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114
115 AUTHORITY: Implementing Sections 12, 22, and 22.59 of the Environmental Protection Act
116 [415 ILCS 5/12, 22, and 22.59] and authorized by Sections 22.59, 27, and 28 of the
117 Environmental Protection Act [415 ILCS 5/22.59, 27, and 28].

118
119 SOURCE: Adopted in R20-19 at 44 Ill. Reg. _____, effective _____.

120
121 SUBPART A: GENERAL PROVISIONS

122
123 **Section 845.100 Scope and Purpose**

- 124
- 125 a) This Part establishes criteria for the purpose of determining which CCR surface
- 126 impoundments do not pose a reasonable probability of adverse effects on health or
- 127 the environment. CCR surface impoundments failing to satisfy any of the
- 128 requirements are considered open dumps, which are prohibited.

- 130 b) This Part applies to owners and operators of new and existing CCR surface
 131 impoundments, including any lateral expansions of CCR surface impoundments
 132 that dispose of or otherwise engage in solid waste management of CCR generated
 133 from the combustion of coal at electric utilities and independent power producers.
 134 Unless otherwise provided in this Part, these requirements also apply to CCR
 135 surface impoundments located off-site of the electric utility or independent power
 136 producer.
- 137
- 138 c) This Part also applies to inactive CCR surface impoundments at active and
 139 inactive electric utilities or independent power producers, regardless of the fuel
 140 currently used at the facility to produce electricity.
- 141
- 142 d) Except as provided in Section 845.170, inactive CCR surface impoundments are
 143 subject to all the requirements applicable to existing CCR surface impoundments.
- 144
- 145 e) This Part does not apply to wastes, including fly ash, bottom ash, boiler slag, and
 146 flue gas desulfurization materials generated at facilities that are not part of an
 147 electric utility or independent power producer, such as manufacturing facilities,
 148 universities, and hospitals. This Part also does not apply to fly ash, bottom ash,
 149 boiler slag, and flue gas desulfurization materials generated primarily from the
 150 combustion of fuels (including other fossil fuels) other than coal, for the purpose
 151 of generating electricity unless the fuel burned consists of more than 50% coal on
 152 a total heat input or mass input basis, whichever results in the greater mass feed
 153 rate of coal.
- 154
- 155 f) This Part does not apply to the beneficial use of CCR.
- 156
- 157 g) This Part does not apply to CCR placement at active or abandoned underground
 158 or surface coal mines.
- 159
- 160 h) This Part does not apply to landfills that receive CCR.
- 161

162 **Section 845.110 Applicability of Other Regulations**

163

- 164 a) Compliance with the requirements does not affect the need for the owner or
 165 operator of a CCR surface impoundment, or lateral expansion of a CCR surface
 166 impoundment, to comply with all other applicable federal, state, tribal, or local
 167 laws or other requirements.
- 168
- 169 b) Any CCR surface impoundment or lateral expansion of a CCR surface
 170 impoundment continues to be subject to the following requirements:
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- 172 1) Floodplains:

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- A) Facilities or practices in floodplains must not restrict the flow of the base flood, reduce the temporary water storage capacity of the floodplain, or result in washout of solid waste, to pose a hazard to human life, wildlife, or land or water resources.
- B) As used in this subsection (b)(1):
 - i) Base flood means a flood that has a 1% or greater chance of recurring in any year or a flood of a magnitude equaled or exceeded once in 100 years on average over a significantly long period.
 - ii) Floodplain means the lowland and relatively flat areas adjoining inland and coastal waters, including flood-prone areas of offshore islands that are inundated by the base flood.
 - iii) Washout means the carrying away of solid waste by waters of the base flood.
- 2) Illinois Endangered Species Protection Act [520 ILCS 10] and 40 CFR 257.3-2.
- 3) Surface Water
 - A) A facility must not cause a discharge of pollutants into waters of the United States that is in violation of the requirements of the National Pollutant Discharge Elimination System (NPDES) under section 402 of the Clean Water Act, as amended, Section 12(f) of the Act, or 35 Ill. Adm. Code Subtitle C.
 - B) A facility must not cause a discharge of dredged material or fill material to waters of the United States that is in violation of the requirements under section 404 of the Clean Water Act, as amended.
 - C) A facility or practice must not cause non-point source pollution of waters of the United States that violates applicable legal requirements implementing an areawide or Statewide water quality management plan that has been approved by USEPA under section 208 of the Clean Water Act, as amended.

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D) Definitions of the terms "discharge of dredged material", "point source", "pollutant", and "waters of the United States" can be found in the Clean Water Act, as amended (33 USC 1251 et seq.) and implementing regulations, specifically 33 CFR 323 (42 FR 37122, July 19, 1977).

4) Rivers, Lakes and Streams Act [615 ILCS 5/23 and 23(a)] and implementing regulations in 17 Ill. Adm. Code 3702.

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:

"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, 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

259 material at, beneath, or adjacent to the CCR surface impoundment may result in
 260 the downslope transport of soil and rock material by means of gravitational
 261 influence. Areas of mass movement include, but are not limited to, landslides,
 262 avalanches, debris slides and flows, soil fluctuation, block sliding, and rock fall.
 263

264 "Beneficial use of CCR" means CCR that meets the definition of "coal
 265 combustion by-product" in the Act and the definition of "beneficial use of CCR"
 266 in 40 CFR 257.53.
 267

268 "Board" means Illinois Pollution Control Board.
 269

270 "Certified laboratory" means any laboratory certified under Section 4(o) of the
 271 Act or certified by USEPA for the specific constituents to be examined.
 272

273 "Closed" means placement of CCR in a CCR surface impoundment has ceased,
 274 and the owner or operator has completed closure of the CCR surface
 275 impoundment and has initiated post-closure care in accordance with Subpart G.
 276

277 "*Coal combustion residuals*" or "*CCR*" means *fly ash, bottom ash, boiler slag,*
 278 *and flue gas desulfurization materials generated from burning coal for the*
 279 *purpose of generating electricity by electric utilities and independent power*
 280 *producers.* [415 ILCS 5/3.142]
 281

282 "CCR fugitive dust" means solid airborne particulate matter that contains or is
 283 derived from CCR, emitted from any source other than a stack or chimney.
 284

285 "CCR storage pile" means any temporary accumulation of solid, non-flowing
 286 CCR placed on the land that is designed and managed to control releases of CCR
 287 to the environment. CCR contained in an enclosed structure is not a CCR storage
 288 pile. Examples of control measures to control releases from CCR storage piles
 289 include: periodic wetting, application of surfactants, tarps, or wind barriers to
 290 suppress dust; tarps or berms for preventing contact with precipitation and
 291 controlling run-on/run-off; and impervious storage pads or geomembrane liners
 292 for soil and groundwater protection.
 293

294 "*CCR surface impoundment*" or "*Impoundment*" means *a natural topographic*
 295 *depression, man-made excavation, or diked area that is designed to hold an*
 296 *accumulation of CCR and liquids, and the surface impoundment treats, stores, or*
 297 *disposes of CCR.* [415 ILCS 5/3.143]
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299 "Dike" means an embankment, berm, or ridge of either natural or man-made
 300 materials used to prevent the movement of liquids, sludges, solids, or other
 301 materials.

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"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 groundwaters. For purposes of this definition, 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

345 analytical result with a concentration at a statistically significant
 346 level above the up gradient background concentration, in a down
 347 gradient well.
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349 For new CCR surface impoundments and lateral expansions of existing
 350 CCR surface impoundments, an analytical result with a constituent
 351 concentration at a statistically significant level above the up gradient
 352 background concentration, in a down gradient well.
 353

354 "Existing CCR surface impoundment" means a CCR surface impoundment in
 355 which CCR is placed both before and after October 19, 2015, or for which
 356 construction commenced prior to October 19, 2015 and in which CCR is placed
 357 on or after October 19, 2015. A CCR surface impoundment has commenced
 358 construction if the owner or operator has obtained the federal, State, and local
 359 approvals or permits necessary to begin physical construction and a continuous
 360 on-site, physical construction program had begun prior to October 19, 2015.
 361

362 "Facility" means all contiguous land, and structures, other appurtenances, and
 363 improvements on the land, used for treating, storing, disposing of, or otherwise
 364 conducting solid waste management of CCR. A facility may consist of several
 365 treatment, storage, or disposal operational units (e.g., one or more landfills,
 366 surface impoundments, or combinations of them).
 367

368 "Factor of safety" or "Safety factor" means the ratio of the forces tending to resist
 369 the failure of a structure to the forces tending to cause that failure, as determined
 370 by accepted engineering practice.
 371

372 "Fault" means a fracture or a zone of fractures in any material along which strata
 373 on one side have been displaced with respect to that on the other side.
 374

375 "Flood hydrograph" means a graph showing, for a given point on a stream, the
 376 discharge, height, or other characteristic of a flood as a function of time.
 377

378 "Free liquids" means liquids that readily separate from the solid portion of a waste
 379 under ambient temperature and pressure.
 380

381 "Groundwater" means water below the land surface in a zone of saturation.
 382

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

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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

431 dissolution of limestone, dolomite, or other soluble rock. Characteristic
432 physiographic features present in karst terranes include, but are not limited to,
433 dolines, collapsed shafts (sinkholes), sinking streams, caves, seeps, large springs,
434 and blind valleys.

435
436 "Lateral expansion" means a horizontal or vertical expansion of the waste
437 boundaries of an existing CCR surface impoundment made after October 19,
438 2015.

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

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

448
449 "Maximum horizontal acceleration in lithified earth material" means the
450 maximum expected horizontal acceleration at the ground surface as depicted on a
451 seismic hazard map, with a 98% or greater probability that the acceleration will
452 not be exceeded in 50 years, or the maximum expected horizontal acceleration
453 based on a site-specific seismic risk assessment.

454
455 "New CCR surface impoundment" means a CCR surface impoundment or lateral
456 expansion of an existing or new CCR surface impoundment that first receives
457 CCR or commences construction after October 19, 2015. A new CCR surface
458 impoundment has commenced construction if the owner or operator has obtained
459 the federal, State, and local approvals or permits necessary to begin physical
460 construction and a continuous on-site, physical construction program had begun
461 after October 19, 2015.

462
463 "Operator" means the person or persons responsible for the overall operation of a
464 CCR surface impoundment.

465
466 "Outermost damage zone of a fault" means the volume of deformed wall rocks
467 around a fault surface that results from the initiation, propagation, interaction and
468 build-up of slip along faults.

469
470 "Owner" means the person or persons who own a CCR surface impoundment or
471 part of a CCR surface impoundment.

472

473 "Poor foundation conditions" means those areas where features exist which
474 indicate that a natural or human-induced event may result in inadequate
475 foundation support for the structural components of an existing or new CCR
476 surface impoundment. For example, failure to maintain static and seismic factors
477 of safety, as required in Section 845.460, would cause a poor foundation
478 condition.

479
480 "Probable maximum flood" means the flood that may be expected from the most
481 severe combination of critical meteorologic and hydrologic conditions that are
482 reasonably possible in the drainage basin.

483
484 "Qualified person" means a person or persons trained to recognize specific
485 appearances of structural weakness and other conditions that are disrupting, or
486 have the potential to disrupt, the operation or safety of the CCR surface
487 impoundment by visual observation and, if applicable, to monitor instrumentation.

488
489 "Qualified professional engineer" means an individual who is licensed under the
490 Professional Engineering Practice Act of 1989 [225 ILCS 325] to practice one or
491 more disciplines of engineering and who is qualified by education, technical
492 knowledge and experience to complete the engineering analyses and make the
493 specific technical certifications required under this Part.

494
495 "Recognized and generally accepted engineering practices" means engineering
496 maintenance or operation activities based on established codes, widely accepted
497 standards, published technical reports, or a practice widely recommended
498 throughout the industry. These practices generally detail approved ways to
499 perform specific engineering, inspection, or mechanical integrity activities.

500
501 "Retrofit" means to remove all CCR and contaminated soils and sediments from
502 the CCR surface impoundment, and to ensure the surface impoundment complies
503 with the requirements in Section 845.410.

504
505 "Run-off" means any rainwater, leachate, or other liquid that drains over land
506 from any part of a CCR surface impoundment or lateral expansion of a CCR
507 surface impoundment.

508
509 "Run-on" means any rainwater, leachate, or other liquid that drains over land onto
510 any part of a CCR surface impoundment or lateral expansion of a CCR surface
511 impoundment.

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

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

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

"Slope protection" means engineered or non-engineered measures installed on the upstream or downstream slope of the CCR surface impoundment to protect the slope against wave action or erosion, including but not limited to rock riprap, wooden pile, 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, facility operation and maintenance, or fugitive dust control plan, documenting that all the CCR in the pile will be completely removed according to a specific timeline.

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

564
 565 "Uppermost aquifer" means the geologic formation nearest the natural ground
 566 surface that is an aquifer, as well as lower aquifers that are hydraulically
 567 interconnected with this aquifer within the facility's property boundary. Upper
 568 limit is measured at a point nearest to the natural ground surface to which the
 569 aquifer rises during the wet season.

570
 571 "Waste boundary" means a vertical surface located at the hydraulically
 572 downgradient limit of the CCR surface impoundment. The vertical surface
 573 extends down into the uppermost aquifer.

574
 575 "Wetlands" means those areas that are inundated or saturated by surface or
 576 groundwater at a frequency and duration sufficient to support, and that under
 577 normal circumstances do support, a prevalence of vegetation typically adapted for
 578 life in saturated soil conditions. Wetlands generally include swamps, marshes,
 579 bogs, and similar areas.

580
 581 **Section 845.130 Surface Impoundment Identification**

582
 583 The owner or operator of a CCR surface impoundment must place on, or immediately adjacent
 584 to, the CCR surface impoundment a permanent identification marker at least six feet high
 585 showing the identification number of the CCR surface impoundment assigned by the Agency, the
 586 name associated with the CCR surface impoundment and the name of the owner or operator of
 587 the CCR surface impoundment. The owner or operator must maintain the marker at all times an
 588 operating permit is required under this Part.

589
 590 **Section 845.140 Right of Inspection**

591
 592 The owner or operator of a CCR surface impoundment must allow the Agency and its duly
 593 authorized representatives to perform inspections in accordance with the Agency's authority
 594 under the Act, including but not limited to:

- 595
 596 a) Entering, at reasonable times, the facility where CCR surface impoundments are
 597 located or where any activity is to be conducted under a permit issued under this
 598 Part;

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- 600 b) Having access to and copying at reasonable times any records required to be kept
- 601 under the terms and conditions of a permit of this Part;
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- 603 c) Inspecting at reasonable times, including during any hours of operation:
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- 605 1) Equipment constructed or operated under a permit issued under this Part;
- 606
- 607 2) Equipment or monitoring methodology; or
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- 609 3) Equipment required to be kept, used, operated, calibrated and maintained
- 610 under a permit issued under this Part;
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- 612 d) Obtaining and removing, at reasonable times, samples of any raw or finished
- 613 water, discharge or emission of pollutants;
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- 615 e) Entering, at reasonable times, to use any photographic, recording, testing,
- 616 monitoring or other equipment for the purpose of preserving, testing, monitoring
- 617 or recording any raw or finished water, activity, discharge or emission authorized
- 618 by a permit.
- 619

620 **Section 845.150 Incorporations by Reference**

- 621
- 622 a) The Board incorporates the following material by reference:
- 623
- 624 Association for the Advancement of Cost Engineering (AACE)
- 625
- 626 "Cost Estimate Classification System – As Applied in Engineering,
- 627 Procurement, and Construction for the Process Industries", TCM
- 628 Framework: 7.3 – Cost Estimating and Budgeting. March 6, 2009, AACE
- 629 International Recommended Practice No. 18R-97.
- 630
- 631 NTIS. National Technical Information Service, 5285 Port Royal Road,
- 632 Springfield VA 22161, (703) 605-6000
- 633
- 634 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods",
- 635 USEPA Publication No. SW-846, as amended by Updates I, II, IIA, IIB,
- 636 III, IIIA, and IIIB (Doc. No. 955-001-00000-1) (available online at
- 637 <https://www.epa.gov/hw-sw846/sw-846-compendium>).
- 638
- 639 b) This Section incorporates no later editions or amendments.
- 640

641 **Section 845.160 Severability**

642

643 If any provision or its application to any person or under any circumstances is adjudged invalid,
644 that adjudication must not affect the validity as a whole or of any portion not adjudged invalid.
645

646 **Section 845.170 Inactive Closed CCR Surface Impoundments**
647

- 648 a) Only the following provisions apply to inactive closed CCR surface
649 impoundments:
650
- 651 1) All of Subpart A: General Provisions;
 - 652
 - 653 2) The following Sections of Subpart B (Permitting):
654
655 A) Section 845.200;
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657 B) Section 845.210;
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659 C) Section 845.220(a), (c), and (f)(1);
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661 D) Section 845.230(c) and (d)(4);
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663 E) Section 845.250;
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665 F) Section 845.270;
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667 G) Section 845.280;
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669 H) Section 845.290;
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 - 671 3) The following Section of Subpart G (Closure and Post-Closure Care):
672 Section 845.780(b), (d) and (e); and
673
 - 674 4) All of Subpart I (Financial Assurance).
675
- 676 b) When a prior release from an inactive closed CCR surface impoundment has
677 caused an exceedance of the groundwater quality standards in 35 Ill. Adm. Code
678 620, and the owner or operator has not completed remediation of the release
679 before completing closure, the owner or operator must initiate or continue
680 corrective action under an operating permit issued under this Part.
681
- 682 c) When a release from an inactive closed CCR surface impoundment causes an
683 exceedance of the groundwater quality standards in 35 Ill. Adm. Code 620, and
684 the Agency has not concurred with an alternative source demonstration, the owner
685 or operator of an inactive closed CCR surface impoundment must initiate an

686 assessment of corrective measures that prevents further releases, remediates any
 687 releases, and restores the affected area. The owner or operator of the inactive
 688 closed CCR surface impoundment must develop a corrective action plan and
 689 obtain a construction permit consistent with subsection (a)(2) before performing
 690 any corrective action to remediate any releases and to restore the affected area,
 691 including, but not limited to the final cover system, groundwater monitoring
 692 system, groundwater collection trench, extraction wells, slurry walls, or any
 693 construction related to corrective action.

694
 695 **SUBPART B: PERMITTING**

696
 697 **Section 845.200 Permit Requirements and Standards of Issuance**

698
 699 a) **Permit Requirements**

- 700
 701 1) No person may construct, install, or modify a CCR surface impoundment
 702 or related treatment or mitigation facilities, under corrective action
 703 measures under Subpart F, without a construction permit issued by the
 704 Agency under this Part.
 705
 706 2) Except as provided in Section 845.230(d), no person may operate a CCR
 707 surface impoundment without an operating permit issued by the Agency
 708 under this Part. For the purposes of this Part, a CCR surface
 709 impoundment commences operation upon initial receipt of CCR.
 710
 711 3) No person may perform corrective action at a CCR surface impoundment
 712 without obtaining a construction permit for corrective action and
 713 modifying the facility's operating permit, or modifying the facility's
 714 operating permit when the approved corrective action does not require the
 715 modification of the CCR surface impoundment or the installation or
 716 modification of related treatment or mitigation facilities.
 717
 718 4) Except as provided in Section 22.59(e) of the Act, no person may close a
 719 CCR surface impoundment without obtaining a construction permit for
 720 closure issued by the Agency under this Part.
 721
 722 5) A CCR surface impoundment must maintain an operating permit until:
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 724 A) The completion of post-closure care when the CCR surface
 725 impoundment is closed with a final cover system; or
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B) The completion of groundwater monitoring under Section 845.740(b) when the CCR surface impoundment is closed by removal.

6) The Agency may issue a joint construction and operating permit.

b) Standards for Issuance

1) Except as provided in subsection (b)(2), the Agency must not issue any construction or operating permit required by this Part unless the applicant submits adequate proof that the CCR surface impoundment will be constructed, modified or operated 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 or operating 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.

3) *In granting permits, the Agency shall impose 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)]*

4) *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 845.210 General Provisions

a) All permit applications must be made on such forms as are 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

769 Agency's record of the date of filing must be deemed conclusive unless a contrary
770 date is proved by a dated, signed receipt.

771
772 b) Required Signatures of Owners or Operators

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

778
779 2) All permit applications must be signed by the owner, operator or a duly
780 authorized agent of the operator.

781
782 3) An application submitted by a corporation must be signed by a principal
783 executive officer of at least the level of vice president, or his or her duly
784 authorized representative, if that representative is responsible for the
785 overall operation of the facility described in the application form. In the
786 case of a partnership or a sole proprietorship, the application must be
787 signed by a general partner or the proprietor, respectively. In the case of a
788 publicly owned facility, the application must be signed by either the
789 principal executive officer, ranking elected official, or other duly
790 authorized employee.

791
792 c) Legal Description. All permit applications must contain a legal description of the
793 facility boundary and a description of the boundaries of all units included in the
794 facility.

795
796 d) Previous Assessments, Investigations, Plans and Programs

797
798 1) The Agency may approve the use of any hydrogeologic site investigation
799 or characterization, groundwater monitoring well or system, or
800 groundwater monitoring plan completed prior to the effective date of this
801 Part to satisfy the requirements.

802
803 2) For existing CCR surface impoundments, the owner or operator of the
804 CCR surface impoundment may use a previously completed location
805 restriction demonstration required by Section 845.300 (Placement Above
806 the Uppermost Aquifer), Section 845.310 (Wetlands), Section 845.320
807 (Fault Areas), Section 845.330 (Seismic Impact Zones), and Section
808 845.340 (Unstable Areas) provided that the previously completed
809 assessments meet the applicable requirements of those Sections.
810

- 811 3) For existing CCR surface impoundments, the owner or operator of the
 812 CCR surface impoundment may use a previously completed assessment to
 813 serve as the initial assessment required by Section 845.440 (Hazard
 814 Potential Classification Assessment), Section 845.450 (Structural Stability
 815 Assessment) and Section 845.460 (Safety Factor Assessment) provided
 816 that the previously completed assessment:
 817
 818 A) Was not completed more than five years ago; and
 819
 820 B) Meets the applicable requirements of those Sections.
 821
 822 4) For inactive closed CCR surface impoundments, the owner or operator of
 823 the CCR surface impoundment may use a post-closure care plan
 824 previously approved by the Agency.
 825
 826 e) The Agency must mail all notices of final action by certified mail, post marked
 827 with a date stamp and with return receipt requested. Final action must be deemed
 828 to have taken place on the post marked date that the notice is mailed.
 829
 830 f) Violation of any permit condition or failure to comply with the Act or regulations
 831 promulgated under the Act must be grounds for enforcement action as provided in
 832 the Act, including revocation of a permit.
 833
 834 g) Issuance of a permit under this Part does not relieve the applicant of the obligation
 835 to obtain other permits required by law.
 836
 837 h) The owner or operator must place in the facility's operating record all permit
 838 applications submitted to the Agency and all permits issued under this Part, as
 839 required by Section 845.800(d)(1).
 840

841 **Section 845.220 Construction Permits**

- 842
 843 a) All construction permit applications must contain the following information and
 844 documents.
 845
 846 1) Design and Construction Plans (Construction History)
 847
 848 A) Identifying Information
 849
 850 i) The name and address of the person or persons owning or
 851 operating the CCR surface impoundment;
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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.

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- 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. 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 7½ minute series (topographic), or on 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;

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- 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 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:

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- 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, as required by 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, 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 not be:
 - A) Placed less than five feet above the uppermost aquifer under Section 845.300;
 - B) Located in wetlands under Section 845.310;
 - C) Located in fault areas under Section 845.320;
 - D) Located in a seismic impact zone under Section 845.330; and
 - E) Located in an unstable area under Section 845.340.
 - 2) Plans and specifications that demonstrate the proposed CCR surface impoundment will meet the following design criteria:

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- 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, as specified in Section 845.500(b).
 - 4) Preliminary written closure plan, as specified in Section 845.720(a).
 - 5) Initial written post-closure care plan, as specified in Section 845.780(d), if applicable.
- 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, as specified in 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

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- 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 under Section 845.700(g), if applicable;
 - 2) Final closure plan, as specified in Section 845.720(b), which includes 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) Provide the Agency 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 as specified in Section 845.780(d), if applicable.

- e) 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.

- f) Duration of Construction Permits

- 1109 1) For any construction permit that is not for the closure or retrofit of the
- 1110 CCR surface impoundment, the construction permit must be issued for
- 1111 fixed terms not to exceed 3 years.
- 1112
- 1113 2) For any construction permit for the closure or retrofit of a CCR surface
- 1114 impoundment, the construction permit must be issued for an initial fixed
- 1115 term expiring within the timeframe approved by the Agency in the
- 1116 construction permit or five years, whichever is less. The Agency may
- 1117 renew a construction permit for closure or retrofit in two-year increments
- 1118 under Section 845.760(b).
- 1119

1120 **Section 845.230 Operating Permits**

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1122 The operating permit applications must contain the following information and documents:

- 1123
- 1124 a) Initial operating permit for a new CCR surface impoundment and any lateral
- 1125 expansion of a CCR surface impoundment.
- 1126
- 1127 1) A demonstration that the CCR surface impoundment, as built, meets the
- 1128 location standards in the following Sections:
- 1129
- 1130 A) Section 845.300 (Placement Above the Uppermost Aquifer);
- 1131
- 1132 B) Section 845.310 (Wetlands);
- 1133
- 1134 C) Section 845.320 (Fault Areas);
- 1135
- 1136 D) Section 845.330 (Seismic Impact Zones); and
- 1137
- 1138 E) Section 845.340 (Unstable Areas);
- 1139
- 1140 2) Certification from a qualified professional engineer that the composite
- 1141 liner, or if applicable, the alternative composite liner, has been constructed
- 1142 in accordance with the requirements of Section 845.400(b) or (c);
- 1143
- 1144 3) Certification from a qualified professional engineer that the leachate
- 1145 collection system has been constructed in accordance with the
- 1146 requirements of Section 845.420, if applicable;
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- 1148 4) Evidence that the permanent markers required by Section 845.130 have
- 1149 been installed;
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- 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 certification, required by Section 845.440(a)(2);
 - 7) Initial Emergency Action Plan certification, required by Section 845.520(e);
 - 8) Initial structural stability assessment certification, required by Section 845.450(c);
 - 9) Initial safety factor assessment certification, required by Section 845.460(b);
 - 10) Fugitive dust control plan certification, required by Section 845.500(b)(7);
 - 11) Initial inflow design flood control system plan certification, required by Section 845.510(c)(3);
 - 12) Proposed groundwater monitoring program that includes a minimum of eight independent samples for each background and downgradient well, required by Section 840.650(b);
 - 13) Preliminary written closure plan, specified in Section 845.720(a);
 - 14) Initial written post-closure care plan, specified in Section 845.780(d), if applicable;
 - 15) An analysis of the chemical constituents found within the CCR to be placed in the CCR surface impoundment; and
 - 16) An analysis of the chemical constituents of all waste streams, chemical additives, and sorbent materials entering or contained in the CCR surface impoundment.
- 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;

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- 2) Emergency Action Plan certification if the plan was amended, required by Section 845.520;
 - 3) Fugitive dust control plan certification if the plan was amended, required by 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, specified in Section 845.720(a); and
 - 7) Written post-closure care plan, if amended, specified in 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 September 30, 2021;
 - 2) The initial operating permit application for existing CCR surface impoundments that have not completed an Agency approved closure prior to 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;

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- 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);
- D) Evidence that the permanent markers required by Section 845.130 have been installed;
- E) 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;
- F) Initial Emergency Action Plan certification, required by Section 845.520(e);
- G) Fugitive dust control plan certification, required by Section 845.500(b)(7);
- H) 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

- 1280 for evaluating groundwater monitoring data, required by
 1281 Section 845.640; and
 1282
 1283 iv) Proposed groundwater monitoring program that includes a
 1284 minimum of eight independent samples for each
 1285 background and downgradient well, required by Section
 1286 845.650(b);
 1287
 1288 I) Preliminary written closure plan, specified in Section 845.720(a);
 1289
 1290 J) Initial written post-closure care plan, specified in Section
 1291 845.780(d), if applicable;
 1292
 1293 K) A certification as specified in Section 845.400(h), or a statement
 1294 that the CCR surface impoundment does not have a liner that
 1295 meets the requirements of Section 845.400(b) or (c); and
 1296
 1297 L) History of known exceedances of the groundwater protection
 1298 standards in Section 845.600, and any corrective action taken to
 1299 remediate the groundwater.
 1300
 1301 3) The initial operating permit application for an existing CCR surface
 1302 impoundment where an Agency approved closure has been completed
 1303 prior to July 30, 2021, and where the impoundment is not an inactive
 1304 closed CCR surface impoundment, must contain the following information
 1305 and documents on forms prescribed by the Agency:
 1306
 1307 A) The history of construction specified in Section 845.220(a)(1);
 1308
 1309 B) Evidence that the permanent markers required by Section 845.130
 1310 have been installed;
 1311
 1312 C) Documentation that the CCR surface impoundment, if not incised,
 1313 will be operated and maintained with one of the forms of slope
 1314 protection specified in Section 845.430;
 1315
 1316 D) Emergency Action Plan certification, required by Section
 1317 845.520(e);
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 1319 E) Groundwater monitoring information:
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 1321 i) A hydrogeologic site characterization meeting the
 1322 requirements of Section 845.620;

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- 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, required by Section 845.640; and
 - iv) Proposed groundwater monitoring program that includes a minimum of eight independent samples for each background and downgradient well, required by Section 845.650(b);
- F) Written post-closure care plan, specified in Section 845.780(d), if applicable;
 - 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, as specified in 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.

Section 845.240 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 CCR surface impoundment must hold at least two public

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meetings to discuss the proposed construction, with at least one meeting to be held after 5:00 p.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. The owner or operator of the CCR surface impoundment 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 on all of the owner's or operator's social media outlets; and
 - 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).
- 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.
- d) The owner or operator of the CCR surface impoundment must prepare documentation recording the public meeting and place the documentation in the facility's operating record, required by Section 845.800(d)(2).
- e) At least 14 days prior to a public meeting, the owner or operator of the CCR surface impoundment 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 CCR surface impoundment must outline its decision-making process for the construction permit application, including, when applicable, the corrective action alternatives and the closure alternatives considered.
- g) This Section does not apply to applications for minor modifications as described in Section 845.280(d).

Section 845.250 Tentative Determination and Draft Permit

1409 Following the receipt of a complete application for a construction permit, operating permit, or
1410 joint construction and operating permit, the Agency must prepare a tentative determination.

- 1411
- 1412 a) The tentative determination must include at least the following:
- 1413
- 1414 1) A statement regarding whether the permit is to be issued or denied; and
- 1415
- 1416 2) If the determination is to issue the permit, a draft permit and a brief
- 1417 description of any conditions contained in the permit.
- 1418
- 1419 b) Upon tentative determination to issue or deny the permit:
- 1420
- 1421 1) If the determination is to issue the permit, the Agency must notify the
- 1422 applicant in writing of the content of the tentative determination and draft
- 1423 permit and of its intent to circulate public notice of issuance in accordance
- 1424 with Section 845.260;
- 1425
- 1426 2) If the determination is to deny the permit, the Agency must notify the
- 1427 applicant in writing of the tentative determination and of its intent to
- 1428 circulate public notice of denial, in accordance with Section 845.260. In
- 1429 the case of denial, notice to the applicant must include a statement of the
- 1430 reasons for denial, as required by Section 39(a) of the Act.
- 1431
- 1432 c) The documents supporting the Agency's tentative decision to issue or deny a
- 1433 permit must be made part of the Agency's record.
- 1434

1435 **Section 845.260 Draft Permit Public Notice and Participation**

1436

- 1437 a) The Agency must post a notification that it has received a permit application on
- 1438 the Agency's webpage and must email the notice to the Agency's listserv for the
- 1439 applicant's facility.
- 1440
- 1441 b) Public Notice of Draft Permit
- 1442
- 1443 1) Not earlier than 15 days following the Agency's notification to the
- 1444 applicant of its tentative decision under Section 845.250 to issue or deny
- 1445 the permit application, the Agency must circulate public notice of the
- 1446 completed application for the permit in a manner designed to inform
- 1447 interested and potentially interested persons of the construction,
- 1448 modification, operation or closure of a CCR surface impoundment and of
- 1449 the proposed determination to issue or deny the permit.
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- 2) The contents of public notice of completed applications for permits 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 or operations that result in the construction, operation, modification or closure of a CCR surface impoundment;
 - 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; and
 - 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.

- 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 30 days following the circulation of the public notice under subsection (b).

- 1494 2) All comments must be submitted to the Agency and to the applicant.
- 1495
- 1496 3) All written comments submitted during the 30-day comment period must
- 1497 be retained by the Agency and considered in the formulation of its final
- 1498 determination with respect to the permit application.
- 1499
- 1500 4) The period for comment may be extended at the discretion of the Agency.
- 1501
- 1502 5) The Agency must consider all timely submitted comments.
- 1503

d) Public Hearing

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- 1506 1) The Agency may hold a public hearing on the issuance or denial of a draft
- 1507 permit whenever the Agency determines that there exists a significant
- 1508 degree of public interest in the proposed permit.
- 1509
- 1510 2) Within the 30-day public comment period, any person, including the
- 1511 applicant, may submit to the Agency a request for a public hearing, which
- 1512 must include the reasons why a hearing is warranted.
- 1513
- 1514 3) Hearings held under this Section must be held in the geographical area in
- 1515 which the CCR surface impoundment is located. When determining the
- 1516 hearing location, consideration must be given to facilitating attendance of
- 1517 interested or affected persons and organizations and to accessibility of
- 1518 hearing sites to public transportation.
- 1519

e) Notice of Public Hearing

- 1520
- 1521
- 1522 1) The Agency must issue notice of a public hearing not less than 30 days
- 1523 prior to the date of the hearing, under the procedures for the circulation of
- 1524 public notice in subsection (b)(3).
- 1525
- 1526 2) The contents of the public notice for the public hearing must include at
- 1527 least the following:
- 1528
- 1529 A) Name, address, and telephone number of the Agency;
- 1530
- 1531 B) Name and address of each applicant whose application will be
- 1532 considered at the hearing;
- 1533
- 1534 C) Brief description of the applicant's activities or operations that
- 1535 result in the construction, operation, modification or closure of a
- 1536 CCR surface impoundment;

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- 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; and
 - H) A statement that the hearing will be conducted in accordance with this Section.
- f) When the Agency 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 at the hearing or during the time 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 845.270 Final Permit Determination and Appeal

- a) The Agency must not make a final permit determination until the public participation process in Section 845.260 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

1580 Agency during the public notice period or a public hearing, and to any person on
 1581 the Agency's listserv for the facility. The notice must briefly indicate any
 1582 significant changes that were made from terms and conditions set forth in the
 1583 draft permit.

1584
 1585 d) In the case of denial, the Agency must inform the applicant of the reasons for
 1586 denial, as required by Section 39(a) of the Act.

1587
 1588 e) Appeal

1589
 1590 1) If the Agency refuses to grant, or grants with conditions, a permit under
 1591 this Part, the applicant may petition the Board to appeal the Agency's final
 1592 decision under Section 40 of the Act.

1593
 1594 2) *If the Agency grants or denies a permit under this Part, a third party,*
 1595 *other than the permit applicant or Agency, may appeal the Agency's*
 1596 *decision as provided under federal law for CCR surface impoundment*
 1597 *permits. [415 ILCS 5/40(g)]*

1598
 1599 3) All appeals must be filed with the Board within 35 days after the final
 1600 action specified in Section 845.210(e).

1601
 1602 **Section 845.280 Transfer, Modification and Renewal**

1603
 1604 a) No permit is transferable from one person to another except as approved by the
 1605 Agency. Approval must be granted only if a new owner or operator seeking
 1606 transfer of a permit can demonstrate the ability to comply with all applicable
 1607 financial requirements of Subpart I.

1608
 1609 b) Agency Initiated Modification. The Agency may modify a permit under the
 1610 following conditions:

1611
 1612 1) Discovery of a typographical or calculation error;

1613
 1614 2) Discovery that a determination or condition was based upon false or
 1615 misleading information;

1616
 1617 3) An order of the Board issued in an action brought under Title VII, VIII, IX
 1618 or X of the Act; or

1619
 1620 4) Promulgation of new statutes or regulations affecting the permit.

1621

- 1622 c) The owner or operator of a CCR surface impoundment may initiate modification
 1623 to its permit by application submittal to the Agency at any time after the permit is
 1624 approved and before the permit expires.
 1625
- 1626 d) The Agency may make minor modifications to a permit without following the
 1627 public notice procedures of Section 845.260. Minor modifications may only:
 1628
- 1629 1) Correct typographical errors;
 - 1630
 - 1631 2) Require more frequent monitoring or reporting by the permittee, including
 1632 the installation of additional groundwater monitoring wells;
 - 1633
 - 1634 3) Allow for a change in ownership or operational control of a facility when
 1635 the Agency determines that no other change in the permit is necessary,
 1636 provided that a written agreement containing a specific date for transfer of
 1637 permit responsibility, coverage, and liability between the current and new
 1638 permittees has been submitted to the Agency;
 - 1639
 - 1640 4) Change the construction schedule, which does not impact the scheduled
 1641 date of completion; or
 - 1642
 - 1643 5) Require electronic reporting requirements.
- 1644
- 1645 e) An application for renewal of a permit must be filed with the Agency at least 180
 1646 days prior to the expiration date of the existing permit unless the Agency grants a
 1647 waiver of this requirement. The Agency may grant a waiver of the 180-day
 1648 requirement only if:
 1649
- 1650 1) The permittee submits a written request to the Agency at least 60 days
 1651 before the expiration of the permit;
 - 1652
 - 1653 2) The permittee's written request includes the reasonably justifiable causes
 1654 for not meeting the 180-day requirement; and
 - 1655
 - 1656 3) The permittee's written request includes a date by which the permittee will
 1657 submit the renewal application.
 - 1658
- 1659 f) Any Agency decision to deny a waiver request must be made within 21 days after
 1660 receipt of the waiver request (see subsection (e)(1)).
 1661
- 1662 g) The terms and conditions of an expiring permit remain effective and enforceable
 1663 against the permittee until the Agency takes final action on the pending permit
 1664 renewal application, only if the permittee has submitted a timely application under

1665 subsection (e) and the Agency, through no fault of the permittee, does not issue a
1666 new permit on or before the expiration date of the previous permit.
1667

1668 **Section 845.290 Construction Quality Assurance Program**
1669

- 1670 a) The following must be constructed according to a Construction Quality Assurance
1671 (CQA) program:
1672
- 1673 1) The construction of a new CCR surface impoundment, or the lateral
1674 expansion of an existing CCR surface impoundment;
 - 1675 2) The retrofit of an existing CCR surface impoundment;
 - 1676 3) Installation of a groundwater collection system and discharge system;
 - 1677 4) Installation of the groundwater monitoring system; and
 - 1678 5) Installation of the final cover system.
- 1679
- 1680 b) The CQA program must meet the following requirements:
1681
- 1682 1) The owner or operator of the CCR surface impoundment must designate a
1683 CQA officer who is a qualified professional engineer.
 - 1684 2) At the end of each week of construction, until construction is complete, a
1685 summary report must be prepared either by the CQA officer or under the
1686 supervision of the CQA officer. The report must include descriptions of
1687 the weather, locations where construction occurred during the previous
1688 week, materials used, results of testing, inspection reports, and procedures
1689 used to perform the inspections. The CQA officer must review and
1690 approve the report. The owner or operator of the CCR surface
1691 impoundment must place the weekly reports in the facility's operating
1692 record, as required by Section 845.800(d)(3).
 - 1693 3) The CQA officer must certify the following, when applicable:
1694
- 1695 A) The bedding material contains no undesirable objects;
 - 1696 B) The final closure plan or corrective action plan approved by the
1697 construction permit has been followed;
 - 1698 C) The anchor trench and backfill are constructed to prevent damage
1699 to a geosynthetic membrane;
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- 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, is used 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 at the 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.

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- 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 845.300 Placement Above the Uppermost Aquifer

- a) Existing and new CCR surface impoundments, and all lateral expansions of CCR surface impoundments, shall be constructed with a base that is located no less than 1.52 meters (five feet) above the upper limit of the uppermost aquifer, or must demonstrate that there will not be an intermittent, recurring, or sustained hydraulic connection between any portion of the base of the CCR surface impoundment and the uppermost aquifer due to normal fluctuations in groundwater elevations (including the seasonal high water table).
- b) The owner or operator of the CCR surface impoundment must obtain a certification from a qualified professional engineer stating that the demonstration meets the requirements of subsection (a).
- c) The owner or operator of an existing CCR surface impoundment must complete the demonstration required by subsection (a) and submit the completed demonstration to the Agency in the facility's initial operating permit application.
- d) The owner or operator of a new CCR surface impoundment or a lateral expansion of a CCR surface impoundment must submit plans and specifications in a construction permit application that demonstrate the CCR surface impoundment will be constructed under subsection (a). Upon completion of construction, the owner or operator must obtain a certification from a qualified professional

1794 engineer that the CCR surface impoundment or lateral expansion was constructed
 1795 in accordance with the requirements in subsection (a) and submit the certification
 1796 to the Agency in the facility's initial operating permit application.
 1797

1798 **Section 845.310 Wetlands**
 1799

- 1800 a) Existing and new CCR surface impoundments, and all lateral expansions of CCR
 1801 surface impoundments, shall not be located in wetlands unless the owner or
 1802 operator demonstrates the following:
 1803
- 1804 1) When applicable under section 404 of the Clean Water Act, Interagency
 1805 Wetlands Policy Act of 1989 [20 ILCS 830] and Rivers, Lakes, and
 1806 Streams Act [615 ILCS 5], or other applicable State wetlands laws, a clear
 1807 and objective rebuttal of the presumption that an alternative to the CCR
 1808 surface impoundment is reasonably available that does not involve
 1809 wetlands.
 1810
 - 1811 2) The construction and operation of the CCR surface impoundment will not
 1812 cause or contribute to any of the following:
 1813
 - 1814 A) A violation of any applicable State or federal water quality
 1815 standard;
 - 1816 B) A violation of any applicable toxic effluent standard or prohibition
 1817 under section 307 of the Clean Water Act;
 - 1818 C) Jeopardize the continued existence of endangered or threatened
 1819 species or result in the destruction or adverse modification of a
 1820 critical habitat, protected under the Endangered Species Act of
 1821 1973 (16 USC 1531 et seq.) and the Illinois Endangered Species
 1822 Protection Act [520 ILCS 10]; and
 - 1823 D) A violation of any requirement under the Marine Protection,
 1824 Research, and Sanctuaries Act of 1972 (16 USC 1431 and 33 USC
 1825 1401) for the protection of a marine sanctuary.
 - 1826 3) The CCR surface impoundment will not cause or contribute to significant
 1827 degradation of wetlands by addressing all the following factors:
 1828
 - 1829 A) Erosion, stability, and migration potential of native wetland soils,
 1830 muds and deposits used to support the CCR surface impoundment;
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- B) Erosion, stability, and migration potential of dredged and fill materials used to support the CCR surface impoundment;
 - C) The volume and chemical nature of the CCR;
 - D) Impacts on fish, wildlife, and other aquatic resources and their habitat from release of CCR;
 - E) The potential effects of catastrophic release of CCR to the wetland and the resulting impacts on the environment; and
 - F) Any additional factors, as necessary, to demonstrate that ecological resources in the wetland are sufficiently protected.
- 4) To the extent required under section 404 of the Clean Water Act or applicable State wetlands laws, steps have been taken to attempt to achieve no net loss of wetlands (as defined by acreage and function) by first avoiding impacts to wetlands to the maximum extent reasonable as required by subsections (a)(1) through (3), then minimizing unavoidable impacts to the maximum extent reasonable, and, finally, offsetting remaining unavoidable wetland impacts through all appropriate and reasonable compensatory mitigation actions (e.g., restoration of existing degraded wetlands or creation of man-made wetlands); and
- 5) Sufficient information is available to make a reasoned determination with respect to the demonstrations in subsections (a)(1) through (4).
- b) The owner or operator of the CCR surface impoundment must obtain a certification from a qualified professional engineer stating that the demonstration meets the requirements of subsection (a).
 - c) The owner or operator of an existing CCR surface impoundment must complete the demonstration required by subsection (a) and submit the completed demonstration to the Agency with the facility's initial operating permit application.
 - d) The owner or operator of a new CCR surface impoundment or a lateral expansion of a CCR surface impoundment must submit plans and specifications in a construction permit application that demonstrate the CCR surface impoundment will be constructed under subsection (a). Upon completion of construction, the owner or operator must obtain a certification from a qualified professional engineer that the CCR surface impoundment or lateral expansion was constructed

1878 in accordance with the requirements in subsection (a) and submit the certification
1879 to the Agency in the facility's initial operating permit application.
1880

1881 **Section 845.320 Fault Areas**
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1883 a) Existing and new CCR surface impoundments, and all lateral expansions of CCR
1884 surface impoundments, must not be located within 60 meters (200 feet) of the
1885 outermost damage zone of a fault that has had displacement in Holocene time
1886 unless the owner or operator demonstrates that an alternative setback distance of
1887 less than 60 meters will prevent damage to the structural integrity of the CCR
1888 surface impoundment.
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1890 b) The owner or operator of the CCR surface impoundment must obtain a
1891 certification from a qualified professional engineer stating that the demonstration
1892 meets the requirements of subsection (a).
1893

1894 c) The owner or operator of an existing CCR surface impoundment must complete
1895 the demonstration required by subsection (a) and submit the completed
1896 demonstration to the Agency with the facility's initial operating permit
1897 application.
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1899 d) The owner or operator of a new CCR surface impoundment or a lateral expansion
1900 of a CCR surface impoundment must submit plans and specifications in a
1901 construction permit application that demonstrate the CCR surface impoundment
1902 will be constructed under subsection (a). Upon completion of construction, the
1903 owner or operator must obtain a certification from a qualified professional
1904 engineer that the CCR surface impoundment or lateral expansion was constructed
1905 in accordance with the requirements in subsection (a) and submit the certification
1906 to the Agency in the facility's initial operating permit application.
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1908 **Section 845.330 Seismic Impact Zones**
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1910 a) Existing and new CCR surface impoundments, and all lateral expansions of CCR
1911 surface impoundments, must not be located in seismic impact zones unless the
1912 owner or operator demonstrates that all structural components, including liners,
1913 leachate collection and removal systems, and surface water control systems, are
1914 designed to resist the maximum horizontal acceleration in lithified earth material
1915 for the site.
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1917 b) The owner or operator of the CCR surface impoundment must obtain a
1918 certification from a qualified professional engineer stating that the demonstration
1919 meets the requirements of subsection (a).
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- c) The owner or operator of an existing CCR surface impoundment must complete the demonstration required by subsection (a) and submit the completed demonstration to the Agency with the facility's initial operating permit application.
- d) The owner or operator of a new CCR surface impoundment or a lateral expansion of a CCR surface impoundment must submit plans and specifications in a construction permit application that demonstrate the CCR surface impoundment will be constructed under subsection (a). Upon completion of construction, the owner or operator must obtain a certification from a qualified professional engineer that the CCR surface impoundment or lateral expansion was constructed in accordance with the requirements of subsection (a) and submit the certification to the Agency in the facility's initial operating permit application.

Section 845.340 Unstable Areas

- a) An existing or new CCR surface impoundment, or any lateral expansion of a CCR surface impoundment, 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 surface impoundment to ensure that the integrity of the structural components of the CCR surface impoundment 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) The owner or operator of the CCR surface impoundment must obtain a certification from a qualified professional engineer stating that the demonstration meets the requirements of subsection (a).
- d) The owner or operator of an existing CCR surface impoundment must complete the demonstration required by subsection (a) and submit the completed demonstration to the Agency with the facility's initial operating permit application.

- 1964 e) The owner or operator of a new CCR surface impoundment, or a lateral expansion
- 1965 of a CCR surface impoundment, must submit plans and specifications in a
- 1966 construction permit application that demonstrate the CCR surface impoundment
- 1967 will be constructed under subsection (a). Upon completion of construction, the
- 1968 owner or operator must obtain a certification from a qualified professional
- 1969 engineer that the CCR surface impoundment or lateral expansion was constructed
- 1970 in accordance with the requirements in subsection (a) and submit the certification
- 1971 to the Agency in the facility's initial operating permit application.
- 1972

Section 845.350 Failure to Meet Location Standards

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- 1974
- 1975 a) An owner or operator of an existing CCR surface impoundment who fails to
- 1976 demonstrate compliance with the requirements of this Subpart is subject to the
- 1977 requirements of Section 845.700.
- 1978
- 1979 b) An owner or operator of a new CCR surface impoundment, or any lateral
- 1980 expansion of a CCR surface impoundment, who fails to make the demonstration
- 1981 showing compliance with the requirements of this Subpart is prohibited from
- 1982 placing CCR in the CCR surface impoundment.
- 1983

SUBPART D: DESIGN CRITERIA

Section 845.400 Liner Design Criteria for Existing CCR Surface Impoundments

- 1984
- 1985
- 1986 a) An existing CCR surface impoundment is considered to be an existing lined
- 1987 surface impoundment if it has been constructed with either a composite liner that
- 1988 meets the requirements of subsection (b) or an alternative composite liner that
- 1989 meets the requirements of subsection (c).
- 1990
- 1991 b) Composite Liner
- 1992
- 1993 1) A composite liner must consist of two components: the upper component
- 1994 consisting of, at a minimum, a 30-mil geomembrane liner, and the lower
- 1995 component consisting of at least a two-foot layer of compacted soil with a
- 1996 hydraulic conductivity of no more than 1×10^{-7} centimeters per second
- 1997 (cm/sec). The geomembrane liner components consisting of high-density
- 1998 polyethylene (HDPE) must be at least 60 mil. The geomembrane liner or
- 1999 upper liner component must be installed in direct and uniform contact with
- 2000 the compacted soil or lower liner component.
- 2001
- 2002 2) The composite liner must be:
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- A) Constructed of materials that have appropriate chemical properties and sufficient strength and thickness to prevent failure due to pressure gradients (including static head and external hydrogeologic forces), physical contact with the CCR or leachate to which they are exposed, climatic conditions, the stress of installation, and the stress of daily operation;
 - B) Constructed of materials that provide appropriate shear resistance of the upper and lower component interface to prevent sliding of the upper component, including on slopes;
 - C) Placed upon a foundation or base capable of providing support to the liner and resistance to pressure gradients above and below the liner to prevent failure of the liner due to settlement, compression, or uplift; and
 - D) Installed to cover all surrounding earth likely to be in contact with the CCR or leachate.
- c) Alternative Composite Liner
- 1) An alternative composite liner must consist of two components: the upper component consisting of, at a minimum, a 30-mil geomembrane liner, and a lower component, that is not a geomembrane, with a liquid flow rate no greater than the liquid flow rate of two feet of compacted soil with a hydraulic conductivity of no more than 1×10^{-7} cm/sec. The geomembrane liner components consisting of high-density polyethylene (HDPE) must be at least 60 mil. If the lower component of the alternative liner is compacted soil, the geomembrane liner must be installed in direct and uniform contact with the compacted soil.
 - 2) The liquid flow rate through the lower component of the alternative composite liner must be no greater than the liquid flow rate through two feet of compacted soil with a hydraulic conductivity of 1×10^{-7} cm/sec. The hydraulic conductivity for the two feet of compacted soil used in the comparison must be no greater than 1×10^{-7} cm/sec. The hydraulic conductivity of any alternative to the two feet of compacted soil must be determined using recognized and generally accepted methods.
 - 3) The liquid flow rate comparison must be made using the following equation, which is derived from Darcy's Law for gravity flow through porous media.

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$$Q/A = q = k ((h/t)+1)$$

Where:

- Q = flow rate (cubic centimeters/second)
- A = Surface are of the liner (squared centimeters)
- q = flow rate per unit area (cubic centimeters/ second/squared centimeter)
- k = hydraulic conductivity of the liner (centimeters /second)
- h = hydraulic head above the liner (centimeters); and
- t = thickness of the liner (centimeters)

- 4) The alternative composite liner must meet the requirements specified in subsection (b).
- d) The hydraulic conductivity of the compacted soil must be determined using recognized and generally accepted methods.
- e) The owner or operator of an existing CCR surface impoundment that has not completed an Agency approved closure prior to July 30, 2021 must submit an initial operating permit application under Section 845.230 that demonstrates whether the CCR surface impoundment was constructed with either of the following:
 - 1) A composite liner that meets the requirements of subsection (b); or
 - 2) An alternative composite liner that meets the requirements of subsection (c).
- f) A CCR surface impoundment is considered to be an unlined CCR surface impoundment if either:
 - 1) The owner or operator of the CCR surface impoundment determines that the CCR surface impoundment is not constructed with a liner that meets the requirements of subsection (b) or (c); or
 - 2) The owner or operator of the CCR surface impoundment fails to document whether the CCR surface impoundment was constructed with a liner that meets the requirements of subsection (b) or (c).
- g) All unlined CCR surface impoundments are subject to the requirements of Section 845.700.

- 2092 h) The owner or operator of the CCR surface impoundment must obtain a
 2093 certification from a qualified professional engineer attesting that the CCR surface
 2094 impoundment meets the requirements of subsection (a) and submit the
 2095 certification to the Agency in the facility's initial operating permit application.
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2097 **Section 845.410 Liner Design Criteria for New CCR Surface Impoundments and Any**
 2098 **Lateral Expansion of a CCR Surface Impoundment**
 2099

- 2100 a) New CCR surface impoundments and lateral expansions of existing and new CCR
 2101 surface impoundments must be designed, constructed, operated, and maintained
 2102 with either a composite liner or an alternative composite liner that meets the
 2103 requirements of Section 845.400(b) or (c).
 2104
 2105 b) Any liner specified in this Section must be installed to cover all surrounding earth
 2106 likely to be in contact with CCR. Dikes must not be constructed so as to damage
 2107 the composite liner.
 2108
 2109 c) Prior to construction, the owner or operator must obtain certification from a
 2110 qualified professional engineer that the design of the composite liner or, if
 2111 applicable, the design of an alternative composite liner complies with the
 2112 requirements and submit this certification to the Agency in the facility's
 2113 construction permit application.
 2114
 2115 d) Upon completion of construction, the owner or operator must obtain a
 2116 certification from a qualified professional engineer that the composite liner or, if
 2117 applicable, the alternative composite liner has been constructed in accordance
 2118 with the requirements and submit this certification to the Agency in the facility's
 2119 initial operating permit application.
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2121 **Section 845.420 Leachate Collection and Removal System**
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2123 A new CCR surface impoundment must be designed, constructed, operated and maintained with
 2124 a leachate collection and removal system. The leachate collection and removal system must be
 2125 designed, constructed, operated, and maintained to collect and remove leachate from the leachate
 2126 collection system of the CCR surface impoundment during its active life and post-closure care
 2127 period.
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- 2129 a) The leachate collection and removal system must:
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 2131 1) Be placed above the liner required by Section 845.400 or Section 845.410;
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 2133 2) Have placed above it a filter layer that has a hydraulic conductivity of no
 2134 less than 1×10^{-5} cm/sec;

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- 3) Have a bottom slope of three percent or more towards the collection pipes;
 - 4) Be constructed of:
 - A) Granular drainage materials with a hydraulic conductivity of 1×10^{-1} cm/sec or more and a thickness of 24 inches or more above the crown of the collection pipe; or
 - B) Synthetic drainage materials with a transmissivity of 6×10^{-4} m²/sec or more;
 - 5) Be constructed of materials that are chemically resistant to CCR and any non-CCR waste managed in the CCR surface impoundment and the leachate expected to be generated, and of sufficient strength and thickness to prevent collapse under the pressures exerted by overlying waste and any waste cover materials and equipment used at the CCR surface impoundment;
 - 6) Be designed, constructed and operated with collection pipes at the base of the granular material to prevent clogging with fines during the active life and post-closure care period;
 - 7) Have collection pipes:
 - A) Designed such that leachate is collected at a sump and is pumped or flows out of the CCR surface impoundment;
 - B) With slopes that allow flow from all points within the CCR surface impoundment to the sump or drain outlet; and
 - C) Large enough to conduct periodic cleaning;
 - 8) Have a protective layer or other means of deflecting the force of CCR pumped into the CCR surface impoundment; and
 - 9) Be designed and operated to minimize clogging during the active life and post-closure care period.
- b) The owner or operator must obtain certification from a qualified professional engineer that the design of the leachate collection system complies with the requirements and submit this certification to the Agency in the facility's construction permit application.

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- c) Upon completion, the owner or operator must obtain a certification from a qualified professional engineer that the leachate collection system has been constructed in accordance with the requirements and submit this certification to the Agency in the facility's initial operating permit application.

Section 845.430 Slope Maintenance

The slopes and pertinent surrounding areas of the CCR surface impoundment must be designed, constructed, operated, and maintained with one of the forms of slope protection specified in subsection (a) that meets all the performance standards of subsection (b).

- a) Slope protection must consist of one of the following:
 - 1) A vegetative cover consisting of grassy vegetation;
 - 2) An engineered cover consisting of a single form or combination of forms of engineered slope protection measures; or
 - 3) A combination of the forms of cover specified in subsection (a)(1) or (a)(2).
- b) Any form of cover for slope protection must meet the following performance standards:
 - 1) The cover must be installed and maintained on the slopes and pertinent surrounding areas of the CCR surface impoundment;
 - 2) The cover must provide protection against surface erosion, wave action, and adverse effects of rapid drawdown;
 - 3) The cover must be maintained to allow for the observation of, and access to, the slopes and pertinent surrounding areas during routine and emergency events;
 - 4) Woody vegetation must be removed from the slopes or pertinent surrounding areas. Any removal of woody vegetation with a diameter greater than ½ inch must be directed by a person familiar with the design and operation of the CCR surface impoundment and in consideration of the complexities of removal of a tree or shrubbery, who must ensure the removal does not create a risk of destabilizing the CCR surface impoundment or otherwise adversely affect the stability and safety of the CCR surface impoundment or personnel undertaking the removal; and

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- 5) The height of vegetation must not exceed 12 inches.

Section 845.440 Hazard Potential Classification Assessment

- a) Hazard Potential Classification Assessments
 - 1) The owner or operator of the CCR surface impoundment must conduct an initial and annual hazard potential classification assessment of the CCR surface impoundment. The owner or operator must document the hazard potential classification of each CCR surface impoundment as either a Class 1 or Class 2 CCR surface impoundment. The owner or operator must also document the basis for each hazard potential classification.
 - 2) The owner or operator of the CCR surface impoundment must obtain a certification from a qualified professional engineer stating that the initial hazard potential classification and each annual classification was conducted in accordance with the requirements.
 - 3) Timeframe for Submission of the Hazard Potential Classification Assessments and Certifications
 - A) The owner or operator of a new CCR surface impoundment must submit the initial hazard potential classification assessment certification with the initial operating permit application prior to the initial receipt of CCR in the surface impoundment.
 - B) The owner or operator of an existing CCR surface impoundment must submit the initial hazard potential classification assessment certification with its first annual inspection report required by Section 845.540(b).
 - C) The owner or operator of a CCR surface impoundment must submit the annual hazard potential classification assessment certification each year with the annual inspection required by Section 845.540(b).
 - D) The owner or operator of a CCR surface impoundment must place each hazard potential classification assessment in the facility's operating record, as required by Section 845.800(d)(4).
- b) The requirements apply to all CCR surface impoundments, except for those CCR surface impoundments that are incised CCR surface impoundments. If an incised

2264 CCR surface impoundment is subsequently modified (e.g., a dike is constructed)
2265 such that the CCR surface impoundment no longer meets the definition of an
2266 incised CCR surface impoundment, the CCR surface impoundment is subject to
2267 the requirements.
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2269 **Section 845.450 Structural Stability Assessment**
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2271 a) The owner or operator of a CCR surface impoundment must conduct initial and
2272 annual structural stability assessments and document whether the design,
2273 construction, operation, and maintenance of the CCR surface impoundment is
2274 consistent with recognized and generally accepted engineering practices for the
2275 maximum volume of CCR and CCR wastewater that can be impounded in the
2276 CCR surface impoundment. The assessment must, at a minimum, document
2277 whether the CCR surface impoundment has been designed, constructed, operated,
2278 and maintained with:

- 2279 1) Stable foundations and abutments;
- 2280 2) Adequate slope protection to protect against surface erosion, wave action,
2281 and adverse effects of sudden drawdown;
- 2282 3) Dikes mechanically compacted to a density sufficient to withstand the
2283 range of loading conditions in the CCR surface impoundment;
- 2284 4) Slope protection consistent with Section 845.430;
- 2285 5) A single spillway or a combination of spillways configured as specified in
2286 subsection (a)(5)(A). The combined capacity of all spillways must be
2287 designed, constructed, operated, and maintained to adequately manage
2288 flow during and following the peak discharge from the event specified in
2289 subsection (a)(5)(B).

- 2290 A) All spillways must be either:
- 2291 i) Of non-erodible construction and designed to carry
2292 sustained flows; or
- 2293 ii) Earth- or grass-lined and designed to carry short-term,
2294 infrequent flows at non-erosive velocities where sustained
2295 flows are not expected.

2300 B) The combined capacity of all spillways must adequately manage
2301 flow during and following the peak discharge from a:
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- i) Probable maximum flood for a Class 1 CCR surface impoundment; or
 - ii) 1000-year flood for a Class 2 CCR surface impoundment.
 - 6) Hydraulic structures underlying the base of the CCR surface impoundment or passing through the dike of the CCR surface impoundment that maintain structural integrity and are free of significant deterioration, deformation, distortion, bedding deficiencies, sedimentation, and debris that may negatively affect the CCR surface impoundment; and
 - 7) For CCR surface impoundments with downstream slopes that can be inundated by the pool of an adjacent water body, such as a river, stream or lake, downstream slopes that maintain structural stability during low pool of the adjacent water body or sudden drawdown of the adjacent water body.
- b) The annual assessment described in this Section must identify any structural stability deficiencies associated with the CCR surface impoundment in addition to recommending corrective measures. If a deficiency or a release is identified during the periodic assessment, the owner or operator of the surface impoundment must submit to the Agency a construction permit application including documentation detailing proposed corrective measures and must obtain any necessary permits from the Agency as soon as feasible.
- c) The owner or operator of the CCR surface impoundment must obtain a certification from a qualified professional engineer stating that the initial structural stability assessments and each annual assessment thereafter was conducted in accordance with the requirements.
- d) Timeframe for Submission of Structural Stability Assessment
 - 1) The owner or operator of a new CCR surface impoundment must submit the initial structural stability assessment certification with the initial operating permit application prior to the initial receipt of CCR in the surface impoundment.
 - 2) The owner or operator of an existing CCR surface impoundment must submit the initial structural stability assessment certification with its first annual inspection report required by Section 845.540(b).

- 2349 3) The owner or operator of a CCR surface impoundment must submit the
- 2350 annual structural stability assessment certification each year with the
- 2351 annual inspection required by Section 845.540(b).
- 2352
- 2353 4) The owner or operator of a CCR surface impoundment must place each
- 2354 structural stability assessment in the facility's operating record, as required
- 2355 by Section 845.800(d)(5).
- 2356
- 2357 f) The requirements apply to all CCR surface impoundments, except for those CCR
- 2358 surface impoundments that are incised CCR surface impoundments. If an incised
- 2359 CCR surface impoundment is subsequently modified (e.g., a dike is constructed)
- 2360 such that the CCR surface impoundment no longer meets the definition of an
- 2361 incised CCR surface impoundment, the CCR surface impoundment is subject to
- 2362 the requirements.
- 2363

Section 845.460 Safety Factor Assessment

- 2364
- 2365
- 2366 a) The owner or operator of a CCR surface impoundment must conduct an initial
- 2367 and annual safety factor assessments for each CCR surface impoundment and
- 2368 document whether the calculated factors of safety for each CCR surface
- 2369 impoundment achieve the minimum safety factors specified in this Section for the
- 2370 critical cross-section of the embankment. The critical cross-section is the
- 2371 cross-section anticipated to be the most susceptible of all cross-sections to
- 2372 structural failure based on appropriate engineering considerations, including
- 2373 loading conditions. The safety factor assessments must be supported by
- 2374 appropriate engineering calculations.
- 2375
- 2376 1) For new CCR surface impoundments, the calculated static factor of safety
- 2377 under the end-of-construction loading condition must equal or exceed
- 2378 1.30. The assessment of this loading condition is only required for the
- 2379 initial safety factor assessment and is not required for subsequent
- 2380 assessments.
- 2381
- 2382 2) The calculated static factor of safety under the long-term, maximum
- 2383 storage pool loading condition must equal or exceed 1.50.
- 2384
- 2385 3) The calculated static factor of safety under the maximum surcharge pool
- 2386 loading condition must equal or exceed 1.40.
- 2387
- 2388 4) The calculated seismic factor of safety must equal or exceed 1.00.
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- 2390 5) For dikes constructed of soils that have susceptibility to liquefaction, the
- 2391 calculated liquefaction factor of safety must equal or exceed 1.20.

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- b) The owner or operator of the CCR surface impoundment must obtain a certification from a qualified professional engineer stating that the initial safety factor assessment and each annual assessment thereafter was conducted in accordance with the requirements.
- c) Timeframe for Submission of the Safety Factor Assessment
 - 1) The owner or operator of a new CCR surface impoundment must submit the initial safety factor assessment certification with the initial operating permit application prior to the initial receipt of CCR in the surface impoundment.
 - 2) The owner or operator of an existing CCR surface impoundment must submit the initial safety factor assessment certification with its first annual inspection report required by Section 845.540(b).
 - 3) The owner or operator of a CCR surface impoundment must submit the annual safety factor assessment certification each year with the annual inspection required by Section 845.540(b).
 - 4) The owner or operator of a new CCR surface impoundment must place each safety factor assessment in the facility's operating record as required by Section 845.800(d)(6).
- d) Failure to Document Minimum Safety Factors
 - 1) For new CCR surface impoundments, until the date an owner or operator of a CCR surface impoundment documents that the calculated factors of safety achieve the minimum safety factors specified in this Section, the owner or operator is prohibited from placing CCR in the CCR surface impoundment.
 - 2) An owner or operator of the CCR surface impoundment who either fails to complete a timely safety factor assessment, or fails to demonstrate minimum safety factors as required by this Section, is subject to the requirements of Section 845.700.
- e) These requirements apply to all CCR surface impoundments, except for those CCR surface impoundments that are incised CCR surface impoundments. If an incised CCR surface impoundment is subsequently modified (e.g., a dike is constructed) such that the CCR surface impoundment no longer meets the

2434 definition of an incised CCR surface impoundment, the CCR surface
 2435 impoundment is subject to these requirements.

2437 SUBPART E: OPERATING CRITERIA

2439 **Section 845.500 Air Criteria**

- 2440
- 2441 a) The owner or operator of a CCR surface impoundment, or any lateral expansion
 2442 of a CCR surface impoundment must adopt measures that will effectively
 2443 minimize CCR from becoming airborne at the facility, including CCR fugitive
 2444 dust originating from CCR surface impoundments, roads, and other CCR
 2445 management and material handling activities.
 - 2446
 - 2447 b) CCR Fugitive Dust Control Plan. The owner or operator of the CCR surface
 2448 impoundment must prepare and operate in accordance with a CCR fugitive dust
 2449 control plan as specified in this subsection (b). This requirement applies in
 2450 addition to, not in place of, any applicable standards under the Occupational
 2451 Safety and Health Act (29 USC 15), including but not limited to 29 CFR
 2452 1910.1018, 29 CFR 1910.1024, 29 CFR 1910.1025, 29 CFR 1910.1027, and
 2453 1910.1053, or any other State or federal law.
 - 2454
 - 2455 1) The CCR fugitive dust control plan must identify and describe the CCR
 2456 fugitive dust control measures the owner or operator will use to minimize
 2457 CCR from becoming airborne at the facility. The owner or operator must
 2458 select, and include in the CCR fugitive dust control plan, the CCR fugitive
 2459 dust control measures that are most appropriate for site conditions, along
 2460 with an explanation of how the measures selected are applicable and
 2461 appropriate for site conditions. Examples of control measures that may be
 2462 appropriate include: locating CCR inside an enclosure or partial enclosure;
 2463 operating a water spray or fogging system; reducing fall distances at
 2464 material drop points; using wind barriers, compaction, or vegetative
 2465 covers; establishing and enforcing reduced vehicle speed limits; paving
 2466 and sweeping roads; covering trucks transporting CCR; reducing or
 2467 halting operations during high wind events; or applying a daily cover.
 - 2468
 - 2469 2) The CCR fugitive dust control plan must include procedures to log citizen
 2470 complaints received by the owner or operator involving CCR fugitive dust
 2471 events at the facility.
 - 2472
 - 2473 3) The CCR fugitive dust control plan must include a description of the
 2474 procedures the owner or operator will follow to periodically assess the
 2475 effectiveness of the control plan.
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- 4) The owner or operator of a CCR surface impoundment must prepare an initial CCR fugitive dust control plan for the facility no later than September 30, 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 September 30, 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).
 - 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.
- c) 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, a record of all citizen complaints, and a summary of any corrective measures taken. The annual CCR fugitive dust control report must be submitted as a part of the annual consolidated report required by Section 845.550.

2506 **Section 845.510 Hydrologic and Hydraulic Capacity Requirements for CCR Surface**
2507 **Impoundments**
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- a) The owner or operator of an existing or new CCR surface impoundment or any lateral expansion of a CCR surface impoundment must design, construct, operate, and maintain an inflow design flood control system as specified in subsections (a)(1) and (2).
 - 1) The inflow design flood control system must adequately manage flow into the CCR surface impoundment during and following the peak discharge of the inflow design flood specified in subsection (a)(3).
 - 2) The inflow design flood control system must adequately manage flow from the CCR surface impoundment to collect and control the peak

- 2520 discharge resulting from the inflow design flood specified in subsection
 2521 (a)(3).
 2522
- 2523 3) The inflow design flood, at a minimum, is:
 2524
- 2525 A) For a Class 1 CCR surface impoundment, as determined under
 2526 Section 845.440(a), the probable maximum flood;
 2527
- 2528 B) For a Class 2 CCR surface impoundment, as determined under
 2529 Section 845.440(a), the 1,000-year flood; or
 2530
- 2531 C) For an incised CCR surface impoundment, the 25-year flood.
 2532
- 2533 b) Discharge from the CCR surface impoundment must be handled in accordance
 2534 with the surface water requirements in Section 845.110(b)(3) and 35 Ill. Adm.
 2535 Code Subtitle C.
 2536
- 2537 c) Inflow Design Flood Control System Plan
 2538
- 2539 1) Content of the Plan. The owner or operator must prepare initial and annual
 2540 inflow design flood control system plans for the CCR surface
 2541 impoundment. These plans must document how the inflow design flood
 2542 control system has been designed and constructed to meet the
 2543 requirements. Each plan must be supported by appropriate engineering
 2544 calculations.
 2545
- 2546 2) Amendment of the Plan. The owner or operator of the CCR surface
 2547 impoundment may amend the written inflow design flood control system
 2548 plan at any time. The owner or operator must amend the written inflow
 2549 design flood control system plan whenever there is a change in conditions
 2550 that would substantially affect the written plan in effect.
 2551
- 2552 3) The owner or operator must obtain a certification from a qualified
 2553 professional engineer stating that the initial and periodic inflow design
 2554 flood control system plans meet the requirements
 2555
- 2556 4) Timeframe for Plan Submission
 2557
- 2558 A) The owner or operator of a new CCR surface impoundment must
 2559 submit to the Agency the initial inflow design flood control system
 2560 plan certification with the initial operating permit application prior
 2561 to the initial receipt of CCR in the surface impoundment.
 2562

- 2563 B) The owner or operator of an existing CCR surface impoundment
2564 must submit the initial inflow design flood control system plan
2565 certification with its first annual inspection report required by
2566 Section 845.540(b).
2567
- 2568 C) The owner or operator of a CCR surface impoundment must
2569 submit the annual inflow design flood control system plan
2570 certification each year with the annual inspection required by
2571 Section 845.540(b).
2572
- 2573 D) The owner or operator of a new CCR surface impoundment must
2574 place each inflow design flood control system plan in the facility's
2575 operating record, as required by Section 845.800(d)(8).
2576

2577 **Section 845.520 Emergency Action Plan**
2578

- 2579 a) The owner or operator of a CCR surface impoundment must prepare and maintain
2580 a written Emergency Action Plan (EAP). The owner or operator must place the
2581 EAP and any amendment of the EAP in the facility's operating record, as required
2582 by Section 845.800(d)(9).
2583
- 2584 b) At a minimum, the EAP must:
2585
 - 2586 1) Define the events or circumstances involving the CCR surface
2587 impoundment that represent a safety emergency, along with a description
2588 of the procedures that will be followed to detect a safety emergency in a
2589 timely manner;
 - 2590 2) Define responsible persons, their respective responsibilities, and
2591 notification procedures in the event of a safety emergency involving the
2592 CCR surface impoundment;
 - 2593 3) Provide contact information of emergency responders;
 - 2594 4) Include a map that delineates the downstream area that would be affected
2595 in the event of a CCR surface impoundment failure and a physical
2596 description of the CCR surface impoundment; and
2597
 - 2598 5) Include provisions for an annual face-to-face meeting or exercise between
2599 representatives of the owner or operator of the CCR surface impoundment
2600 and the local emergency responders.
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- 2605 c) The owner or operator of a CCR surface impoundment must prepare an initial
2606 Emergency Action Plan for the facility no later than September 30, 2021, or by
2607 initial receipt of CCR in any CCR surface impoundment at the facility if the
2608 owner or operator becomes subject to this Part after September 30, 2021.
2609
- 2610 d) Amendment of the Plan
- 2611
- 2612 1) The owner or operator of a CCR surface impoundment may amend the
2613 written EAP at any time.
- 2614
- 2615 2) The owner or operator must amend the written EAP whenever there is a
2616 change in conditions that would substantially affect the EAP in effect.
2617
- 2618 3) The written EAP must be evaluated, at a minimum, every five years to
2619 ensure the information required in this Section is accurate.
2620
- 2621 e) The owner or operator of the CCR surface impoundment must obtain a
2622 certification from a qualified professional engineer stating that the written EAP,
2623 and any subsequent amendment of the EAP, meets the requirements.
2624
- 2625 f) Activation of the EAP. The EAP must be implemented once events or
2626 circumstances involving the CCR surface impoundment that represent a safety
2627 emergency are detected, including conditions identified during any structural
2628 stability assessments, annual inspections, and inspections by a qualified person.
2629 The owner or operator of the CCR surface impoundment must submit records
2630 documenting all activations of the EAP to the Agency and place the
2631 documentation in the facility's operating record as required by Section
2632 845.800(d)(10).
2633
- 2634 g) The owner or operator of a CCR surface impoundment must document the annual
2635 face-to-face meeting or exercise between representatives of the owner or operator
2636 of the CCR surface impoundment and the local emergency responders as required
2637 by subsection (b)(5). The owner or operator of the CCR surface impoundment
2638 must place this documentation in the facility's operating record as required by
2639 Section 845.800(d)(11).
2640

2641 **Section 845.530 Safety and Health Plan**

- 2642
- 2643 a) The owner or operator of the CCR surface impoundment must develop a Safety
2644 and Health Plan and ensure that employees, contract workers, and third-party
2645 contractors are informed regarding the Safety and Health Plan. The owner or
2646 operator must conduct ongoing worker hazard analyses and ensure employees,
2647 contract workers, and third-party contractors are aware of those analyses. The

2648 plan must be updated as needed based on the worker hazard analyses, but at least
 2649 annually. The plan and all amendments to the plan, must be placed in the
 2650 facility's operating record as required by Section 845.800(d)(12), and on the
 2651 owner's or operator's publicly accessible internet site.
 2652

b) For worker exposure safety, in addition to all other applicable local, State and
 2653 federal requirements, the owner or operator of the CCR surface impoundment, for
 2654 all chemical constituents identified in the CCR under Sections 845.230(a)(15) and
 2655 845.230(d)(2)(C), must:
 2656

- 2657 1) Consider the recommendations in the most recent "NIOSH Pocket Guide
 2658 to Chemical Hazards", Department of Human Health and Services,
 2659 Centers for Disease Control and Prevention, National Institute for
 2660 Occupational Safety and Health;
- 2661 2) Implement the Occupational Safety and Health Administration regulations
 2662 in Chapter 17 of Title 29 of the Code of Federal Regulations for all
 2663 hazards not otherwise classified as defined in 29 CFR 1910.1200(c); and
 2664
- 2665 3) Provide safety data sheets (Globally Harmonized System of Classification
 2666 and Labeling of Chemicals adopted by OSHA) or create a facility-specific
 2667 safety data sheet under 29 CFR 1910.1200(g).
 2668

c) The Safety and Health Plan must include a personnel training program that meets
 2671 the following minimum requirements:
 2672

- 2673 1) Employees, contract workers, and third-party contractors must
 2674 successfully complete a training program that informs them of the hazards
 2675 at the facility to ensure compliance with the requirements. The facility
 2676 must maintain an outline of the training program used (or to be used) at
 2677 the facility and a brief description of training program updates.
 2678
 - 2679 2) At a minimum, the training program must be designed to ensure that
 2680 employees, contract workers, and third-party contractors understand and
 2681 are able to respond effectively to the following:
 2682
- 2683 A) Procedures for using, inspecting, repairing, and replacing facility
 2684 emergency and monitoring equipment;
 - 2685 B) Communications or alarm systems;
 - 2686 C) Response to fires or explosions;
 - 2687
 - 2688
 - 2689
 - 2690

- 2691 D) Response to a spill or release of CCR;
- 2692
- 2693 E) The training under the Occupational Safety and Health Standards
- 2694 in 29 CFR 1910.120, 29 CFR 1926.65, and the OSHA 10-hour or
- 2695 30-hour construction safety training;
- 2696
- 2697 F) Information about chemical hazards and hazardous materials
- 2698 identified in subsection (b); and
- 2699
- 2700 G) The use of engineering controls, administrative controls, and
- 2701 personal protective equipment.
- 2702
- 2703 d) Employees, contract workers, and third-party contractors must successfully
- 2704 complete the program required in subsection (c) prior to undertaking any activity
- 2705 to construct, operate or close a CCR surface impoundment.
- 2706
- 2707 e) Employees, contract workers, and third-party contractors must take part in an
- 2708 annual review of the initial training required in subsection (c).
- 2709
- 2710 f) The owner or operator of the CCR surface impoundment must perform, at a
- 2711 minimum, the following hazard communication activities:
- 2712
- 2713 1) Post signs at the facility identifying the hazards of CCR, including dust
- 2714 inhalation when handling CCR;
- 2715
- 2716 2) Post signs at the facility identifying unstable CCR areas that may make
- 2717 operation of heavy equipment hazardous; and
- 2718
- 2719 3) Post signs at the facility where the CCR surface impoundment is located
- 2720 identifying safety measures and necessary precautions, including the
- 2721 proper use of personal protective equipment.
- 2722

Section 845.540 Inspection Requirements for CCR Surface Impoundments

- 2723
- 2724
- 2725 a) Inspections by a Qualified Person
- 2726
- 2727 1) All CCR surface impoundments and any lateral expansion of a CCR
- 2728 surface impoundment must be examined by a qualified person as follows:
- 2729
- 2730 A) At intervals not exceeding seven days and after each 25-year, 24-
- 2731 hour storm, inspect for the following:
- 2732

- 2733 i) Any appearances of actual or potential structural weakness
- 2734 and other conditions that are disrupting, or have the
- 2735 potential to disrupt, the operation or safety of the CCR
- 2736 surface impoundment;
- 2737
- 2738 ii) Deterioration, malfunctions or improper operation of
- 2739 overtopping control systems, where present;
- 2740
- 2741 iii) Sudden drops in the level of the CCR surface
- 2742 impoundment's contents;
- 2743
- 2744 iv) Erosion that creates rills, gullies, or crevices six inches or
- 2745 deeper, other signs of deterioration including failed or
- 2746 eroded vegetation in excess of 100 square feet, or cracks in
- 2747 dikes or other containment devices; and
- 2748
- 2749 v) Any visible releases;
- 2750
- 2751 B) At intervals not exceeding seven days, inspect the discharge of all
- 2752 outlets of hydraulic structures that pass underneath the base of the
- 2753 CCR surface impoundment or through the dike, of the CCR
- 2754 surface impoundment, for abnormal discoloration, flow or
- 2755 discharge of debris or sediment; and
- 2756
- 2757 C) At intervals not exceeding 30 days, monitor all CCR surface
- 2758 impoundment instrumentation.
- 2759
- 2760 2) The owner or operator must prepare a report for each inspection that
- 2761 includes the date of the inspection, condition of the CCR surface
- 2762 impoundment, any repairs made to the CCR surface impoundment, and the
- 2763 date of the repair. The results of the inspection by a qualified person must
- 2764 be recorded in the facility's operating record as required by Section
- 2765 845.800(d)(13).
- 2766
- 2767 3) The owner or operator of a CCR surface impoundment must initiate the
- 2768 inspections required by subsection (a) no later than March 30, 2021, or by
- 2769 initial receipt of CCR in an CCR surface impoundment if the owner or
- 2770 operator becomes subject to this Part after March 30, 2021. The
- 2771 inspections required by subsection (a) must continue until the completion
- 2772 of closure by removal or the completion of post-closure care.
- 2773
- 2774 b) Annual Inspections By a Qualified Professional Engineer
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- 1) The CCR surface impoundment must be inspected on an annual basis by a qualified professional engineer to ensure that the design, construction, operation, and maintenance of the CCR surface impoundment is consistent with recognized and generally accepted engineering standards. The inspection must, at a minimum, include:
 - A) A review of available information regarding the status and condition of the CCR surface impoundment, including, but not limited to, files available in the operating record (e.g., CCR surface impoundment design and construction information required by Sections 845.220(a)(1) and 845.230(d)(2)(A), previous structural stability assessments required under Section 845.450, the results of inspections by a qualified person, and results of previous annual inspections);
 - B) A visual inspection of the CCR surface impoundment to identify signs of distress or malfunction of the CCR surface impoundment and appurtenant structures;
 - C) A visual inspection of any hydraulic structures underlying the base of the CCR surface impoundment or passing through the dike of the CCR surface impoundment for structural integrity and continued safe and reliable operation;
 - D) The annual hazard potential classification certification, required by Section 845.440, if applicable;
 - E) The annual structural stability assessment certification, required by Section 845.450, if applicable;
 - F) The annual safety factor assessment certification, required by Section 845.460, if applicable; and
 - G) The inflow design flood control system plan certification required by Section 845.510(c).

- 2) Inspection Report. The qualified professional engineer must prepare a report following each inspection that addresses the following:
 - A) Any changes in geometry of the impounding structure since the previous annual inspection;

- 2818 B) The location and type of existing instrumentation and the
2819 maximum recorded readings of each instrument since the previous
2820 annual inspection;
2821
2822 C) The approximate minimum, maximum, and present depth and
2823 elevation of the impounded water and CCR since the previous
2824 annual inspection;
2825
2826 D) The storage capacity of the impounding structure at the time of the
2827 inspection;
2828
2829 E) The approximate volume of the impounded water and CCR at the
2830 time of the inspection;
2831
2832 F) Any appearances of an actual or potential structural weakness of
2833 the CCR surface impoundment, in addition to any existing
2834 conditions that are disrupting or have the potential to disrupt the
2835 operation and safety of the CCR surface impoundment and
2836 appurtenant structures; and
2837
2838 G) Any other changes that may have affected the stability or operation
2839 of the impounding structure since the previous annual inspection.
2840
2841 3) By January 31 of each year, the inspection report must be completed and
2842 submitted with the annual consolidated report required by Section
2843 845.550.
2844
2845 4) Frequency of Inspections. The owner or operator of the CCR surface
2846 impoundment must conduct the inspection required by subsections (b)(1)
2847 and (2) on an annual basis. The deadline for conducting a subsequent
2848 inspection is based on the date of conducting the previous inspection.
2849
2850 5) If a deficiency or release is identified during an inspection, the owner or
2851 operator must submit to the Agency documentation detailing proposed
2852 corrective measures and obtain any necessary permits from the Agency.
2853

2854 **Section 845.550 Annual Consolidated Report**
2855

- 2856 a) No later than January 31 of each year, the owner or operator of the CCR surface
2857 impoundment must prepare an annual consolidated report for the preceding
2858 calendar year that includes the following:
2859
2860 1) Annual CCR fugitive dust control report, required by Section 845.500(c);

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- 2) Annual inspection report, required by Section 845.540(b), including:
 - A) Annual hazard potential classification certification, required by Section 845.440, if applicable;
 - B) Annual structural stability assessment certification, required by Section 845.450, if applicable;
 - C) Annual safety factor assessment certification, required by Section 845.460, if applicable; and
 - D) Inflow design flood control system plan certification required by Section 845.510(c).
- 3) Annual Groundwater Monitoring and Corrective Action Report required by Section 845.610(e).
- b) The owner or operator of the CCR surface impoundment must place the annual consolidated report in the facility's operating record as required by Section 845.800(d)(14).

SUBPART F: GROUNDWATER MONITORING AND CORRECTIVE ACTION

Section 845.600 Groundwater Protection Standards

- a) For existing CCR surface impoundments and for inactive CCR surface impoundments:
 - 1) The groundwater protection standards at the waste boundary must be:
 - A) Antimony: 0.006 mg/L
 - B) Arsenic: 0.010 mg/L
 - C) Barium: 2.0 mg/L
 - D) Beryllium: 0.004 mg/L
 - E) Boron: 2 mg/L
 - F) Cadmium: 0.005 mg/L

- 2904 G) Chloride: 200 mg/L
- 2905
- 2906 H) Chromium: 0.1 mg/L
- 2907
- 2908 I) Cobalt: 0.006 mg/L
- 2909
- 2910 J) Fluoride: 4.0 mg/L
- 2911
- 2912 K) Lead: 0.0075 mg/L
- 2913
- 2914 L) Lithium: 0.04 mg/L
- 2915
- 2916 M) Mercury: 0.002 mg/L
- 2917
- 2918 N) Molybdenum: 0.1 mg/L
- 2919
- 2920 O) pH: 6.5-9.0 units
- 2921
- 2922 P) Selenium: 0.05 mg/L
- 2923
- 2924 Q) Sulfate: 400 mg/L
- 2925
- 2926 R) Thallium: 0.002 mg/L
- 2927
- 2928 S) Total Dissolved Solids: 1200 mg/L
- 2929
- 2930 T) Radium 226 and 228 combined: 5 pCi/L
- 2931

2932 2) For constituents with a background concentration higher than the levels
2933 identified in subsection (a)(1), the background concentration must be the
2934 groundwater protection standard.

2935
2936 b) For new CCR surface impoundments, the groundwater protection standards at the
2937 waste boundary must be background for the constituents listed in subsection
2938 (a)(1) and Calcium.

2939
2940 c) The owner or operator of a CCR surface impoundment may not obtain alternative
2941 groundwater quality standards in 35 Ill. Adm. Code 620.450(a)(4) for the
2942 constituents in subsections (a) and (b) before the end of post-closure care under
2943 Section 845.780, when closing with a final cover system, or before the end of
2944 groundwater monitoring under Section 845.740(b), when closing by removal.

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2946 **Section 845.610 General Requirements**

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- a) All CCR surface impoundments and lateral expansions of CCR surface impoundments are subject to the groundwater monitoring and corrective action requirements of this Subpart.
- b) Required Submissions and Agency Approvals for Groundwater Monitoring
 - 1) Existing CCR Surface Impoundments. The owner or operator of an existing CCR surface impoundment must submit the following to the Agency in an initial operating permit application:
 - A) A hydrogeologic site characterization meeting the requirements of Section 845.620;
 - B) Design and construction plans of a groundwater monitoring system meeting the requirements of Section 845.630;
 - C) 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 845.640; and
 - D) A monitoring program that includes a minimum of eight independent samples for each background and downgradient well as required by Section 845.650(b).
 - 2) New CCR Surface Impoundments. The owner or operator of a new CCR surface impoundment and all lateral expansions of a CCR surface impoundment must submit the information required in subsections (b)(1)(A) through (C) in a construction permit application, and the information required in subsection (b)(1)(D) in an operating permit application.
 - 3) All owners and operators of CCR surface impoundments must:
 - A) Conduct groundwater monitoring under a monitoring program approved by the Agency under this Subpart;
 - B) Evaluate the groundwater monitoring data for statistically significant levels over background levels for the constituents listed in Section 845.600 after each sampling event;
 - C) Determine compliance with the groundwater protection standards in Section 845.600 after each sampling event; and

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- D) Submit all groundwater monitoring data to the Agency and any analysis performed under subsections (b)(3)(B) and (b)(3)(C) within 60 days after completion of sampling, and place the groundwater monitoring data in the facility's operating record as required by Section 845.800(d)(15).

- c) Once the groundwater monitoring system and the groundwater monitoring program have been established at the CCR surface impoundment as required by this Subpart, the owner or operator must conduct groundwater monitoring and, if necessary, corrective action throughout the active life and post-closure care period of the CCR surface impoundment or the time period specified in Section 845.740(b) when closure is by removal.

- d) In the event of a release from a CCR surface impoundment, the owner or operator must immediately take all necessary measures to control all sources of the release so as to reduce or eliminate, to the maximum extent feasible, further releases of contaminants into the environment. The owner or operator of the CCR surface impoundment must comply with all applicable requirements of Sections 845.660, 845.670, and 845.680.

- e) Annual Groundwater Monitoring and Corrective Action Report
 - 1) The owner or operator of the CCR surface impoundment 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 845.550.

 - 2) For the preceding calendar year, the annual report must document the status of the groundwater monitoring and corrective action plan for the CCR surface impoundment, 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 surface impoundment, all background (or upgradient) and downgradient monitoring wells, including the well identification numbers, that are part of the groundwater monitoring program for the CCR

3032 surface impoundment, and a visual delineation of any exceedances
3033 of the groundwater protection standards;

3034
3035 B) Identification of any monitoring wells that were installed or
3036 decommissioned during the preceding year, along with a narrative
3037 description of why those actions were taken;

3038
3039 C) A potentiometric surface map for each groundwater elevation
3040 sampling event required by Section 845.650(b)(2);

3041
3042 D) In addition to all the monitoring data obtained under this Subpart, a
3043 summary including the number of groundwater samples that were
3044 collected for analysis for each background and downgradient well,
3045 and the dates the samples were collected;

3046
3047 E) A narrative discussion of any statistically significant increases over
3048 background levels for the constituents listed in Section 845.600;
3049 and

3050
3051 F) Other information required to be included in the annual report as
3052 specified in this Subpart.

3053
3054 4) A section at the beginning of the annual report must provide an overview
3055 of the current status of groundwater monitoring program and corrective
3056 action plan for the CCR surface impoundment. At a minimum, the
3057 summary must:

3058
3059 A) Specify whether groundwater monitoring data shows a statistically
3060 significant increase over background concentrations for one or
3061 more constituents listed in Section 845.600;

3062
3063 B) Identify those constituents having a statistically significant
3064 increase over background concentrations and the names of the
3065 monitoring wells associated with the increase;

3066
3067 C) Specify whether there have been any exceedances of the
3068 groundwater protection standards for one or more constituents
3069 listed in Section 845.600;

3070
3071 D) Identify those constituents with exceedances of the groundwater
3072 protection standards in Section 845.600 and the names of the
3073 monitoring wells associated with the exceedance;

3074

- 3075 E) Provide the date when the assessment of corrective measures was
- 3076 initiated for the CCR surface impoundment;
- 3077
- 3078 F) Provide the date when the assessment of corrective measures was
- 3079 completed for the CCR surface impoundment;
- 3080
- 3081 G) Specify whether a remedy was selected under Section 845.670
- 3082 during the current annual reporting period, and if so, the date of
- 3083 remedy selection; and
- 3084
- 3085 H) Specify whether remedial activities were initiated or are ongoing
- 3086 under Section 845.780 during the current annual reporting period.
- 3087

Section 845.620 Hydrogeologic Site Characterization

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- 3090 a) The owner or operator of the CCR surface impoundment must design and
- 3091 implement a hydrogeologic site characterization.
- 3092
- 3093 b) The hydrogeologic site characterization must include, but is not limited to, the
- 3094 following:
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- 3096 1) Geologic well logs/boring logs;
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- 3098 2) Climatic aspects of the site, including seasonal and temporal fluctuations
- 3099 in groundwater flow;
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- 3101 3) Identification of nearby surface water bodies and drinking water intakes;
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- 3103 4) Identification of nearby pumping wells and associated uses of the
- 3104 groundwater;
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- 3106 5) Identification of nearby dedicated nature preserves;
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- 3108 6) Geologic setting;
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- 3110 7) Structural characteristics;
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- 3112 8) Geologic cross-sections;
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- 3114 9) Soil characteristics;
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- 3116 10) Identification of confining layers;
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- 3118 11) Identification of potential migration pathways;
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- 3120 12) Groundwater quality data;
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- 3122 13) Vertical and horizontal extent of the geologic layers to a minimum depth
- 3123 of 100 feet below land surface, including lithology and stratigraphy;
- 3124
- 3125 14) A map displaying any known underground mines beneath a CCR surface
- 3126 impoundment;
- 3127
- 3128 15) Chemical and physical properties of the geologic layers to a minimum
- 3129 depth of 100 feet below land surface;
- 3130
- 3131 16) Hydraulic characteristics of the geologic layers identified as migration
- 3132 pathways and geologic layers that limit migration, including:
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- 3134 A) Water table depth;
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- 3136 B) Hydraulic conductivities;
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- 3138 C) Effective and total porosities;
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- 3140 D) Direction and velocity of groundwater flow; and
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- 3142 E) Map of the potentiometric surface;
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- 3144 17) Groundwater classification under 35 Ill. Adm. Code 620; and
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- 3146 18) Any other information requested by the Agency.
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Section 845.630 Groundwater Monitoring Systems

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- 3150 a) Performance Standard. The owner or operator of a CCR surface impoundment
- 3151 must install a groundwater monitoring system that consists of a sufficient number
- 3152 of wells, installed at appropriate locations and depths, to yield groundwater
- 3153 samples that:
- 3154
- 3155 1) Accurately represent the quality of background groundwater that has not
- 3156 been affected by leakage from a landfill containing CCR or CCR surface
- 3157 impoundment. A determination of background quality may include
- 3158 sampling of wells that are not hydraulically upgradient of the CCR
- 3159 management area where:
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- A) Hydrogeologic conditions do not allow the owner or operator of the CCR surface impoundment 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 surface impoundment. The downgradient monitoring system must be installed at the waste boundary 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 845.620.
- 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 and three downgradient monitoring wells; and
 - 2) Additional monitoring wells as necessary to accurately represent the quality of background groundwater that has not been affected by leakage from the CCR surface impoundment and the quality of groundwater passing the waste boundary of the CCR surface impoundment.
- d) Multiunit Groundwater Monitoring System
- 1) The owner or operator of multiple CCR surface impoundments may install a multiunit groundwater monitoring system instead of separate groundwater monitoring systems for each CCR surface impoundment.
 - 2) The multiunit groundwater monitoring system must be equally as capable of detecting monitored constituents at the waste boundary of the CCR surface impoundment as the individual groundwater monitoring system specified in subsections (a) through (c) for each CCR surface impoundment, based on the following factors:

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- A) Number, spacing, and orientation of each CCR surface impoundment;
 - B) Hydrogeologic setting;
 - C) Site history; and
 - D) Engineering design of the CCR surface impoundment.
- 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 operating record the design, installation, development, and decommissioning of any monitoring wells, piezometers and other measurement, sampling, and analytical devices. The qualified professional engineer must be given access to this documentation when completing the groundwater monitoring system certification required by subsection (g).
 - 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 of a new CCR surface impoundment must submit a construction permit application containing documentation showing that the groundwater monitoring system is designed to meet the requirements. The owner or operator of all CCR surface impoundments must submit an operating permit application containing documentation showing that the groundwater monitoring system has been constructed to meet the requirements.
- g) 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. 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 845.640 Groundwater Sampling and Analysis Requirements

- 3246 a) The groundwater monitoring program must include consistent sampling and
 3247 analysis procedures that are designed to ensure monitoring results that provide an
 3248 accurate representation of groundwater quality at the background and
 3249 downgradient wells required by Section 845.630. The owner or operator of the
 3250 CCR surface impoundment must develop a sampling and analysis program that
 3251 includes procedures and techniques for:
- 3252 1) Sample collection;
 - 3253 2) Sample preservation and shipment;
 - 3254 3) Analytical procedures;
 - 3255 4) Chain of custody control; and
 - 3256 5) Quality assurance and quality control.
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 3262 b) The groundwater monitoring program must include sampling and analytical
 3263 methods that are appropriate for groundwater sampling and that accurately
 3264 measure constituents and other monitoring parameters in groundwater samples.
 3265 For purposes of this Subpart, the term "constituent" refers to both constituents and
 3266 other monitoring parameters listed in Section 845.600.
 3267
 3268 c) Groundwater elevations must be measured in each well prior to purging, each
 3269 time groundwater is sampled. The owner or operator of the CCR surface
 3270 impoundment must determine the rate and direction of groundwater flow each
 3271 time groundwater is sampled. Groundwater elevations in wells that monitor the
 3272 same CCR management area must be measured within a time period short enough
 3273 to avoid temporal variations in groundwater flow that could preclude accurate
 3274 determination of groundwater flow rate and direction.
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 3276 d) The owner or operator of the CCR surface impoundment must establish
 3277 background groundwater quality in a hydraulically upgradient or background well
 3278 for each of the constituents listed in Section 845.600. Background groundwater
 3279 quality may be established at wells that are not located hydraulically upgradient
 3280 from the CCR surface impoundment if it meets the requirements of Section
 3281 845.630(a)(1).
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 3283 e) The number of samples collected when conducting monitoring (for both
 3284 downgradient and background wells) must be consistent with the statistical
 3285 procedures chosen under subsection (f) and the performance standards under
 3286 subsection (g). The sampling procedures must be those specified by Section
 3287 845.650(a) through (c).
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- f) Statistical Methods
 - 1) The owner or operator of the CCR surface impoundment must select one of the statistical methods specified in subsection (f)(1) 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 CCR surface impoundment 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 surface impoundment. 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 CCR surface impoundment must submit the following to the Agency in an operating permit application:

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- A) Documentation of the statistical method chosen; and
 - B) The qualified professional engineer certification required by 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 CCR surface impoundment to be inappropriate for a normal theory test, then the data must be transformed or a distribution-free (non-parametric) theory test must be used. If the distributions for the constituents differ, more than one statistical method may be needed.
 - 2) If an individual well comparison procedure is used to compare an individual compliance well constituent concentration with background constituent concentrations or a groundwater protection standard, the test must be done at a Type I error level no less than 0.01 for each testing period. If a multiple comparison procedure is used, the Type I experiment wise error rate for each testing period must be no less than 0.05; however, the Type I error of no less than 0.01 for individual well comparisons must be maintained. This performance standard does not apply to tolerance intervals, prediction intervals, or control charts.
 - 3) If a control chart approach is used to evaluate groundwater monitoring data, the specific type of control chart and its associated 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 data base, the data distribution, and the range of the concentration values for each constituent of concern.
 - 4) If a tolerance interval or a prediction interval is used to evaluate groundwater monitoring data, the levels of confidence and, for tolerance intervals, the percentage of the population that the interval must contain, must be such that this approach is at least as effective as any other approach in this Section for evaluating groundwater data. These

3375 constituents must be determined after considering the number of samples
 3376 in the background data base, the data distribution, and the range of the
 3377 concentration values for each constituent of concern.
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3379 5) The statistical method must account for data below the limit of detection
 3380 with one or more statistical procedures at least as effective as any other
 3381 approach in this Section for evaluating groundwater data. Any practical
 3382 quantitation limit that is used in the statistical method must be the lowest
 3383 concentration level that can be reliably achieved within specified limits of
 3384 precision and accuracy during routine laboratory operating conditions that
 3385 are available to the facility. For the constituents identified in Section
 3386 845.600(a)(1), the practical quantitation limit must be less than the
 3387 groundwater protection standards.
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3389 6) If necessary, the statistical method must include procedures to control or
 3390 correct for seasonal and spatial variability as well as temporal correlation
 3391 in the data.
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3393 h) The owner or operator of the CCR surface impoundment must determine whether
 3394 or not there is a statistically significant increase over background values for each
 3395 constituent in Section 845.600.
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3397 1) In determining whether a statistically significant increase has occurred, the
 3398 owner or operator must compare the groundwater quality of each
 3399 constituent at each monitoring well designated under Section 845.630(a)
 3400 or (d)(1) to the background value of that constituent, according to the
 3401 statistical procedures and performance standards specified by subsections
 3402 (f) and (g).
 3403

3404 2) Within 60 days after completing sampling and analysis, the owner or
 3405 operator must determine whether there has been a statistically significant
 3406 increase over background for any constituent at each monitoring well.
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3408 i) The owner or operator must measure total recoverable metals concentrations in
 3409 measuring groundwater quality. Measurement of total recoverable metals
 3410 captures both the particulate fraction and dissolved fraction of metals in natural
 3411 waters. Groundwater samples must not be field filtered prior to analysis.
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3413 j) All groundwater samples taken under this Subpart must be analyzed by a certified
 3414 laboratory using Test Methods for Evaluating Solid Waste, Physical/Chemical
 3415 Methods, SW-846, incorporated by reference in Section 845.150.
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3417 **Section 845.650 Groundwater Monitoring Program**

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- a) The owner or operator of a CCR surface impoundment 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 845.600(a) and Calcium. The owner or operator of the CCR surface impoundment must submit a groundwater monitoring plan to the Agency with its operating permit application.
- b) Monitoring Frequency
 - 1) The monitoring frequency for all constituents with a groundwater protection standard in Section 845.600(a) and Calcium must be at least quarterly during the active life of the CCR surface impoundment and the post-closure care period or period specified in Section 845.740(b) when closure is by removal.
 - A) For existing CCR surface impoundments, a minimum of eight independent samples from each background and downgradient well must be collected and analyzed for all constituents with a groundwater protection standard listed in Section 845.600(a) and Calcium no later than 180 days after the effective date.
 - B) For new CCR surface impoundments, and all lateral expansions of CCR surface impoundments, a minimum of eight independent samples for each background well and downgradient well must be collected and analyzed for all constituents with a groundwater protection standard listed in Section 845.600(a) and Calcium during the first 180 days of sampling.
 - 2) The groundwater elevation monitoring frequency must be monthly.
- 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 845.640 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 845.600 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 operating record as required by Section

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845.800(d)(16). The owner or operator of the CCR surface impoundment 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 surface impoundment under Section 845.660. The owner or operator of the CCR surface impoundment must submit the characterization to the Agency and place the characterization in the facility's operating record as required by Section 845.800(d)(16). Characterization of the release includes the following minimum measures:
 - A) Install additional monitoring wells necessary to define contaminant plumes;
 - B) Collect data on the nature and estimated quantity of material released, including specific information on the constituents listed in Section 845.600 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 operating record as required by Section 845.800(d)(16).
- 3) Except as provided in subsection (e), within 90 days after the detected exceedance of the groundwater protection standard, initiate an assessment of corrective measures as required by Section 845.660.
- e) Alternative Source Demonstration. The owner or operator of a CCR surface impoundment may, within 60 days after the detected exceedance of the groundwater protection standard, submit a demonstration to the Agency that a source other than the CCR surface impoundment caused the contamination and

3503 the CCR surface impoundment did not contribute to the contamination, or that the
3504 exceedance of the groundwater protection standard resulted from error in
3505 sampling, analysis, statistical evaluation, natural variation in groundwater quality,
3506 or a change in the potentiometric surface and groundwater flow direction. Any
3507 such demonstration must be supported by a report that includes the factual or
3508 evidentiary basis for any conclusions and must be certified to be accurate by a
3509 qualified professional engineer.

- 3511 A) The Agency must provide a written response either concurring or
- 3512 not concurring with the demonstration within 30 days.
- 3513
- 3514 B) If the Agency concurs with the demonstration, the owner or
- 3515 operator must continue monitoring in accordance with this Section.
- 3516 The owner or operator must also include the demonstration in the
- 3517 annual groundwater monitoring and corrective action report
- 3518 required by Section 845.610(e), in addition to the certification by a
- 3519 qualified professional engineer.
- 3520
- 3521 C) If the Agency does not concur with the written demonstration
- 3522 made under this subsection (e), the owner or operator of the CCR
- 3523 surface impoundment must initiate the assessment of corrective
- 3524 measures requirements under Section 845.660.
- 3525

3526 **Section 845.660 Assessment of Corrective Measures**

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- 3528 a) Unless the Agency has concurred with an alternative source demonstration made
- 3529 under Section 845.650(e), the owner or operator must initiate an assessment of
- 3530 corrective measures to prevent further releases, to remediate any releases, and to
- 3531 restore the affected area.
- 3532
- 3533 1) The assessment of corrective measures must be initiated within 90 days
- 3534 after finding that any constituent listed in Section 845.600 has been
- 3535 detected in exceedance of the groundwater protection standards in Section
- 3536 845.600, or immediately upon detection of a release from a CCR surface
- 3537 impoundment.
- 3538
- 3539 2) The assessment of corrective measures must be completed and submitted
- 3540 to the Agency within 90 days after initiation of assessment of corrective
- 3541 measures, unless the owner or operator demonstrates to the Agency the
- 3542 need for additional time to complete the assessment of corrective measures
- 3543 due to site-specific conditions or circumstances. The owner or operator
- 3544 must submit this demonstration, along with a certification from a qualified
- 3545 professional engineer attesting that the demonstration is accurate, to the

3546 Agency within 60 days after initiating an assessment of corrective
3547 measures. The Agency must either approve or disapprove the
3548 demonstration within 30 days. The 90-day deadline to complete the
3549 assessment of corrective measures may be extended for no longer than 60
3550 days. The owner or operator must also include the Agency approved
3551 demonstration in the annual groundwater monitoring and corrective action
3552 report required by Section 845.610(e), in addition to the certification by a
3553 qualified professional engineer.
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3555 b) The owner or operator of the CCR surface impoundment must continue to
3556 monitor groundwater in accordance with the monitoring program as specified in
3557 Section 845.650.
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3559 c) The assessment under subsection (a) must include an analysis of the effectiveness
3560 of potential corrective measures in meeting all the requirements and objectives of
3561 the corrective action plan, as described by Section 845.670, addressing at least the
3562 following:

- 3563 1) The performance, reliability, ease of implementation, and potential
3564 impacts of appropriate potential remedies, including safety impacts, cross-
3565 media impacts, and control of exposure to any residual contamination;
- 3566 2) The time required to begin and complete the corrective action plan; and
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- 3568 3) The institutional requirements, such as State or local permit requirements
3569 or other environmental or public health requirements that may
3570 substantially affect implementation of the corrective action plan.
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3572 d) The owner or operator of the CCR surface impoundment must discuss the results
3573 of the corrective measures assessment, at least 30 days prior to the selection of
3574 remedy, in a public meeting with interested and affected parties, as required by
3575 Section 845.240.
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3577 e) When the owner or operator of a CCR surface impoundment is completing
3578 closure and corrective action simultaneously, the owner or operator may combine
3579 the requirements for correction and the requirements of Section 845.710 into one
3580 assessment of alternatives.
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3584 **Section 845.670 Corrective Action Plan**
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3586 a) The owner or operator must prepare a semi-annual report describing the progress
3587 in selecting a remedy and developing a corrective action plan. The semi-annual

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report must be submitted to the Agency and placed in the operating record as required by Section 845.800(d)(17).

- b) Within one year after completing the assessment of corrective measures as specified in Section 845.660, and after completion of the public meeting in Section 845.660(d), the owner or operator of the CCR surface impoundment must submit, in a construction permit application to the Agency, 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 845.660;
 - 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 845.600;
 - 3) Control the sources of releases to reduce or eliminate, to the maximum extent feasible, further releases of constituents listed in Section 845.600 into the environment;
 - 4) Remove from the environment as much of the contaminated material that was released from the CCR surface impoundment 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 845.680(d).

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- e) Corrective Action Alternatives Analysis. In selecting a remedy that meets the standards of subsection (d), the owner or operator of the CCR surface impoundment must consider the following evaluation factors:
 - 1) The long- and short-term effectiveness and protectiveness of the 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 845.600 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 the following factors:
 - A) The extent to which containment practices will reduce further releases; and

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- B) The extent to which treatment technologies may be used.
- 3) The ease or difficulty of implementing 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 a potential remedy.
- f) The owner or operator must specify, as part of the corrective action plan, a schedule for implementing of, 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 surface impoundment 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 845.650(d) and (e);
 - 2) Reasonable probabilities of remedial technologies achieving compliance with the groundwater protection standards established by Section 845.600 and other objectives of the remedy;
 - 3) Availability of treatment or disposal capacity for CCR managed during implementation of the remedy;
 - 4) Potential risks to human health and the environment from exposure to contamination prior to completion of the remedy;
 - 5) Resource value of the aquifer, including:

- 3715 A) Current and future uses, including but not limited to potential
- 3716 residential, agricultural, commercial industrial and ecological uses;
- 3717
- 3718 B) Proximity and withdrawal rate of users;
- 3719
- 3720 C) Groundwater quantity and quality;
- 3721
- 3722 D) The potential impact to the subsurface ecosystem, wildlife, other
- 3723 natural resources, crops, vegetation, and physical structures caused
- 3724 by exposure to CCR constituents;
- 3725
- 3726 E) The hydrogeologic characteristic of the facility and surrounding
- 3727 land; and
- 3728
- 3729 F) The availability of alternative water supplies; and
- 3730
- 3731 6) Other relevant factors.
- 3732

3733 **Section 845.680 Implementation of the Corrective Action Plan**

- 3734
- 3735 a) Within 90 days after the Agency's approval of the corrective action plan
- 3736 submitted under Section 845.670, the owner or operator must initiate corrective
- 3737 action. Based on the schedule approved by the Agency for implementation and
- 3738 completion of corrective action, the owner or operator must:
- 3739
- 3740 1) Establish and implement a corrective action groundwater monitoring
- 3741 program that:
- 3742
- 3743 A) At a minimum, meets the requirements of the monitoring program
- 3744 under Section 845.650;
- 3745
- 3746 B) Documents the effectiveness of the corrective action remedy; and
- 3747
- 3748 C) Demonstrates compliance with the groundwater protection
- 3749 standard under subsection (c).
- 3750
- 3751 2) Implement the corrective action remedy approved by the Agency under
- 3752 Section 845.670; and
- 3753
- 3754 3) Take any interim measures necessary to reduce the contaminants leaching
- 3755 from the CCR surface impoundment, and/or potential exposures to human
- 3756 or ecological receptors. Interim measures must, to the greatest extent
- 3757 feasible, be consistent with the objectives of, and contribute to the

3758 performance of, any remedy that may be required by Section 845.670.
3759 The following factors must be considered by an owner or operator in
3760 determining whether interim measures are necessary:

- 3761
- 3762 A) Time required to develop and implement a final remedy;
- 3763
- 3764 B) Actual or potential exposure of nearby populations or
- 3765 environmental receptors to any of the constituents listed in Section
- 3766 845.600;
- 3767
- 3768 C) Actual or potential contamination of sensitive ecosystems or
- 3769 current or potential drinking water supplies;
- 3770
- 3771 D) Further degradation of the groundwater that may occur if remedial
- 3772 action is not initiated expeditiously;
- 3773
- 3774 E) Weather conditions that may cause any of the constituents listed in
- 3775 Section 845.600 to migrate or be released;
- 3776
- 3777 F) Potential for exposure to any of the constituents listed in Section
- 3778 845.600 as a result of an accident or failure of a container or
- 3779 handling system; and
- 3780
- 3781 G) Other situations that may pose threats to human health and the
- 3782 environment.

3783

3784 b) If the Agency or an owner or operator of the CCR surface impoundment
3785 determines, at any time, that compliance with the requirements of Section
3786 845.670(d) is not being achieved through the remedy selected, the owner or
3787 operator must implement other methods or techniques that could feasibly achieve
3788 compliance with the requirements. These methods or techniques must receive
3789 approval by the Agency before implementation.

3790

3791 c) Corrective action must be considered complete when:

3792

- 3793 1) The owner or operator of the CCR surface impoundment demonstrates
- 3794 compliance with the groundwater protection standards established by
- 3795 Section 845.600 has been achieved at all points within the plume of
- 3796 contamination that lies beyond the waste boundary;
- 3797
- 3798 2) Compliance with the groundwater protection standards has been achieved
- 3799 by demonstrating that concentrations of constituents listed in Section
- 3800 845.600 have not exceeded the groundwater protection standards for a

- 3801 period of three consecutive years, using the statistical procedures and
 3802 performance standards in Section 845.640(f) and (g); and
 3803
 3804 3) All actions required to complete the remedy have been satisfied.
 3805
 3806 d) All CCR managed under a remedy approved by the Agency under Section
 3807 845.670, or an interim measure required under subsection (a)(3), must be
 3808 managed in a manner that complies with this Part.
 3809
 3810 e) Upon completion of the corrective action plan, the owner or operator must submit
 3811 to the Agency a corrective action completion report and certification.
 3812
 3813 1) The corrective action completion report must contain supporting
 3814 documentation, including, but not limited to:
 3815
 3816 A) Any engineering and hydrogeology reports, including, but not
 3817 limited to, monitoring well completion reports and boring logs, all
 3818 CQA reports, certifications, and designations of CQA officers-in-
 3819 absentia required by Section 845.290;
 3820
 3821 B) A written summary of the implementation of the corrective action
 3822 plan as set forth in the construction permit and this Part;
 3823
 3824 C) Groundwater monitoring data demonstrating compliance with
 3825 subsection (c);
 3826
 3827 D) Any remedial actions completed under subsection (d);
 3828
 3829 E) Documentation showing compliance with the selected remedy
 3830 requirements of Section 845.670(b); and
 3831
 3832 F) Any other information relied upon by the qualified professional
 3833 engineer in making the closure certification.
 3834
 3835 2) The corrective action completion certification must include a statement
 3836 from a qualified professional engineer attesting that the corrective action
 3837 plan has been completed in compliance with the requirements of
 3838 subsection (c).
 3839
 3840 3) The owner or operator must place the corrective action completion report
 3841 and certification in the facility's operating record as required by Section
 3842 845.800(d)(18).
 3843

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 cease 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 as specified in Section 845.300;
 - B) Wetlands, as specified in Section 845.310;
 - C) Fault areas, as specified in Section 845.320;
 - D) Seismic impact zones, as specified in Section 845.330; or
 - E) Unstable areas, as specified in 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 cease 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), a construction permit application to retrofit under Section 845.770;
- c) Beginning on the effective date, 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. No later than 30 days after the effective date, 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

3887 surface impoundment must submit a construction permit application containing a
 3888 final closure plan under the schedule in subsection (h).
 3889

3890 d) Timeframes for Closure
 3891

3892 1) Except as provided in subsection (d)(2), the owner or operator must cease
 3893 placing CCR and non-CCR waste streams in the impoundment and initiate
 3894 closure within six months after failing to complete any of the
 3895 demonstrations listed in subsection (a).
 3896

3897 2) For CCR surface impoundments required to close under subsection (a)(1)
 3898 or electing to close under subsection (b):
 3899

3900 A) If, on the effective date, the owner or operator of a CCR surface
 3901 impoundment has not satisfied an alternative closure requirement
 3902 of 40 CFR 257.103 that allows for the continued receipt of CCR or
 3903 non-CCR waste streams, the owner or operator must not place
 3904 CCR or non-CCR waste streams into the CCR surface
 3905 impoundment after the effective date.
 3906

3907 B) If, on the effective date, the owner or operator of a CCR surface
 3908 impoundment has demonstrated that alternative disposal capacity
 3909 is infeasible under 40 CFR 257.103, the owner or operator must
 3910 cease placing CCR or non-CCR waste streams into the CCR
 3911 surface impoundment by the end of the initial time extension
 3912 approved under 40 CFR 257.103 or once alternative capacity
 3913 becomes available, whichever is sooner. In no case may the owner
 3914 or operator of the CCR surface impoundment place CCR or non-
 3915 CCR waste streams into the CCR surface impoundment after
 3916 October 15, 2023.
 3917

3918 C) If, on the effective date, the owner or operator of a CCR surface
 3919 impoundment has demonstrated permanent cessation of coal-fired
 3920 power boilers by a certain date under 40 CFR 257.103, the owner
 3921 or operator must:
 3922

3923 i) For CCR surface impoundments that are 40 acres or
 3924 smaller, cease operation of the coal-fired boiler and
 3925 complete closure no later than October 17, 2023; or
 3926

3927 ii) For CCR surface impoundments that are larger than 40
 3928 acres, cease operation of the coal-fired boiler and complete
 3929 closure no later than October 17, 2028.

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- D) Failure to remain in compliance with any of the requirements will result in the automatic loss of authorization under subsections (d)(2)(B) and (d)(2)(C).
- E) The owner or operator of the CCR surface impoundment will not be given extensions of the timeframes for closure.
- 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 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, as determined 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.

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- 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 impoundments 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;

4013 D) An exceedance of the groundwater protection standards in Section
4014 845.600 has migrated off-site; or

4015
4016 E) The Agency finds that an emergency condition exists creating an
4017 immediate danger to public health or welfare, or the environment.
4018

4019 6) For the purposes of, and only for, this Part, areas of environmental justice
4020 concern are identified as any area that meets either of the following:
4021

4022 A) Any area within one mile of a census block group where the
4023 number of low-income persons is twice the statewide average,
4024 where low income means the number or percent of a census block
4025 group's population in households where the household income is
4026 less than or equal to twice the federal poverty level; or
4027

4028 B) Any area within one mile of a census block group where the
4029 number of minority persons is twice the statewide average, where
4030 minority means the number or percent of individuals in a census
4031 block group who list their racial status as a race other than white
4032 alone or list their ethnicity as Hispanic or Latino.
4033

4034 7) For purposes of subsection (g)(6), if any part of a facility falls within one
4035 mile of the census block group, the entire facility, including all its CCR
4036 surface impoundments, must be considered an area of environmental
4037 justice concern.
4038

4039 8) The Agency may designate a CCR surface impoundment as another
4040 Category when site-specific conditions contradict the designations
4041 provided by the owner or operator in subsection (c) and the categories in
4042 subsection (g)(1).
4043

4044 h) Application Schedule

4045
4046 1) Category 1, Category 2, Category 3, and Category 4 CCR surface
4047 impoundment owners or operators must submit either a construction
4048 permit application containing a final closure plan or a construction permit
4049 application to retrofit the CCR surface impoundment in accordance with
4050 the requirements of this Part no later than January 1, 2022.
4051

4052 2) Category 5 CCR surface impoundment owners or operators must submit
4053 either a construction permit application containing a final closure plan or a
4054 construction permit application to retrofit the CCR surface impoundment
4055 in accordance with the requirements of this Part no later than July 1, 2022.

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- 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 no later than July 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, 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;

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- 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 such 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;

- 4142 D) Availability of necessary equipment and specialists; and
 4143
 4144 E) Available capacity and location of needed treatment, storage, and
 4145 disposal services.
 4146
 4147 4) The degree to which the concerns of the residents living within
 4148 communities where the CCR will be handled, transported and disposed of
 4149 are addressed by the closure method.
 4150
 4151 c) The owner or operator of the CCR surface impoundment must analyze complete
 4152 removal of the CCR as one closure alternative in the closure alternatives analysis.
 4153 The closure alternative analysis must identify whether the facility has an onsite
 4154 landfill with remaining capacity, which can legally accept CCR, and, if not,
 4155 whether constructing an onsite landfill is possible. The owner and operator of the
 4156 CCR surface impoundment must include any other closure method in the
 4157 alternatives analysis if requested by the Agency.
 4158
 4159 d) The analysis for each alternative completed under this Section must:
 4160
 4161 1) Meet or exceed a class 4 estimate under the AACE Classification
 4162 Standard, incorporated by reference in Section 845.150, or a comparable
 4163 classification practice as provided in the AACE Classification Standard;
 4164
 4165 2) Contain the results of groundwater contaminant transport modeling and
 4166 calculations showing how the closure alternative will achieve compliance
 4167 with the applicable groundwater protection standards;
 4168
 4169 3) Include a description of the fate and transport of contaminants with the
 4170 closure alternative over time, including consideration of seasonal
 4171 variations; and
 4172
 4173 4) Assess impacts to waters in the State.
 4174
 4175 e) At least 30 days before submission of a construction permit application for
 4176 closure, the owner or operator of the CCR surface impoundment must discuss the
 4177 results of the closure alternatives analysis in a public meeting with interested and
 4178 affected parties, as required by Section 845.240.
 4179
 4180 f) After completion of the public meeting under subsection (e), the owner or
 4181 operator of a CCR surface impoundment must select a closure method and submit
 4182 a final closure plan to the Agency under Section 845.720(b). All materials
 4183 demonstrating completion of the closure alternatives analysis specified in this
 4184 Section must be submitted with the final closure plan.

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

Section 845.720 Closure Plan

- a) Preliminary Written Closure Plan
 - 1) Content of the Preliminary Closure Plan. The owner or operator of a new CCR surface impoundment or an existing CCR surface impoundment not required to close under Section 845.700 must prepare a preliminary written closure plan that describes the steps necessary to close the CCR surface impoundment at any point during the active life of the CCR surface impoundment consistent with recognized and generally accepted engineering practices. The preliminary written closure plan must include, at a minimum, the following:
 - A) A narrative description of how the CCR surface impoundment will be closed in accordance with this Part.
 - B) If closure of the CCR surface impoundment will be accomplished through removal of CCR from the CCR surface impoundment, a description of the procedures to remove the CCR and decontaminate the CCR surface impoundment in accordance with Section 845.740.
 - C) If closure of the CCR surface impoundment will be accomplished by leaving CCR in place, a description of the final cover system, designed in accordance with Section 845.750, and the methods and procedures to be used to install the final cover. The closure plan must also discuss how the final cover system will achieve the performance standards specified in Section 845.750.
 - D) An estimate of the maximum inventory of CCR ever on-site over the active life of the CCR surface impoundment.
 - E) An estimate of the largest area of the CCR surface impoundment ever requiring a final cover, as required by Section 845.750, at any time during the CCR surface impoundment's active life.
 - F) A schedule for completing all activities necessary to satisfy the closure criteria in this Section, including an estimate of the year in

4228 which all closure activities for the CCR surface impoundment will
 4229 be completed. The schedule should provide sufficient information
 4230 to describe the sequential steps that will be taken to close the CCR
 4231 surface impoundment, including identification of major milestones
 4232 such as coordinating with and obtaining necessary approvals and
 4233 permits from other agencies, the dewatering and stabilization
 4234 phases of CCR surface impoundment closure, or installation of the
 4235 final cover system, and the estimated timeframes to complete each
 4236 step or phase of CCR surface impoundment closure. When
 4237 preparing the preliminary written closure plan, if the owner or
 4238 operator of a CCR surface impoundment estimates that the time
 4239 required to complete closure will exceed the timeframes specified
 4240 in Section 845.760(a), the preliminary written closure plan must
 4241 include the site-specific information, factors and considerations
 4242 that would support any time extension sought under Section
 4243 845.760(b).
 4244

4245 2) The owner or operator of the CCR surface impoundment must submit the
 4246 preliminary written closure plan to the Agency with its initial operating
 4247 permit application. The owner or operator of the CCR surface
 4248 impoundment must submit the most recently amended preliminary closure
 4249 plan to the Agency with each operating permit renewal application. The
 4250 owner or operator must place preliminary and amended preliminary
 4251 written closure plans in the facility's operating record as required by
 4252 Section 845.800(d)(19).
 4253

4254 3) Amendment of a Preliminary Written Closure Plan
 4255

4256 A) The owner or operator may amend the preliminary written closure
 4257 plan at any time.
 4258

4259 B) The owner or operator must amend the preliminary written closure
 4260 plan whenever:
 4261

4262 i) There is a change in the operation of the CCR surface
 4263 impoundment that would substantially affect the written
 4264 closure plan in effect; or
 4265

4266 ii) Before closure activities have commenced, unanticipated
 4267 events necessitate a revision of the written closure plan.
 4268

4269 C) The owner or operator must amend the closure plan at least 60
 4270 days prior to a planned change in the operation of the facility or

4271 CCR surface impoundment, or no later than 60 days after an
4272 unanticipated event requires the need to revise an existing written
4273 closure plan.
4274

4275 4) The owner or operator of the CCR surface impoundment must obtain a
4276 written certification from a qualified professional engineer that the initial
4277 and any amendment of the preliminary written closure plan meets the
4278 requirements.
4279

4280 b) Final Closure Plan

4281
4282 1) The owner or operator of a CCR surface impoundment must submit to the
4283 Agency, as a part of a construction permit application for closure, a final
4284 closure plan. The plan shall be submitted before the installation of a final
4285 cover system or removal of CCR from the surface impoundment for the
4286 purpose of closure.
4287

4288 2) Except as otherwise provided in Section 22.59 of the Act, the owner or
4289 operator of a CCR surface impoundment must not close a CCR surface
4290 impoundment without a construction permit issued under this Part.
4291

4292 3) The final closure plan must identify the proposed selected closure method
4293 and must include the information required in subsection (a)(1) and the
4294 closure alternatives analysis specified in Section 845.710.
4295

4296 4) If a final written closure plan revision is necessary after closure activities
4297 have commenced for a CCR surface impoundment, the owner or operator
4298 must submit a request to modify the construction permit no later than 60
4299 days following the triggering event.
4300

4301 5) The owner or operator of the CCR surface impoundment must obtain a
4302 written certification from a qualified professional engineer that the final
4303 written closure plan meets the requirements.
4304

4305 **Section 845.730 Initiation of Closure**

4306
4307 Initiation of closure activities. Except as provided for in this Section, the owner or operator of a
4308 CCR surface impoundment must initiate closure of the CCR surface impoundment no later than
4309 the applicable timeframes specified in either subsection (a) or (b). For purposes of this Section,
4310 closure of the CCR surface impoundment has been initiated if the owner or operator has ceased
4311 placing waste in the CCR surface impoundment and has submitted to the Agency a construction
4312 permit application under Section 845.220(d).
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- a) Known Final Receipt. The owner or operator must initiate closure of the CCR surface impoundment no later than 30 days after the date on which the CCR surface impoundment either:
 - 1) Receives the known final placement of waste, either CCR or any non-CCR waste stream; or
 - 2) Removes the known final volume of CCR from the CCR surface impoundment for the purpose of beneficial use of CCR.

- b) Temporarily Idled CCR Surface Impoundments
 - 1) Except as provided by subsection (b)(2), the owner or operator must initiate closure of a CCR surface impoundment that has not received CCR or any non-CCR waste stream, or is no longer removing CCR for the purpose of beneficial use, within two years after the last receipt of waste or within two years after the last removal of CCR material for the purpose of beneficial use.
 - 2) Notwithstanding subsection (b)(1), the owner or operator of the CCR surface impoundment may secure an additional two years to initiate closure of the idle surface impoundment if the Agency approves the owner's or operator's written demonstration that the CCR surface impoundment will continue to accept wastes or will start removing CCR for the purpose of beneficial use. The documentation must be supported by, at a minimum, the information specified in this subsection (b)(2). The owner or operator may obtain two-year extensions, provided the owner or operator continues to be able to demonstrate that there is reasonable likelihood that the CCR surface impoundment will accept wastes in the foreseeable future or will remove CCR from the surface impoundment for the purpose of beneficial use. The owner or operator must place each Agency approved demonstration, if more than one time extension is sought, in the facility's operating record as required by Section 845.800(d)(20) prior to the end of any two-year period.
 - A) Information documenting that the CCR surface impoundment has remaining storage or disposal capacity or that the CCR surface impoundment can have CCR removed for the purpose of beneficial use; and
 - B) Information demonstrating that that there is a reasonable likelihood that the CCR surface impoundment will resume receiving CCR or non-CCR waste streams in the foreseeable future or that CCR can

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be removed for the purpose of beneficial use. The narrative must include a best estimate as to when the CCR surface impoundment will resume receiving CCR or non-CCR waste streams. The situations listed in this subsection (b)(2)(B) are examples of situations that would support a determination that the CCR surface impoundment will resume receiving CCR or non-CCR waste streams in the foreseeable future.

- i) Normal plant operations include periods during which the CCR surface impoundment does not receive CCR or non-CCR waste streams, such as the alternating use of two or more CCR surface impoundments whereby, at any point in time, one CCR surface impoundment is receiving CCR while CCR is being removed from a second CCR surface impoundment after its dewatering.
- ii) The CCR surface impoundment is dedicated to a coal-fired boiler surface impoundment that is temporarily idled (e.g., CCR is not being generated) and there is a reasonable likelihood that the coal-fired boiler will resume operations in the future.
- iii) The CCR surface impoundment is dedicated to an operating coal-fired boiler (i.e., CCR is being generated); however, no CCR is being placed in the CCR surface impoundment because the CCR is being entirely diverted to beneficial uses, but there is a reasonable likelihood that the CCR surface impoundment will again be used in the foreseeable future.
- iv) The CCR surface impoundment currently receives only non-CCR waste streams and those non-CCR waste streams are not generated for an extended period of time, but there is a reasonable likelihood that the CCR surface impoundment will again receive non-CCR waste streams in the future.

3) In order to obtain additional time extensions to initiate closure of a CCR surface impoundment beyond the two years provided by subsection (b)(1), the owner or operator of the CCR surface impoundment must submit the demonstration required by subsection (b)(2) to the Agency for review and approval. The written documentation must include the following statement signed by the owner or operator or an authorized representative:

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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.

- c) The timeframes specified in subsections (a) and (b) do not apply to an owner or operator of a CCR surface impoundment closing the CCR surface impoundment as required by Section 845.700:
- d) No later than the date the owner or operator initiates closure of a CCR surface impoundment, the owner or operator must prepare a notification of intent to close a CCR surface impoundment. The notification must be placed in the facility's operating record as required by Section 845.800(d)(21).

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 and decontaminating all areas affected by releases from the CCR surface impoundment. CCR removal and decontamination of the CCR surface impoundment are complete when the CCR in the surface impoundment and any areas affected by releases from the CCR surface impoundment have been removed.
- 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

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- i) When transporting CCR off-site by motor vehicle, manifests must be carried as specified in 35 Ill. Adm. Code 809. 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 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 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:

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- 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 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 but not limited to 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.
 - 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;
 - 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

4527 and from the storage pile, and minimize stormwater-CCR
4528 contact; and

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4530 vi) Have a groundwater monitoring system that is consistent
4531 with the requirements of Section 845.630 and approved by
4532 the Agency.
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4534 C) The owner or operator of the CCR surface impoundment must
4535 incorporate general housekeeping procedures such as daily cleanup
4536 of CCR, tarping of trucks, maintaining the pad and equipment, and
4537 good practices during unloading and loading.
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4539 D) The owner or operator of the CCR must minimize the amount of
4540 time the CCR is exposed to precipitation and wind.
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4542 E) The discharge of stormwater runoff that has contact with CCR
4543 must be covered by an individual National Pollutant Discharge
4544 Elimination System (NPDES) permit. The owner or operator must
4545 develop and implement a Stormwater Pollution Prevention Plan
4546 (SWPPP) in addition to any other requirements of the facility's
4547 NPDES permit. Any construction permit application for closure
4548 must include a copy of the SWPPP.
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4550 d) At the end of each month during which CCR is being removed from a CCR
4551 surface impoundment, the owner or operator must prepare a report that:
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4553 1) Describes the weather, precipitation amounts, the amount of CCR
4554 removed from the CCR surface impoundment, the amount and location of
4555 CCR being stored on-site, the amount of CCR transported offsite, the
4556 implementation of good housekeeping procedures required by subsection
4557 (c)(4)(C), and the implementation of dust control measures; and
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4559 2) Documents worker safety measures implemented. The owner or operator
4560 of the CCR surface impoundment must place the monthly report in the
4561 facility's operating record as required by Section 845.800(d)(22).
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4563 e) Upon completion of CCR removal and decontamination of the CCR surface
4564 impoundment under subsection (a), the owner or operator of the CCR surface
4565 impoundment must submit to the Agency a completion of CCR removal and
4566 decontamination report and a certification from a qualified professional engineer
4567 that CCR removal and decontamination of the CCR surface impoundment has
4568 been completed in accordance with this Section. The owner or operator must

4569 place the CCR removal and decontamination report and certification in the
 4570 facility's operating record as required by Section 845.800(d)(30).
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4572 f) Upon completion of groundwater monitoring required under subsection (b), the
 4573 owner or operator of the CCR surface impoundment must submit to the Agency a
 4574 completion of groundwater monitoring report and a certification from a qualified
 4575 professional engineer that groundwater monitoring has been completed in
 4576 accordance with this Section. The owner or operator must place the groundwater
 4577 monitoring report and certification in the facility's operating record as required by
 4578 Section 845.800(d)(23).
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4580 **Section 845.750 Closure with a Final Cover System**

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 4582 Closure Performance Standard When Leaving CCR in Place
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- 4584 a) The owner or operator of a CCR surface impoundment must ensure that, at a
 4585 minimum, the CCR surface impoundment is closed in a manner that will:
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- 4587 1) Control, minimize or eliminate, to the maximum extent feasible, post-
 4588 closure infiltration of liquids into the waste and releases of CCR, leachate,
 4589 or contaminated run-off to the ground or surface waters or to the
 4590 atmosphere;
 - 4591 2) Preclude the probability of future impoundment of water, sediment, or
 4592 slurry;
 - 4593 3) Include measures that provide for major slope stability to prevent the
 4594 sloughing or movement of the final cover system during the closure and
 4595 post-closure care period;
 - 4596 4) Minimize the need for further maintenance of the CCR surface
 4597 impoundment; and
 - 4598 5) Be completed in the shortest amount of time consistent with recognized
 4599 and generally accepted engineering practices.
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4602 b) Drainage and Stabilization of CCR Surface Impoundments. The owner or
 4603 operator of a CCR surface impoundment or any lateral expansion of a CCR
 4604 surface impoundment must meet the requirements of this subsection (b) prior to
 4605 installing the final cover system required by subsection (c).
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- 4608 1) Free liquids must be eliminated by removing liquid wastes or solidifying
 4609 the remaining wastes and waste residues.
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- 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 1×10^{-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 1×10^{-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 1×10^{-7} cm/sec;

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- 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 a written certification from a qualified professional engineer that the design of the final cover system meets the requirements.
- d) This subsection specifies the allowable uses of CCR in the closure of CCR surface impoundments closing pursuant Section 845.700. Notwithstanding the prohibition on further placement in Section 845.700, CCR may be placed in these surface impoundments, but only for the 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;

- 4696 2) CCR is placed entirely above the elevation of CCR in the surface
- 4697 impoundment, following dewatering and stabilization, as required in
- 4698 subsection (b);
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- 4700 3) The CCR is placed entirely within the perimeter berms of the CCR surface
- 4701 impoundment; and
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- 4703 4) The final cover system is constructed with either:
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- 4705 A) A slope not steeper than 5% grade after allowance for settlement;
- 4706 or
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- 4708 B) At a steeper grade, if the Agency determines that the steeper slope
- 4709 is necessary, based on conditions at the site, to facilitate run-off
- 4710 and minimize erosion, and that side slopes are evaluated for
- 4711 erosion potential based on a stability analysis to evaluate possible
- 4712 erosion potential. The stability analysis, at a minimum, must
- 4713 evaluate the site geology; characterize soil shear strength; construct
- 4714 a slope stability model; establish groundwater and seepage
- 4715 conditions, if any; select loading conditions; locate critical failure
- 4716 surface; and iterate until minimum factor of safety is achieved.
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4718 **Section 845.760 Completion of Closure Activities**

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- 4720 a) Except as provided for in subsection (b), the owner or operator must complete
- 4721 closure of existing and new CCR surface impoundments, and any lateral
- 4722 expansion of a CCR surface impoundment, within the timeframe approved by the
- 4723 Agency in the final closure plan, or within five years of obtaining a construction
- 4724 permit for closure, whichever is less.
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- 4726 b) Extensions of Closure Timeframes
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- 4728 1) The timeframes for completing closure of a CCR surface impoundment
- 4729 specified under subsection (a) may be extended if the owner or operator
- 4730 has demonstrated to the Agency that it was not feasible to complete
- 4731 closure of the CCR surface impoundment within the required timeframes
- 4732 due to factors beyond the facility's control.
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- 4734 2) The demonstration must include a narrative explaining the basis for
- 4735 additional time.
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- 4737 3) The owner or operator must submit the demonstration to the Agency with
- 4738 a renewal construction permit application for closure.

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- 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 surface impoundment due to the volume of CCR contained in the CCR surface impoundment or the characteristics of the CCR in the surface impoundment;
 - C) Statement that the geology and terrain surrounding the CCR surface impoundment will affect the amount of material needed to close the CCR surface impoundment; 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 surface impoundments of 40 acres or smaller that are not closing by removal may extend the time to complete closure by no longer than two years.
 - 2) CCR surface impoundments larger than 40 acres that are not closing by removal may extend the timeframe to complete closure of the CCR surface impoundment multiple times, in two-year increments. For each two-year extension sought, the owner or operator must substantiate the factual circumstances demonstrating the need for the extension. No more than a total of five two-year extensions may be obtained for any CCR surface impoundment.
 - 3) CCR surface impoundments that are closing by removal may extend the time to complete closure 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.
- d) In order to obtain an additional time extension to complete closure of a CCR surface impoundment beyond the times provided by subsection (a), the owner or operator of the CCR surface impoundment must include with the demonstration required by subsection (b) the following statement signed by the owner or operator or an authorized representative:

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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 closure activities required by this Part and approved in the final closure plan, the owner or operator of the CCR surface impoundment must submit to the Agency a closure report and a closure certification.
 - 1) The closure 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 845.290;
 - 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 closure requirements and completed activities as set forth in the closure plan and this Part; and
 - D) Any other information relied upon by the qualified professional engineer in making the closure certification.
 - 2) The closure certification must include a statement from a qualified professional engineer that closure has been completed in accordance with the Agency-approved final closure plan and the requirements.
 - 3) The owner or operator must place the closure report and certification in the facility's operating record as required by Section 845.800(d)(23).
- f) Within 30 days after the Agency's approval of the closure report and closure certification submitted under subsection (e), the owner or operator must prepare a notification of closure of the CCR surface impoundment. The notification must include the certification by a qualified professional engineer required by

4825 subsection (e)(2). The owner or operator must place the notification in the
4826 facility's operating record as required by Section 845.800(d)(24).
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4828 g) If an owner or operator of a CCR surface impoundment has completed closure of
4829 the CCR surface impoundment before the effective date, the owner or operator
4830 must notify the Agency of the completed closure by September 30, 2021 if that
4831 notification has not previously been submitted.
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4833 h) Deed Notations
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4835 1) Following closure of a CCR surface impoundment, the owner or operator
4836 must record a notation on the deed to the property, or some other
4837 instrument that is normally examined during title search.
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4839 2) The notation on the deed must in perpetuity notify any potential purchaser
4840 of the property that:
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4842 A) The land has been used as a CCR surface impoundment; and
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4844 B) Its use is restricted under the post-closure care requirements as
4845 provided by Section 845.780(d)(1)(C) or groundwater monitoring
4846 requirements in Section 845.740(b).
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4848 3) Within 30 days after recording a notation on the deed to the property, the
4849 owner or operator must submit to the Agency a notification stating that the
4850 notation has been recorded. The owner or operator must place the
4851 notification in the facility's operating record as required by
4852 845.800(d)(25).
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4854 **Section 845.770 Retrofitting**
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4856 Retrofit of a CCR surface impoundment must be completed in accordance with the requirements
4857 of this Section.
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4859 a) To retrofit an existing CCR surface impoundment, the owner or operator must:
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4861 1) First remove all CCR, including any liners as necessary, and contaminated
4862 soils and sediments from the CCR surface impoundment; and
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4864 2) Comply with the requirements in Sections 845.410 and 845.420.
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- b) A CCR surface impoundment undergoing a retrofit remains subject to all other requirements, including the requirement to conduct any necessary corrective action.
 - c) Written Retrofit Plan
 - 1) Content of the Plan. The owner or operator must prepare a written retrofit plan that describes the steps necessary to retrofit the CCR surface impoundment consistent with recognized and generally accepted engineering practices. The written retrofit plan must include, at a minimum, all the following information:
 - A) A narrative description of the specific measures that will be taken to retrofit the CCR surface impoundment in accordance with this Section.
 - B) A description of the procedures to remove all CCR, liners as necessary, and contaminated soils and sediments from the CCR surface impoundment.
 - C) An estimate of the maximum amount of CCR and other contaminated materials that will be removed as part of the retrofit operation.
 - D) An estimate of the largest area of the CCR surface impoundment that will be affected by the retrofit operation.
 - E) A schedule for completing all activities necessary to satisfy the retrofit criteria in this Section, including an estimate of the year in which retrofit activities of the CCR surface impoundment will be completed.
 - 2) The owner or operator must submit the written retrofit plan with the construction permit application and must obtain a construction permit before retrofitting a CCR surface impoundment.
 - 3) Amendment of a Written Retrofit Plan
 - A) The owner or operator may submit a permit modification application to amend the initial or any subsequent written retrofit plan at any time.

- 4908 B) The owner or operator must seek to amend the written retrofit plan
- 4909 whenever:
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- 4911 i) There is a change in the operation of the CCR surface
- 4912 impoundment that would substantially affect the written
- 4913 retrofit plan in effect; or
- 4914
- 4915 ii) unanticipated events necessitate a revision of the written
- 4916 retrofit plan either before or after retrofit activities have
- 4917 commenced.
- 4918
- 4919 C) The owner or operator must seek to amend the retrofit plan at least
- 4920 60 days prior to a planned change in the operation of the facility or
- 4921 CCR surface impoundment, or no later than 60 days after an
- 4922 unanticipated event requires the revision of an existing written
- 4923 retrofit plan. If a written retrofit plan needs to be revised after
- 4924 retrofit activities have commenced for a CCR surface
- 4925 impoundment, the owner or operator must submit a request to
- 4926 modify the construction permit no later than 60 days following the
- 4927 triggering event.
- 4928
- 4929 4) The owner or operator of the CCR surface impoundment must obtain a
- 4930 written certification from a qualified professional engineer that the
- 4931 activities outlined in the written retrofit plan, including any amendment of
- 4932 the plan, meet the requirements.
- 4933
- 4934 d) No later than the date the owner or operator submits a construction permit
- 4935 application to the Agency to retrofit a CCR surface impoundment, the owner or
- 4936 operator must prepare a notification of intent to retrofit a CCR surface
- 4937 impoundment. The owner or operator has completed the notification when it has
- 4938 been placed in the facility's operating record as required by Section
- 4939 845.800(d)(26).
- 4940
- 4941 e) When activities related to retrofitting the CCR surface impoundment include the
- 4942 removal of CCR from the surface impoundment, the handling and removal of
- 4943 CCR must be performed in a manner consistent with the requirements of Section
- 4944 845.740.
- 4945
- 4946 f) Deadline for Completion of Activities Related to the Retrofit of a CCR Surface
- 4947 Impoundment. Any CCR surface impoundment that is being retrofitted must
- 4948 complete all retrofit activities within the timeframe approved by the Agency in the
- 4949 retrofit plan, or within five years after obtaining a construction permit, whichever

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is less. The same procedures specified for the extension closure timeframes in Section 845.760(b) apply to extension of retrofit timeframes.

- g) Upon completion of all retrofit activities required by this Part and approved by the Agency in a construction permit, the owner or operator of the CCR surface impoundment must submit to the Agency a retrofit completion report and certification.
 - 1) The retrofit completion 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 845.290;
 - B) Photographs, including time, date and location information of the photographs, of the liner system and leachate collection system, and any other photographs relied upon to document construction activities;
 - C) A written summary of retrofit requirements and completed activities as set forth in the construction permit and this Part; and
 - D) Any other information relied upon by the qualified professional engineer in making the closure certification.
 - 2) The retrofit certification must include a statement from a qualified professional engineer that retrofit has been completed in accordance with the retrofit plan specified in subsection (c) and the requirements.
 - 3) The owner or operator must place the retrofit completion report and certification in the facility's operating record as required by Section 845.800(d)(27).
- h) Within 30 days after the Agency's approval of the retrofit completion report and certification submitted under subsection (g), the owner or operator must prepare a notification of completion of retrofit activities. The notification must include the certification by a qualified professional engineer as required by subsection (g)(2). The owner or operator has completed the notification when it has been placed in the facility's operating record as required by Section 845.800(d)(28).

- 4992 i) At any time after the initiation of a CCR surface impoundment retrofit, the owner
- 4993 or operator may cease the retrofit and seek to initiate closure of the CCR surface
- 4994 impoundment in accordance with the requirements of this Subpart G. The owner
- 4995 or operator of the CCR surface impoundment must obtain an approved
- 4996 construction permit for closure.
- 4997

4998 **Section 845.780 Post-Closure Care Requirements**

- 4999
- 5000 a) Applicability
- 5001
- 5002 1) Except as provided by subsection (a)(2), this Section applies to the owners
- 5003 or operators of CCR surface impoundments who have completed an
- 5004 Agency approved closure.
- 5005
- 5006 2) An owner or operator of a CCR surface impoundment that elects to close a
- 5007 CCR surface impoundment by removing CCR as provided by Section
- 5008 845.740 is not subject to the post-closure care criteria of this Section.
- 5009
- 5010 b) Post-closure Care Maintenance Requirements. Following closure of the CCR
- 5011 surface impoundment, the owner or operator must conduct post-closure care for
- 5012 the CCR surface impoundment, which must consist of at least the following:
- 5013
- 5014 1) Maintaining the integrity and effectiveness of the final cover system,
- 5015 including making repairs to the final cover as necessary to correct the
- 5016 effects of settlement, subsidence, erosion, or other events, and preventing
- 5017 run-on and run-off from eroding or otherwise damaging the final cover;
- 5018
- 5019 2) If the CCR surface impoundment is subject to the design criteria of
- 5020 Section 845.420, maintaining the integrity and effectiveness of the
- 5021 leachate collection and removal system and operating the leachate
- 5022 collection and removal system in accordance with the requirements of
- 5023 Section 845.420; and
- 5024
- 5025 3) Maintaining the groundwater monitoring system and monitoring the
- 5026 groundwater in accordance with the requirements of Subpart F.
- 5027
- 5028 c) Post-closure Care Period
- 5029
- 5030 1) Except as provided by subsection (c)(2), the owner or operator of the CCR
- 5031 surface impoundment must conduct post-closure care for 30 years.
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- 2) At the end of the 30-year post-closure care period, the owner or operator of the CCR surface impoundment must continue to conduct post-closure care until the groundwater monitoring data shows the concentrations are:
 - A) Below the groundwater protection standards in Section 845.600; and
 - B) Not increasing for those constituents over background, using the statistical procedures and performance standards in Section 845.640(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-closure Care Plan
 - 1) Content of the Plan. The owner or operator of a CCR surface impoundment must prepare a written post-closure 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 surface impoundment 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-closure care period; and
 - C) A description of the planned uses of the property during the post-closure care period. Post-closure 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 CCR surface impoundment demonstrates that disturbance of the final cover, liner, or other component of the containment system, including any removal of CCR, will not increase the potential threat to human health or the environment. The demonstration must be certified by a qualified professional engineer and must be submitted to the Agency.

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- 2) Deadline to Prepare the Initial Written Post-closure Care Plan. The owner or operator of a CCR surface impoundment must submit to the Agency an initial written post-closure care plan, consistent with the requirements specified in subsection (d)(1), with its initial operating permit application.

- 3) Amendment of a Written Post-closure Care Plan
 - A) The owner or operator may submit an operating permit modification application to amend the initial or any subsequent written post-closure care plan developed under subsection (d)(1) at any time.

 - B) The owner or operator must seek to amend the written closure care plan whenever:
 - i) There is a change in the operation of the CCR surface impoundment that would substantially affect the written post-closure care plan in effect; or

 - ii) unanticipated events necessitate a revision of the written post-closure care plan, after post-closure activities have commenced.

 - C) The owner or operator must seek to amend the written post-closure care plan at least 60 days prior to a planned change in the operation of the facility or CCR surface impoundment, or no later than 60 days after an unanticipated event requires the need to revise an existing written post-closure care plan. If a written post-closure care plan is revised after post-closure activities have commenced for a CCR surface impoundment, the owner or operator must submit a request to modify the operating permit no later than 30 days following the triggering event.

- 4) The owner or operator of the CCR surface impoundment must obtain a written certification from a qualified professional engineer that the initial, and any amendment of the, written post-closure care plan meets the requirements.

- e) Upon the completion of the post-closure care period, the owner or operator of the CCR surface impoundment must submit a request to the Agency to terminate post-closure care. The request must include a certification by a qualified professional engineer verifying that post-closure care has been completed in

5119 accordance with the post-closure care plan specified in subsection (d) and the
 5120 requirements of that plan.

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 5122 f) Notification of Completion of Post-closure Care Period. Within 30 days after the
 5123 Agency's approval of the owner's or operator's request to terminate post-closure
 5124 care, the owner or operator must prepare a notification of completion of post-
 5125 closure care and must place the notification in the facility's operating record as
 5126 required by Section 845.800(d)(29).
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5128 **SUBPART H: RECORDKEEPING**

5129
 5130 **Section 845.800 Facility Operating Record**

5131
 5132 a) Each owner or operator of a CCR surface impoundment subject to the
 5133 requirements must maintain files of all information required by this Section in a
 5134 written operating record at the facility.
 5135

5136 b) Unless specified otherwise, each file must be retained for at least three years past
 5137 the date the Agency approved the owner's or operator's request to terminate post-
 5138 closure care, when closure is with a final cover system, or the completion of
 5139 groundwater monitoring under Section 845.740(b), when closure is by removal.
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5141 c) An owner or operator of more than one CCR surface impoundment subject to the
 5142 provisions of this Section may comply with the requirements in one
 5143 recordkeeping system provided the system identifies each file by the name and
 5144 identification number of each CCR surface impoundment. The files may be
 5145 maintained on microfilm, on a computer, on computer disks, on a storage system
 5146 accessible by a computer, on magnetic tape disks, or on microfiche.
 5147

5148 d) The owner or operator of a CCR surface impoundment must place the following
 5149 in the facility's operating record:

- 5150 1) Copies of all permit applications and permits issued under this Part;
- 5151 2) Documentation recording the public meetings held under Section 845.240;
- 5152 3) Weekly CQA reports under Section 845.290(b);
- 5153 4) Hazard potential classification assessments for CCR surface
- 5154 5) Structural stability assessments for CCR surface impoundments, as required by Section 845.440(a)(3)(D);
- 5155 6) Weekly CQA reports under Section 845.290(b);
- 5156 7) Hazard potential classification assessments for CCR surface
- 5157 8) Structural stability assessments for CCR surface impoundments, as required by Section 845.440(a)(3)(D);
- 5158 9) Weekly CQA reports under Section 845.290(b);
- 5159 10) Hazard potential classification assessments for CCR surface
- 5160 11) Structural stability assessments for CCR surface impoundments, as required by Section 845.440(a)(3)(D);
- 5161 12) Weekly CQA reports under Section 845.290(b);

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- 6) Safety factor assessments for CCR surface impoundments, as required by Section 845.460(c)(4);
- 7) The CCR fugitive dust control plan and any subsequent amendment of the plan, as required by 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) Inflow design flood control system plans for CCR surface impoundments, as required by Section 845.510(c)(4)(D);
- 9) Emergency Action Plan, as required by 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);
- 10) Documentation prepared by the owner or operator recording all activations of the EAP, as required by Section 845.520(f);
- 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, as required by Section 845.520(g);
- 12) Safety and Health Plan, as required by Section 845.530(a);
- 13) Documentation recording the results of each inspection and instrumentation monitoring by a qualified person, as required by Section 845.540(a)(2);
- 14) Annual consolidated report, as required by Section 845.550, which contains the following:
 - A) The annual CCR fugitive dust control report required by Section 845.500(c);
 - B) The annual inspection report required by Section 845.540(b)(3); and
 - C) The annual groundwater monitoring and corrective action report required by Section 845.610(e);

- 5205 15) All groundwater monitoring data submitted to the Agency and any
5206 analysis performed, as required by Section 845.610(b)(3)(D);
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- 5208 16) Within 30 days after detecting one or more monitored constituents above
5209 the groundwater protection standard, the notifications required by Section
5210 845.650(d) and (e);
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- 5212 17) The semi-annual report describing the progress in selecting and designing
5213 the remedy, required by Section 845.670(a);
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- 5215 18) Within 30 days after completing the corrective action plan, the notification
5216 required by Section 845.680(e);
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- 5218 19) The preliminary written closure plan, and any amendment of the plan, as
5219 required by Section 845.720(a), except that only the most recent closure
5220 plan must be maintained in the facility's operating record, irrespective of
5221 the time requirement specified in subsection (b);
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- 5223 20) The written demonstrations, including the certification required by Section
5224 845.730(b)(3), for a time extension for initiating closure, required by
5225 Section 845.730(b)(2);
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- 5227 21) The notification of intent to close a CCR surface impoundment required
5228 by Section 845.730(d);
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- 5230 22) The monthly reports for closure by removal required by Section
5231 845.740(d);
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- 5233 23) The closure report and certification, as required by Section 845.760(e)(3),
5234 or completion of groundwater monitoring report and certification, as
5235 required by Section 845.740(f);
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- 5237 24) The notification of completion of closure of a CCR surface impoundment,
5238 required by Section 845.760(f);
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- 5240 25) The notification recording a notation on the deed, required by Section
5241 845.760(h);
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- 5243 26) The notification of intent to initiate retrofit of a CCR surface
5244 impoundment, required by Section 845.770(d);
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- 5246 27) The retrofit completion report and certification required by Section
5247 845.770(g)(3);

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- 28) The notification of completion of retrofit activities, required by Section 845.770(h);
- 29) The notification of completion of post-closure care period, required by Section 845.780(f);
- 30) The completion of CCR removal and decontamination report and certification required by Section 845.740(e); and
- 31) The most current cost estimates under Section 845.940(d).

Section 845.810 Publicly Accessible Internet Site Requirements

- a) Each owner or operator of a CCR surface impoundment subject to the requirements must maintain a publicly accessible Internet site (CCR website) containing the information specified in this Section. The owner or operator's website must be titled "CCR Rule Compliance Data and Information".
- b) An owner or operator of more than one CCR surface impoundment subject to the provisions may comply with the requirements by using the same Internet site for multiple CCR surface impoundments, provided the CCR website clearly delineates information by the name and identification number of each CCR surface impoundment.
- 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-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).
- d) Unless otherwise required in this Section, the information must be posted to the CCR website within 30 days after placing the pertinent information required by Section 845.800 in the operating record.
- e) The owner or operator must place all the information specified under Section 845.800(d) on the owner's or operator's CCR website.
- f) The owner or operator must place all the information specified in Section 845.240(e) on the owner's or operator's CCR website at least 14 days prior to the public meeting.

- 5290 g) The owner or operator must notify the Agency of the web address of the publicly
5291 accessible Internet site, including any change to the web address. The Agency
5292 must maintain a list of these web addresses on the Agency's website.
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5294 SUBPART I: FINANCIAL ASSURANCE
5295

5296 **Section 845.900 General Provisions**
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- 5298 a) This Subpart provides procedures by which the owner or operator of a CCR
5299 surface impoundment subject to this Part provides financial assurance satisfying
5300 the requirements of Section 22.59(f) of the Act.
5301
- 5302 b) The owner or operator must provide financial assurance to ensure the following:
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5304 1) Completion of closure;
5305
5306 2) Completion of post-closure care, if applicable; and
5307
5308 3) Remediation of releases from a CCR surface impoundment.
5309
- 5310 c) The owner or operator must maintain financial assurance equal to or greater than
5311 the current cost estimates always calculated under Section 845.930, except as
5312 otherwise provided by Section 845.910.
5313
- 5314 d) Financial assurance must be provided, as specified in Section 845.950, by a trust
5315 agreement, a surety bond guaranteeing payment, a surety bond guaranteeing
5316 payment or performance, or an irrevocable letter of credit. The owner or operator
5317 must provide financial assurance to the Agency within the timeframes set forth in
5318 Section 845.950(c).
5319
- 5320 e) This Subpart does not apply to the State of Illinois, its agencies and institutions,
5321 any unit of local government, or any not-for-profit electric cooperative as defined
5322 in Section 3.4 of the Electric Supplier Act [220 ILCS 30].
5323
- 5324 f) The Agency is authorized to enter into such contracts and agreements as it may
5325 deem necessary to carry out the purposes of this Subpart and of Section 22.59(f)
5326 of the Act. Neither the State, nor the Director of the Agency, nor any State
5327 employee shall be liable for any damages or injuries arising out of, or resulting
5328 from, any action taken under this Part.
5329
- 5330 g) The Agency may sue in any court of competent jurisdiction to enforce its rights
5331 under financial instruments. The filing of an enforcement action before the Board
5332 is not a condition precedent to such an Agency action, except when this Subpart

- 5333 or the terms of the instrument provide otherwise.
5334
5335 h) The Agency must have the authority to approve or disapprove any financial
5336 assurance mechanism posted or submitted under this Subpart.
5337
5338 i) The following Agency actions may be appealed to the Board as a permit denial
5339 under Section 845.270(e) and Section 22.59(f)(3) of the Act:
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5341 1) A refusal to accept financial assurance tendered by the owner or operator;
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5343 2) A refusal to release the owner or operator from the requirement to
5344 maintain financial assurance;
5345
5346 3) A refusal to release excess funds from a trust;
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5348 4) A refusal to approve a reduction in the penal sum of a bond; and
5349
5350 5) A refusal to approve a reduction in the amount of a letter of credit.
5351
5352 j) An owner or operator must notify the Agency by certified mail of the
5353 commencement of a voluntary or involuntary proceeding under Title 11 of the
5354 United States Code (Bankruptcy) naming any of the owners or operators as
5355 debtor, within 10 days after commencement of the proceeding.
5356
5357 k) An owner or operator that fulfills the requirements of Section 845.960, 845.970,
5358 845.980, or 845.990 by obtaining a trust fund, surety bond, or letter of credit will
5359 be deemed to be without the required financial assurance in the event of
5360 bankruptcy of the trustee or issuing institution, or a suspension or revocation of
5361 the authority of the trustee institution to act as trustee or of the institution issuing
5362 the surety bond or letter of credit to issue those instruments. The owner or
5363 operator must establish alternative financial assurance within 60 days after such
5364 an event.
5365

5366 **Section 845.910 Upgrading Financial Assurance**
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- 5368 a) The owner or operator must increase the total amount of financial assurance to
5369 equal or exceed the current cost estimate within 60 days after either of the
5370 following occurrences:
5371
5372 1) An increase in the current cost estimate; or
5373
5374 2) A decrease in the value of a trust fund.
5375

- 5376 b) The owner or operator of a CCR surface impoundment must make annual
5377 adjustments for inflation if required under Section 845.930 or 845.940.
5378

5379 **Section 845.920 Release of Financial Institution and Owner or Operator**
5380

- 5381 a) The Agency must release a trustee, surety, or other financial institution when:
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 - 5383 1) An owner or operator substitutes alternative financial assurance such that
5384 the total financial assurance for the CCR surface impoundment is equal to
5385 or greater than the current cost estimate, without counting the amounts to
5386 be released; or
5387
 - 5388 2) The Agency releases the owner or operator from the requirements of this
5389 Subpart under subsection (b).
5390
- 5391 b) The Agency will release an owner or operator of a CCR surface impoundment
5392 from the requirements of this Subpart under the following circumstances:
5393
 - 5394 1) Completed Closure. In the Agency's approval of the closure report and
5395 certification under Section 845.760, the Agency will notify the owner or
5396 operator in writing that it is no longer required by this Subpart to maintain
5397 financial assurance for closure of the CCR surface impoundment.
5398
 - 5399 2) Completed Post-Closure Care. In the Agency's approval of the owner's or
5400 operator's request to terminate post-closure care under Section 845.780,
5401 the Agency will notify the owner or operator in writing that it is no longer
5402 required by this Subpart to maintain financial assurance for post-closure
5403 care of the CCR surface impoundment.
5404
 - 5405 3) Completed Corrective Action. In the Agency's approval of the corrective
5406 action completion report and certification under Section 845.680, the
5407 Agency will notify the owner or operator in writing that it is no longer
5408 required by this Subpart to maintain financial assurance for corrective
5409 action.
5410

5411 **Section 845.930 Cost Estimates**
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- 5413 a) The owner or operator must prepare cost estimates for:
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 - 5415 1) The total costs for closure and post-closure care;
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 - 5417 2) Preliminary corrective action costs; and
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- 3) The total costs of the correction action plan for remediation of any releases from a CCR surface impoundment.
 - b) Written Cost Estimate for Closure and Post-closure
 - 1) The owner or operator must have a detailed written estimate, in current dollars, of the cost of closing the CCR surface impoundment in accordance with this Part and providing post-closure care on an annual basis, when required, in accordance with this Part. The cost estimate is the total cost for closure and post-closure care.
 - 2) The cost estimate must equal the cost of final closure and post-closure care at the point in the CCR surface impoundment's active life when the extent and manner of its operation would make closure and post-closure care the most expensive.
 - 3) The cost estimate must be based on the assumption that the Agency will contract with a third party at the appropriate prevailing wages, under the Prevailing Wage Act [820 ILCS 130], if applicable, to implement the closure and post-closure care plans. A third party is a party who is neither a parent nor a subsidiary of the owner or operator.
 - 4) The cost estimate may not be reduced by allowance for the salvage value of facility structures or equipment, for the resale value of land, for the sale of CCR or its beneficial reuse if permitted by the Agency under this Part, or for other assets associated with the facility at the time of partial or final closure.
 - 5) The owner or operator must not incorporate a zero cost for CCR, if permitted by the Agency under this Part, that might have economic value.
 - 6) The cost estimate must, at a minimum, include all costs for all activities necessary to close the CCR surface impoundment and provide post-closure care in accordance with all requirements.
 - 7) The post-closure care portion of the cost estimate must, at a minimum, be based on the following elements:
 - A) Maintaining the integrity and effectiveness of the final cover system, including making repairs to the final cover as necessary to correct the effects of settlement, subsidence, erosion, or other events, and preventing run-on and run-off from eroding or otherwise damaging the final cover;

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- B) If the CCR surface impoundment is subject to the design criteria of Section 845.420, maintaining the integrity and effectiveness of the leachate collection and removal system and operating the leachate collection and removal system in accordance with the requirements of Section 845.420; and
- C) Maintaining the groundwater monitoring system and monitoring the groundwater in accordance with the requirements.

c) Cost Estimate for Corrective Action

- 1) Preliminary Corrective Action Cost Estimate. An owner or operator of a CCR surface impoundment with a release that has caused an exceedance of the groundwater protection standard in Section 845.600, or groundwater quality standard in 35 Ill. Adm. Code 620, must provide a preliminary corrective action cost estimate that is equal to 25% of the costs calculated pursuant to subsection (b).
- 2) Corrective Action Cost Estimate. The owner or operator must provide to the Agency a detailed written estimate, in current dollars, of the cost of hiring a third party at the appropriate prevailing wages, under the Prevailing Wage Act, if applicable, to implement the approved corrective action plan in accordance with this Part. The corrective action cost estimate must account for the total costs of corrective action activities as described in the approved corrective action plan for the entire corrective action period.
- 3) The owner or operator must annually adjust the cost estimates in this subsection (c) for inflation (see Section 845.940(a)) until the approved corrective action plan is completed.
- 4) The owner or operator must increase the corrective action cost estimates in this subsection (c) and the amount of financial assurance provided if changes in the corrective action plan or CCR surface impoundment conditions increase the maximum costs of corrective action.
- 5) The owner or operator may reduce the amount of the corrective action cost estimate, upon Agency approval, if the cost estimate exceeds the maximum remaining costs of corrective action.

Section 845.940 Revision of Cost Estimates

- 5505 a) During the active life of the CCR surface impoundment, the owner or operator
 5506 must adjust the cost estimates for closure, post-closure care, and corrective action
 5507 for inflation on an annual basis. The adjustments must occur within 60 days prior
 5508 to the anniversary date of the establishment of the financial instruments used to
 5509 comply with Section 845.950. The adjustment may be made by recalculating the
 5510 maximum costs of closure, post-closure care, or corrective action in current
 5511 dollars, or by using an inflation factor derived from the annual Implicit Price
 5512 Deflator for Gross National Product (Deflator) as published by the U.S.
 5513 Department of Commerce in its Survey of Current Business (Table 1.1.9), as
 5514 specified in subsections (a)(1) and (a)(2). The inflation factor is the result of
 5515 dividing the latest published annual Deflator by the Deflator for the previous year.
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- 5517 1) The first adjustment is made by multiplying the cost estimate by the
 5518 inflation factor. The result is the adjusted cost estimate.
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- 5520 2) Subsequent adjustments are made by multiplying the latest adjusted cost
 5521 estimate by the latest inflation factor.
 5522
- 5523 b) During the active life of the CCR surface impoundment, the owner or operator
 5524 must revise the cost estimate no later than 30 days after the Agency has approved
 5525 a request to modify the corrective action plan, closure plan, or post-closure care
 5526 plan, if the change in the modified plan increases the cost of corrective action,
 5527 closure or post-closure care. The revised cost estimate must be adjusted for
 5528 inflation, as specified in subsection (a).
 5529
- 5530 c) At least 60 days prior to submitting any closure plan to the Agency, the owner or
 5531 operator must revise the cost estimate if the selected closure method increases the
 5532 estimated closure or post-closure care costs.
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- 5534 d) The owner or operator must keep the most current cost estimates in the facility's
 5535 operating record during the operating life of the CCR surface impoundment.
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Section 845.950 Mechanisms for Financial Assurance

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- 5539 a) The owner or operator of a CCR surface impoundment must utilize any of the
 5540 mechanisms listed in this subsection (a) to provide financial assurance for closure
 5541 and post-closure care, and for corrective action at a CCR surface impoundment.
 5542 An owner or operator of a CCR surface impoundment must also meet the
 5543 requirements of subsections (b), (c), and (d). The mechanisms are as follows:
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- 5545 1) A trust fund (see Section 845.960);
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- 5547 2) A surety bond guaranteeing payment (see Section 845.970);

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- 3) A surety bond guaranteeing performance (see Section 845.980); or
 - 4) An irrevocable letter of credit (see Section 845.990).
- b) The owner or operator of a CCR surface impoundment must ensure that the language of the mechanisms listed in subsection (a), when used for providing financial assurance for closure, post-closure, and corrective action, is consistent with the forms prescribed by the Agency and satisfies the following:
- 1) The amount of funds assured is sufficient to cover the costs of closure, post-closure care, and corrective action; and
 - 2) The funds will be available in a timely fashion when needed.
- c) The owner or operator of a CCR surface impoundment must provide financial assurance utilizing one or more of the mechanisms listed in subsection (a) within the following timeframes:
- 1) An owner or operator of an existing CCR surface impoundment must provide financial assurance to the Agency for closure and post-closure care within 60 days from the effective date;
 - 2) An owner or operator of a new CCR surface impoundment must provide financial assurance to the Agency for closure and post-closure care at least 60 days before the date of initial receipt of CCR in the CCR surface impoundment.
 - 3) In the case of corrective action required by this Part, the owner or operator of the CCR surface impoundment must provide preliminary financial assurance for corrective action no later than when the owner or operator initiates an assessment of corrective measures under Section 845.650(d)(3). The preliminary financial assurance for corrective action must be maintained until replaced with financial assurance based on the cost estimate of the corrective action. The owner or operator of the CCR surface impoundment must provide financial assurance based on the approved corrective action plan to the Agency no later than 60 days after the Agency's approval or the effective date, whichever is later.
- d) The owner or operator must provide continuous financial assurance coverage until the owner or operator is released from the financial assurance requirements of this Subpart under Section 845.920(b).

5591 e) Use of Multiple Financial Assurance Mechanisms. An owner or operator may
5592 satisfy the requirements of this Subpart by establishing more than one financial
5593 mechanism per CCR surface impoundment. These mechanisms are limited to
5594 trust funds, surety bonds guaranteeing payment, and letters of credit. The
5595 mechanisms must be as specified in Sections 845.960, 845.970, and 845.990, as
5596 applicable, except that it is the combination of mechanisms, rather than the single
5597 mechanism, that must provide financial assurance for an aggregate amount at least
5598 equal to the current cost estimate for closure, post-closure care, and corrective
5599 action, except that mechanisms guaranteeing performance, rather than payment,
5600 may not be combined with other instruments. The owner or operator may use any
5601 or all the mechanisms to provide financial assurance for corrective action, closure
5602 and post-closure care.

5604 f) Use of a Financial Assurance Mechanism for Multiple CCR Surface
5605 Impoundments in Illinois. An owner or operator may use a financial assurance
5606 mechanism specified in this Subpart to meet the requirements of this Subpart for
5607 more than one CCR surface impoundment located in Illinois. Evidence of
5608 financial assurance submitted to the Agency must include a list showing, for each
5609 CCR surface impoundment, the identification number (see Section 845.130),
5610 name, address and the amount of funds assured by the mechanism. The amount
5611 of funds available through the mechanism must be no less than the sum of funds
5612 that would be available if a separate mechanism had been established and
5613 maintained for each CCR surface impoundment. The amount of funds available
5614 to the Agency must be enough to close and provide post-closure care for all of the
5615 owner or operator's CCR surface impoundments. In directing funds available
5616 through a single mechanism for the closure and post-closure care of any single
5617 CCR surface impoundment covered by that mechanism, the Agency must direct
5618 only that amount of funds designated for that CCR surface impoundment, unless
5619 the owner or operator agrees to the use of additional funds available under that
5620 mechanism.

5621
5622 **Section 845.960 Trust Fund**

5624 a) An owner or operator may satisfy the requirements of this Subpart by establishing
5625 a fully funded trust fund that conforms to the requirements and submitting to the
5626 Agency an original signed duplicate of the trust agreement.

5628 b) The trustee must be an entity that has the authority to act as a trustee and of whom
5629 either of the following is true:

5631 1) It is an entity whose trust operations are examined by the Illinois
5632 Department of Financial and Professional Regulation under the Illinois
5633 Banking Act [205 ILCS 5]; or

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- 2) It is an entity that complies with the Corporate Fiduciary Act [205 ILCS 620].
- c) The trust agreement must be on forms prescribed by the Agency. The trust agreement must be updated within 60 days after a change in the amount of the current closure, post-closure, and corrective action cost estimates covered by the agreement.
- d) The trust fund must be fully funded from the date that the trust agreement becomes effective.
- e) The trustee must evaluate the trust fund annually, as of the day the trust was created or on such earlier date as may be provided in the agreement. The trustee must notify the owner or operator and the Agency of the value within 30 days after the evaluation date.
- f) If the owner or operator of a CCR surface impoundment establishes a trust fund after having used one or more alternative mechanisms specified in this Subpart, the trust fund must be fully funded and established according to the specifications.
- g) Release of Excess Funds
 - 1) If the value of the financial assurance is greater than the total amount of the current cost estimate, the owner or operator may submit a written request to the Agency for a release of the amount in excess of the current cost estimate.
 - 2) Within 60 days after receiving a request from the owner or operator for a release of funds, the Agency must instruct the trustee to release to the owner or operator such funds as the Agency specifies in writing to be in excess of the current cost estimate.
- h) Reimbursement for Closure, Post-closure Care, and Corrective Action Expenses
 - 1) After initiating corrective action, closure, or post-closure care an owner or operator, or any other person authorized to perform corrective action, closure, or post-closure care, may request reimbursement for closure, post-closure care, or corrective action expenditures by submitting itemized bills to the Agency.
 - 2) Within 60 days after receiving the itemized bills for closure, post-closure care, or correction action activities, the Agency must determine whether

5677 the expenditures are in accordance with the closure, post-closure care, or
5678 corrective action plan. The Agency must instruct the trustee to make
5679 reimbursement in amounts the Agency specifies in writing as expenditures
5680 made in accordance with the closure, post-closure care, or corrective
5681 action plan.
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5683 3) If the Agency determines, based on information available to it, that the
5684 cost of closure and post-closure care or corrective action will be greater
5685 than the value of the trust fund, it must withhold reimbursement of
5686 amounts it determines are necessary to preserve the fund in order to
5687 accomplish closure and post-closure care or corrective action until it
5688 determines that the owner or operator is no longer required to maintain
5689 financial assurance for closure and post-closure care or corrective action.
5690 In the event the fund is inadequate to pay all claims, the Agency must pay
5691 claims according to the following priorities:
5692

5693 A) Persons with whom the Agency has contracted to perform closure,
5694 post-closure care, or corrective action activities (first priority);
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5696 B) Persons who have completed closure, post-closure care, or
5697 corrective action authorized by the Agency (second priority);
5698

5699 C) Persons who have completed work that furthered the closure, post-
5700 closure care, or corrective action (third priority);
5701

5702 D) The owner or operator and related business entities (last priority).
5703

5704 **Section 845.970 Surety Bond Guaranteeing Payment**
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5706 a) An owner or operator may satisfy the requirements of this Subpart by obtaining a
5707 surety bond that conforms to requirements of this Section and submitting the bond
5708 to the Agency.
5709

5710 b) The surety company issuing the bond must, at a minimum, be among those listed
5711 as acceptable sureties on federal bonds in Circular 570 of the U.S. Department of
5712 the Treasury. Circular 570 is available on the Internet from the following website:
5713 <https://fiscal.treasury.gov/surety-bonds/circular-570.html>.
5714

5715 c) The surety bond must be on forms prescribed by the Agency.
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5717 d) Any payments drawn from or made under the bond will be placed in the Coal
5718 Combustion Residual Surface Impoundment Financial Assurance Fund within the
5719 State Treasury.

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e) Conditions

- 1) The bond must guarantee that the owner or operator will:
 - A) Provide closure and post-closure care in accordance with the approved closure and post-closure care plans and, if the bond is a corrective action bond, provide corrective action in accordance with this Part; and
 - B) Provide alternative financial assurance, as specified in this Subpart, and obtain the Agency's written approval of the assurance provided within 90 days after receipt by both the owner or operator and the Agency of a notice from the surety that the bond will not be renewed for another term.
- 2) The surety will become liable on the bond obligation when, during the term of the bond, the owner or operator fails to perform as guaranteed by the bond. The owner or operator fails to perform when the owner or operator:
 - A) Abandons the CCR surface impoundment;
 - B) Is adjudicated bankrupt;
 - C) Fails to initiate closure of the CCR surface impoundment or post-closure care or corrective action when ordered to do so by the Board under Title VIII of the Act (Enforcement), or when ordered to do so by a court of competent jurisdiction;
 - D) Notifies the Agency that it has initiated closure or corrective action, or initiates closure or corrective action, but fails to close the CCR surface impoundment or provide post-closure care or corrective action in accordance with the Agency-approved closure and post-closure care or corrective action plans;
 - E) For a corrective action bond, fails to implement or complete corrective action at a CCR surface impoundment in accordance with Section 845.670; or
 - F) Fails to, within 90 days after receipt by both the owner or operator and the Agency of a notice from the surety that the bond will not be renewed for another term:

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- i) Provide alternative financial assurance, as specified in this Subpart; and
 - ii) Obtain the Agency's written approval of the assurance.
 - 3) If the owner or operator does not establish alternative financial assurance, as specified in this Subpart, and obtain written approval of that alternative assurance from the Agency within 90 days after receipt by both the owner or operator and the Agency of a notice of nonrenewal from the surety (see subsection (g)(2)), the Agency must draw on the bond. During the last 30 days of any such notice of nonrenewal, the Agency must draw on the bond if the owner or operator has failed to provide alternative financial assurance, as specified in this Section, and obtain from the Agency written approval of that assurance.
- f) Penal Sum
 - 1) The penal sum of the bond must be in an amount at least equal to the current cost estimate.
 - 2) Whenever the current cost estimate decreases, the penal sum may be reduced to the amount of the current cost estimate following written approval by the Agency.
 - 3) Whenever the current cost estimate increases to an amount greater than the penal sum, the owner or operator, within 90 days after the increase, must either cause the penal sum to be increased to an amount at least equal to the current cost estimate and submit evidence of that increase to the Agency or obtain other financial assurance, as specified in this Subpart, to cover the increase and submit evidence of the alternative financial assurance to the Agency.
- g) Term
 - 1) The bond must be issued for a term of at least one year and must not be cancelable during that term.
 - 2) The surety bond must provide that, on the current expiration date and on each successive expiration date, the term of the surety bond will be automatically extended for a period of at least one year unless, at least 120 days before the current expiration date, the surety notifies both the owner or operator and the Agency by certified mail of a decision not to renew the

5806 bond. Under the terms of the surety bond, the 120 days will begin on the
 5807 date when both the owner or operator and the Agency have received the
 5808 notice, as evidenced by the return receipts.
 5809

5810 3) The Agency must release the surety by providing written authorization for
 5811 termination of the bond to the owner or operator and the surety when
 5812 either of the following occurs:
 5813

5814 A) An owner or operator substitutes alternative financial assurance, as
 5815 specified in this Subpart; or
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5817 B) The Agency releases the owner or operator from the requirements
 5818 of this Subpart in accordance with Section 845.920(b).
 5819

5820 h) Cure of Default and Refunds
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5822 1) The Agency must release the surety if, after the surety becomes liable on
 5823 the bond, the owner or operator or another person provides financial
 5824 assurance for closure and post-closure care of the CCR surface
 5825 impoundment or corrective action at a CCR surface impoundment; unless
 5826 the Agency determines that the closure, post-closure care, or corrective
 5827 action plan, or the amount of substituted financial assurance, is inadequate
 5828 to provide closure and post-closure care or implement corrective action in
 5829 compliance with this Part.
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5831 2) After closure and post-closure care have been completed in accordance
 5832 with the plans and requirements or after the completion of corrective
 5833 action at a CCR surface impoundment in accordance with this Part, the
 5834 Agency must refund any unspent money that was paid into the Coal
 5835 Combustion Residual Surface Impoundment Financial Assurance Fund by
 5836 the surety, subject to appropriation of funds by the Illinois General
 5837 Assembly.
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5839 **Section 845.980 Surety Bond Guaranteeing Performance**
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5841 a) An owner or operator may satisfy the requirements of this Subpart by obtaining a
 5842 surety bond that conforms to the requirements of this Section and submitting the
 5843 bond to the Agency.
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5845 b) The surety company issuing the bond must, at a minimum, be among those listed
 5846 as acceptable sureties on federal bonds in Circular 570 of the U.S. Department of
 5847 the Treasury. Circular 570 is available on the Internet from the following website:
 5848 <https://fiscal.treasury.gov/surety-bonds/circular-570.html>.

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- c) The surety bond must be on forms prescribed by the Agency.
- d) Any payments made under the bond will be placed in the Coal Combustion Residual Surface Impoundment Financial Assurance Fund within the State Treasury.
- e) Conditions
 - 1) The bond must guarantee that the owner or operator will:
 - A) Provide closure and post-closure care in accordance with the approved closure and post-closure care plans and, if the bond is a corrective action bond, provide corrective action in accordance with this Part; and
 - B) Provide alternative financial assurance, as specified in this Subpart, and obtain the Agency's written approval of the assurance provided within 90 days after receipt by both the owner or operator and the Agency of a notice from the surety that the bond will not be renewed for another term.
 - 2) The surety will become liable on the bond obligation when, during the term of the bond, the owner or operator fails to perform as guaranteed by the bond. The owner or operator fails to perform when the owner or operator:
 - A) Abandons the CCR surface impoundment;
 - B) Is adjudicated bankrupt;
 - C) Fails to initiate closure of the CCR surface impoundment or post-closure care or corrective action when ordered to do so by the Board under Title VIII of the Act (Enforcement), or when ordered to do so by a court of competent jurisdiction;
 - D) Notifies the Agency that it has initiated closure or corrective action, or initiates closure or corrective action, but fails to close the CCR surface impoundment or provide post-closure care or corrective action in accordance with the Agency-approved closure and post-closure care or corrective action plans;

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- E) For a corrective action bond, fails to implement or complete corrective action at a CCR surface impoundment in accordance with Section 845.670; or
- F) Fails to, within 90 days after receipt by both the owner or operator and the Agency of a notice from the surety that the bond will not be renewed for another term:
 - i) Provide alternative financial assurance, as specified in this Subpart; and
 - ii) Obtain the Agency's written approval of the assurance.
- 3) Upon failure of the owner or operator to perform as guaranteed by the bond, the surety must have the option of:
 - A) providing closure and post-closure care in accordance with the approved closure and post-closure care plans;
 - B) carrying out corrective action in accordance with the corrective action plan; or
 - C) paying the penal sum.
- f) Penal Sum
 - 1) The penal sum of the bond must be in an amount at least equal to the current cost estimate.
 - 2) Whenever the current cost estimate decreases, the penal sum may be reduced to the amount of the current cost estimate following written approval by the Agency.
 - 3) Whenever the current cost estimate increases to an amount greater than the penal sum, the owner or operator, within 90 days after the increase, must either cause the penal sum to be increased to an amount at least equal to the current cost estimate and submit evidence of that increase to the Agency or obtain other financial assurance, as specified in this Subpart, and submit evidence of the alternative financial assurance to the Agency.
- g) Term

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- 1) The bond must be issued for a term of at least one year and must not be cancelable during that term.
- 2) The surety bond must provide that, on the current expiration date and on each successive expiration date, the term of the surety bond will be automatically extended for a period of at least one year unless, at least 120 days before the current expiration date, the surety notifies both the owner or operator and the Agency by certified mail of a decision not to renew the bond. Under the terms of the surety bond, the 120 days will begin on the date when both the owner or operator and the Agency have received the notice, as evidenced by the return receipts.
- 3) The Agency must release the surety by providing written authorization for termination of the bond to the owner or operator and the surety when either of the following occurs:
 - A) An owner or operator substitutes alternative financial assurance, as specified in this Subpart; or
 - B) The Agency releases the owner or operator from the requirements of this Subpart in accordance with Section 845.920(b).
- h) Cure of Default and Refunds
 - 1) The Agency must release the surety if, after the surety becomes liable on the bond, the owner or operator or another person provides financial assurance for closure and post-closure care of the CCR surface impoundment or corrective action at a CCR surface impoundment; unless the Agency determines that the closure, post-closure care, or corrective action plan, or the amount of substituted financial assurance, is inadequate to provide closure and post-closure care or implement corrective action in compliance with this Part.
 - 2) After closure and post-closure care have been completed in accordance with the plans and requirements or after the completion of corrective action at a CCR surface impoundment in accordance with this Part, the Agency must refund any unspent money that was paid into the Coal Combustion Residual Surface Impoundment Financial Assurance Fund by the surety, subject to appropriation of funds by the Illinois General Assembly.

- 5974 i) The surety will not be liable for deficiencies in the performance of closure, post-
5975 closure care, or corrective action by the owner or operator after the Agency
5976 releases the owner or operator from the requirements of this Subpart.
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5978 **Section 845.990 Letter of Credit**
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- 5980 a) An owner or operator may satisfy the requirements of this Subpart by obtaining
5981 an irrevocable standby letter of credit that conforms to the requirements of this
5982 Section and submitting the letter to the Agency.
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- 5984 b) The issuing institution must be an entity that has the authority to issue letters of
5985 credit and:
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- 5987 1) Whose letter of credit operations are regulated by the Illinois Department
5988 of Financial and Professional Regulation under the Illinois Banking Act
5989 [205 ILCS 5]; or
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- 5991 2) Whose deposits are insured by the Federal Deposit Insurance Corporation.
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- 5993 c) Forms
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- 5995 1) The letter of credit must be on forms prescribed by the Agency.
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- 5997 2) The letter of credit must be accompanied by a letter from the owner or
5998 operator, referring to the letter of credit by number, the name and address
5999 of the issuing institution, and the effective date of the letter, and providing
6000 the following information: the name and address of the CCR surface
6001 impoundment, the identification number (see Section 845.130), and the
6002 amount of funds assured by the letter of credit for closure and post-closure
6003 care of the CCR surface impoundment, or for corrective action at the CCR
6004 surface impoundment.
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- 6006 d) Any amounts drawn by the Agency under the letter of credit will be deposited in
6007 the Coal Combustion Residual Surface Impoundment Financial Assurance Fund
6008 within the State Treasury.
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- 6010 e) Conditions on Which the Agency Must Draw on the Letter of Credit
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- 6012 1) The Agency must draw on the letter of credit if the owner or operator fails
6013 to perform closure or post-closure care in accordance with the approved
6014 closure and post-closure care plans or fails to perform corrective action at
6015 a CCR surface impoundment in accordance with this Part.
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- 2) The Agency must draw on the letter of credit if the owner or operator:
 - A) Abandons the CCR surface impoundment;
 - B) Is adjudicated bankrupt;
 - C) Fails to initiate closure of the CCR surface impoundment or post-closure care or corrective action when ordered to do so by the Board under Title VIII of the Act (Enforcement), or when ordered to do so by a court of competent jurisdiction;
 - D) Notifies the Agency that it has initiated closure or corrective action, or initiates closure or corrective action, but fails to provide closure and post-closure care or corrective action in accordance with the Agency-approved closure and post-closure care or corrective action plans;
 - E) For a corrective action letter of credit, fails to implement or complete corrective action at a CCR surface impoundment in accordance with Section 845.670; or
 - F) Fails to, within 90 days after receipt by both the owner or operator and the Agency of a notice from the surety that the bond will not be renewed for another term:
 - i) Provide alternative financial assurance, as specified in this Subpart; and
 - ii) Obtain the Agency's written approval of the assurance.
 - 3) If the owner or operator does not establish alternative financial assurance, as specified in this Subpart, and obtain written approval of that alternative assurance from the Agency within 90 days after receipt by both the owner or operator and the Agency of a notice of expiration from the issuing institution (see subsection (g)(2)), the Agency must draw on the letter of credit. During the last 30 days of any such notice of expiration, the Agency must draw on the letter of credit if the owner or operator has failed to provide alternative financial assurance, as specified in this Section, and obtain from the Agency written approval of that assurance.
- f) Amount
- 1) The letter of credit must be issued in an amount at least equal to the

- 6060 current cost estimate.
 6061
 6062 2) Whenever the current cost estimate decreases, the amount of credit may be
 6063 reduced to the amount of the current cost estimate following written
 6064 approval by the Agency.
 6065
 6066 3) Whenever the current cost estimate increases to an amount greater than the
 6067 amount of the credit, the owner or operator, within 90 days after the
 6068 increase, must either cause the amount of the credit to be increased to an
 6069 amount at least equal to the current cost estimate and submit evidence of
 6070 that increase to the Agency or obtain other financial assurance, as
 6071 specified in this Subpart, to cover the increase and submit evidence of the
 6072 alternative financial assurance to the Agency.
 6073
 6074 g) Term
 6075
 6076 1) The letter of credit must be issued for a term of at least one year and must
 6077 be irrevocable during that term.
 6078
 6079 2) The letter of credit must provide that, on the current expiration date and on
 6080 each successive expiration date, the letter of credit will be automatically
 6081 extended for a period of at least one year unless, at least 120 days before
 6082 the current expiration date, the issuing institution notifies both the owner
 6083 or operator and the Agency by certified mail of a decision not to extend
 6084 the letter of credit for another term. Under the terms of the letter of credit,
 6085 the 120 days will begin on the date when both the owner or operator and
 6086 the Agency have received the notice, as evidenced by the return receipts.
 6087 3) The Agency must return the letter of credit to the issuing institution for
 6088 termination when either of the following occurs:
 6089
 6090 A) An owner or operator substitutes alternative financial assurance, as
 6091 specified in this Subpart; or
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 6093 B) The Agency releases the owner or operator from the requirements
 6094 of this Subpart in accordance with Section 845.920(b).
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 6096 h) Cure of Default and Refunds
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 6098 1) The Agency must release the financial institution if, after the Agency is
 6099 allowed to draw on the letter of credit, the owner or operator or another
 6100 person provides financial assurance for closure and post-closure care of
 6101 the CCR surface impoundment or corrective action at a CCR surface
 6102 impoundment; unless the Agency determines that the closure, post-closure

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care, or corrective action plan, or the amount of substituted financial assurance, is inadequate to provide closure and post-closure care or implement corrective action in compliance with this Part.

- 2) After closure and post-closure care have been completed in accordance with the plans and requirements or after the completion of corrective action at a CCR surface impoundment in accordance with this Part, the Agency must refund any unspent money that was drawn and paid into the Coal Combustion Residual Surface Impoundment Financial Assurance Fund by the financial institution, subject to appropriation of funds by the Illinois General Assembly.