

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

In the Matter of:)	
)	
PETITION OF AMEREN ENERGY)	AS 2021-008
MEDINA VALLEY COGEN, LLC (OLD)	(Adjusted Standard-Land)
MEREDOSIA) FOR ADJUSTED)	
STANDARDS FROM 35 ILL. ADMIN.)	
CODE PART 845)	

NOTICE OF ELECTRONIC FILING

To: Attached Service List

PLEASE TAKE NOTICE that on October 12, 2023, I electronically filed with the Clerk of the Illinois Pollution Control Board the **Comments of Earthjustice, Prairie River Network, and Sierra Club**, copies of which are attached hereto and herewith served upon you.

Dated: October 12, 2023

Respectfully Submitted,

/s/ Jennifer Cassel
 Jennifer Cassel
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Comments of Earthjustice, Prairie Rivers Network, and Sierra Club

Earthjustice, Prairie Rivers Network, and Sierra Club (collectively, “Environmental Groups”) submit these comments regarding Ameren Energy Medina Valley Cogen, LLC’s (“Ameren”) Petition for an Adjusted Standard from 35 Ill. Adm. Code Part 845 for its Old Ash Pond (“Old Meredosia”) located at the Meredosia Power Station in Morgan County, Illinois.¹

Environmental Groups agree with the Illinois Environmental Protection Agency (“IEPA”) that this Board should deny Ameren’s request for finding of inapplicability of Part 845 and request for an adjusted standard from Part 845. *See* IEPA Rec. at 3. Old Meredosia is an inactive CCR surface impoundment and must be regulated as one under Part 845. Exempting Old Meredosia from Part 845 – whether entirely through a finding of inapplicability or partially through an adjusted standard – would be incompatible with Illinois’ Coal Ash Pollution Prevention Act (“CAPPA”), which requires Illinois’ coal ash rules to “be at least as protective and comprehensive as” federal coal ash regulations. 415 Ill. Comp. Stat. Ann. 5/22.59(g)(1).

1. IEPA is correct that Old Meredosia is an inactive CCR surface impoundment under Part 845.

The Illinois legislature made clear four years ago that addressing coal ash pollution from CCR surface impoundments is a priority for the state and directed the Board to issue regulations for CCR surface impoundments that are “*at least* as protective and comprehensive” as federal requirements. *See* 415 ILCS 5/22.59(g)(1). In response to this directive, the Board issued regulations governing CCR surface impoundments, including mandates that are broader than

¹ We submit these comments in accordance with the public participation provisions in the Board’s regulations and in the Coal Ash Pollution Prevention Act (“CAPPA”). *See* 35 Ill. Adm. Code §§ 101.110(a), 101.628(c), 104.400(b) (requiring the regulations for adjusted standards proceedings to be “read in conjunction with” the Board’s generally applicable regulations on public participation, which “encourage[] public participation” and allow for filing “written public comments”); *id.* §§ 845.240, 845.260 (codifying public participation in the coal ash regulatory process); 415 Ill. Comp. Stat. Ann. 5/22.59(a)(5) (finding that “meaningful participation of State residents . . . is critical to ensure that environmental justice considerations are incorporated in the . . . decision-making related to, and implementation of environmental laws and rulemaking that protects and improves the well-being of communities in this State that bear disproportionate burdens imposed by environmental pollution”).

existing federal rules.²

Old Meredosia is subject to those regulations, now contained in Part 845, as an inactive CCR surface impoundment. First, we agree with IEPA that Old Meredosia meets the definition of “CCR surface impoundment.” See IEPA Rec. at 7-8. Part 845 defines a “CCR surface impoundment” as “a natural topographic depression, man-made excavation, or diked area, which is designed to hold an accumulation of CCR and liquids, and the surface impoundment treats, stores, or disposes of CCR.” 35 Ill. Adm. Code 845.120. The fact that Old Meredosia “had soils sluiced on to it and was graded” does not change its status as a CCR surface impoundment, as IEPA rightly points out. IEPA Rec. at 8. This issue turns on the meaning of “is designed” in the definition of a CCR surface impoundment. We agree with IEPA that the D.C. Circuit’s analysis in *Utility Solid Waste Activities Group v. EPA*, 901 F.3d 414 (D.C. Cir. 2018) is instructive on this point. In *USWAG*, the D.C. Circuit interpreted the phrase “is disposed” in RCRA’s definition of “open dump” (“any facility or site where solid waste *is disposed of* which is not a sanitary landfill”). 42 U.S.C. § 6903(14) (emphasis added). Industry argued that the phrase “is disposed of” means that a site must actively receive new waste in order to meet RCRA’s definition of an “open dump.” *USWAG*, 901 F.3d at 439. The court rejected that argument, explaining that the word “disposed” took the form of a past participle and therefore an “open dump” includes sites where “the act of disposal took place at some prior time.” *Id.* at 440. The court concluded that “the waste in inactive impoundments ‘is disposed of’ at a site no longer receiving new waste in just the same way that it ‘is disposed of’ in at a site that is still operating.” *Id.* The same is true for a CCR surface impoundment that is designed “to hold an accumulation of CCR and liquids” even if the impoundment no longer receives CCR or water.

IEPA is also correct that “a CCR surface impoundment need not ‘hold’ liquids during its entire active life to meet the definition of CCR surface impoundment found in Part 845.” IEPA Rec. at ¶21. Because the definition of “CCR surface impoundment” in Part 845 is effectively identical to the definition in the Federal CCR Rule³ and must be “at least as protective and comprehensive” as that definition, U.S. EPA guidance on what it means to “hold liquids” is instructive. In a letter regarding CCR units at Duke Energy’s Gallagher Station, U.S. EPA explained:

We understand that you interpret the definition of a CCR surface impoundment to exclude units such as the North Ash Pond, where liquid remains in the unit

² See, e.g., 35 Ill. Adm. Code 845.120 (defining “inactive CCR surface impoundment” to include impoundments from which all the liquids have previously drained out and setting regulatory requirements for those units); *id.* at 845.650(d) (triggering analysis of corrective measures and corrective action if exceedances of a broader array of CCR constituents are identified); *id.* at 845.740(c) (setting out responsible removal provisions).

³ U.S.EPA, Hazardous and Solid Waste Management System: Disposal of Coal Combustion Residuals from Electric Utilities, 80 Fed. Reg. 21,302 (Apr. 17, 2015) (“Federal CCR Rule”). Compare 35 Ill. Adm. Code 845.120 (defining “CCR surface impoundment” as “a natural topographic depression, man-made excavation, or diked area, which is designed to hold an accumulation of CCR and liquids, and the *surface impoundment* treats, stores, or disposes of CCR”) (emphasis added) with Federal CCR Rule at 21,469 (defining “CCR surface impoundment” as “a natural topographic depression, man-made excavation, or diked area, which is designed to hold an accumulation of CCR and liquids, and the *unit* treats, stores, or disposes of CCR.”) (emphasis added).

because the base of the unit intersects with groundwater. You argue that such units do not “hold” liquid because groundwater flows through the unit (instead of staying within the unit). EPA disagrees with your interpretation. The definition of a CCR surface impoundment does not require that the unit prevent groundwater from flowing through the unit, but merely requires that the unit be “designed to hold an accumulation of CCR and liquid.” 40 C.F.R. § 257.53. Following your interpretation would lead to the incongruous result that impoundments where contaminants can migrate out in the groundwater would not be regulated by the CCR Regulations, while those that prevent that type of migration would be regulated.

U.S. EPA, Letter re: Duke Energy’s Gallagher Generating Station, 2 (Jan. 2021) (“U.S. EPA Duke Letter”) (Attachment A). U.S. EPA’s interpretation in the Duke Letter is wholly aligned with the Board’s reasoning in adopting the definition of “inactive CCR surface impoundment” in Part 845. In its final order, the Board explained that the definition of inactive CCR surface impoundment – specifically, omitting “and liquids” from the description of what inactive CCR surface impoundments continue to contain⁴ – “is consistent with the federal regulations and provides clarity on the unintended consequence of excluding CCR surface impoundments containing CCR that may have leaked or were drained before the cutoff date.”⁵

Like the North Ash Pond at the Gallagher plant, Old Meredosia is an impoundment “where contaminants can migrate out in the groundwater”: according to IEPA, “Old Meredosia was never lined and is located on alluvial sand and gravel as displayed in boring logs (*See* Pet. Ex 2 at 704-711/1169 pdf), allowing rapid infiltration of liquids from the impoundment, making the time liquids were retained short.” IEPA Rec. at ¶22. Old Meredosia is, therefore, precisely the type of CCR surface impoundment that the Board intended to regulate under Part 845. It is both a “CCR surface impoundment” and, as IEPA correctly notes, an inactive CCR surface impoundment,⁶ and should be regulated accordingly.

2. Even if Part 845 did not apply, evidence strongly suggests that Old Meredosia will be subject to federal regulation under U.S. EPA’s proposed coal ash rule.

Even if Part 845 did not currently regulate Old Meredosia – and it does – the Board should deny Ameren’s petition because it would be inconsistent with federal coal ash regulations. Old Meredosia will likely be covered by U.S. EPA’s recently proposed rule, which builds upon the Federal CCR Rule by expanding the universe of coal ash units subject to federal

⁴ Under Part 845, an “inactive CCR surface impoundment” is “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.” 35 Ill. Adm. Code 845.120.

⁵ Ill. Pollution Control Bd., Opinion and Order, 16, PCB R20-19 (Feb. 4, 2021).

⁶ Although Old Meredosia stopped receiving CCR in the 1970s (IEPA Rec. at ¶5), it still contains CCR. Thus, Old Meredosia fits squarely within Part 845’s definition of an inactive CCR surface impoundment.

coal ash regulations. Therefore, any regulatory action at Old Meredosia must be consistent with federal coal ash regulations, as required by CAPP.

As directed by the D.C. Circuit Court of Appeals in its 2018 *USWAG* decision,⁷ U.S. EPA is proposing to expand federal regulations to coal ash units at power plants that stopped producing power *before* October 19, 2015. *See* 88 Fed. Reg. 31,982, 31,984 (May 18, 2023) (“Proposed Rule”).⁸ The Proposed Rule defines “legacy CCR surface impoundment” as a “surface impoundment that is located at a power plant that ceased generating power prior to October 19, 2015, and the surface impoundment contained both CCR and liquids on or after the effective date of the 2015 CCR Rule (*i.e.* October 19, 2015).” *Id.* at 31,989.

U.S. EPA has explained that a pond “contains” liquids if any part of its base is in contact with groundwater:

EPA interprets the word “contains” to mean “to have or hold (someone or something) within” based on the ordinary meaning of the word. (e.g., Oxford English Dictionary, Merriam-Webster). Accordingly, an impoundment “contains” liquid if there is liquid in the impoundment, even if the impoundment does not prevent the liquid from migrating out of the impoundment. This means that if a CCR surface impoundment contains liquid because its base (or any part of its base) is in contact with groundwater, it would meet the definition of an inactive CCR surface impoundment.

U.S. EPA Duke Letter at 2 (Attach. A). U.S. EPA reiterated and elaborated on that explanation in the Proposed Rule, detailing that:

A surface impoundment that, on or after October 19, 2015, has only decanted the surface water would normally still contain liquid if waste is saturated with water. To the extent the unit still contains liquids, it would be covered by the existing definition of an inactive impoundment. Under this proposed rule, such units would also be considered legacy CCR surface impoundments when located at inactive facilities. *This would apply whether the unit is considered “closed” under state law, is in the process of closing, or whether at some subsequent point, the unit is fully dewatered and no longer contains liquid.*

88 Fed. Reg. 31,992 (emphasis added). Further, when a CCR surface impoundment is located in a floodplain, U.S. EPA observed, the base of that impoundment may be in contact with groundwater. *Id.* at 32,025.⁹

⁷ 901 F.3d 414 (D.C. Cir. 2018).

⁸ “EPA is proposing to amend the regulations governing the disposal of CCR in landfills and surface impoundments, codified in subpart D of part 257 of Title 40 of the Code of Federal Regulations (CFR) (CCR regulations). Specifically, the Agency is proposing to establish regulatory requirements for inactive CCR surface impoundments at inactive utilities (‘legacy CCR surface impoundment’ or ‘legacy impoundment’).”

⁹ “Given the locations of many CCRMU (located in floodplains, or wetlands, or near large surface water bodies), EPA is concerned that the base of these units may intersect with the groundwater beneath the unit.”

If the Board were to determine that Old Meredosia is not already subject to Part 845, which it is, the CCR unit will still likely be subject to federal regulation under U.S. EPA's Proposed Rule as either a legacy surface impoundment or CCRMU. Evidence indicates that Old Meredosia contained both CCR and liquids on and after October 19, 2015 and therefore meets U.S. EPA's proposed definition of "legacy CCR surface impoundment." As IEPA explained, "no documentation, permit, permit application, Agency approved plan or other evidence has been presented to the Agency" showing that Old Meredosia was closed in a manner that meets the requirements of Section 845.750(a)(1) of the Board regulations. IEPA Rec. at ¶ 26. Moreover, per Ameren's own analysis, Old Meredosia continues to pollute groundwater: a recent 2022 groundwater analysis commissioned by Ameren shows concentrations of antimony, boron, and selenium well above groundwater protection standards, with potential exceedances of lead, thallium, and arsenic that are not specified because the laboratory reporting limits are above the standards for those pollutants. *See* Ameren Amended Pet. Exhibit 2, at PDF p. 698 (Table 3). Given the continued presence of ash with exposure to liquid via – at a minimum – percolating precipitation, and exceedances of groundwater protection standards, Old Meredosia likely will be regulated by U.S. EPA as a legacy pond. Indeed, U.S. EPA has identified Old Meredosia as potential legacy CCR surface impoundment under the Proposed Rule.¹⁰

Alternatively, if U.S. EPA determines that Old Meredosia did not continue to contain liquid after October 19, 2015, the CCR unit will likely be subject to federal regulation as a CCRMU. The Proposed Rule establishes a new category of regulated units called "CCR management units" or "CCRMU" that would be subject to the existing federal requirements for groundwater monitoring, corrective action, closure, and post-closure care requirements. 88 Fed. Reg. at 32,017. CCRMU is defined as "any area of land on which any noncontainerized accumulation of CCR is received, placed, or otherwise managed at any time, that is not a CCR unit. This includes inactive CCR landfills and CCR units that closed prior to October 17, 2015." *Id.* at 32,034. The Proposed Rule would apply to all CCRMU at active CCR facilities and at inactive facilities with one or more legacy CCR surface impoundments, regardless of how or when the CCR was placed in the CCRMU. *Id.* at 32,017.

If it is not regulated as a legacy CCR surface impoundment, Old Meredosia will likely be regulated as a CCRMU because the Meredosia Power Station likely has two legacy CCR surface impoundments on site – the Fly Ash Pond and the Bottom Ash Pond. In 2021, IEPA informed U.S. EPA that the Fly Ash Pond had "some water [at] closure," that it closed via "plastic turf over geomembrane," (i.e., leaving the coal ash in place), and that it closed in August 2019.¹¹ The Meredosia Power Station ceased operations in 2011. Ameren Amended Pet. at 4. Accordingly, under the Proposed Rule, the Fly Ash Pond qualifies as a legacy CCR surface

¹⁰ *See* U.S. EPA, Potential Legacy CCR Surface Impoundment Universe, Docket ID No. EPA-HQ-OLEM-2020-0107-0154 (May 17, 2023), <https://www.regulations.gov/document/EPA-HQ-OLEM-2020-0107-0154>.

¹¹ *See* Comments of Illinois EPA on the ANPR for Hazardous and Solid Waste Management System: Disposal of Coal Combustion Residuals from Electric Utilities: Legacy CCR Surface Impoundments, at 5, Docket ID No. EPA-HQ-OLEM-2020-0107-0057 (Feb. 11, 2021), <https://www.regulations.gov/document/EPA-HQ-OLEM-2020-0107-0057> ("IEPA ANPR comments") (Attachment B) (chart discussing Meredosia Fly Ash pond).

impoundment. Regulation of this “closed” ash pond is necessary to satisfy RCRA’s § 404(a) protectiveness standard not only because it satisfies those criteria, but also because evidence indicates that CCR is, at a minimum, intermittently saturated in groundwater when the Illinois River reaches a high stage.¹² Moreover, IEPA has identified the pond as “exceeding” groundwater protection standards¹³ and the pond sits within the floodplain of the Illinois River.¹⁴

IEPA identified the Bottom Ash Pond as having closed in January 2019 via “plastic turf over geomembrane.”¹⁵ While IEPA indicated that the unit was “dry before 10/2015,”¹⁶ evidence indicates that CCR is, at a minimum, intermittently saturated in groundwater (and sometimes flooded by surface water) when the Illinois River reaches a high stage.¹⁷ Like the Fly Ash Pond, the Bottom Ash Pond has exceeded, and may continue to exceed, groundwater protection standards.¹⁸ Accordingly, because the Bottom Ash Pond appears to have had ash and, at least intermittently, liquid in it since Oct. 19, 2015, it also likely will be classified as a legacy CCR surface impoundment under the Proposed Rule.

The Board should deny Ameren’s Petition because an adjusted standard would make Illinois’ regulations less stringent than the federal coal ash regulations, which is prohibited by CAPP. Because CAPP makes clear that federal regulations provide the floor for regulation for this CCR surface impoundment, any regulatory actions taken at Old Meredosia must be consistent with federal coal ash regulations, including U.S. EPA’s Proposed Rule once finalized. As noted above, if classified as either a legacy CCR surface impoundment or a CCRMU, Old Meredosia will be subject to the existing closure and post-closure care requirements of the Federal CCR Rule, and alternative closure provisions will not be applicable. *See* 88 Fed. Reg. at 32,024. Thus, an adjusted standard is not appropriate because it would be inconsistent with federal coal ash regulations and violate CAPP.

¹² *See, e.g.*, Geotechnology, Inc., Hydrogeologic Assessment Report, Fly Ash Pond and Bottom Ash Pond, Meredosia Power Station, 800 South Washington Street, Meredosia, Illinois (Dec. 13, 2016), at 3-4 (“the record high stage [of the Illinois River was 446.69 feet above MSL...]”) (“Meredosia Hydrogeologic Assessment”); PCB 2020-19, Joint Testimony of Scott M. Payne, PhD, PG and Ian Magruder, M.S., Aug. 24, 2020, at 23-24.

¹³ PCB R2020-19, Illinois EPA’s Pre-filed Answers (Aug. 3, 2020), at 181 (Noting “yes” under column “Exceeds 620/GWPS” for the Meredosia Fly Ash Pond) (“IEPA Pre-filed Answers”).

¹⁴ PCB 2020-19, Joint Testimony of Scott M. Payne, PhD, PG and Ian Magruder, M.S. (Aug. 24, 2020), at Appendix 4; *see also* Andrew Rehn, Meredosia Floodplain Map (Attachment C).

¹⁵ IEPA ANPR comments at 5 (Attach. B).

¹⁶ *Id.*

¹⁷ *See, e.g.*, Meredosia Hydrogeologic Assessment at PDF pp. 8-9 (“the record high stage [of the Illinois River was 446.69 feet above MSL...]”), PDF p. 32 (cross section “Subsurface Profile B-B,” showing “fill” from appropriately 434 feet AMSL up to approximately 453 feet AMSL, and well AP-9 screened through a portion of that fill); and PDF p. 45 (showing location of monitoring wells and ash ponds); Meredosia Groundwater Monitoring Plan showing boring log for AP-9, including CCR; PCB 2020-19, Joint Testimony of Scott M. Payne, PhD, PG and Ian Magruder, M.S. (Aug. 24, 2020), at Appendix 4; *see also* Andrew Rehn, Meredosia Floodplain Map (Attach. C).

¹⁸ IEPA Pre-filed Answers at 181 (noting “yes” under column “Exceeds 620/GWPS” for the Meredosia Bottom Ash Pond).

3. An adjusted standard from Part 845's closure and post-closure care requirements would not be consistent with the Federal CCR Rule.

Should the Board determine that Old Meredosia is subject to Part 845, which it is, Ameren is requesting an adjusted standard that would exempt it from Part 845's closure and post-closure care provisions. Ameren Amended Pet. at 25-26. Ameren claims that since Old Meredosia was capped with native materials in the early 1970s, "ten acres of deciduous forest and seven acres of shrub-scrub, herbaceous/grassland cover have grown on the site, which has become a suitable habitat for various protected species, including an established bald eagle nest." *Id.* Ameren further claims that closure activities would cause more environmental harm than benefit because the closure activities would affect the suitable habitat and constitute a take of the protected species in violation of federal and state law. *Id.* at 20-24.

Although IEPA recommends that the Board deny Ameren's petition for adjusted standards, the Agency has proposed adjusted standard language from Part 845's closure requirements, should the Board determine that an adjusted standard is appropriate. IEPA Rec. at ¶ 38. IEPA's adjusted standard would exempt Ameren from the final cover system requirements in Sections 845.750(c)(1) and (2) only if Ameren is able to submit a "demonstration accompanied by a certification from a Licensed Professional Engineer that the existing cover materials meet or exceed the requirements of 40 CFR Part 257.102(d)." *Id.* at ¶ 42.

No such adjusted standard should be granted. As IEPA noted, Ameren has not presented any evidence that Old Meredosia was "covered in a manner that would control, minimize or eliminate infiltration to the maximum extent feasible as required by Section 845.750(a)(1)." *Id.* at ¶ 26. Rather, the record makes clear that the cap is inadequate: IEPA reports that "boring logs from within Old Meredosia display only sand overlaying CCR in two of the logs, one foot each of sand and clay at a third location and one and half feet of sandy clay at the fourth location." IEPA Rec. at ¶ 26. Sand is a highly permeable material that cannot and does not prevent precipitation from percolating down through it; it plainly does not "control, minimize or eliminate infiltration to the maximum extent feasible." Clay, while more impermeable than sand, also falls short of the standard.¹⁹ As would be expected at an ash pond with an inadequate cover, Ameren's own data demonstrates that Old Meredosia continues to pollute groundwater; in fact, IEPA noted, contaminants leaching from Old Meredosia may be contaminating off-site groundwater. IEPA Rec. at ¶ 43.

For the same reasons, the cover over Old Meredosia cannot satisfy the Federal CCR Rule's requirement that a final cover system "control, minimize or eliminate, to the maximum extent feasible, post-closure infiltration of liquids into the waste and releases of CCR, leachate, or contaminated run-off to the ground or surface waters or to the atmosphere." 40 CFR § 257.102(d)(i). A cover composed of sand, clay, soil or some mix thereof, designed and installed approximately 50 years ago, and which continues to allow CCR constituents to leach into

¹⁹ In *USWAG*, after reviewing U.S.EPA's analysis of the risk of leaching from clay-lined impoundments, the D.C. Circuit held that allowing such impoundments to continue to operate does not satisfy RCRA's mandate to ensure no adverse effects to human health and the environment. *USWAG*, 901 F.3d at 432.

groundwater, is plainly not compliant with the Federal CCR Rule—nor could a qualified engineer certify it as such. IEPA’s suggested adjusted standard is, accordingly, neither warranted nor compliant with CAPP. ²⁰

Ameren submitted over 1,100 pages of evidence to support its request for an adjusted standard, and IEPA has determined that there is no evidence that supports Old Meredosia being covered in a manner that meets the requirements of Part 845 or the Federal CCR Rule. Instead, the evidence shows that Old Meredosia continues to pollute groundwater and the cover does not meet state or federal coal ash requirements. Thus, an adjusted standard from Part 845’s closure and post-closure care requirements is not appropriate and the Board should deny Ameren’s Petition for adjusted standards.

Conclusion

This Board should deny Ameren’s petition. Part 845 is plainly applicable to Old Meredosia as an inactive CCR surface impoundment. Further, this Board should not approve any adjusted standards for Old Meredosia, including the specific adjusted standards that IEPA recommends, that would be inconsistent with federal coal ash regulations. Once U.S. EPA’s Proposed Rule is finalized, Old Meredosia will very likely be subject to federal coal ash regulations. Those regulations make clear that Ameren will, at a minimum, need to meet all federal requirements for groundwater monitoring, corrective action, closure, and post-closure care. Therefore, any adjusted standards that would exempt Old Meredosia from any of these requirements would not comply with federal coal ash regulations. Such adjusted standards also would not comply with CAPP given CAPP’s mandate that Illinois’ coal ash regulations be “at least as protective and comprehensive as” the federal regulations.

In adjusted standard proceedings, this Board has authority to “impose such conditions as may be necessary to accomplish the purposes of” the Environmental Protection Act, including CAPP. 35 Ill. Adm. Code § 104.428(a). For the reasons explained above, Environmental Groups respectfully request that the Board reject both Ameren’s and IEPA’s adjusted standard proposals. If the Board decides to grant an adjusted standard, it should use its authority to ensure any adjusted standards for Old Meredosia are at least as protective and comprehensive as proposed federal regulations for legacy ash ponds and CCRMU.

Dated October 12, 2023

Respectfully submitted,

/s/ Jennifer Cassel
Jennifer Cassel

²⁰ Ameren’s other protests are meritless. If protected species are present on site, Ameren will be obligated to comply with the legal requirements associated with any taking. *See* 520 ILCS 10/5.5; 50 C.F.R. § 22.26. Moreover, while loss of forest is unfortunate, U.S. EPA has already weighed the pros and cons of regulating inactive impoundments and found that proper closure is necessary to satisfy RCRA. As discussed herein, U.S. EPA’s determinations are the floor for CAPP.

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Senior Water Resources Engineer

CERTIFICATE OF SERVICE

The undersigned, Mychal Ozaeta, an attorney, certifies that I have served by email the Clerk and by email the individuals with email addresses named on the Service List provided on the Board's website, *available at* <https://pcb.illinois.gov/Cases/GetCaseDetailsById?caseId=17039>, a true and correct copy of the **Comments of Earthjustice, Prairie River Network, and Sierra Club**, before 5 p.m. Central Time on October 12, 2023. The number of pages in the email transmission is 26 pages.

Dated: October 12, 2023

Respectfully Submitted,

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Attachment A



REGION 5

77 WEST JACKSON BOULEVARD
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REPLY TO THE ATTENTION OF:
L-17J

Mr. Owen R. Schwartz
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1000 East Main Street
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Dear Mr. Schwartz,

This letter provides written confirmation of the discussion between the Environmental Protection Agency (EPA) and Duke Energy Gallagher staff during our conference calls on August 27 and September 17, 2021 regarding the history of the site and the closure of Coal Combustion Residuals (CCR) surface impoundments at Duke Energy's Gallagher Generating Station in New Albany, Indiana. This letter also serves to notify you that, based on the information provided in those telephone conversations, EPA has concluded that the North Ash Pond and the Primary Pond Ash Fill Area are subject to the requirements of 40 C.F.R. Part 257 Subpart D ("the CCR Regulations").

On the August 27 conference call, Duke Energy stated that two impoundments (i.e., North Ash Pond, Primary Pond Ash Fill Area) were removed from service, drained of ponded surface water, and subsequently covered with soil and grass in 1989. Further, EPA's understanding is that Duke has taken no engineering measures to remove any of the groundwater from either unit and both of these unlined units are sitting in approximately 20 feet of groundwater.

As an initial matter, we disagree with Duke Energy's argument that neither of these units are CCR surface impoundments within the meaning of the CCR Regulations. We understand that you interpret the definition of a CCR surface impoundment to exclude units such as the North Ash Pond, where liquid remains in the unit because the base of the unit intersects with groundwater. You argue that such units do not "hold" liquid because groundwater flows through the unit (instead of staying within the unit). EPA disagrees with your interpretation. The definition of a CCR surface impoundment does not require that the unit prevent groundwater from flowing through the unit, but merely requires that the unit be "designed to hold an accumulation of CCR and liquid." 40 C.F.R. § 257.53. Following your interpretation would lead to the incongruous result that impoundments where contaminants can migrate out in the groundwater would not be regulated by the CCR Regulations, while those that prevent that type of migration would be regulated.

Primary Pond Ash Fill Area

The Primary Pond Ash Fill Area is not an existing CCR surface impoundment because (to EPA's knowledge) it has not received CCR after October 19, 2015. However, because it still contains CCR and liquids, it meets the definition of an inactive CCR surface impoundment. An inactive CCR surface impoundment is one "that no longer receives CCR on or after October 19, 2015 and still contains both CCR and liquids on or after October 19, 2015." EPA interprets the word "contains" to mean "to have or hold (someone or something) within" based on the ordinary meaning of the word. (e.g., Oxford English Dictionary, Merriam-Webster). Accordingly, an impoundment "contains" liquid if there is liquid in the impoundment, even if the impoundment does not prevent the liquid from migrating out of the impoundment. This means that if a CCR surface impoundment contains liquid because its base (or any part of its base) is in contact with groundwater, it would meet the definition of an inactive CCR surface impoundment. Under both the regulatory and dictionary definitions of the term, groundwater (or water) falls within the plain meaning of a "liquid." See 40 C.F.R. 257.53. Therefore, because the Primary Pond Ash Fill Area is sitting in approximately 20 feet of groundwater, it holds or contains liquids and is an inactive surface impoundment.

As an inactive CCR surface impoundment, the Primary Pond Ash Fill Area is regulated pursuant to 40 C.F.R. § 257.50(c), which specifies that "[t]his subpart also applies to inactive CCR surface impoundments at active electric utilities or independent power producers, regardless of the fuel currently used at the facility to produce electricity."

North Ash Pond

On the September call, Duke Energy confirmed that the North Ash Pond has received CCR after the October 19, 2015 effective date of the CCR Rule. Therefore, that pond meets the definition of an existing CCR surface impoundment. An existing CCR surface impoundment is one that "receives CCR both before and after October 19, 2015." 40 C.F.R. § 257.53. Accordingly, the North Ash Pond falls within the ambit of 40 C.F.R. § 257.50(b), which specifies that "[t]his subpart applies to owners and operators of...existing CCR surface impoundments...that dispose or otherwise engage in solid waste management of CCR." Even if the North Ash Pond had not received CCR after October 19, 2015, it would be an inactive CCR surface impoundment for the same reasons that the Primary Pond Ash Fill Area is an inactive CCR surface impoundment and would fall within the ambit of 40 C.F.R. § 257.50(c).

Applicability of the Closure Requirements to these Impoundments

For the reasons set out in the discussion above, the North Ash Pond and Primary Pond Ash Fill Area are regulated under 40 C.F.R. Part 257 Subpart D and Duke Energy will need to take action to bring these ponds into compliance by meeting all the requirements of the regulations. Significant among these is the requirement to close, because the North Ash Pond and the Primary Pond Ash Fill Area are unlined CCR surface impoundments. See, 40 C.F.R. § 257.101(a).

The applicable closure regulations are those that address closing with waste in place (assuming EPA's understanding is correct that Duke Energy's plan is to close both impoundments with waste in place). The Part 257 requirements applicable to impoundments closing with waste in place include general performance standards and specific technical standards that set forth individual engineering requirements related to the drainage and stabilization of the waste and to the final cover system. The general performance standards and the technical standards complement each other, and both must be met at every site. The general performance standards

under 40 C.F.R. § 257.102(d)(1) require that the owner or operator of a CCR unit “ensure that, at a minimum, the CCR unit is closed in a manner that will: (i) Control, minimize or eliminate, to the maximum extent feasible, post-closure infiltration of liquids into the waste and releases of CCR, leachate, or contaminated run-off to the ground or surface waters or to the atmosphere; and (ii) Preclude the probability of future impoundment of water, sediment, or slurry.” The specific technical standards related to the drainage of the waste in the unit require that “free liquids must be eliminated by removing liquid wastes or solidifying the remaining wastes and waste residues” prior to installing the final cover system. 40 C.F.R. § 257.102(d)(2)(i).

If Duke Energy plans to close with waste in place and the base of the impoundment does, in fact, intersect with groundwater, Duke Energy will need to implement engineering measures to remove groundwater from the unit prior to the start of installing the final cover system, as required by 40 C.F.R. § 257.102(d)(2)(i). This provision applies both to the free-standing liquid in the impoundment and to all separable porewater in the impoundment, whether the porewater was derived from sluiced water or groundwater that intersects the impoundment. The definition of free liquids in 40 C.F.R. § 257.53 encompasses all “liquids that readily separate from the solid portion of a waste under ambient temperature and pressure,” regardless of whether the source of the liquids is from sluiced water or groundwater. The regulation does not differentiate between the sources of the liquid in the impoundment (e.g., surface water infiltration, sluice water intentionally added, groundwater intrusion). Furthermore, the performance standard at 40 C.F.R. § 257.102(d)(2)(i) was modeled on the regulations that apply to interim status hazardous waste surface impoundments, which are codified at 40 C.F.R. § 265.228(a)(2)(i). Guidance on these interim status regulations clarifies that these regulations require both the removal of free-standing liquids in the impoundment as well as sediment dewatering. See US EPA publication titled “Closure of Hazardous Waste Surface Impoundments,” publication number SW-873, September 1982.

Similarly, Duke Energy will need to ensure that the impoundments are closed in a manner that will “control, minimize or eliminate, to the maximum extent feasible, post-closure infiltration of liquids into the waste and releases of CCR, leachate, or contaminated run-off to the ground or surface waters or to the atmosphere.” 40 C.F.R. § 257.102(d)(1). EPA views the word “infiltration” as a general term that refers to any kind of movement of liquids into a CCR unit. That would include, for example, any liquid passing into or through the CCR unit by filtering or permeating from any direction, including the sides and bottom of the unit. This is consistent with the plain meaning of the term. For example, Merriam-Webster defines infiltration to mean “to pass into or through (a substance) by filtering or permeating” or “to cause (something, such as a liquid) to permeate something by penetrating its pores or interstices.” Neither definition limits the source or direction by which the infiltration occurs. In situations where the groundwater intersects the CCR unit, water may infiltrate into the unit from the sides and/or bottom of the unit because the base of the unit is below the water table. This contact between the waste and groundwater provides a potential for waste constituents to be dissolved and to migrate out of (or away from) the closed unit that is similar to infiltration from above. In this case, the performance standard requires the facility to take measures, such as engineering controls that will “control, minimize, or eliminate, to the maximum extent feasible, post-closure infiltration of liquids into the waste” as well as “post-closure releases to the groundwater” from the sides and bottom of the unit.

Finally, because the North Ash Pond and the Primary Pond Ash Fill Area must close pursuant to 40 C.F.R. § 257.101(a), any further receipt of CCR into those units is prohibited. EPA also made this clear in the preamble to the March 15, 2018 proposed rule (83 FR 11605) where EPA stated:

The current CCR rules require that certain units must close for cause, as laid forth in § 257.101(a)–(c). As written, the regulation expressly prohibits “placing CCR” in any units required to close for-cause pursuant to § 257.101....Note that the rule does not distinguish between placement that might be considered beneficial use and placement that might be considered disposal. All further placement of CCR into the unit is prohibited once the provisions of § 257.101 are triggered.

If you have any questions about the information provided in this letter or if you have additional information that you would like EPA to consider, you may contact Angela Mullins at mullins.angela@epa.gov. Alternatively, Duke Energy counsel can contact Laurel Celeste at celeste.laurel@epa.gov in EPA’s Office of General Counsel for any questions on the Agency’s position set forth in the letter.

Sincerely,

Edward Nam
Director
Land, Chemicals and Redevelopment Division

cc: Peggy Dorsey,
Assistant Commissioner
Office of Land Quality
Indiana Department of Environmental Management

Attachment B



ILLINOIS ENVIRONMENTAL PROTECTION AGENCY #1

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JB PRITZKER, GOVERNOR

JOHN J. KIM, DIRECTOR

February 11, 2021

Via Electronic Filing: <http://www.regulations.gov>

Copy to Michelle Long at long.michelle@epa.gov

Acting Administrator Jane Nishida
U.S. Environmental Protection Agency
Attn: DOCKET ID No. EPA-HQ-OLEM-2020-0107
1200 Pennsylvania Avenue, NW
Washington, DC 20460

Re: Illinois Environmental Protection Agency Comments on Advanced Notice of
Proposed Rulemaking for Hazardous and Solid Waste Management System: Disposal of
Coal Combustion Residuals from Electric Utilities: Legacy CCR Surface Impoundments

Dear Administrator Nishida:

In response to the U.S. Environmental Protection Agency's ("USEPA") publication in 85 Fed. Reg. 65015 (Oct 14, 2020) requesting comments on the definition of legacy coal combustion residual ("CCR") surface impoundments, the Illinois Environmental Protection Agency ("Illinois EPA") provides the following comments and experience with closing CCR surface impoundments under State rules in Illinois for the USEPA's consideration.

All three of USEPA's proposed definitions for legacy ponds include a requirement that liquids be present in the impoundment by a date certain. For the reasons provided below, Illinois EPA asserts that all unlined CCR surface impoundments designed to hold CCR and liquids pose a threat and should be regulated and required to provide proof of proper closure, even if no liquids remain.

To be considered a CCR surface impoundment under 40 CFR Part 257.53, the area must be designed to hold CCR and liquids. However, an "inactive CCR surface impoundment" is defined at 40 CFR 257.53 as a CCR surface impoundment that no longer received CCR on or after October 19, 2015 and still contained both CCR and liquids on or after October 19, 2015. The Illinois EPA believes that the definition of legacy CCR surface impoundments must extend beyond impoundments that meet the strict definition of inactive CCR surface impoundments pursuant to 40 CFR 257.53. In Illinois EPA's experience, unlined CCR surface impoundments that were designed and intended to hold liquids but were constructed over highly permeable geologic materials often leak to the extent that they are dry, with no apparent free liquids. These conditions may exist at either active or inactive generating facilities if the impoundment has not received sluiced CCR for some time.

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The Illinois EPA has approved closure plans under State law for several impoundments. Some of these impoundments leaked into the subsurface to such an extent that the operator stated the impoundment never had surface discharges from their NPDES outfalls during operation. These circumstances are evident because at the time of closure there were no visible liquids, yet exceedances of State groundwater quality standards existed in down gradient monitoring wells. These circumstances illustrate why impoundments that leak and leach to such an extent that they will not retain liquid within them should also be closed with a cover system that will prevent future impoundment of liquids and minimize infiltration to the extent feasible. Therefore, the Illinois EPA urges the USEPA to consider the inclusion of all unlined impoundments designed to contain an accumulation of CCR and liquids at both inactive and active generating facilities in its definition of legacy CCR surface impoundments, even if the liquids have leaked out or have been intentionally removed. An unlined impoundment that has leaked dry and continues to leach contaminants in an uncontrolled manner with each precipitation event poses no less risk to human health and the environment at an active facility than it does at an inactive facility. To provide a comprehensive set of rules for CCR surface impoundments, all unlined surface impoundments initially designed to accumulate CCR and liquids, but that may now only store or dispose of CCR due to leakage or intentional drainage intended to circumvent the definition of an inactive CCR surface impoundment, at both active and inactive generating facilities, should be included in the definition of legacy CCR surface impoundments.

The Illinois EPA notes that a legacy CCR surface impoundment that is designed and intended to hold CCR and liquids but does not meet the definition of an inactive CCR surface impoundment simply because it no longer contains water but has not been closed in compliance with 40 CFR 257.102, is an open dump pursuant to 40 CFR 257.1. Inclusion of dry impoundments containing CCR would provide owners and operators a means to achieve compliance with 40 CFR 257 Subpart D, without the need for enforcement and penalties for operating an illegal open dump. At 80 Fed. Reg. 21342 (Apr 17, 2015), USEPA makes clear that the only inactive CCR surface impoundments that do not require regulatory oversight are those that have been properly closed: "The sole exception is for 'inactive' CCR surface impoundments that have completed dewatering and capping operations (in accordance with the capping requirements finalized in this rule)...". If all inactive CCR surface impoundments require regulatory oversight, even composite lined CCR surface impoundments, then certainly unlined CCR surface impoundments that have leaked dry at both active and inactive facilities should be required to close in compliance with 40 CFR 257.102.

At 80 Fed. Reg. 21343, (Apr 17, 2015), USEPA states a position that "...the final rule does not impose any requirements on any CCR surface impoundments that have in fact 'closed' before the rule's effective date-i.e. those that no longer contain water and can no longer impound liquid" (emphasis added). Section 40 CFR 257.102(d) provides the criteria that must be met to ensure that a CCR surface impoundment no longer contains water and can no longer impound liquid. In order to know that a CCR surface impoundment has in fact "closed" and should not, therefore, be regulated by 40 CFR 257 Subpart D, the definition of a legacy CCR surface impoundment should require a demonstration certified by a licensed professional engineer that any "closed" CCR surface impoundment was in fact closed with at least the minimum criteria required by 40 CFR 257.102(d). If such a demonstration cannot be made, the CCR surface impoundment should also be considered and regulated as a legacy CCR surface impoundment.

The Illinois EPA has attached a table containing information about CCR surface impoundments located in Illinois that demonstrate the bases for Illinois EPA's comments. All of the impoundments in the table were designed to hold an accumulation of CCR and liquids. The first ten CCR surface impoundments in the table are at legacy sites, which ceased all generation prior to October 2015. Of these 10 impoundments, based on aerial photos, 30% were dry before October 2015, but that includes impoundments that had some type of liner to restrict leaching, though the liner was not compliant with 40 CFR 257.71(a)(1)(ii). Of the legacy impoundments with no lining, 50% were dry before October 2015. The next group of nine impoundments are located at existing generating facilities, which either converted fuel, stopped generating after October 2015 or are still generating today. These nine impoundments store CCR, have had no CCR or liquids other than precipitation added since October 2015, but have no apparent liquids based on 2015 aerial photos. As a result, they do not meet the definition of an inactive CCR surface impoundment in 40 CFR Part 257.53. The Illinois EPA notes that some of these impoundments have been reported as CCR surface impoundments on an owner's or operator's public website under 40 CFR Part 257.107, though there does not appear to have been a requirement to do so, since they are undefined. These undefined impoundments at active facilities represent 12% of all the CCR surface impoundments Illinois EPA has identified. The Illinois EPA also notes that one of these impoundments had grown large trees, even though no cover had been placed on the CCR at the time the impoundment was closed under State regulations.

The last group of four CCR surface impoundments are impoundments that had some type of cover on them before October 2015, and therefore, were not expected to participate in the requirements of 40 CFR Part 257 Subpart D, when it was adopted in October 2015. However, the Illinois EPA notes that one of the impoundments is being re-covered because the initial cover installed without regulatory oversight failed to control groundwater contamination, causing exceedances of groundwater protection standards (GWPS), which may impact the closure of other existing CCR surface impoundments at the facility. Groundwater monitoring at another of the facilities indicates exceedances of GWPS, which may also impact the closure of existing CCR surface impoundments at that facility. The status of GWPS at the other two has not been adequately evaluated at this time. Note that only one of these "closed" impoundments is located at a legacy site (those no longer generating as of October 2015).

In summary, by applying the requirement that an inactive CCR surface impoundment must contain both CCR and liquids to any of USEPA's proposed definitions of a legacy CCR surface impoundment, it could be anticipated that:

- Fifty percent (50%) of impoundments with no lining at legacy facilities will be exempt from 40 CFR Part 257 Subpart D because they are dry and, therefore, may never have any type of cover system installed;
- Upwards of 10% of all "inactive" CCR surface impoundments (including those at active facilities) will be undefined by 40 CFR Part 257 Subpart D, because they are dry and therefore, may never have any type of cover system installed; and
- Fifty percent (50%) or more of impoundments which were "closed" with no verification that there is a cover system or that the cover system meets the minimum requirements of 40 CFR Part 257.102(d), can be expected to leak to the extent that GWPS are being exceeded.

Assuming that the geology of Illinois is similar to other portions of the United States that were subject to glaciation, and that alluvial geology along streams, where many generating facilities are located, is similar throughout the United States, a large number of CCR surface impoundments could remain threats to human health and the environment, unless the definition of "legacy CCR surface impoundment" is broadened beyond USEPA's current proposals.

The Illinois EPA does not believe there should be any size limitation in the definition, because as displayed in the attached table, impoundment sizes vary considerably. The Illinois EPA also suggests a very simple applicability and timing for closure of legacy ponds. Legacy CCR surface impoundments should become subject to the requirements imposed upon them on the effective date of the proposed rule. Those requirements should at a minimum correspond to the requirements of 40 CFR 257.102. Since these legacy ponds are not in use, they should be required to initiate closure within six months of the effective date of the rule and then complete closure within five years of initiating closure. There should be no mechanism to extend the time to initiate closure, and the time to complete closure should only be eligible for an extension under force majeure circumstances.

The Illinois EPA appreciates the opportunity provided by USEPA to participate in this rulemaking, as legacy CCR surface impoundments are an important subset of the universe of CCR surface impoundments that may threaten public health and the environment.

Respectfully Submitted,



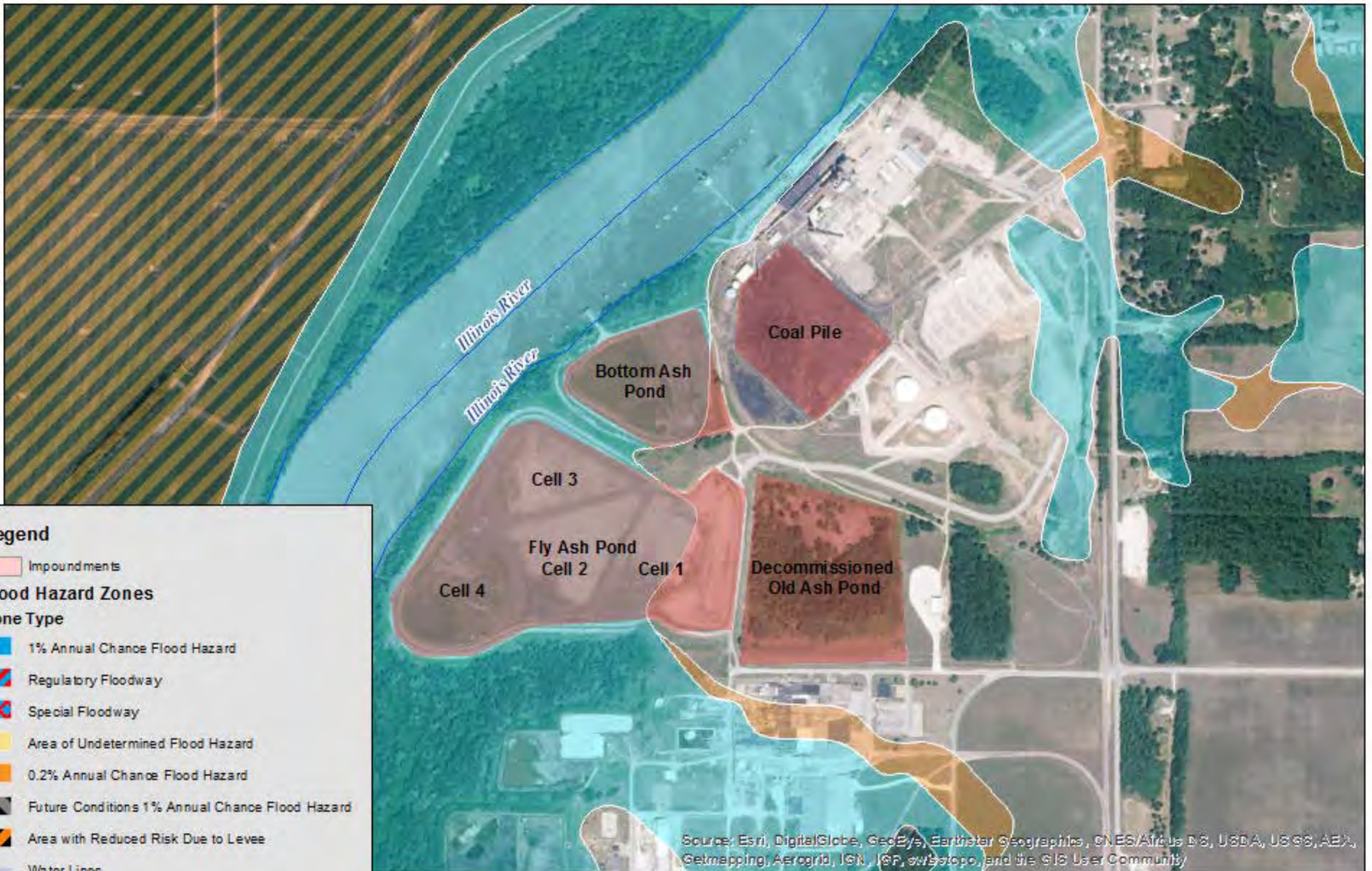
John J. Kim
Director
Illinois EPA

Facility	Pond Description	Illinois County	Size Acres	Plant Retirement Year	Unit Status (holds water)	Closure Status	Other Informationm
Hutsonville	Pond A	Crawford	12	2011	Single synth liner, wet @ closure	closure Nov. 2016, State Regs, soil over geomembrane, GW remediation ongoing	subject to Part 257 per USWAG, closed under State Reg
Hutsonville	Pond B	Crawford	5	2011	Single synth liner, wet @ closure	removal Nov. 2016, State Regs, GW remediation ongoing	subject to Part 257 per USWAG, closing under State Reg
Hutsonville	Pond C	Crawford	2	2011	Single synth liner, wet @ closure	removal Nov. 2016, State Regs, GW remediation ongoing	subject to Part 257 per USWAG, closing under State Reg
Hutsonville	Pond D	Crawford	23	2011	unlined, dry before 10/2015	closure, Jan. 2013, under State Regs, soil over geomembrane, GW remediation ongoing	dry, not defined by 257.53, closed under State Reg
Hutsonville	Bottom Ash	Crawford	2	2011	unlined, wet @ closure	removal Nov. 2016, State Regs, GW remediation ongoing	subject to Part 257 per USWAG, closing under State Reg
Meredosia	Bottom Ash Pond	Morgan	12	2011	unlined, dry before 10/2015	closure, Jan 2019, State Regs, plastic turf over geomembrane, MNA	dry, not defined by 257.53
Meredosia	Fly Ash	Morgan	40	2011	unlined, some water @ closure	closure, Aug 2019, State Regs, plastic turf over geomembrane, MNA	subject to Part 257 per USWAG, closed under State Reg
Vermilion	North Pond Cell 1 & 2	Vermilion	38	2011	unlined, wet	no closure plan, pending litigation	subject to Part 257 per USWAG
Vermilion	Old East Pond	Vermilion	21	2011	unlined, dry before 10/2015	no closure plan, pending litigation	dry, not defined by 257.53
Vermilion	New East Pond Cell 1 & 2	Vermilion	28	2011	Clay lined, wet	no closure plan, pending litigation	subject to Part 257 per USWAG
Venice	N. Pond	Madison/St. Claire	30	active, 2012 gas fire	unlined, dry w/trees before 10/2015	closure Nov. 2012, State Regs, soil over geomembrane, MNA	dry, not defined by 257.53
Hennepin	West Ash Pond 1	Putnam	12	2019	unlined, dry before 10/15	closure underway, Jan 2021, State Regs, soil over geomembrane, MNA	dry, not defined by 257.53
Hennepin	West Ash Pond 3	Putnam	17	2019	unlined, dry before 10/15	closure underway, Jan 2021, State Regs, soil over geomembrane, MNA	dry, not defined by 257.53
Hennepin	East Ash Pond 2	Putnam	17	2019	unlined, dry before 10/15	closure underway, Jan 2021, State Regs, soil over geomembrane, MNA	dry, not defined by 257.53
Hennepin	East Pond 4	Putnam	8	2019	unlined, dry before 10/15	closure underway, Jan 2021, State Regs, soil over geomembrane, MNA	dry, not defined by 257.53
Wood River	West Ash Pond 1	Madison	21	June 2016	unlined, dry before 10/2015	closure underway, Jan 2021, State Regs, soil over geomembrane, MNA	dry, not defined by 257.53
Wood River	West Ash Pond 2E	Madison	11	June 2016	Composite lined dry before 10/2015	closure underway, Jan 2021, State Regs, soil over geomembrane, MNA	dry, not defined by 257.53
Will County	Pond 1 North	Will County	2	active	unlined, dry before 10/2015	no closure plan, sumps to drain and reduce head 2013	dry, not defined by 257.53
Will County	Pond 1 South	Will County	2	active	unlined, dry before 10/2015	no closure plan, sumps to drain and reduce head 2013	dry, not defined by 257.53
Waukegan	Old Pond	Lake County	12	active	unlined, unspecified soil cover w/grass	no closure plan	covered, not regulated by 257.53, GW monitoring indicates exceedances of GWPS
Joppa	West Pond 1	Massac	102	active	unlined, unspecified soil cover w/trees	no closure plan	covered, not regulated by 257.53
Meredosia	Old Ash Pond	Morgan	17	2011	unlined, unspecified soil cover w/trees	no closure plan	covered, not regulated by 257.53
Coffeen	Ash Pond 2	Montgomery	60	2019	unlined, dry w/unspecified cover 1980s	re-closure complete Nov. 2020, State Regs, soil over geomembrane, MNA	1980's cover didn't prevent infiltration, not regulated by 257.53, GWPS exceedances

Attachment C

Meredosia Power Station Flood Risk

Andrew Rehn, Prairie Rivers Network
Source: FEMA 100-Year Floodplain



Legend

Impoundments

Flood Hazard Zones

Zone Type

- 1% Annual Chance Flood Hazard
- Regulatory Floodway
- Special Floodway
- Area of Undetermined Flood Hazard
- 0.2% Annual Chance Flood Hazard
- Future Conditions 1% Annual Chance Flood Hazard
- Area with Reduced Risk Due to Levee
- Water Lines
- World Imagery



0 0.15 0.3 0.6 Miles

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community