install additional monitoring wells necessary to define the contaminant plumes;

   B) Collect data on the nature and estimated quantity of material released, including specific information on the constituents listed in Section 846.400 and the levels at which they are present in the material released;

   C) Install at least one additional monitoring well at the facility boundary in the direction of contaminant migration and sample this well in accordance with subsections (a) and (b); and

   D) Sample all wells in accordance with subsections (a) and (b) to characterize the nature and extent of the release.

2) Notify all persons who own the land or reside on the land that directly overlies any part of the plume of contamination if contaminants have migrated off-site as indicated by sampling of wells in accordance with subsection (d)(1). The owner or operator must send notifications made under this subsection (d)(2) to the Agency and place the notifications in the facility's CCR fill area record (see Section 846.700(d)(16)).

Section 846.460 Assessment of Corrective Measures

a) If one or more constituents are detected, and confirmed by an immediate resample, to be in exceedance of the groundwater protection standards in Section 846.400 in any sampling event, the owner or operator must initiate an assessment of corrective measures to prevent further releases, to remediate any releases, and to restore the affected area.

   1) The assessment of corrective measures must be initiated within 90 days after finding that any constituent listed in Section 846.400 has been detected in exceedance of the groundwater protection standards in Section

846.400, at the downgradient waste boundary or immediately upon detection of a release of CCR from a CCR fill area.

2) The assessment of corrective measures must be completed and submitted to the Agency within 90 days after of initiation of assessment of corrective measures, unless the owner or operator demonstrates to the Agency the need for additional time to complete the assessment of corrective measures due to site-specific conditions or circumstances. The owner or operator must submit this demonstration, along with a certification from a qualified professional engineer attesting that the demonstration is accurate, to the Agency within 60 days after initiating an assessment of corrective measures. The Agency must either approve or disapprove the demonstration within 30 days. 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 Agency approved demonstration in the annual groundwater monitoring and corrective action report required by Section 846.410(e), in addition to the certification by a qualified professional engineer.

b) The owner or operator of the property or facility with a CCR fill area must continue to monitor groundwater in accordance with the monitoring program as specified in Section 846.450.

c) The assessment under subsection (a) must include an analysis of the effectiveness of potential corrective measures in meeting all the requirements and objectives of the corrective action plan, as described by Section 846.470, 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 corrective action plan; and

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 corrective action plan.

d) The owner or operator of the property or facility with a CCR fill area must discuss the results of the corrective measures assessment, at least 30 days before prior to the selection of remedy, in a public meeting with interested and affected parties (see Section 846.230).

Section 846.470 Corrective Action Plan

a) The owner or operator must prepare a semi-annual report describing the progress in selecting a remedy and developing a corrective action plan. The semi-annual report must be submitted to the Agency and placed in the CCR fill area record as required by Section 846.700(d)(17).

b) Within 180 days after submitting the completed corrective action assessment required by 846.460(a)(2) to the Agency and after completion of the public meeting in Section 846.460(d), the owner or operator of the CCR fill area must submit, in a construction permit application to the Agency pursuant to Subpart B, a corrective action plan that identifies the selected remedy. This requirement applies in addition to, not in place of, any applicable standards under any other State or federal law.

c) The corrective action plan must meet the following requirements:

    1) Be based on the results of the corrective measures assessment conducted under Section 846.460;

    2) Identify a selected remedy that at a minimum, meets the standards listed in subsection (d);

    3) Contain the corrective action alternatives analysis specified in subsection (e); and

    4) Contain proposed schedules for implementation, including an analysis of the factors in subsection (f);

d) The selected remedy in the corrective action plan must:

    1) Be protective of human health and the environment;

    2) Attain the groundwater protection standards specified in Section 846.400;

    3) Control the sources of releases to reduce or eliminate, to the maximum extent feasible, further releases of constituents listed in Section 846.400 into the environment;

    4) Remove from the environment as much of the contaminated material that was released from the CCR fill area as is feasible, taking into account factors such as avoiding inappropriate disturbance of sensitive ecosystems; and

    5) Comply with standards for management of wastes as specified in Section 846.480(d).

e) Corrective Action Alternatives Analysis. In selecting a remedy that meets the standards of subsection (d), the owner or operator of the CCR fill area must consider the following evaluation factors:

1) The long- and short-term effectiveness and protectiveness of each potential remedy, along with the degree of certainty that the remedy will prove successful based on consideration of the following:

A) Magnitude of reduction of existing risks;

B) Magnitude of residual risks in terms of likelihood of further releases due to CCR remaining following implementation of a remedy;

C) The type and degree of long-term management required, including monitoring, operation, and maintenance;

D) 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 contaminants;

E) Time until groundwater protection standards in Section 846.400 are achieved;

F) The 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, containment, or changes in groundwater flow;

G) The long-term reliability of the engineering and institutional controls, including an analysis of any off-site, nearby destabilizing activities; and

H) 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 each of the following potential factors:

A) The extent to which containment practices will reduce further releases; and

B) The extent to which treatment technologies may be used.

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

A) Degree of difficulty associated with constructing the technology;

B) Expected operational reliability of the technologies;

C) Need to coordinate with and obtain necessary approvals and permits from other agencies;

D) Availability of necessary equipment and specialists; and

E) Available capacity and location of needed treatment, storage, and disposal services.

4) The degree to which community concerns are addressed by each potential remedy.

f) The owner or operator must specify, as part of the corrective action plan, a schedule for implementing and completing remedial activities. The schedule must require the completion of remedial activities within a reasonable time, taking into consideration the factors set forth in this subsection (f). The owner or operator of the CCR fill area 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 Section 846.450(d);

2) Reasonable probabilities of remedial technologies achieving compliance with the groundwater protection standards established by Section 846.400 and other objectivesof 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 before completion of the remedy;

5) Resource value of the aquifer, including:

A) Current and future uses, including but not limited to potential, residential, agricultural, commercial industrial, and ecological uses;

B) Proximity and withdrawal rate of users;

C) Groundwater quantity and quality;

D) The potential impact to the subsurface ecosystem, wildlife, other natural resources, crops, vegetation, and physical structures caused by exposure to CCR constituents;

E) The hydrogeologic characteristic of the facility and surrounding land;

F) Availability of alternative water supplies; and

G) Other relevant factors.

g) The selected remedy in the corrective action plan must:

1) Be protective of human health and the environment;

2) Attain the groundwater protection standards specified in Section 846.400;

3) Control the sources of releases to reduce or eliminate, to the maximum extent feasible, further releases of constituents listed in Section 846.400 into the environment;

4) Remove from the environment as much of the contaminated material that was released from the CCR fill area as is feasible, taking into account factors such as avoiding inappropriate disturbance of sensitive ecosystems; and

5) Comply with standards for management of wastes as specified in Section 846.480(d).

Section 846.480 Implementation of Corrective Action Plan

a) Within 90 days after the Agency's approval of the corrective action plan submitted under Section 846.470, the owner or operator must initiate corrective action. Based on the schedule approved by the Agency for implementation and completion of corrective action, the owner or operator must:

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

A) At a minimum, meets the requirements of the monitoring program under Section 846.450;

B) Documents the effectiveness of the corrective action remedy; and

C) Demonstrates compliance with the groundwater protection standard under subsection (c).

2) Implement the corrective action remedy approved by the Agency under Section 846.470; and

3) Take any interim measures necessary to reduce the contaminants leaching from the CCR fill area, 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 by Section 846.470. The following factors must be considered by an owner or operator indetermining whether interim measures are necessary:

A) Time required to develop and implement a final remedy;

B) Actual or potential exposure of nearby populations or environmental receptors to any of the constituents listed in Section 846.400;

C) Actual or potential contamination of sensitive ecosystems or current or potential drinking water supplies;

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

E) Weather conditions that may cause any of the constituents listed in Section 846.400 to migrate or be released;

F) Potential for exposure to any of the constituents listed in Section 846.400 as a result of an accident or failure of a container or handling system; and

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

b) If the Agency or an owner or operator of the property or facility with a CCR fill area determines, at any time, that compliance with the requirements of Section 846.470(d) 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. These methods or techniques must receive approval by the Agency before implementation.

c) Corrective action must be considered complete when:

1) The owner or operator of the property or facility with a CCR fill area demonstrates compliance with the groundwater protection standards established by Section 846.400 has been achieved at all points within the plume of contamination that lies beyond the waste boundary;

2) Compliance with the groundwater protection standards has been achieved by demonstrating that concentrations of constituents listed in Section 845.600 have not exceeded the groundwater protection standards for a period of three consecutive years, using the statistical procedures and performance standards in Section 846.440(f) and (g); and

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

d) All CCR managed under a remedy approved by the Agency under Section 846.470, or an interim measure required under subsection (a)(3), must be managed in a manner that complies with this Part.

e) Upon completion of the corrective action plan, the owner or operator must submit to the Agency a corrective action completion report and certification.

1) The corrective action completion report must contain supporting documentation, including, but not limited to:

A) Any engineering and hydrogeology reports, including, but not limited to, monitoring well completion reports and boring logs, all CQA reports, certifications, and designations of CQA officers-in-absentia required by Section 846.280;

B) A written summary of the implementation of the corrective action plan as set forth in the construction permit and this Part;

C) Groundwater monitoring data demonstrating compliance with subsection (c);

D) Any remedial actions completed under subsection (d);

E) Documentation showing compliance with the selected remedy requirements of Section 846.470(b); and

F) Any other information relied upon by the qualified professional engineer in making the corrective action certification.

2) The corrective action completion certification must include a statement from a qualified professional engineer attesting that the corrective action plan has been completed in compliance with the requirements of subsection (c).

3) The owner or operator must place the corrective action completion report and certification in the facility's CCR fill area record as required by Section 846.700(d)(18).

Section 846.490 Completion of Corrective Action

a) Except as provided for in subsection (b), the owner or operator must complete corrective action at CCR fill areas within the timeframe approved by the Agency in the corrective action plan, or within five years of obtaining a construction permit for corrective action, whichever is less.

b) Extensions of Corrective Action Timeframes

1) The timeframes for completing corrective action of a CCR fill area specified undersubsection (a) may be extended if the owner or operator has demonstrated to the Agency that it was not feasible to complete corrective action at the CCR fill area within the required timeframes due to factors beyond the facility's control.

2) The demonstration must include a narrative explaining the basis for additional time.

3) The owner or operator must submit the demonstration to the Agency with a renewal construction permit application for corrective action.

4) Factors that may support such a demonstration include:

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

B) Time required to dewater a CCR fill area due to the volume of CCR contained in the CCR fill area or the characteristics of the CCR in the fill area;

C) Statement that the geology and terrain surrounding the CCR fill area will affect the amount of material needed to close the CCR fill area; or

D) Time required or delays caused by the need to coordinate with, and obtain necessary approvals and permits from, the Agency or other agencies.

c) Maximum Time Extensions

1) CCR fill areas of 40 acres or smaller where the selected remedy is not removal may extend the time to complete corrective action by no longer than two years.

2) CCR fill areas larger than 40 acres where the selected remedy is not removal may extend the timeframe to complete corrective action of the CCR fill area 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 fill area.

3) CCR fill areas where the selected remedy is removal may extend the time to complete removal 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. In no instance may the time allowed for corrective action by removal be extended beyond the completion of a groundwater corrective action as required by pursuant to Section 846.480(c)(1).

d) In order to obtain an additional time extension to complete corrective action of a CCR fill area beyond the times provided by subsection (a), the owner or operator of the property or facility with a CCR fill area must include with the demonstration required by subsection (b) 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.

e) Upon completion of all corrective action activities required by this Part and approved in the final corrective action plan, the owner or operator of the property or facility with a CCR fill area must submit to the Agency a corrective action report and a corrective action certification.

1) The corrective action report must contain supporting documentation, including, but not limited to:

A) Engineering and hydrogeology reports, including but not limited to monitoring well completion reports and boring logs, all CQA reports, certifications, and designations of CQA officers-in-absentia required by Section 846.280;

B) Photographs, including time, date and location information of the photographs of the final cover system and groundwater collection

system, if applicable, and any other photographs relied upon to document construction activities;

C) A written summary of corrective action requirements and completed activities as stated set forth in the corrective action plan and this Part; and

D) Any other information relied upon by the qualified professional engineer in making the corrective action certification.

2) The corrective action certification must include a statement from a qualified professional engineer that corrective action has been completed in accordance with the Agency-approved final corrective action plan and the requirements of this Section.

3) The owner or operator must place the corrective action report and certification in the facility's CCR fill area record as required by Section 846.700(d)(8).

f) Within 30 days after the Agency's approval of the corrective action report and corrective action certification submitted under subsection (e), the owner or operator must prepare a notification of corrective action at the CCR fill area. The notification must include the certification by a qualified professional engineer as required by subsection (e)(2). The owner or operator must place the notification in the facility's CCR fill area record as required by Section 846.700(d).

g) Deed Notations

1) Following corrective action at a CCR fill area, the owner or operator must record a notation on the deed to the property, or some other instrument that is normally examined during a title search.

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

A) The land has been used as a CCR fill area; and

B) Its use is restricted under the post-corrective action care requirements as provided by Section 846.530(d)(1)(C) or groundwater monitoring requirements in Section 846.640(b).

C) Within 30 days after recording a notation on the deed to the property, the owner or operator must submit to the Agency a notification stating that the notation has been recorded. The owner or operator must place the notificationin the facility's CCR fill area record as required by 846.700(d)(15).

SUBPART E: COVER SYSTEMS

Section 846.500 Cover System Plan

a) Where a cover system is approved as a corrective action pursuant to Section 846.470 or required by Section 846.510(a), the owner or operator of the CCR fill area must comply with the following cover system plan requirements:

1) The owner or operator of a property or facility with a CCR fill area must not initiate installing a cover system of the CCR fill area without a construction permit issued under this Part.

2) The owner or operator of a property or facility with a CCR fill area must submit to the Agency, as a part of a construction permit application for installing a cover system, a cover system plan. The plan must be submitted before the initiation of installing a cover system of the CCR fill area.

3) The cover system plan must include the following information:

A) A narrative description of how the cover system of CCR fill area will be installed in accordance with this Part.

B) A description of the procedures to install a cover system CCR fill area in accordance with Section 846.520.

C) A description of the cover system, designed in accordance with Section 846.510, and the methods and procedures to be used to install the cover. The cover system plan must also discuss how the cover system will achieve the performance standards specified in Section 846.510.

D) An estimate of the maximum inventory of CCR ever on-site in the ash fill area.

E) A schedule for completing all activities necessary to satisfy the cover system criteria in this Section, including an estimate of the year in which all cover system activities for the CCR fill area will be completed. The schedule should provide sufficient information to describe the sequential steps that will be taken to install a cover system at the CCR from the fill area, including identification of major milestones such as coordinating with and obtaining necessary approvals and permits from other agencies, the dewatering and stabilization phases of installing a cover system, and the estimated timeframes to complete each step or phase of

installing a cover system. When preparing the cover system plan, if the owner or operator of a property or facility with a CCR fill area estimates that the time required to complete installation of a cover system will exceed the timeframes specified in Section 846.540(a), the preliminary written cover system plan must include the site-specific information, factors, and considerations that would support any time extensionsought under Section 846.540(b).

F) An estimate of the largest area of the CCR fill area requiring a cover (see Section 846.650).

Section 846.510 Cover System:

a) If, after three years of monitoring pursuant to Section 846.450, no constituents are detected to be in exceedance of the groundwater protection standards in Section 846.400 in any sampling event, the owner or operator a CCR fill area must initiate installation of a cover system unless the owner or operatory elects to remove the CCR fill area pursuant to Section 846.600(b). The owner or operator of the CCR fill area must submit notification to the Agency of its intent to initiate installation of a cover system pursuant to this subsection within 30 days of the end of the three-year monitoring period.

b) Cover System Performance Standard When Leaving CCR in Place: The owner or operator of a property or facility with a CCR fill area must ensure that, at a minimum, the CCR fill area is covered in a manner that will:

1) Control, minimize, or eliminate, to the maximum extent feasible, post-cover system 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;

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

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

4) Minimize the need for further maintenance of the CCR fill area; and

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

c) Drainage and Stabilization of CCR Fill Areas. The owner or operator of a property or facility with a CCR fill area must meet the requirements of this subsection (b) before installing the final cover system required by subsection (c).

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

2) Remaining wastes must be stabilized sufficiently to support the final cover system.

d) Cover System. If an owner or operator proposes to leave CCR in place and install a cover system, the owner or operator must install a cover system that is designed to minimize infiltration and erosion, and, at a minimum, meets the requirements of this subsection (c). The cover system must consist of a low permeability layer and a final protective layer. The design of the cover system must be included in any cover system plan required by Section 846.500 and the construction permit application for cover system submitted to the Agency.

e) Standards for the Low Permeability Layer. The low permeability layer must have a permeability less than or equal to the permeability of any bottom liner system or natural subsoils present, or a hydraulic conductivity no greater than 1×10^{-7} cm/sec, whichever is less. The low permeability layer must be constructed in accordance with the standards in either subsection (c)(1)(A) or (c)(1)(B), unless the owner or operator demonstrates that another low permeability layer construction technique or material provides equivalent or superior performance to the requirements of either subsection (c)(1)(A) or (c)(1)(B) and is approved by the Agency.

1) A compacted earth layer constructed in accordance with the following standards:

A) The minimum allowable thickness must be 0.91 meter (three feet); and

B) The layer must be compacted to achieve a hydraulic conductivity of 1×10^{-7}cm/sec or less and minimize void spaces.

2) A geomembrane constructed in accordance with the following standards:

A) The geosynthetic membrane must have a minimum thickness of 40 mil (0.04 inches) and, in terms of hydraulic flux, must be equivalent or superior to a three-foot layer of soil with a hydraulic conductivity of 1×10^{-7} cm/sec;

B) The geomembrane must have strength to withstand the normal stresses imposed by the waste stabilization process; and

C) The geomembrane must be placed over a prepared base free from sharp objects and other materials that may cause damage.

f) Standards for the Protective Layer. The protective layer must meet the following requirements, unless the owner or operator demonstrates that another protective layer construction technique or material provides equivalent or superior performance to the requirements of this subsection (c)(2) and is approved by the Agency:

1) Cover the entire low permeability layer;

2) Be at least three feet thick, be sufficient to protect the low permeability layer from freezing, and minimize root penetration of the low permeability layer;

3) Consist of soil material capable of supporting vegetation;

4) Be placed as soon as possible after placement of the low permeability layer; and

5) Be covered with vegetation to minimize wind and water erosion.

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

h) The owner or operator of the property or facility with a CCR fill area must obtain and submit with its construction permit application for corrective action a written certification from a qualified professional engineer that the design of the final cover system meets the requirements of this Section.

Section 846.520 Required Steps to Meet Cover System Requirements

a) The owner or operator of a property or facility with a CCR fill area installing a cover system must responsibly handle the CCR consistent with this subsection.

b) The owner or operator of a property or facility with a CCR fill area must provide the following public notices: Signage must be posted at the property entrance warning of the hazards of CCR dust inhalation.

c) The owner or operator of the property or facility with a CCR fill area must take measures to prevent contamination of surface water, groundwater, soil, and sediments from the installation of a cover system, including but not limited to the following:

1) The owner or operator must minimize the amount of time the CCR is exposed to precipitation and wind.

2) The discharge of stormwater runoff that has contact with CCR must be covered by an individual National Pollutant Discharge Elimination System (NPDES) permit. The owner or operator must develop and implement a Stormwater Pollution Prevention Plan (SWPPP) in addition to any other requirements of the facility's NPDES permit. Any construction permit application for removal must include a copy of the SWPPP.

d) If a cover system is the selected remedy as part of a corrective action plan pursuant to Section 846.460, the owner or operator must continue groundwater monitoring under Subpart D for three years after the completion of the cover system or for three years after groundwater monitoring does not show an exceedance of the groundwater protection standard established under Section 846.400, whichever is longer.

e) If a cover system is required pursuant to Section 846.510(a), the owner or operator must continue groundwater monitoring under Subpart D for three years after the completion of the cover system.

f) At the end of each month during which the CCR cover system is being installed, the owner or operator must prepare a report that:

1) Describes the weather, precipitation amounts, the amount and location of CCR being stored on-site, and the implementation of dust control measures; and

2) Documents implemented worker safety measures. The owner or operator of the property or facility with a CCR fill area must place the monthly report in the facility's CCR fill area record as required by Section 846.700(d)(17).

g) Upon completion of the CCR cover system of the CCR fill area under subsection (a), the owner or operator of the property or facility with a CCR fill area must submit to the Agency a completion of the CCR cover system report and a certification from a qualified professional engineer that the CCR cover system has been completed in accordance with this Section. The owner or operator must place the CCR cover system report and certification in the facility's CCR fill area record as required by Section 846.700(d)(18).

h) Upon completion of groundwater monitoring required under subsection (b) or (c), the owner or operator of the property or facility with a CCR fill area must submit to the Agency a completion of groundwater monitoring report and a certification from a qualified professional engineer that groundwater monitoring has been completed in accordance with this Section. The owner or operator must place the

groundwater monitoring report and certification in the facility's CCR fill area record as required by Section 846.700(d)(20).

Section 846.530 Post-Cover System Care

a) Applicability. This Section applies to the owners or operators of properties or facilities with CCR fill areas who have installed an Agency-approved cover system at the CCR fill area.

b) Post-Cover System Care Maintenance Requirements. Following the installation of a cover system at a CCR fill area, the owner or operator must conduct post-cover system care for the CCR fill area, which must consist of at least the following:

1) Maintaining the integrity and effectiveness of the cover system, including making repairs to the 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 cover; and

2) Maintaining the groundwater monitoring system and monitoring the groundwater in accordance with the requirements of Subpart F.

c) Post-Cover System Care Period

1) The owner or operator of the property or facility with a CCR fill area must conduct post-cover system care until the groundwater monitoring data shows the concentrations are below the groundwater protection standards in Section 846.400.

A) Below the groundwater protection standards in Section 846.400; and

B) Not increasing for those constituents over background, using the statistical procedures and performance standards in Section 846.440(f) and (g), provided that:

i) Concentrations have been reduced to the maximum extent feasible; and

ii) Concentrations are protective of human health and the environment.

d) Written Post-Cover System Care Plan

1) Content of the Plan. The owner or operator of a property or facility with a CCR fill area must prepare a written post-cover system care plan that includes, at a minimum, the information specified in this subsection (d)(1).

   A) A description of the monitoring and maintenance activities required in subsection (b) for the CCR fill area and the frequency at which these activities will be performed;

   B) The name, address, telephone number, and email address of the person or office to contact about the facility during the post-cover system care period; and

   C) A description of the planned uses of the property during the post-cover system care period. Post-cover system use of the property must not disturb the integrity of the final cover, liners, or any other component of the containment system, or the function of the monitoring systems unless necessary to comply with the requirements of this Part. Any other disturbance is allowed if the owner or operator of the property or facility with a CCR fill area demonstrate that disturbance of the final cover, liner, or other component of the containment system, including any removal of CCR, will not increase the potential threat to human health or the environment. The demonstration must be certified by a qualified professional engineer and must be submitted to the Agency.

2) Deadline to Prepare the Initial Written Post-Cover System Care Plan. The owner or operator of a property or facility with a CCR fill area must submit to the Agency an initial written post-cover system care plan consistent with the requirements specified in subsection (d)(1), with its initial construction permit application.

3) Amendment of a Written Post-Cover System Care Plan.

   A) The owner or operator may submit a construction permit modification application to amend the initial or any subsequent written post-cover system care plan developed under subsection (d)(1) at any time.

   B) The owner or operator must seek to amend the written post-cover system care plan whenever:

      i) There is a change in the operation of the CCR fill area that would substantially affect the written post-cover system care plan in effect; or

ii) Unanticipated events necessitate a revision of the written post-cover system care plan, after post-cover system activities have started.

C) The owner or operator must seek to amend the written post-cover system care plan at least 60 days before a planned change in the operation of the facility or CCR fill area, or within 60 days after an unanticipated event requires the needto revise an existing written post-cover system care plan. If a written post- cover system care plan is revised after post-cover system activities have started for a CCR fill area, the owner or operator must submit a request to modify the construction permit within 30 days following the triggering event.

4) The owner or operator of the property or facility with a CCR fill area must obtain a written certification from a qualified professional engineer that the initial, and any amendment of, the written post-cover system care plan meets the requirements of this Section.

e) Upon the completion of the post-cover system care period, the owner or operator of the property or facility with a CCR fill area must submit a request to the Agency to terminate post-cover system care. The request must include a certification by a qualified professional engineer verifying that post-cover system care has been completed in accordance with the post-cover system care plan specified in subsection (d) and the requirements of this Section.

f) Notification of Completion of Post-Cover System Care Period. Within 30 days after the Agency's approval of the owner's or operator's request to terminate post-cover system care, the owner or operator must prepare a notification of completion of post-cover system care and must place the notification in the facility's CCR fill area record as required by Section 846.700(d).

Section 846.540 Cover System Application Schedule

a) Within 180 days of determining that the CCR fill area must install a cover system as requiredby Section 846.510, the owner or operator of the CCR fill area must submit, in a construction permit application to the Agency, a cover system plan consistent with the requirements of Section 846.500.

b) If the Agency denies a construction permit application submitted under Section 846.470(b), the owner and operator must submit a revised construction permit application addressing all deficiencies identified by the Agency. The revised construction permit application for installation of a cover system must be submitted to the Agency within 90 days after the Agency's denial if the Agency's denial is not appealed under Section 846.260. If the Agency's denial is appealed and upheld, the owner or operator must submit a revised construction permit

application for installation of a cover system within 90 days after a final decision by the Board is rendered. The owner or operator of the property or facility with a CCR fill area must discuss the owner's or operator's proposed response to all deficiencies identified by the Agency in a public meeting with interested and affected parties held under Section 846.230. The Agency may extend the deadline as necessary.

SUBPART F: REMOVAL

Section 846.600 Removal of CCR Fill Areas

a) Required Removal. The owner or operator of a property or facility with any of the following CCR fill areas must initiate removal of the CCR fill area:

1) A CCR fill area that has not demonstrated compliance with either of the following location restrictions:

A) Uppermost aquifer or uppermost saturated zone (see Section 846.300);

B) Unstable areas and floodplains (see Section 846.310).

2) A CCR fill area that has elected removal pursuant to Section 846.405(b).

b) Voluntary Removal. An owner or operator of a CCR fill area that is required to install a cover system pursuant to Section 846.510(a) may elect to remove that CCR fill area as an alternative.

Section 846.610 Removal Schedule

a) For owners or operators removing pursuant to Section 846.600(a)(1), they must submit a construction permit application containing a removal plan consistent with the requirements of Section 846.620 to the Agency pursuant to Subpart B within 180 days of establishing the groundwater monitoring system and the groundwater monitoring program at the CCR fill area within the timeframe required by the Agency's approval pursuant to Section 846.410(c)(5).

b) For owners or operators removing pursuant to Section 846.600(a)(2), they must submit a construction permit application containing a removal plan consistent with the requirements of Section 846.620 to the Agency pursuant to Subpart B within 180 days of notifying the Agency of their intent to remove in lieu of groundwater monitoring pursuant to Section 846.405(c).

c) For owners or operators removing pursuant to Section 846.600(b), they must submit a construction permit application containing a removal plan consistent with the requirements of Section 846.620 to the Agency pursuant to Subpart B

within 180 days of providing notification notifying the Agency pursuant to Section 846.510(a).

d) If the Agency denies a construction permit application submitted under Section 846.470(b), the owner and operator must submit a revised construction permit application addressing all deficiencies identified by the Agency. The revised construction permit application must be submitted to the Agency within 90 days after the Agency's denial if the Agency's denial is not appealed under Section 846.260. If the Agency's denial is appealed and upheld, the owner or operator must submit a revised construction permit application within 90 days after a final decision by the Board is rendered. The owner or operator of the property or facility with a CCR fill area must discuss the owner's or operator's proposed response to all deficiencies identified by the Agency in a public meeting with interested and affected parties held under Section 846.230. The Agency may extend the deadline as necessary.

Section 846.620 Removal Plan

When removing a CCR fill area pursuant to Section 846.600,

a) The owner or operator of a property or facility with a CCR fill area must submit to the Agency, as a part of a construction permit application for removal, a removal plan. The plan must be submitted before the removal of CCR from the fill area.

b) The owner or operator of a property or facility with a CCR fill area must not remove CCR from a CCR fill area without a construction permit issued under this Part.

c) The removal plan must include the following information:

1) A narrative description of how the CCR in the CCR fill area will be removed in accordance with this Part;

2) A description of the procedures to remove the CCR and decontaminate the CCR fill area in accordance with Section 846.640;

3) An estimate of the maximum inventory of CCR ever on-site in the ash fill area; and

4) A schedule for completing all activities necessary to satisfy the removal criteria in this Section, including an estimate of the year in which all removal activities for the CCR fill area will be completed. The schedule should provide sufficient information to describe the sequential steps that will be taken to remove the CCR from the fill area, 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 removal, and the estimated timeframes to complete each step or phase of CCR removal. When preparing the removal plan, if the owner or operator of a property or facility with a CCR fill area estimates that the time required to complete removal will exceed the timeframes specified in Section 846.640(a), the preliminary written removal plan must include the site-specific information, factors and considerations that would support any time extension sought under Section 846.640(b).

d) If a final written removal plan revision is necessary after removal activities have commenced for a CCR fill area, the owner or operator must submit a request to modify the construction permit within no later than 60 days following the triggering event.

e) The owner or operator of the property or facility with a CCR fill area must obtain and submit with its construction permit application for removal a written certification from a qualified professional engineer that the final written removal plan meets the requirements of this Part.

f) The maximum volume of CCR that the owner or operator estimates will be excavated from the impoundment over any given three-month period, and provide the basis, including documentation, for that estimate.

g) The dimensions, including height, width, and length of CCR in a CCR storage pile that contains the maximum volume of CCR that the owner or operator estimates will be excavated from the impoundment over any given three-month period, and provide the basis, including documentation, for that estimate.

Section 846.630 Required Steps to Meet Removal Requirements

a) Removal of CCR. An owner operator of a property or facility with a CCR fill area required to remove pursuant to subsection 846.600(a), voluntarily removing pursuant to subsection 846.600(b), or where removal is the selected remedy as part of a corrective action plan pursuant to Section 846.470, must remove all CCR in the CCR fill area and decontaminate all areas affected by the CCR fill area. CCR removal and decontamination of the CCR fill area are complete when all CCR and CCR residues, containment system components such as the fill area liner, if the fill area is lined and contaminated subsoils, and CCR fill area structures and ancillary equipment have been removed. Removal must be completed before the completion of a groundwater corrective action under Subpart D.

b) If removal is the selected remedy as part of a corrective action plan pursuant to Section 846.470, the owner or operator must continue groundwater monitoring under Subpart D for three years after the completion of removal or for three years

after groundwater monitoring does not show an exceedance of the groundwater protection standard established under Section 846.400, whichever is longer.

c) If removal is required pursuant to Section 846.600(a)(1), the owner or operator must install and complete groundwater monitoring under Subpart D for three years after the completion of removal or for three years after groundwater monitoring does not show an exceedance of the groundwater protection standard established under Section 846.400, whichever is longer.

d) The owner or operator of the property or facility with a CCR fill area who is removing CCR must responsibly handle and transport the CCR consistent with this subsection.

1) Transportation

A) Manifests

i) When transporting CCR off-site by motor vehicle, manifests must be carried as specified in 35 Ill. Adm. Code 809. For purposes of this Part, coal combustion fly ash that is removed from a CCR fill area is not exempt from the manifest requirement.

ii) When transporting CCR off-site by any other mode or method, including but not limited to trains or barges, manifests must be carried specifying, at a minimum, the following information: the volume of the CCR; the location from which the CCR was loaded onto the mode of transportation and the date the loading took place; and the location where the CCR is being taken and the date it will be delivered.

B) The owner or operator of a property or facility with a CCR fill area from which CCR is removed and transported off-site must develop a CCR transportation plan, which must include:

i) Identification of the transportation method selected, including whether a combination of transportation methods will be used;

ii) The frequency, time of day, and routes of CCR transportation;

iii) Any measures to minimize noise, traffic, and safety concerns caused by the transportation of the CCR;

iv) Measures to limit fugitive dust from any transportation of CCR;

v) Installation and use of a vehicle washing station;

vi) A means of covering the CCR for any mode of CCR transportation, including conveyor belts; and

vii) A requirement that, for transport by motor vehicle, the CCR is transported by a permitted special waste hauler under 35 Ill. Adm. Code 809.201.

2) The owner or operator of a property or facility with a CCR fill area must develop and implement on-site dust controls, which must include:

A) A water spray or other commercial dust suppressant to suppress dust in CCR handling areas and haul roads; and

B) Handling of CCR to minimize airborne particulates and offsite particulate movement during any weather event or condition.

3) The owner or operator of a property or facility with a CCR fill area must provide the following public notices:

A) Signage must be posted at the property entrance warning of the hazards of CCR dust inhalation; and

B) When CCR is transported off-site, a written notice explaining the hazards of CCR dust inhalation, the transportation plan, and the tentative transportation schedule must be provided to units of local government through which the CCR will be transported.

4) The owner or operator of a property or facility with a CCR fill area must take measures to prevent contamination of surface water, groundwater, soil, and sediments from the removal of CCR, including but not limited to the following:

A) CCR removed from the fill area may only be temporarily stored and must be stored in a lined landfill, enclosed structure, or CCR storage pile. The total volume of CCR placed in the CCR storage pile at any given time may not exceed the volume specified by the Agency in the final closure construction permit for the impoundment, which volume shall be no more than the volume of CCR estimated to be excavated from the CCR surface impoundment in a three-month period.

B) CCR storage piles must:

i) Have a storage pad, or a geomembrane liner, with a hydraulic conductivity no greater than 1 x 10^{-7} cm/sec, that is properly sloped to allow appropriate drainage and that is inspected quarterly for cracks, holes, tears, or other damage, which must be repaired as soon as practicable if found;

ii) Be constructed with fixed and mobile berms, where appropriate, to reduce run-on and run-off of stormwater to and from the storage pile, and minimize stormwater-CCR contact;

iii) Have a groundwater monitoring system that is consistent with the requirements of Section 845.630 and approved by the Agency; and

iv) Be located as far as feasible from surface waters.

C) The distance that CCR is dropped from any equipment onto the CCR storage pile must be minimized.

D) The owner or operator of the property or facility with a CCR fill area must incorporate general housekeeping procedures such as daily cleanup of CCR, tarping of trucks, maintaining the pad and equipment, and good practices during unloading and loading.

E) The owner or operator of the property or facility with a CCR fill area must minimize the amount of time the CCR is exposed to precipitation and wind.

F) The discharge of stormwater runoff that has contact with CCR must be covered by an individual National Pollutant Discharge Elimination System (NPDES) permit. The owner or operator must develop and implement a Stormwater Pollution Prevention Plan (SWPPP) in addition to any other requirements of the facility's NPDES permit. Any construction permit application for removal must include a copy of the SWPPP.

G) The owner or operator of any CCR surface impoundment located adjacent to any surface water body, including but not limited to a lake, river, or stream, must utilize silt curtains during the removal process to limit the release of CCR.

e) At the end of each month during which CCR is being removed from a CCR fill area, the owner or operator must prepare a report that:

1) Describes the weather, precipitation amounts, the amount of CCR removed from the CCR surface impoundment, the amount and location of CCR being stored on-site, the amount of CCR moved into and out of any CCR storage piles on-site and whether the volume of CCR in the pile was less than the maximum volume of CCR that may be accumulated in the pile, the amount of CCR transported offsite, the implementation of good housekeeping procedures required by subsection (c)(4)(D), the implementation of dust control measures, the results of any inspection required by subsection (c)(4)(B)(iii) during the previous month, and any repairs performed as a result of that inspection; and

2) Documents worker safety measures implemented and demonstrates that the volume of CCR in the CCR storage pile has not exceeded the maximum CCR volume for the pile set out in the final closure permit for the impoundment. To make that demonstration, the owner or operator shall include at least two of the following: (a) purchase orders or contracts for transport of CCR from the facility to an offsite location; (b) facility records documenting the placement of CCR into the pile and the removal of ash from the pile; or (c) photographs of the pile during the prior month. The owner or operator of the CCR surface impoundment must place the monthly report in the facility's operating record as required by Section 846.700(d)(11).

f) Upon completion of CCR removal and decontamination of the CCR fill area under subsection (a), the owner or operator of the property or facility with a CCR fill area must submit to the Agency a completion of CCR removal and decontamination report and a certification from a qualified professional engineer that CCR removal and decontamination of the CCR fill area has been completed in accordance with this Section. The owner or operator must place the CCR removal and decontamination report and certification in the facility's CCR fill area record as required by Section 846.700(d)(13).

Section 846.640 Completion of Removal

a) Except as provided for in subsection (b), the owner or operator must complete removal pursuant to Section _____ at CCR fill areas within the timeframe approved by the Agency in the removal plan, or within five years of obtaining a construction permit for removal, whichever is less.

b) Extensions of Removal Timeframes

1) The timeframes for completing removal of a CCR fill area specified under this subsection may be extended if the owner or operator has demonstrated

to the Agency that it was not feasible to complete removal at the CCR fill area within the required timeframes due to factors beyond the facility's control.

2) The demonstration must include a narrative explaining the basis for additional time.

3) The owner or operator must submit the demonstration to the Agency with a renewal construction permit application for removal.

4) Factors that may support such a demonstration include:

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

B) Time required to dewater a fill area due to the volume of CCR contained in the CCR fill area or the characteristics of the CCR in the fill area;

C) Statement that the geology and terrain surrounding the CCR fill area will affect the amount of material needed to close the CCR fill area; or

D) Time required or delays caused by the need to coordinate with and obtain necessary approvals and permits from the Agency or other agencies.

c) Maximum Time Extensions: CCR fill areas where the selected remedy is removal may extend the time to complete removal 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. In no instance may the time allowed for removal be extended beyond ten years.

d) In order to obtain an additional time extension to complete removal of a CCR fill area beyond the times provided by subsection (a), the owner or operator of the property or facility with a CCR fill area must include with the demonstration required by subsection (b) 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.

e) Upon completion of all removal activities required by this Part and approved in the final removal plan, the owner or operator of the property or facility with a CCR fill area must submit to the Agency a removal report and a removal certification.

1) The removal report must contain supporting documentation, including, but not limited to:

A) Engineering and hydrogeology reports, including but not limited to monitoring well completion reports and boring logs, all CQA reports, certifications, and designations of CQA officers-in-absentia required bySection 846.280;

B) Photographs, including time, date, and location information of the photographs of the final cover system and groundwater collection system, if applicable, and any other photographs relied upon to document construction activities;

C) A written summary of removal requirements and completed activities as stated in the removal plan and this Part; and

D) Any other information relied upon by the qualified professional engineer in making the removal certification.

2) The removal certification must include a statement from a qualified professional engineer that removal has been completed in accordance with the Agency-approved final removal plan and the requirements of this Section.

3) The owner or operator must place the removal report and certification in the facility's CCR fill area record as required by Section 846.700(d)(13).

f) Within 30 days after the Agency's approval of the removal report and removal certification submitted under subsection (e), the owner or operator must prepare a notification of removal at the CCR fill area. The notification must include the certification by a qualified professional engineer as required by subsection (e)(2). The owner or operator must place the notification in the facility's CCR fill area record as required by Section 846.700(d).

g) If an owner or operator of a property or facility with a CCR fill area has completed removal at the CCR fill area before the effective date of these rules, the owner or operator must notify the Agency of the completed removal within 90 days of the effective date of these rules, if that notification has not previously been submitted.

h) Deed Notations

1) Following removal at a CCR fill area, the owner or operator must record a notation on the deed to the property, or some other instrument that is normally examined during a title search.

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

A) The land has been used as a CCR fill area; and

B) Its use is restricted under the post-cover system care requirements as provided by Section 845.530(d)(1)(C) or groundwater monitoring requirements in Section 845.520.

SUBPART G: RECORDKEEPING

Section 846.700 CCR Fill Area Record

a) Each owner or operator of a property or facility with a CCR fill area subject to the requirements of this Part must maintain files of all information required by this Section in a written CCR fill area record at the facility.

b) Unless specified otherwise, each file must be retained for at least three years past the date the Agency approved the owner's or operator's request to terminate post-cover system care, when a cover system is installed at a CCR fill area pursuant to a corrective action plan, or the completion of groundwater monitoring under Section 846.640(b), when a CCR fill area is removed.

c) An owner or operator of a property or facility with more than one CCR fill area subject to the provisions of this Part Section may comply with the requirements of this Section in one recordkeeping system provided the system identifies each file by name and identification number for each CCR fill area. 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) Unless otherwise required below, the owner or operator of a property or facility with a CCR fill area must place the following information, as it becomes available, in the CCR fill area record:

1) Copies of all permit applications and permits issued under this Part;

2) The CCR Fill Characterization Plan;

3) The demonstration of whether a CCR fill area meets the location standards;

4) Documentation recording the public meetings held under Section 846.230;

5) Weekly CQA reports under Section 846.280(b);

6) The hydrogeologic site assessment;

7) The annual groundwater monitoring and corrective action report (see Section 846.410(f);

8) All groundwater monitoring data submitted to the Agency and any analysis performed (see Section 846.410(b)(4);

9) Within 30 days after detecting one or more monitored constituents above the groundwater protection standard, the notifications required by Section 846.450(d);

10) Any corrective action plan;

11) The semi-annual report describing the progress in selecting and designing the remedy (see Section 846.470(a));

12) Within 30 days after completing the corrective action plan, the notification required by Section 846.480(e);

13) Any removal plan and any amendment of the plan (see Section 846.620(a)), except that only the most recent removal plan must be maintained in the facility's CCR fill area record, irrespective of the time requirement specified in subsection (b);

14) The written demonstrations, including the certification required by Section 846.630(f) for a time extension for initiating removal (see Section 846.640(b);

15) The monthly reports for removal (see Section 846.640(d));

16) The removal report and certification (see Section 846.640(e)(3)),

17) The completion of CCR removal and decontamination report and certification (see Section 846.640(e));

18) The notification of completion of removal of a CCR fill area (see Section 846.640(f));

19) The notification recording a notation on the deed (see Section 846.640(h));

20) Any cover system plan and any amendment of the plan (see Section 846.620(a)), except that only the most recent cover system plan must be maintained in the facility's CCR fill area record, irrespective of the time requirement specified in subsection (b);

21) The monthly reports for installation of a cover system (see Section 846.530(f));

22) The cover system report and certification (see Section 846.520(g));

23) The completion of groundwater monitoring report and certification, where required (see Section 846.520(h)); and

24) The notification of completion of post-cover system care period (see Section846.530(f));

Section 846.710 Publicly Accessible Internet Site Requirements

a) Each owner or operator of a property or facility with a CCR fill area subject to the requirements of this Part must maintain a publicly accessible Internet site (CCR website) containing the information specified in this Section. The owner's or operator's website must be titled “Illinois CCR Fill Area Compliance Data and Information.”

b) An owner or operator of a property or facility with more than one CCR fill area subject to the provisions of this Part may comply with the requirements of this Section by using the same CCR website for multiple CCR fill areas, provided the CCR website clearly delineates information by the name of and an identification number for each CCR fill area.

c) Unless otherwise required in this Section, the information required to be posted to the CCR website must be made available to the public on the CCR website until 3 years after post-cover system care (when corrective action includes a cover system); until the completion of groundwater monitoring under Section 846.640(b) (when corrective action is by removal); or until 3 years after removal under per Section 846.600 (when CCR fill area is removed).

d) Unless otherwise required in this Section, the information must be posted to the CCR website within 14 days after placing the pertinent information required by Section 846.700 in the CCR Fill Area record.

e) The owner or operator must place all the information specified under Section 846.700(d) on the owner's or operator's CCR website.

f) The owner or operator must place all the information specified in Section 846.230(e) on the owner's or operator's CCR website at least 30 days before the public meeting.

g) The owner or operator must notify the Agency of the web address of the CCR website, including any change to the web address. The Agency must maintain