

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

IN THE MATTER OF:

Petition of Ameren Energy
Medina Valley Cogen, LLC for
Adjusted Standards from 35 Ill. Admin.
Code Part 845 (Old Meredosia)

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AS 2021-008

(Adjusted Standard)

NOTICE OF ELECTRONIC FILING

PLEASE TAKE NOTICE that I have today filed with the Office of the Clerk of the Pollution Control Board the Illinois Environmental Protection Agency's First Amended Recommendation, a copy of which is herewith served upon you.

Dated: September 2, 2026

Brian Navarrete, #6305878
Division of Legal Counsel
Illinois Environmental Protection Agency
2520 W. Iles Ave.
P.O. Box 19276
Springfield, IL 62704
217-558-3501
Brian.Navarrete@Illinois.Gov

Respectfully submitted,

ILLINOIS ENVIRONMENTAL
PROTECTION AGENCY,

Respondent,

BY: /s/Brian Navarrete
Brian Navarrete

THIS FILING IS SUBMITTED ELECTRONICALLY

I, the undersigned, on affirmation certify the following:

That I have served the attached **FIRST AMENDED RECOMMENDATION** by e-mail upon the Service List below:

/s/Brian Navarrete
Brian Navarrete
September 2, 2026

SERVICE LIST

Illinois Pollution Control Board
Don Brown, Clerk
Carol Webb, Hearing Officer
100 W. Randolph, Suite 11-500
Chicago, IL 60601
Don.Brown@illinois.gov
Carol.Webb@illinois.gov

Illinois Pollution Control Board
Don Brown, Clerk
Carol Webb, Hearing Officer
60 E. Van Buren St., Ste. 630
Chicago, IL 60605
Don.Brown@illinois.gov
Carol.Webb@illinois.gov

Nijman Franzetti LLP
Susan M. Franzetti
Kristen Laughridge Gale
Craig S. Thedwall
sf@nijmanfranzetti.com
kg@nijmanfranzetti.com
ct@nijmanfranzetti.com

Rebecca Strauss and Charles Matoesian
Division of Legal Counsel
Illinois Environmental Protection Agency
1021 N. Grand Ave. E. P.O. Box 19276
Springfield, IL 62794
Rebecca.Strauss@illinois.gov
Charles.Matoesian@Illinois.gov

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FIRST AMENDED RECOMMENDATION

NOW COMES the Illinois Environmental Protection Agency (hereinafter “Illinois EPA” or “Agency”) by one of its attorneys, and pursuant to 35 Ill. Adm. Code 104.416, hereby submits the Agency’s First Amended Recommendation to the Illinois Pollution Control Board (“BOARD”) in response to the Second Amended Petition (“Petition”) of Ameren Energy Medina Valley Cogen, LLC (“Ameren” or “Petitioner”) regarding the Old Ash Pond (“Old Meredosia” or “Old Meredosia Impoundment”) located at the Meredosia Power Station in Morgan County, Illinois. For the reasons stated below, Illinois EPA recommends that the BOARD DENY Petitioner’s request for an adjusted standard from 35 Ill. Adm. Code 845 (“Part 845”) In support of its Recommendation, the Illinois EPA states as follows:

I. BACKGROUND

Old Meredosia is an approximately 17-acre, unlined coal combustion residuals (“CCR”) surface impoundment at the inactive Meredosia Power Station in Morgan County, Illinois. The Old Meredosia Impoundment (“Site”). was constructed in 1948, received CCR and sluice water until approximately 1971, and was then covered using sediment from the Illinois River. According to the record, there are approximately 9 to 11.5 feet of CCR beneath cover materials. PAS App’x 620-27, 691-704. The range of cover material is approximately one (1) to six (6) feet thick. Id.

According to subsurface borings taken by Ameren's contractor, the CCR cover is primarily sand. Id.

During the decades after Old Meredosia ceased receiving CCR, vegetation developed on the surface. The Petition notes that there are approximately 10.2 acres of deciduous forest, 2.3 acres of shrub-scrub, 3.5 acres of grassland, and a localized sand-prairie community. Id. at 645. Illinois EPA recognizes that these areas provide habitat and that construction would disturb existing mature vegetation. However, Ameren's expert noted that the overall floristic value of the plants at the Site was "fairly low." Id. at 656.

Ameren filed its Original Petition on May 11, 2021, and its First Amended Petition on May 1, 2023. Ameren's First Amended Petition requested a BOARD finding that Part 845 did not apply to Old Meredosia. On August 3, 2023, Illinois EPA recommended a denial of Ameren's First Amended Petition¹. On May 1, 2025, the BOARD, over the Illinois EPA's objection, stayed this proceeding to allow Ameren to conduct a treatability study. The BOARD determined that the study could provide useful information and that the stay did not appear to create an increased short-term groundwater risk.

Ameren presented its proposed permeable reactive barrier ("PRB") and treatability work to Illinois EPA on February 3, 2026. Illinois EPA later provided comments identifying issues it requested to be addressed in any treatability study or future amended petition. See Exhibit A. Ameren did not respond to Illinois EPA's February 3, 2026 letter. Instead, on June 4, 2026, Ameren filed its Petition.

In its Petition, Ameren admits that Part 845 is applicable to the Old Meredosia Impoundment. The Petition seeks an adjusted standard from the closure and related requirements

¹ No Illinois EPA recommendation was filed in response to the original petition.

of Part 845. Second Amended Petition at 2-5.

In the Petition, Ameren alleges the adjusted standard is necessary to leave the existing vegetated surface in place by not installing a final cover or removing the CCR as required by 35 Ill. Adm. Code 845.710(a). Instead, Ameren proposes installing a PRB using RemBind 100x in groundwater downgradient of Old Meredosia as an alternative closure method. Ameren's proposed adjusted standard also requests relief from the operating permit and all remaining 35 Ill. Adm. Code Part 845 obligations after twelve consecutive quarters of groundwater results below Part 845 standards, at locations described only as "downgradient" of Old Meredosia. Second Amended Petition at 12-17.

Illinois EPA acknowledges Ameren could support further evaluation of the PRB as a possible groundwater corrective action measure. However, the information presented in the Petition does not demonstrate the PRB is a substitute for the Part 845 closure requirements. Ameren has not presented information that would establish that PRB is as protective as closing the Site with final cover or closing by removal of the CCR and decontamination of the CCR surface impoundment. Further, Ameren does not establish that the requested relief is consistent with applicable federal requirements under 40 C.F.R. Part 257. The Petition also fails to justify why the BOARD should grant Ameren's requested exemptions from the monitoring, post-closure care, recordkeeping, financial assurance, and Agency review of the closure requirements in Part 845.

II. SECTION 104.406 FACTORS

Illinois EPA's First Amended Recommendation must set forth the rationale for the Agency's position and may present any information which the Agency believes is relevant to the BOARD's consideration of the proposed adjusted standard. 35 Ill. Adm. Code 104.416(a). At a minimum, the Agency must address and respond to the petition with respect to each issue raised

by the requirements of Section 104.406(a) through (j). 35 Ill. Adm. Code 104.416(b). Illinois EPA hereby provides its analysis of the Petitioner's request for an adjusted standard from Part 845.

A. Section 104.406(a) – A statement describing the standard from which an adjusted standard is sought. This must include the Illinois Administrative Code citation to the regulation of general applicability imposing the standard as well as the effective date of that regulation.

Ameren's proposed adjusted standard seeks relief from 35 Ill. Adm. Code Parts 845.400(g); 845.550(a)(4) and (5); 845.610(c); 845.610(e)(4)(H); all of Subpart G; 845.800(b); 845.800(d)(20) through (32); 845.230(d)(1); 845.220(a)(1)(E) through (J); 845.220(a)(2)(A), (C), (D), and (E); 845.220(a)(5); 845.220(a)(6); 845.220(d); 845.290; 845.200(a)(5); and 845.230(c). The narrative discussion also refers to 845.220(a)(2)(B), although the proposed order does not include that subsection. Second Amended Petition at 12-17

The scope of Ameren's requested relief from Part 845 is broader than necessary to address the concerns of temporary habitat loss described in the Petition. Ameren's concerns of habitat loss are primarily associated with the physical activities required for closure, specifically removing vegetation. However, Part 845 closure alternatives analysis and closure planning process takes into account threatened and endangered species and impact to the environment in 35 Ill. Adm. Code 845.710(b) and 845.110(b)(1). Ameren fails to explain in the Petition why it should be exempt from other Part 845 requirements, including groundwater monitoring, reporting, and recordkeeping, which can be implemented without clearing the vegetation or otherwise disturbing habitat. The habitat concerns Ameren raises in its Petition, therefore, do not provide a basis for relief from the above listed Part 845 requirements.

Ameren's proposed adjusted standard removes the Part 845 long-term protection of the habitat which lies at the heart for the rationale of the Petition. Ameren seeks relief from all of Subpart G of Part 845. Ameren is also seeking to avoid 35 Ill Adm. Code 845.760(h), which

requires Deed notification and use restrictions. Ameren's proposal does not include an agreement to preserve the habitat. The absence of such an agreement results in a situation in which Ameren can clear all the trees and vegetation on Old Meredosia after twelve (12) consecutive tests below the boron threshold. Ameren's proposed adjusted standard provides no long term protection for the habitat. If Ameren is granted relief from any Part 845 requirements under the rational of protecting the ecosystem at the Site, Ameren should be required, in any adjusted standard, to take affirmative actions to protect the habitat.

- B. Section 104.406(b) – A statement that indicates whether the regulation of general applicability was promulgated to implement, in whole or in part, the requirements of the CWA (33 USC 1251 et seq.), Safe Drinking Water Act (42 USC 300(f) et seq.), Comprehensive Environmental Response, Compensation and Liability Act (42 USC 9601 et seq.), CAA (42 USC 7401 et seq.), or the State programs concerning RCRA, UIC, or NPDES (see 415 ILCS 5/28.1).**

Illinois EPA does not dispute Ameren's description of the statutory basis for Part 845 and identifies no separate issue under 35 Ill. Adm. Code 104.406(b).

- C. Section 104.406(c) – The level of justification as well as other information or requirements necessary for an adjusted standard as specified by the regulation of general applicability or a statement that the regulation of general applicability does not specify a level of justification or other requirements.**

Part 845 does not establish a separate level of justification for the requested adjusted standard. Therefore, Ameren bears the burden of proof to show it meets all four factors under Section 28.1(c) of the Environmental Protection Act("Act") and 35 Ill. Adm. Code 104.426.

The data Ameren obtained from the treatability study adds information about a potential groundwater remedy but does not resolve concerns associated with leaving the existing permeable cover in place. The failure to close the Site under Part 845 by either installing a proper final cover over the Old Meredosia Impoundment or by removal of the CCR and decontamination of the CCR surface impoundment, will result in continued infiltration of liquids through existing permeable

cover and potential releases of contaminants to the groundwater. The Petition also does not justify why the BOARD should grant Ameren's requested exemptions from the monitoring, post-closure care, recordkeeping, financial assurance, and Agency review of the closure.

Part 845 monitoring, post-closure care, recording keeping, financial assurance and Agency review of the closure, are all applicable to the Site and must be included in any adjusted standard. Ameren fails to justify why it should be exempt from 35 Ill. Adm. Code Parts 845.400(g); 845.550(a)(4) and (5); 845.610(c); 845.610(e)(4)(H); all of Subpart G; 845.800(b); 845.800(d)(20) through (32); 845.230(d)(1); 845.220(a)(1)(E) through (J); 845.220(a)(2)(A), (C), (D), and (E); 845.220(a)(5); 845.220(a)(6); 845.220(d); 845.290; 845.200(a)(5); and 845.230(c). If the BOARD does grant Ameren an adjusted standard there will be an increased need for pos-closure care and monitoring, as the CCR is will be left in place with a porous liner. Thus, Ameren's Petition simply does not meet the required level of justification necessary for an the adjusted standard it seeks in the Petition.

- D. Section 104.406(d) – A description of the nature of the petitioner's activity that is the subject of the proposed adjusted standard. The description must include the location of, and area affected by, the petitioner's activity. This description must also include the number of persons employed by the petitioner's facility at issue, age of that facility, relevant pollution control equipment already in use, and the qualitative and quantitative description of the nature of emissions, discharges or releases currently generated by the petitioner's activity.**

Old Meredosia has not received CCR for more than fifty years. Ameren has not identified a downgradient potable well, and it is reported there is no demonstrated offsite migration attributable to Old Meredosia, and no direct contact between groundwater and the CCR under the conditions evaluated. Petition at 9-11; PAS App'x 1033-50, 1167-74.

The groundwater separation is not constant, with a reported minimum separation of approximately 2.9 feet between the estimated base of the CCR and the maximum measured

groundwater elevation during the June 2019 high water event. PAS App'x 624. The Petition also recognizes that the groundwater gradient may flatten or temporarily reverse when the Illinois River is high. PAS App'x 624, 1169-72. These reversals create the potential for groundwater impacted by Old Meredosia to temporarily migrate east of Old Meredosia. Although the Petition concludes the observed reversals were not of sufficient duration to reach the eastern property boundary, it does not fully characterize the extent of eastward migration or groundwater quality east of the Old Meredosia Impoundment during those events. Thus, under Ameren's proposal, of only limited monitoring to the west, it will not adequately measure the potential extent of the contamination plume.

The existing cover varies in thickness and is composed principally of river sand (native materials). The Petition recognizes that precipitation may drain across the surface, infiltrate the cover, or be removed through evapotranspiration. PAS App'x 627. Ameren's water balance analysis estimates approximately 19.7 inches per year of net infiltration over Old Meredosia, equivalent to approximately 0.037 cubic feet per second. PAS App'x 1110-14. However, the Petition does not provide field infiltration testing, hydraulic conductivity testing, or other performance data for the complete cover demonstrating control of infiltration and releases. Such information is necessary to demonstrate if the existing cover limits the amount and rate of precipitation moving through the cover and into the CCCR, and therefore if it controls infiltration and resulting releases as required by 845.750. Given the variable thickness and composition of the existing cover, the information Ameren presented does not demonstrate its hydraulic performance across the Old Meredosia Impoundment.

Ameren's consultant, WSP, identified 54 plant species, including 38 native species, and reported the total floristic quality as "fairly low" with an index of 14.2. The forest was described

as young and fairly uniform with sensitive species identified as presumed or potentially present based on habitat and database information rather than direct observations. PAS App'x 651-67. These qualifications do not eliminate the value of the sand prairie, forest, and nesting areas. Illinois EPA believes that WSP's report supports a closure design that utilizes seasonal restrictions and other measures to minimize impacts to the environment during closure in accordance with Part 845. However, the presence of some sensitive habitat does not create justify Ameren's position that compliance with Part 845 would eliminate all ecological functions at the Site.

In the Petition Ameren fails to note the current staffing levels and pollution control mechanisms in place at the Site. Ameren does not state what work is performed at the Site to keep the current cover in working condition.

- E. Section 104.406(e) – A description of the efforts that would be necessary if the petitioner was to comply with the regulation of general applicability. All compliance alternatives, with the corresponding costs for each alternative, must be discussed. The discussion of costs must include the overall capital costs as well as the annualized capital and operating costs.**

Ameren estimates that closure by removal would involve approximately 400,000 cubic yards of vegetation, cover material, and CCR, approximately 30,000 truck trips, and a cost of approximately \$12 million to \$15 million. Ameren estimates that closure in place with a final cover system would require approximately 175,000 cubic yards of imported material and cost approximately \$4 million to \$6 million. The preliminary PRB cost is approximately \$4 million, with operating costs described as nominal. Second Amended Petition at 11-15; PAS App'x 629.

Illinois EPA does not dispute that either closure method would involve substantial work and short-term construction impacts. The comparison is incomplete, however, because it does not provide annualized capital and operating costs for each alternative or the full long-term costs of the PRB approach.

- F. Section 104.406(f) – A narrative description of the proposed adjusted standard as well as proposed language for a Board order that would impose the standard. Efforts necessary to achieve this proposed standard and the corresponding costs must also be presented.**

1. Purpose and Scope of the Requested Relief

35 Ill. Adm. Code 845.710(a) provides that closure must be completed either by leaving CCR in place and installing a cover system or by removing the CCR and decontaminating the impoundment. Ameren's proposed adjusted standard would allow the surface vegetation and existing cover materials to remain without installing a final cover required by 35 Ill. Adm. Code 845.750 or removing the CCR. The PRB is proposed as an alternative closure method.

Ameren's proposed adjusted standard is not limited to the final cover and would waive all of closure and post-closure requirements in Subpart G and terminate the operating permit and all remaining Part 845 obligations after twelve consecutive quarters (a time frame equal to potentially 3 years) of groundwater results below standards at unspecified downgradient locations. Ameren has not justified why only 3 years, as opposed to the 30 years provided in the regulations, is adequate to protect the environment. Ameren is proposing 27 less years of monitoring. Ameren has not justified that those additional exemptions are necessary to preserve the existing habitat. Given the proposed corrective action process has the potential to be unsuccessful and/or require revisions, Ameren's requested relief is problematic because Ameren seeks to waive Part 845 requirements that may, in the future, be necessary to evaluate performance of the PRB, and implement additional corrective action for the Site.

Additionally, if Ameren is not granted an adjusted standard, Ameren could still limit any impacts to the environment. Section 35 Ill. Adm. Code 845.710(b)(1)(D) and (F) require consideration of short-term environmental risks and impacts to environmental receptors in evaluating closure alternatives. 35 Ill. Adm. Code 720 requires the closure plan to describe the

procedures and closure schedule. Lastly, 35 Ill. Adm. Code 845.110 requires compliance with independently applicable endangered species requirements. These regulations combined allow habitat impacts to be addressed through the design, sequencing, timing of closure activities which could result in seasonal work restrictions incorporated into a closure plan.

2. Existing Cover and Continued Infiltration

35 Ill. Adm. Code 845.750(a) states the performance requirements for closure when leaving CCR in place, the owner or operator of a CCRSI must ensure that the CCRSI is 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; preclude the probability of future impoundment of water, sediment, or slurry; include measures that provide for major slope stability to prevent the sloughing or movement of the final cover system during the closure and post-closure care period, and minimize the need for further maintenance of the CCRSI. 35 Ill. Adm. Code 845.750(c) requires a final cover system consisting of a low-permeability layer and a final protective layer, unless alternatives provide equivalent or superior performance.

The Petition describes the current cover as a variable sand cover placed decades before Part 845 was adopted. Ameren indicates that the current cover varies in depth from 1 foot to 6 feet, thereby failing to prevent the infiltration of liquids. First Amended Pet. at, 14. Ameren's proposed adjusted standard does not provide a final cover design, construction quality documentation, permeability data, or field performance data for the current cover. The presence of mature vegetation, the absence of ponded water, and separation between the CCR and groundwater do not justify the missing performance demonstration.

The proposed adjusted standard would permit closure with the CCR remaining in place

without a demonstrated final cover system or the 30 years of groundwater monitoring required by State and Federal regulations when waste remains in place. The record does not establish that Ameren's proposal provides the closure performance required by Part 845 and continued infiltration and releases remain a concern under the proposed alternative. Thus, because the existing cover has not been demonstrated to limit infiltration, precipitation may continue to migrate through the cover, contact the CCR, and leach soluble constituents to the underlying groundwater. This concern is supported by groundwater impacts downgradient of Old Meredosia. Leaving the existing cover and CCR in place therefore, allows the source and the potential infiltration pathway to remain, even if the proposed PRB reduces concentration in groundwater downgradient of the impoundment.

3. The PRB Treats Groundwater but Does Not Replace Source Control

The proposed PRB would be installed downgradient of Old Meredosia and is intended to only treat impacted groundwater as it flows west-northwest from the impoundment toward the Illinois River. The PRB would not control the source of groundwater pollution and would not reduce liquids, in the form of precipitation, from entering the existing cover or isolate the CCR from future infiltration of liquids as required by Part 845.

35 Ill. Adm. Code 845.670(d)(3) states that a selected corrective action remedy must control sources or releases to reduce or eliminate further releases to the maximum extent feasible. The PRB may be considered as one component of corrective action, but the Petition identifies no source control measure other than the existing porous cover. The PRB does not establish an equivalent substitute for a compliant final cover. Because the existing cover has not been demonstrated to meet the requirements of 35 Ill. Adm. Code 845.750, the proposed adjusted standard is not sufficient.

Under Ameren's proposal, the CCR waste would remain in place indefinitely. Meanwhile, Ameren has described a limited treatment life for the PRB media. Permanent relief from final cover and post-closure requirements cannot be supported by a temporary downgradient treatment system of a single constituent without a demonstrated replacement program, continued monitoring, and contingencies. Ameren's proposed adjusted standard simply does not provide those required protections.

Ameren notes that boron concentrations are declining even without the PRB. However, Ameren's projected trend does not demonstrate that the source has been controlled or that groundwater contaminant levels will remain in compliance after the PRB reaches the end of its treatment life. Ameren's projection is based on the trend at monitoring well APW-8 and is dependent on that trend continuing. Meanwhile, other downgradient monitoring locations have not consistently provided data so there is currently an incomplete picture. Additionally, groundwater results obtained while the PRB is treating groundwater demonstrate treatment performance but not that the releases from the CCR have ceased. Because the CCR and existing cover would remain in place indefinitely, permanent relief from monitoring and post-closure requirements should not be based solely on a projected declining trend and twelve quarters of results obtained during operation of a temporary treatment system.

4. Proposed Twelve Quarter Termination

Ameren proposes that its sampling responsibility be waived after twelve quarterly samples (3 years) below the limits for boron. The proposed twelve quarter termination mechanism should be denied as it bypasses Illinois EPA review. Ameren proposes that a professional engineer certification automatically terminates the operating permit and all Part 845 obligations. A professional engineer can certify data and construction, but the proposed adjusted standard would

assign the engineer the legal effect of an Agency determination that closure, corrective action, and post-closure care are complete. Part 845 requires continuing permits and Agency approval before termination of post-closure care obligations. 35 Ill. Adm. Code. 780.

35 Ill. Adm. Code 845.780(a)(c) requires a minimum of thirty (30) years of groundwater monitoring. Ameren is requesting a twenty-seven (27) year reduction in groundwater monitoring. An allowance of demonstrating groundwater has achieved standards based on twelve quarters of data is only possible under Part 845 and 257.102(c)(1)(ii) when closure by removal of all waste has occurred, but Ameren is proposing leaving all CCR waste in place. 35 Ill. Adm. Code 845.740(b).

Furthermore, the current groundwater monitoring network at Old Meredosia is not sufficient to justify a 27-year reduction in groundwater monitoring. The current groundwater monitoring network has not consistently provided groundwater data at several locations necessary to properly evaluate downgradient conditions. The November 2025 temporary boring transect reported dissolved boron concentration above the 2.0 mg/L groundwater protection standard at the northern portion of the sampled area. Meanwhile, wells APW-13 and APW-14 have frequently been dry, and the preliminary work plan reports that APW-8 was also dry during a recent event. Dry wells cannot provide any information about the flow of boron. The Petition identifies a monitoring network that cannot consistently provide the necessary data to support termination, let alone after only twelve quarters (3 years).

Along with a massive reduction in water quality monitoring, Ameren's adjusted standard contains no enforceable long-term habitat protection or commitment. Even though, habitat preservation is Ameren's justification for the requested relief. Ameren's proposed adjusted standard does not require it to preserve, manage, restore, or restrict future disturbance of that

habitat, after the Part 845 obligations cease. A temporary decision not to disturb vegetation cannot justify permanent relief from closure and post-closure requirements without enforceable protections of the asserted ecological habitat.

As previously stated, Ameren seeks an exemption from the standard Part 845 deed notification, under 35 Ill. Adm. Code 845.860(h). Leaving waste in place permanently without notification to potential future users of the property does not provide any restrictions for the waste left in place. This could mean that after 3 years of monitoring, the Site could be sold and developed without the buyer even being aware of the CCR left in place.

G. Section 104.406(g) – The quantitative and qualitative description of the impact of the petitioner's activity on the environment if the petitioner were to comply with the regulation of general applicability as compared to the quantitative and qualitative impact on the environment if the petitioner were to comply only with the proposed adjusted standard. To the extent applicable, cross-media impacts must be discussed. Also, the petitioner must compare the qualitative and quantitative nature of emissions, discharges or releases that would be expected from compliance with the regulation of general applicability as opposed to that which would be expected from compliance with the proposed adjusted standard.

Illinois EPA recognizes that construction of a final cover or removal of CCR would disturb mature vegetation and may affect wildlife habitat during construction. Ameren should design a plan that complies with Part 845 and mitigates the impacts by considering the closure design, timing, consultation, mitigation, and restoration. However, the presence of vegetation on the Old Meredosia Impoundment does not eliminate the need to address an CCR waste stored in unlined CCR surface impoundment lacking a compliant final cover.

The Petition's rationale to preserve the habitat over Old Meredosia rings hollow because it treats the present habitat although the proposed adjusted standard contains no requirement to preserve or maintain the habitat. It also treats the PRB as if it eliminates the source, although the barrier is downgradient, has a limited projected reactive life, and was principally tested for boron.

Additionally, there could be other contaminants of concern, but the PRB only treats boron. The proposed adjusted standard would end monitoring and financial assurance after only twelve quarters (3 years) of compliant results, even though the CCR would remain in place indefinitely.

The absence of downgradient potable wells and the lack of demonstrated offsite migration reduce present exposure. However, those facts do not demonstrate that the existing cover controls infiltration or that the proposed PRB will provide long-term source control. The benefit of avoiding habitat disturbance does not outweigh the long-term uncertainties created by leaving the CCR in place without a demonstrated final cover, monitoring, enforceable contingencies, post-closure care, and financial assurance. Under Ameren's proposal, the ecological benefit is tenuous, while the requested relief from closure and post-closure requirements would be permanent.

H. Section 104.406(h) – A statement that explains how the petitioner seeks to justify, under the applicable level of justification, the proposed adjusted standard

Ameren's justification relies on the age and inactive status of Old Meredosia, separation between the CCR and the groundwater table, declining boron concentrations, lack of potable wells, and the established habitat that developed on the surface. These facts merit consideration in selecting and sequencing closure and corrective action measures, but do not justify the requested exemption from all closure and post-closure requirements or terminating the broader requirements of Part 845.

The scope of Ameren's requested relief is not tied to the stated burden. The habitat impacts identified by Ameren are primarily associated with installation of a final cover or removal of the CCR. The threat to habitat impacts are not enough to explain why Ameren should also be exempted from groundwater monitoring requirements, reporting requirements, recordkeeping requirements, financial assurance, and Agency review as these requirements can be met without any disruption to the habitat.

The proposed standard also lacks the elements needed to provide a reliable long-term system of protection for the environment: demonstrated source control, reliable monitoring at the locations most relevant to the barrier, full constituent performance criteria, a contingency plan, Agency approval before termination, post-termination monitoring, and an enforceable habitat management commitment.

- I. Section 104.406(i) – A statement with supporting reasons that the Board may grant the proposed adjusted standard consistent with federal law. The petitioner must also inform the Board of all procedural requirements applicable to the Board's decision on the petition that are imposed by federal law and not required by this Subpart. Relevant regulatory and statutory authorities must be cited.**

Illinois EPA disagrees with Ameren's statement on this factor, and believes the Site is subject to Part 257 requirements.

The inactive status of the Meredosia Power Station does not establish that Part 257 is inapplicable, as Part 257 regulates legacy CCRSIs. Under Part 257.53, a legacy CCR surface impoundment is defined as a "surface impoundment that no longer receives CCR but contained both CCR and liquids on or after October 19, 2015, and that is located at an inactive electric utility or independent power producer." 40 C.F.R. 257.53. Under Part 275.53 the definition of "contains both CCR and liquids" is "that both CCR and liquids are present in a CCRSI, except where the owner or operator demonstrates that the standard in 40 CFR 275.102(d)(2)(i) has been met." Id. "Liquids" are defined as "any fluid (such as water) that has no independent shape but has a definite volume and does not expand indefinitely and that is only slightly compressible. This encompasses all of the various types of liquids that may be present in a CCR unit, including water that was sluiced into an impoundment along with CCR, precipitation, surface water, groundwater, and any other form of water that has migrated into the impoundment, which may be found as free water or standing water ponded above CCR or porewater intermingled with CCR." Id. (emphasis added.)

“Free liquids” is defined as “liquids that readily separate from the solid portion of a waste under ambient temperature and pressure.” Id. As Ameren has admitted that the current cover is porous, thus precipitation, a liquid, enters the CCR. The precipitation can be found as porewater intermingled with the CCR. As the Site contains both CCR and liquids, the Site is subject to Part 257 requirements.

When codifying the current federal rules U.S. EPA provided the following rational:

Finally, defining a legacy impoundment as one that contains both CCR and liquid on or after October 19, 2015, retains oversight of units that may have been dewatered but have not yet completed closure. In any unit without an effective cover system, precipitation can continue to freely migrate into the unit, and any leachate generated as a result would be a potential ongoing source of contamination....

89 Federal Register at 38984 (May 8, 2024). Thus the U.S. EPA was contemplating a unit such as Old Meredosia when writing the current definition of legacy impoundment. The purpose of limiting the liquids from the CCR is to prevent liquids from transporting contaminants to groundwater. Whether the CCR is in the water table itself is not relevant to the definition.

The Petition alleges that Old Meredosia is not a legacy CCR surface impoundment but does not demonstrate that free liquids have been eliminated in the CCRSI nor does it explain the basis for that conclusion under the federal requirements. Section 28.1(c)(4) of the Act requires Ameren to establish that the requested adjusted standard is consistent with applicable federal requirements but Ameren’s proposed adjusted standard is not consistent with the federal requirements.

If the BOARD agrees that the Site is subject to Part 257 requirements, it cannot grant Ameren’s adjusted standard unless it is consistent with federal laws.

J. Section 104.406(j) – A statement requesting or waiving a hearing on the petition (under Section 104.422(a)(4) a hearing will be held on all petitions for adjusted standards filed under 35 Ill. Adm. Code 212.126)

Illinois EPA acknowledges that Ameren requests a hearing.

RECOMMENDATION

Illinois EPA recommends denial of Ameren's requested adjusted standard because the request is not justified and the Site is subject to Part 257. Nevertheless, if the Board grants relief to reduce disturbance of the existing habitat, the order should be narrow and preserve the remaining protections of Part 845 and any applicable federal requirements. At a minimum, any order from the BOARD should include the following conditions:

1. Ameren shall either install a final cover system or removal all CCR in a manner that satisfies 35 Ill. Adm. Code Part 845.750 and 40 C.F.R. 257.102(d).

2. Any adjusted standard shall identify the specific final cover provisions being modified. It shall not waive Subpart G or automatically terminate groundwater monitoring, corrective action, post-closure care, reporting, recordkeeping, financial assurance, or Agency review.

3. The PRB shall be treated as a supplemental corrective action measure, not as a substitute for closure.

4. Ameren's construction permit shall include the complete treatability study, final alignment and depth, capture analysis, hydraulic and geochemical design calculations, media capacity and design life calculations, construction specifications, and criteria for evaluating potential bypass, underflow, breakthrough, clogging, and rebound.

5. Any impacted groundwater shall be delineated horizontally and vertically. Dry or unreliable wells must be replaced or supplemented, and reliable monitoring points must be installed upgradient, downgradient, and at both ends of the PRB.

6. The proposed PRB remedy and monitoring program shall address all applicable Part 845 constituents. Boron-only testing may be used to evaluate boron treatment but does not

support termination of all groundwater monitoring and corrective action duties.

7. Ameren's permit and financial assurance must include an enforceable contingency and replacement plan for the PRB with performance benchmarks, trigger levels, response deadlines, cost estimates, and funding for replacement media, a supplemental barrier, expanded monitoring, or a different remedy if the PRB does not perform as projected.

8. No permit or Part 845 obligation may terminate automatically after twelve quarters (3 years). Any request to complete corrective action or terminate post-closure care must include the complete supporting record and take effect only after an affirmative written determination from Illinois EPA.

9. Nothing in the Board's order shall be construed to terminate an independently applicable federal obligation.

10. Because habitat preservation is the asserted basis for relief, Ameren must submit and implement an enforceable habitat management and restoration plan, developed in consultation with appropriate wildlife professionals, that addresses protected species, seasonal work restrictions, invasive species control, long-term land-use restrictions, restoration following construction, and preservation of the ecological features relied upon in the Petition.

11. Ameren shall not be exempt from any deed or deed notification requirements for the Site. Additionally, Ameren shall place Old Meredosia in a conservation easement.

III. CONCLUSION

WHEREFORE, for the above and foregoing reasons, the Illinois EPA recommends that the BOARD deny Ameren's Petition for an adjusted standard from 35 Ill. Adm. Code Part 845 in whole. In the alternative, any relief should be limited and conditioned on a compliant final cover or removal, continued Agency oversight, groundwater monitoring and corrective action, post-closure care, recordkeeping, and financial assurance as stated *supra*.

Respectfully submitted,

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ILLINOIS ENVIRONMENTAL
PROTECTION AGENCY,

Brian Navarrete, #6305878
Division of Legal Counsel
Illinois Environmental Protection Agency
2520 W. Iles Ave.
P.O. Box 19276
Springfield, IL 62704
217-558-3501
Brian.Navarrete@Illinois.Gov

Respondent,

BY: /s/Brian Navarrete
Brian Navarrete

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EXHIBIT A

Based on the materials provided to date and the information presented regarding the proposed groundwater treatment approach, the following comments consolidate several issues into a single summary consistent with prior communications. These comments are intended to identify general issues Illinois Environmental Protection Agency (Illinois EPA) expect to see addressed in any study or amended petition formally filed with the Illinois Pollution Control Board (Board).

The treatability study arises in the context of a proceeding before the Board concerning the regulatory status of the Old Meredosia ash disposal area at the Meredosia Power Station (LPC No. 1370305002). In that proceeding, Ameren requested a determination that the unit is not subject to the requirements of 35 Ill. Adm. Code Part 845 or alternatively requested an adjusted standard from certain provisions of those regulations.

In a prior Order in the proceeding, the Board granted a stay to allow the petitioner to evaluate potential groundwater treatment approaches associated with the Old Meredosia unit. The Order indicated that the purpose of the stay was to allow investigation of potential in-situ treatment technologies intended to address groundwater concentrations of coal combustion residual (CCR) related constituents while potentially minimizing disturbance to existing site conditions.

The Illinois EPA's formal position will ultimately be based on materials submitted into the Board record and any subsequent technical review. Accordingly, the comments below are intended only to identify general issues the Illinois EPA would expect to see addressed and should not be interpreted as a determination regarding the adequacy of any specific proposal.

1. Site-Specific Applicability of the Study

Any treatability study or remedy evaluation should reflect the site-specific conditions present at Old Meredosia. Based on the information provided to date, it would be helpful for the study to

clearly explain how the testing conditions reflect the physical, chemical, and hydrogeologic characteristics of the site.

For example, clarification may be useful regarding whether CCR materials from the Old Meredosia unit itself were used in the evaluation, rather than surrogate materials or literature data. Differences in CCR age, weathering, mineralogy, and leaching behavior can influence groundwater chemistry and treatment performance, and these factors may affect the applicability of testing results to site conditions.

Similarly, it may be helpful to understand how groundwater chemistry at the site, including parameters such as alkalinity, sulfate concentrations, and the presence of competing ions, was incorporated into the testing framework. Treatment performance can vary depending on these conditions and understanding how the study reflects site-specific groundwater chemistry may assist in interpreting the results.

These considerations are generally consistent with the site-specific hydrogeologic and groundwater characterization typically relied upon when evaluating groundwater conditions and potential remedial responses under 35 Ill. Adm. Code Part 845 groundwater monitoring and corrective action provisions.

2. Delineation of Groundwater Impacts

Before an effective remedial strategy can be evaluated, the nature and extent of groundwater contamination should be adequately characterized. Based on the information available to date, it may be helpful to further clarify the extent to which groundwater impacts associated with the unit have been delineated. In particular, it may be useful to confirm whether available data sufficiently define the horizontal and vertical extent of groundwater contamination downgradient of the pond. Understanding plume geometry and migration pathways is typically an important component of evaluating potential remedial approaches.

Clarification may also be useful regarding the type and representativeness of monitoring points used in the available dataset. For example, Illinois EPA may benefit from understanding whether sampling results are derived primarily from properly installed and developed monitoring wells or from other types of sampling locations. Additional monitoring points located closer to the CCR surface impoundment may also help characterize potential maximum concentrations and source conditions.

Adequate delineation of groundwater impacts may help inform evaluation of the appropriate treatment area, the potential length and configuration of a treatment system, and whether groundwater could migrate beneath or around a proposed treatment system. These considerations are generally consistent with 35 Ill. Adm. Code Part 845 Subpart F, which requires characterization of the nature and extent of releases where groundwater protection standards are exceeded.

3. Conceptual Site Model and Hydrogeology

Evaluation of groundwater treatment approaches generally benefits from a clear understanding of the site conceptual model, including subsurface stratigraphy and groundwater flow conditions.

Information provided to date suggests that the subsurface profile may generally consist of a layer of dredged river soils used as cover, CCR materials beneath the cover, and underlying sand deposits. In this context, it may be helpful for the study to further discuss how these conditions influence groundwater flow and potential treatment performance.

For example, the presence of sand underlying the CCR materials may have implications for groundwater movement beneath the unit and may influence whether groundwater could migrate beneath a treatment system. Similarly, infiltration through the existing cover may influence the rate at which groundwater interacts with CCR materials.

Understanding potential variability in groundwater flow (including changes in hydraulic gradients or possible influences from river stage) may also be useful when evaluating whether a proposed treatment system could effectively intercept groundwater migrating from the unit. Hydrogeologic characterization of this type is generally an important element of groundwater monitoring and corrective action evaluations conducted under 35 Ill. Adm. Code Part 845 Subpart F.

4. Source Control Considerations

The materials provided to date appear to focus primarily on treatment of groundwater, rather than removal or isolation of the underlying source of contamination. In evaluating potential remedies, it may therefore be helpful to consider how groundwater treatment relates to the presence of CCR materials remaining at the site. For example, it may be useful to understand whether the existing cover system effectively limits precipitation infiltration into the CCR materials, and whether additional source control measures could further reduce contaminant loading to groundwater. Consideration of how groundwater treatment interacts with ongoing source conditions may also be relevant to evaluating long-term remedy effectiveness.

Where CCR material remains in place, the regulatory framework of 35 Ill. Adm. Code Part 845 generally contemplates closure measures intended to limit infiltration and reduce the potential for continued contaminant migration. For example, 35 Ill. Adm. Code 845.710 describes closure performance objectives associated with final cover systems, and 35 Ill. Adm. Code 845.750 addresses closure requirements where CCR remains in place. Clarification of how the proposed treatment approach relates to these broader closure and source control considerations may assist in understanding the overall remedial framework.

5. Performance and Durability of Treatment

If a permeable reactive barrier or similar treatment system is proposed, it may be helpful for the study to address several issues related to treatment performance and durability. These may include the anticipated treatment duration, the expected longevity of treatment media, and the potential for treatment effectiveness to decline over time.

Information presented to date suggests that the proposed treatment system may operate over a relatively limited time period. In evaluating such an approach, it may therefore be useful to consider how the anticipated treatment duration relates to the longer-term groundwater monitoring and post-closure care timeframes that may apply under 35 Ill. Adm. Code Part 845. In addition, the treatability study materials appear to suggest that the proposed approach could allow groundwater concentrations to reach applicable standards earlier than other potential remedial scenarios. If this concept is relied upon as part of the remedy evaluation, it may be helpful to clarify the assumptions underlying those projections and how those projections relate to the broader groundwater protection standards contemplated under 35 Ill Adm. Code Part 845.

Any proposed treatment system should ultimately demonstrate the ability to address the vertical and horizontal extent of contamination and maintain performance for the duration necessary to achieve groundwater protection standards.

6. Monitoring and Demonstration of Compliance

Evaluation of any groundwater treatment approach will likely rely on an adequate monitoring network capable of demonstrating treatment effectiveness and verifying groundwater conditions over time. In this context, it may be helpful to consider whether monitoring wells are appropriately located both upgradient and downgradient of the treatment area, and whether the monitoring network would be capable of identifying potential bypass or underflow conditions. Monitoring capable of evaluating long-term trends in groundwater concentrations may also be important in demonstrating whether remediation objectives are being achieved. These types of monitoring considerations are generally consistent with the groundwater monitoring framework established in 35 Ill. Adm. Code Part 845 Subpart F, which requires monitoring sufficient to detect releases and evaluate groundwater conditions relative to groundwater protection standards.

7. Consideration of Natural Attenuation

The presentation also referenced projections suggesting that groundwater concentrations may decline to compliance levels within several years (4-5 years) through natural processes. If natural attenuation is considered as part of the overall remedy evaluation, it may be helpful to provide documentation supporting projected attenuation trends, including the assumptions and models used in developing those projections. Consideration of potential variability in groundwater conditions may also assist in evaluating the reliability of projected timelines.

8. Habitat and Environmental Considerations

Information provided to date references potential habitat or ecological considerations associated with the treatment area. While such considerations may be relevant to the implementation of potential remedies, they are distinct from the evaluation of groundwater protection standards. Accordingly, any study or amended petition may benefit from clearly distinguishing between habitat or ecological considerations and demonstration that groundwater protection standards can be achieved and maintained. No guarantees have been proposed to maintain the forest and sand prairie habitat. Since the basis of the adjusted standard is the burden being imposed on the established habitat and ecosystem, land use restrictions should be considered and memorialized.

9. Additional Data Needs

Additional information, including but not limited to additional delineation of groundwater impacts, clarification of sampling methods and monitoring locations, additional site-specific geochemical or hydrogeologic data, and discussion of how treatment systems would address the full extent of groundwater contamination, may be helpful in evaluating the feasibility of the proposed approach.

10. Treatment System Considerations

While the resin media is projected to mitigate the boron exceedances in approximately three years, a contingency plan should be discussed and benchmarks established to demonstrate that adequate progress is being made to achieving the groundwater protection standards. These benchmarks may be based off of stagnating boron concentrations over a set number of sampling quarters. Should the remediation process prove to be not as effective as predicted, additional measures should be implemented by benchmark triggers to initiate additional remediation efforts to maintain remediation schedule.

It is understood that the effectiveness of the resin reactive permeable barrier will decline over time, as the resin collects the boron. Discussion should be provided to clarify that the boron will remain contained within the resin and not become a source by leaching back out of the resin at a later date. Any possible failure points of the resin should be discussed as well as the behavior of the resin left in-situ over decades.

These comments are intended only to identify general issues the Agency would expect to see addressed in any treatability study or amended petition submitted to the Board. They should not be interpreted as a determination regarding the adequacy of any specific remedy or study.

The Agency's formal evaluation will occur after a complete study or proposal is filed into the Board record and is available for full technical review.