BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

In the Matter of:	)	
	)	
SITE-SPECIFIC RULE FOR THE CLOSURE OF AMEREN ENERGY RESOURCES ASH PONDS: PROPOSED NEW 35 ILL. ADM. CODE 840, SUBPART B	)	**R13-** **(Rulemaking – Land)**

NOTICE OF FILING

To: ALL PARTIES ON THE ATTACHED SERVICE LIST

PLEASE TAKE NOTICE that I have today electronically filed with the Office of the Clerk of the Illinois Pollution Control Board the **APPEARANCES OF RENEE CIPRIANO and AMY ANTONIOLLI, on behalf of proponent Ameren Energy Resources, PROPOSAL FOR SITE-SPECIFIC RULE FOR THE CLOSURE OF AMEREN ENERGY RESOURCES ASH PONDS, STATEMENT OF REASONS (with proposed regulatory language attached), TECHNICAL SUPPORT DOCUMENT, and MOTION FOR WAIVER OF SIGNATURE REQUIREMENT**, copies of which are herewith served upon you.

Amy Antoniolli

Dated: April 9, 2013

Renee Cipriano
Amy Antoniolli
SCHIFF HARDIN LLP
233 South Wacker Drive
Suite 6600
Chicago, Illinois 60606
312-258-5500

SERVICE LIST	
John Therriault, Assistant Clerk Illinois Pollution Control Board James R. Thompson Center 100 West Randolph Street, Suite 11-500 Chicago, Illinois 60601 therriaj@ipcb.state.il.us	Division of Legal Counsel Illinois Environmental Protection Agency 1021 North Grand Avenue, East P.O. Box 19276 Springfield, Illinois 62794-9276
Office of Legal Services Illinois Department of Natural Resources One Natural Resources Way Springfield IL 62702-1271	Division Chief of Environmental Enforcement Office of the Attorney General 100 West Randolph St., Suite 1200 Chicago IL 60601

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

In the Matter of:	)	
	)	
SITE-SPECIFIC RULE FOR THE	)	**R13-**
CLOSURE OF AMEREN ENERGY	)	**(Rulemaking – Land)**
RESOURCES ASH PONDS:	)	
PROPOSED NEW 35 ILL. ADM.	)	
CODE 840, SUBPART B	)	

APPEARANCE

I, Renee Cipriano, hereby file my appearance in this proceeding on behalf of Petitioner, Ameren Energy Resources.

Renee Cipriano
Schiff Hardin LLP
233 South Wacker Drive
Suite 6600
Chicago, Illinois 60606
312-258-5500
rcipriano@schiffhardin.com

Dated: April 9, 2013

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

In the Matter of:	)	
	)	
SITE-SPECIFIC RULE FOR THE CLOSURE OF AMEREN ENERGY RESOURCES ASH PONDS: PROPOSED NEW 35 ILL. ADM. CODE 840, SUBPART B	)	**R13- (Rulemaking – Land)**

APPEARANCE

I, Amy Antoniolli, hereby file my appearance in this proceeding on behalf of Proponent, Ameren Energy Resources.

Amy Antoniolli
Schiff Hardin LLP
233 South Wacker Drive
Suite 6600
Chicago, Illinois 60606
312-258-5500
aantoniolli@schiffhardin.com

Dated: April 9, 2013

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

In the Matter of:	)	
	)	
SITE-SPECIFIC RULE FOR THE CLOSURE OF AMEREN ENERGY RESOURCES ASH PONDS: PROPOSED NEW 35 ILL. ADM. CODE 840, SUBPART B	)	**R13- (Rulemaking – Land)**

PROPOSAL FOR SITE-SPECIFIC RULE FOR THE CLOSURE OF AMEREN ENERGY RESOURCES ASH PONDS

NOW COMES Proponent, AMEREN ENERGY RESOURCES on behalf of Ameren Energy Resources Generating, AmerenEnergy Generating Company, and Electric Energy, Inc. ("AER" or "the Company"), by and through its attorneys, SCHIFF HARDIN LLP, and pursuant to Sections 27 and 28 of the Environmental Protection Act ("Act"), 415 ILCS 5/27and 28, Section 8 of the Groundwater Protection Act, 415 ILCS 55/8, and 35 Ill.Adm.Code §§ 102.208 and 102.210, proposes that the Board amend its rules to add a new Subpart B, Closure of Ash Ponds Located at Coffeen Power Station, Duck Creek Power Station, Edwards Power Station, Grand Tower Power Station, Hutsonville Power Station, Joppa Power Station, Meredosia Power Station, and Newton Power Station, to Title 35, Subtitle G, Chapter I, Subchapter j.

AER, today, proposes a regulation establishing a set of priorities and orderly approach to closure of the Ameren and requests that the Board accept the proposal for review and set a hearing on the proposal. Through a separate motion filed with this initial submittal, AER also requests that the Board waive the requirement for 200 signatures. In addition to the proposed language, this submittal includes a Statement of Reasons summarizing the rule and discussing the justification for the rule and its economic impact and a Technical Support Document

providing an evaluation of the proposal's risk-based approach, maps of the surface impoundments located at each energy facility, and examples of hydrogeological reports for several sites which describe the existing physical conditions and characterize the area involved.

WHEREFORE, Ameren Energy Resources respectfully requests that the Board accept this proposed site-specific rulemaking and adopt the proposed rule as expeditiously as possible.

Respectfully submitted,

AMEREN ENERGY RESOURCES

by: _____
one of its attorneys

Dated: April 9, 2013

Renee Cipriano
Amy Antoniolli
SCHIFF HARDIN LLP
233 South Wacker Drive
Suite 6600
Chicago, Illinois 60606
312-258-5500

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

In the Matter of:	)	
	)	
SITE-SPECIFIC RULE FOR THE	)	**R13-**
CLOSURE OF AMEREN ENERGY	)	**(Rulemaking – Land)**
RESOURCES ASH PONDS:	)	
PROPOSED NEW 35 ILL. ADM.	)	
CODE 840, SUBPART B	)	

MOTION TO WAIVE SIGNATURE REQUIREMENT

NOW COMES Proponent, AMEREN ENERGY RESOURCES ("AER"), by and through its attorneys, SCHIFF HARDIN LLP, and requests the Illinois Pollution Control Board ("Board") to waive the requirement, under 415 ILCS 5/28(a), 35 Ill Adm. Code 102.202(g), and 35 Ill. Adm. Code 102.410(b), to submit a petition signed by at least 200 persons with its site-specific regulatory proposal. AER is seeking to amend the Board's Part 840 rules applicable to Site-Specific Closures of Coal Combustion Waste Surface Impoundments by adding a new Subpart B. In support of its motion, AER states as follows:

1. AER owns and operates surface impoundments at the following facilities: Coffeen Power Station, Duck Creek Power Station, E.D. Edwards Power Station, Grand Tower Power Station, Hutsonville Power Station, Joppa Power Station, Meredosia Power Station, and Newton Power Station.

2. AER is proposing to add a new Subpart B to Part 840 of the Board's rules because none of the current rules appropriately address the closure of surface impoundments or ash ponds at coal fired power plants. Therefore, this motion accompanies AER's Proposal, in which AER is seeking a site-specific rulemaking to close this gap in the Board's rules.

3. The Proposal will result in the closure of at least 16 surface impoundments that will address impacts to groundwater and protect the beneficial uses of Illinois groundwater. These closures will benefit the people of the State of Illinois.

4. The Board has a long-standing practice of granting signature waiver requests for site-specific rulemakings. *See e.g. In the Matter of: Ash Pond Closure Rules (Hutsonville Power Station: Proposed 35 Ill. Adm. Code Part 840.101 through 840.144*, R09-21, slip op. at 1-2 (Jun. 18, 2009); *In the Matter of: Abbott Laboratories' Proposed Site Specific Amendment to Applicability Section of Organic Material Emission Standards and Limitations for the Chicago Area; Subpart T: Pharmaceutical Manufacturing (35 Ill. Adm. Code 218.480(b))*, R08-8, slip op. at 2 (Oct. 4, 2007); *In the Matter of: Petition of Central Illinois Light Company (E.D. Edwards Generating Station) for Site-Specific Air Regulation: 35 Ill. Adm. Code 214.561*, R02-21, slip op. at 4 (May 2, 2002).

WHEREFORE, Petitioner, Ameren Energy Resources, through its attorneys, respectfully requests that the Board waive the signature for proposed site-specific rulemaking.

Respectfully submitted,

AMEREN ENERGY RESOURCES

By: _____
One of its attorneys

Dated: April 9, 2013

Renee Cipriano
Amy Antoniolli
SCHIFF HARDIN LLP
233 S. Wacker Drive, Suite 6600
Chicago, Illinois 60606
312-258-5500

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

In the Matter of:	)	
	)	
SITE-SPECIFIC RULE FOR THE CLOSURE OF AMEREN ENERGY RESOURCES ASH PONDS: PROPOSED NEW 35 ILL. ADM. CODE 840, SUBPART B	)	**R13- (Rulemaking – Land)**

STATEMENT OF REASONS

Ameren Energy Resources, on behalf of Ameren Energy Resources Generating, AmerenEnergy Generating Company, and Electric Energy, Inc. ("AER" or "the Company"), by and through its attorneys, SCHIFF HARDIN LLP, pursuant to 35 Ill. Adm. Code §§ 102.208 and 102.210,[1] Sections 27 and 28 of the Environmental Protection Act ("Act"), 415 ILCS 5/27 and 28, and Section 8 of the Illinois Groundwater Protection Act, 415 ILCS 55/8, proposes to add to the Board's rules a new Subpart B to Part 840, Site-Specific Closure of Surface Impoundments. Section 27 of the Act authorizes the Board to adopt regulations "specific to individual persons or sites." 415 ILCS 5/27(a). AER proposes the adoption of a new Subpart B specific to the closure of ash ponds located at Coffeen Power Station, Duck Creek Power Station, Edwards Power Station, Grand Tower Power Station, Hutsonville Power Station, Joppa Power Station, Meredosia Power Station, and Newton Power Station. Currently, Part 840 consists only of Subpart A, the site-specific rules applicable to Ash Pond D at the Hutsonville Power Station located in Crawford County, Illinois and there are no other Board rules specific to the closure of ash ponds. In support of this proposal and pursuant to Section 102.202(b), AER states as follows:

[1] Subsequent references to the Board's rules will be by section number only.

I. PURPOSE OF THE PROPOSED RULE

The purpose of the proposed rule is to allow for the closure of various surface impoundments used as water treatment facilities for the management of coal combustion waste located at the following coal-fired power plants owned and operated by AER: Coffeen Power Station, Duck Creek Power Station, E.D. Edwards Power Station, Grand Tower Power Station, Hutsonville Power Station, Joppa Power Station, Meredosia Power Station, and Newton Power Station. There are currently no Illinois regulations for the closure of such surface impoundments. At these facilities, there are approximately 16 ash ponds across the system that could ultimately be subject to the proposed regulations.

The rule applies to surface impoundments where groundwater impacts exceed applicable groundwater quality standards, including nondegradation standards. Where there is a release of a contaminant attributable to a surface impoundment in exceedence of a numeric groundwater quality standard or surface water quality standard, the impoundment will be capped and must meet specific performance criteria. The rule also requires the owner or operator of the surface impoundment to monitor impacts to groundwater for increasing trends. If the increasing trend meets the criteria for a potential use impairment, then the owner or operator must initiate closure of that impoundment.

The proposed new Subpart B provides several benefits to the people of Illinois. First, the proposed rule will provide the framework for closing AER ash impoundments in a way that protects human health and allows the Company to distribute the costs over time. Second, the rule establishes a groundwater monitoring system at each of the impoundments that will generate data during the closure and post-closure care periods to ensure compliance with the rule. Third, establishing a framework for closure will further the strategies outlined by IEPA in *Illinois EPA's Ash impoundment Strategy Report.*

A. Background

Ameren Energy Generating Company ("AEG") came to the Board in 2009 to promulgate a site-specific rule for the closure of Ash Pond D at Hutsonville Power Station located in Crawford County.[2] In that rulemaking, the Board recognized ash ponds were surface impoundments constructed specifically for the management of coal combustion waste and must be treated differently than landfills or water pollution control facilities. In that rulemaking, the Board recognized the need for rules to allow for the closure of ash ponds and adopted a new Part 840 to the Board's Waste Disposal Regulations. Accordingly, the Board's authority to adopt the proposed rule arises under Section 22 of Title V of the Act, Land Pollution and Refuse Disposal, and Section 8 of the Illinois Groundwater Protection Act because the rule addresses groundwater quality requirements for the groundwater impacted by the surface impoundments. The technical feasibility or economic reasonableness of any existing rule is not at issue since there are no existing rules that apply to the closure of ash ponds at coal-fired power plants subject to this proposed rule.

Importantly, there are no federal regulations governing the closure of the ash impoundments subject to this proposed rule. On June 20, 2010, the United States Environmental Protection Agency ("USEPA") proposed federal regulations to regulate for the first time coal ash to address the risks from the disposal of coal combustion residuals.[3] However, due to the volume of public comments, it will be some time before any new federal regnlations become effective, and their ultimate framework is uncertain. The Agency submitted comments on the proposed rule stating its preference for regulating coal

---

[2] *Site-Specific Rule for the Closure of Ash Pond D at the Hutsonville Power Station: Proposed New 35 Ill. Adm. Code Part 840 ("Hutsonville Rule")*, R09-21 (Jan. 20, 2011).

[3] *Hazardous and Solid Waste Management Systems; Identification and Listing of Special Wastes; Disposal of Coal Combustion Residuals from Electric Utilities ("CCR Rule")*, 75 Fed. Reg. 335128 (Jun. 21, 2010).

combustion residuals under Illinois existing state programs.[4] The comment explains that surface impoundments are regulated under the Board's water regulations and have recently been evaluated and prioritized based on the potential for groundwater impacts. The comment further states that "[f]acilities with low potential for aquifer recharge and existing or potable uses in the area were requested to assess the potential for contaminant migration at their respective sites."

Beginning in 2009, IEPA began requesting facilities that did not already have one, to install a groundwater monitoring system and implement a monitoring program. This voluntary initiative was divided into two phases based on the potential for aquifer recharge and existing or future potable water uses in the area.[5] In the 2011 report, IEPA also explains that the strategy for relying on corrective actions under the Illinois Pollution Control Board's GMZ provisions as "**very similar to the proposed 'D Prime' option** proposed by USEPA."[6] IEPA further explains the GMZ provisions are modeled after the National Contingency Plan.[7] Finally, IEPA explains that the *Hutsonville Rule* is consistent with if not more stringent than USEPA's proposed CCR requirements under either option.[8]

Despite the progress made in the *Hutsonville Rule* and voluntary efforts undertaken in furtherance of IEPA's *Ash Impoundment Strategy Report*, a gap still exists in Illinois for the closure of surface impoundments constructed before 1990 that are currently operating under or have been subject to a water pollution permit. At the request of the Agency, AER has

---

[4] IEPA Comments on the Proposed Rule, Scott Phillips, Chief, Bureau of Land, dated Nov. 19, 2010 (http://www.regulations.gov/#!documentDetail;D=EPA-HQ-RCRA-2009-0640-7488).

[5] *Illinois EPA's Ash Impoundment Strategy Report*, October 2011, pg. 3 (http://www.epa.state.il.us/water/ash-impoundment/documents/ash-impoundment-progress-102511.pdf).

[6] *Id.* at 1 (emphasis in original).

[7] *Id.* at 4.

[8] *Id.* at 7.

done the preliminary but limited groundwater assessment immediately adjacent to ash pond systems at all of its sites. This rulemaking is proposing the framework for prioritizing sites for closure based on existing or potential groundwater impacts and in a way that is consistent with IEPA's own strategic plan. The proposed Subpart B prioritizes ash impoundments for closure based on existing or future potable water uses in the area, allows for the use of a GMZ where necessary, and requires compliance with stringent closure requirements consistent with those adopted in the *Hutsonville Rule*. The purpose of this proposal, consistent with IEPA's stated goals with respect to coal combustion residuals, is to further close the regulatory gap with respect to pre-1990 surface impoundments that are reaching their life expectancy.

B. A Phased Approach to Closure

AER's goal is to focus resources at the facilities that warrant attention in the near term and control short-term threats to human health and the environment. The proposed approach prioritizes actions even within facilities to address the greatest risks first and make progress towards returning contaminated groundwater to its maximum beneficial use.[9] The proposal then establishes intermediate performance goals at those facilities that may pose a threat to human health. At these facilities, the owner or operator must take steps if necessary to mitigate any impact to or restrict the use of any potable water supply. The approach will protect groundwater in a way that ensures that public and private drinking water supplies, including those currently used as well as those with the potential to be used in the future, do not cause adverse health effects now or in the future. Further, the proposal protects groundwater in a way that avoids negative impacts to the environment from impacted

[9] A stated goal of the Illinois Groundwater Protection Act is to restore, protect, and enhance Illinois groundwater as a public and natural resource. 415 ILCS 55/2(b).

groundwater flowing to surface water. These groundwater protection strategies and priorities are not new, but rather are well-recognized by USEPA in other clean-up programs.[10]

This approach mirrors and improves upon the approach adopted by the Board for the closure of Ash Pond D at the Hutsonville Energy Center in 2009. This approach recognizes that meeting groundwater quality standards in the areas immediately surrounding ash ponds built 40, 50, even 60 years ago can be very challenging and removing ash for disposal is not feasible and is prohibitively expensive. Further, the result is that the ash pond facilities that pose the greatest risk would be closed first, and the Company is able to sequence limited resources accordingly. As will be discussed in more detail below, the surface impoundments are large facilities and closure costs are enormous.

II. TECHNICAL SUPPORT DOCUMENT

Since the promulgation of the *Hutsonville Rule* and USEPA's proposed CCR rulemaking, AER has been evaluating the need to ultimately close other ash pond systems. New groundwater data, while limited in scope, identifies impacts to groundwater at or near the footprint of ash pond systems at several facilities. Such data along with site-specific information such as the geographic location of the ash ponds and groundwater receptor locations is sufficient to assess the potential risk they pose to human health and the environment. This information has allowed AER to construct a framework for closing the ash ponds in a manner that is protective of human health and the environment. The Company has gathered the supporting documents into a Technical Support Document ("TSD") for this rulemaking proposal. The TSD includes the following documents:

- Map of AER Power Stations in Illinois

[10] *Handbook of Groundwater Protection and Cleanup Policies for RCRA Corrective Action*, USEPA, EPA530-R-04-030 (Apr. 2004) (http://www.epa.gov/wastes/hazard/correctiveaction/resources/guidance/gw/gwhandbk/gwhb041404.pdf).

- Risk-Based Evaluation of the Site-Specific Rule for the Closure of Ameren Company Ash Ponds – AECOM
- Hydrogeological Assessment Reports for the Coffeen, Edwards, Grand Tower, Meredosia, and Newton Energy Centers – Natural Resources Technology ("NRT")
- Affidavit of Duane Harley, Senior Director of Engineering for Ameren Energy Resources
- Ash Pond Location Maps

AER has included the completed hydrogeological assessment reports for surface impoundments located at five of the eight energy centers covered by this rule. Reports for the remaining sites are not yet complete. The reports included in the TSD describe the existing physical conditions and character of the area involved at each energy center. These reports are examples of how AER will characterize the surface impoundments located at the remaining sites should the Board adopt the proposed closure framework.

III. THE SITES AND THE AREA AFFECTED BY THE PROPOSED RULE

The surface impoundments that are subject to his rule are located at the Coffeen Power Station located in Montgomery County, the Duck Creek Power Station located in Fulton County, the E.D. Edwards Power Station located in Peoria County, the Grand Tower Power Station located in Jackson County, the Joppa Power Station located in Massac County, the Hutsonville Power Station located in Crawford County, the Meredosia Power Station located in Morgan County, and the Newton Power Station located in Jasper County. AER's power stations are located near large water bodies either on rivers (the Illinois River, Wabash River, Mississippi River, and Ohio River) or cooling reservoirs (Coffeen, Newton, Duck Creek).

Because coal is the primary boiler fuel source, the plants generate large quantities of ash as a byproduct of the combustion process. Coal combustion by-product (CCB material) is managed on-site by removing the material from the hoppers located beneath the boiler

units and then conveying such material to surface impoundments. While some of AER's facilities now manage ash in a dry state, historically ash is transported via sluice waters from hoppers located underneath the boiler to the ash impoundments. To ensure that excess solids are not released into river or lake systems, the ash impoundments are constructed so as to allow CCBs to settle into the basins. Sluice waters are then recycled back through the plant process or discharged into an adjacent river or receiving lake. The impoundments are operated in accordance with permits issued by the IEPA Bureau of Water and are regulated as water treatment devices.

IV. AVAILABLE TREATMENT OR CONTROL OPTIONS

The proposed rule provides for closure with the existing ash to remain in place. AER considered other closure options, including the removal and disposal off-site at a commercial landfill, and the excavation and disposal on-site in landfills that would need to be constructed. Each of the options would require excavation of ponded ash material and are economically infeasible due to the exorbitant costs. In fact, in the *Hutsonville Rule*, the Board agreed that the excavation and disposal of ash from Ash Pond D, whether on-site or off-site, was not a viable option.[11]

Subpart B proposes as a presumptive remedy for each of the ash ponds the same basic geosynthetic membrane cap and final cover system that is part of the *Hutsonville Rule*.[12] The cover system meets the performance requirements of the general landfill regulations and will effectively minimize infiltration of surface water into the impoundment. Section 840.226 also allows IEPA to approve an alternative geomembrane cover. For example, IEPA has approved, on an interim basis, the use of a geomembrane cover with embedded solar panel

[11] *Hutsonville Rule*, R09-21, First Notice Opinion and Order, slip op. at 69 (Oct. 7, 2010).

[12] The Board found the geomembrane cap and final cover system in the *Hutsonville Rule* technically feasible and economically reasonable. *Hutsonville Rule*, R09-21, First Notice Opinion and Order, slip op. at 69 (Oct. 7, 2010).

technology at another Illinois site. This provision may allow the Company and IEPA flexibility to evaluate new technologies of equal or greater performance in the future. Additional groundwater management alternatives, such as a groundwater collection trench or other barrier, can be evaluated as part of the closure plan process based on the site-specific conditions at each facility.

V. ENVIRONMENTAL IMPACT OF PROPOSED RULE

The Board's promulgation of this proposed rule will beneficially impact the environment by reducing the contaminants released from AER ash impoundments to Illinois groundwater. Reducing the impact to groundwater from these facilities will enhance protection of human health and the environment. Since there is no system of Board regulations that directly manage the closure or post-closure of these impoundments, the adoption of this proposed rule will put in place an enforceable process that assures that these beneficial environmental impacts become a reality. The proposal provides for groundwater monitoring so that impacts to the environment can be measured through closure and post-closure time periods. Finally the proposal provides for mechanisms for Agency oversight at all important steps of the process so that potential environmental impacts can be evaluated at each point of the process.

USEPA's coal ash pond proposal provides two potential options (co-proposals) for closing coal ash ponds: one under Subtitle C and one under Subtitle D (USEPA also discussed within the Subtitle D proposal an option it identified as "D prime"). The revisions to Subtitle C would modify various provisions that have historically applied to hazardous wastes.

USEPA's proposal is extremely controversial. In response USEPA received over 400,000 comments. Every company with a coal ash impoundment, including AER, that commented, expressed a preference for the Subtitle D co-proposal over the Subtitle C co-

proposal. Every State environmental regulatory agency, IEPA, that commented, expressed a preference for Subtitle D over Subtitle C.

Current estimates suggest that USEPA will adopt a final rule sometime in 2014. At a minimum, given the level of controversy at a national level, it will be years before a federal coal ash rule is finalized. Once finalized, the Subtitle D option allows between five and seven years before facilities are required to close the surface impoundment. The timeframe could be much longer under the Subtitle C option. Under Subtitle C, USEPA has not typically required existing landfills to be retrofitted to meet new requirements and USEPA's Subtitle C co-proposal does not adopt more stringent requirements for coal combustion residual ("CCR") sites. However, under the proposal, existing units would have to meet the groundwater monitoring, corrective action, and other requirements of the subtitle C regulations to assure that any groundwater releases from the unit were identified and promptly remediated. On the other hand, where a nonhazardous waste surface impoundment is storing a waste that becomes newly subject to the RCRA hazardous waste requirements, the Subtitle C proposal would require these surface impoundments either to be closed or upgraded to meet the minimum technology requirements within four years.

Delays are inherent to the federal rulemaking process and it is likely the rule will be appealed. Once the federal rule is finalized, states must adopt the rule, which could take years. Given these considerations, it is likely that by proceeding under the proposed prioritization methodology many of AER's surface impoundments will already be undergoing closure before the federal timeframe has even started. AER's proposal commits the owner or operator of these facilities to implement any more stringent federal requirements. Further, this proceeding offers clear environmental benefits at a pace that is economically manageable and generally in accordance with the timelines required by USEPA should the CCR rule be finalized following judicial challenge.

VI. ECONOMIC IMPACT

AER estimates that the capital costs associated with fleet-wide closure in place and capping with the geosynthetic membrane could total approximately $120 million.[13] These figures reflect the cap and closure costs alone. In addition, by taking ash ponds out of service, virtually all of the power stations must transition to a dry ash handling process. Costs associated with such conversions range from approximately $12 to $31 million depending on the facility.[14] Current estimates on a fleet-wide basis total $105 million, in addition to the $120 million estimate above. These costs are only manageable if prioritized and spread out over several years to evenly distribute their impact. Therefore, the selected closure scenario applicable to the surface impoundments closed under the proposed rule is economically viable for AER.

Both the Board and USEPA have acknowledged the extraordinary costs required to excavate and retrofit existing ash impoundments. In the *Hutsonville Rule*, the Board agreed that given the exorbitant costs of removing the entire volume of waste and disposing of the ash off-site or on-site in a newly constructed landfill, along with other site-specific technical concerns, those options were not feasible for Ash Pond D.[15] In discussing the Subtitle D option, USEPA recognized that owners and operators will not opt to retrofit impoundments and that "many surface impoundments may close as a result of these requirements."[16] To compensate for the lack of disposal capacity, USEPA's proposal will allow certain existing landfills to vertically expand without retrofitting, stating "EPA expects that allowing such vertical expansion will allow for increased capacity, which will be particularly important, if,

[13] TSD, pg. 000532.

[14] TSD, pg. 000534.

[15] *Hutsonville Rule*, R09-21, First Notice Opinion and Order, slip op. at 69 (Oct. 7, 2010).

[16] *CCR Rule*, 75 Fed Reg. 35128, 35199 (Jun. 21, 2010).

as EPA expects, many surface impoundments would close, should this regulation be adopted." Therefore it is well-established that the costs of excavation, retrofitting to meet liner, groundwater monitoring, and leachate collection requirements, and replacement of coal combustion residuals is extraordinarily expensive. As with Ash Pond D in the *Hutsonville Rule*, the costs of excavating the entire volume of waste of each of the historical ash impoundments subject to this rule and either disposing of the waste off-site or constructing new on-site CCR landfills would be prohibitively expensive.

VII. SUMMARY OF PROPOSED NEW PART 840 SUBPART B

Part 840, Subpart B sets forth the requirements that apply to the closure of Ameren's ash impoundments where there is one or more demonstrated exceedences of applicable groundwater quality standards. These requirements will apply to as many as 16 surface impoundments at 8 facilities in Illinois. These requirements exclude Ash Pond D at the Hutsonville Energy Center, which is subject to Subpart A, Agency permitted coal ash landfills, and surface impoundments subject to a groundwater management zone, including ash ponds located at the Venice Energy Center. No other provisions of the Board's rules would apply to the closure of AER's ash ponds upon adoption of this proposed rule.

Part 840, Subpart B builds on the success achieved with the Board's adoption of Part 840, Subpart A. Most of the provisions in Subpart B were taken directly from Subpart A, but with some adjustment given the magnitude of the proposal in this proceeding. The differences, and the reasoning supporting the differences, will be explained in testimony. The major significant difference in Subpart B is its applicability to surface impoundments located at a number of different sites, rather than a single impoundment. The provisions in Section 840.208 set forth a prioritization methodology for the orderly closure of coal ash impoundments based on potential for risk through human exposure pathways. Section 840.208 creates four categories of site closures. The first category addresses surface

impoundments causing actual impacts to potable water supplies on or offsite. The owner or operator of any impoundment that meets these criteria must submit a closure plan within 6 months of the effective date of this rule and must complete closure in accordance with Section 840.234.

The second category applies to surface impoundments that are causing exceedances of groundwater or surface water standards that could impact actual offsite users. For this category, the owner or operator must immediately assess the potential offsite impacts and take steps if necessary to mitigate the impact. The owner or operator of an ash impoundment that fits this category must submit a closure plan within three years and close the surface impoundment in accordance with Section 840.234.

The third category applies to surface impoundments that are (1) causing actual impacts offsite, but there is no complete pathway (for instance, an institutional control is in place prohibiting the potable use of groundwater), or (2) no current use of the resource as a potable water supply exists. For this category, the owner or operator must immediately assess the potential for use by a potable water supply and take steps to mitigate the potential for the human exposure pathway to become complete. The owner or operator of an ash impoundment that fits this category must submit a closure plan within six years and close the surface impoundment in accordance with Section 840.234.

The fourth category applies to surface impoundments causing exceedances of applicable groundwater water standards onsite only; however, if an existing water supply is adversely impacted, then Category 1 applies. The owner or operator of an ash impoundment that fits this category must submit a closure plan within eight years and close the surface impoundment in accordance with Section 840.234.

Section 840.208 provides that a coal ash impoundment can be re-categorized if information obtained after the initial categorization so demonstrates. Section 840.208 also

recognizes that there may be a potential for use impairment, even without an exceedance of numerical criteria in Part 620 and provides procedures to assure that the use impairment does not take place.

Sections 840.214 through 840.252 are based on similar provisions in Subpart A. These provisions will assure that groundwater is monitored throughout the corrective action process, up to and through post-closure. Section 840.226 establishes as a presumptive remedy that a surface impoundment subject to this rule will be capped and covered using a two layer system. The proposal, however, provides for the potential of technological advancements that may allow for the demonstration of other cover systems. Although the proposed rule specifies a capping requirement as a presumptive remedy, Section 840.230(c) also recognizes that other closure activities, such as the trench approved by the Board in Part 840, Subpart A, may be necessary to protect human health and the environment.

Finally, Section 840.252 provides that if the US EPA adopts a more stringent rule for closure of coal ash impoundments, that rule will control.

VIII. SYNOPSIS OF TESTIMONY

Mr. Michael Bollinger, on behalf of AER, will provide testimony in support of the facts and analyses described in this Statement of Reasons and in the Technical Support Document. Mr. Bollinger will also be able to provide testimony regarding the hydrogeologic studies and groundwater monitoring results. Mr. Duane Harley, Senior Director of Engineering for Ameren Energy Resources, will provide testimony regarding the surface impoundment systems and the financial implications of closing the surface impoundments in place at the various energy centers.

Mr. Gary King, the former manager of the Division of Remediation Management within the Illinois EPA's Bureau of Land was the lead Agency manager responsible for the adoption of the Tiered Approach to Corrective Action Objectives (TACO) (35 Ill. Adm. Code

742) and the Site Remediation Program (SRP) (35Ill. Adm. Code 740). The SRP is a voluntary cleanup program designed to be flexible because the goals and scope of actions are defined by the remediation applicant. The cleanup standards under TACO for each site are based on use, the potential for exposure to contaminants, and actual site conditions. Mr. King will provide testimony regarding the proposal's category-based approach to closing the Company's aging ash ponds and how the approach is protective of human health and the environment. He will discuss how the proposal builds on the successes achieved with Part 840, Subpart A to provide a system for closing ash ponds.

Lisa Bradley, Senior Toxicologist and Regional Program Manager with AECOM, will also be present to provide testimony regarding the human health and ecological risk assessment approach to closing the Company's surface impoundments.

IX. MATERIALS INCORPORATED BY REFERENCE

The proposed rulemaking does not incorporate any materials by reference. All materials relied upon, including any published study or research report, have been provided as part of the Technical Support Document or AER has provided web addresses for such materials. Where AER has provided only web addresses, it will provide hard copies upon request.

X. CERTIFICATION OF AMENDMENT OF MOST RECENT VERSION OF BOARD'S RULES

(Section 102.202(h))

AER certifies in accordance with 35 Ill. Adm. Code 102.202(i) that this proposal for amendments to 35 Ill. Adm. Code Part 840 amends the most recent version of the rules as published on the Illinois Pollution Control Board's website.

XI. PROPOSED RULE

The proposed new Part 840, Subpart B is attached.

Respectfully submitted,

AMEREN ENERGY RESOURCES

by: _____
One of its attorneys

Dated: April 9, 2013

Renee Cipriano
Amy Antoniolli
SCHIFF HARDIN LLP
233 South Wacker Drive, Suite 6600
Chicago, Illinois 60606
Tel: 312-258-5500
Fax: 312-258-5600

ENVIRONMENTAL PROTECTION AGENCY

NOTICE OF PROPOSED RULE

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

PART 840
SITE-SPECIFIC CLOSURES OF SURFACE IMPOUNDMENTS

SUBPART B: CLOSURE OF ASH PONDS LOCATED AT COFFEEN POWER STATION, DUCK CREEK POWER STATION, EDWARDS POWER STATION, GRAND TOWER POWER STATION, HUTSONVILLE POWER STATION, JOPPA POWER STATION, MEREDOSIA POWER STATION, AND NEWTON POWER STATION

Section

AUTHORITY: Implementing Section 22 of the Environmental Protection Act (415 ILCS 5/22) and Section 8 of the Illinois Groundwater Protection Act (415 ILCS 55/8), and authorized by Sections 22, 27, and 28 of the Environmental Protection Act (415 ILCS 5~~4~~/22, 27, and 28) and Section 8 of the Illinois Groundwater Protection Act (415 ILCS 55/8).

SOURCE: Adopted in R13- at _____ Ill. Reg. _____, effective _____, 20__.

SUBPART B: GENERAL PROVISIONS

Section 840.200 Purpose

This Subpart provides procedures and requirements for the closure of Ameren coal combustion surface impoundments with releases to groundwater that exceed applicable Illinois groundwater quality standards. The Ameren surface impoundments are owned or operated by Ameren Energy Generating Company, AmerenEnergy Resources Generating, and Electric Energy Incorporated. ("Ameren Companies") as of March 1, 2013 This rule will continue to apply to the defined Ameren surface impoundments even if the Ameren Companies transfer ownership or operation to one or more other entities in the future.

Section 840.202 Overview of Approach to Closure

a) This Subpart presents a methodology that establishes a set of priorities for an orderly approach to closure of the Ameren surface impoundments with releases to groundwater that exceed applicable groundwater quality standards in 35 Ill. Adm. Code Part 620. The priorities are contained in

four categories set forth in Section 840.208. These categories address the key elements of exposure routes, contaminants of concern, land use and water use. This methodology includes a consideration of human exposure pathways and an assessment of the groundwater and surface water impacts at each site to determine the order and expediency of closure.

b) This Part also establishes an evaluation process for the timely and efficient closure of these impoundments that takes into consideration any actual or potential impacts to human health and the environment, including groundwater monitoring and post-closure care.

Section 840.204 Scope and Applicability

a) Subject to subsection (b) of this Section, this Subpart applies to Ameren surface impoundments:

1) Owned or operated by Ameren Companies as of March 1, 2013 or their respective successors;

2) Containing coal combustion waste as more than 10% by volume;

3) Constructed prior to 1990; and

4) Currently operating under or have been subject to a water pollution control permit issued by the Agency.

b) This Part does not apply to any Ameren surface impoundment that:

1) Has a liner below the surface impoundment consisting of a geosynthetic material that provides the equivalent or better performance of at least two feet of compacted soil with a hydraulic conductivity of no more than 1 x 10-7 cm/sec.;

2) Operated under a solid waste landfill permit issued by the Agency;

3) Is subject to Subpart A of this Part 840;

4) Prior to the effective date of this rule, was subject to a groundwater management zone established pursuant to or has met the standards

applicable to a groundwater management zone in accordance with 35 Ill. Adm. Code 620.250;

5) Does not have a groundwater concentration attributed to a release of a contaminant from the impoundment that exceeds applicable groundwater quality standards set forth in 35 Ill. Adm. Code Part 620; or

6) Is subject to a compliance program, including closure, under the terms and conditions of a court-entered consent order in which the State of Illinois is a party.

c) The owner or operator shall determine the date on which each Ameren surface impoundment must begin closure based on the site category applicable in Section 840.208.

Section 840.206 Definitions

Unless otherwise specified, the definitions of the Environmental Protection Act ("Act") [415 ILCS 5] apply to this Part. As used in this Part, each of the following definitions has the specified meaning:

"Agency" is the Illinois Environmental Protection Agency.

"Ameren surface impoundments" means surface impoundments at the following electric generating stations:

Coffeen Energy Center

Duck Creek Energy Center

E.D. Edwards Energy Center

Grand Tower Energy Center

Hutsonville Energy Center

Joppa Energy Center

ENVIRONMENTAL PROTECTION AGENCY

NOTICE OF PROPOSED RULE

Meredosia Energy Center

Newton Energy Center

"Aquifer" means saturated (with groundwater) soils and geologic materials which are sufficiently permeable to readily yield economically useful quantities of water to wells, springs, or streams under ordinary hydraulic gradients. [415 ILCS 55/3(b)]

"Board" means the Illinois Pollution Control Board.

"Coal combustion waste" means any fly ash, bottom ash, slag, flue gas or fluid bed boiler desulfurization by-products, or incidental boiler blow down generated as a result of the combustion of:

a) *Coal,*

b) *Coal in combination with (i) fuel grade petroleum coke, (ii) other fossil fuel, or (iii) both fuel grade petroleum coke and other fossil fuel, or*

c) *Coal (with or without: (i) fuel grade petroleum coke, (ii) other fossil fuel, or (iii) both fuel grade petroleum coke and other fossil fuel) in combination with no more than 20% of tire derived fuel or wood or other materials by weight of the materials combusted.*

"Contaminant" means any solid, liquid or gaseous matter, any odor, or any form of energy, from whatever source. [415 ILCS 5/3.165]

"Human Exposure Pathway" means a physical condition which may allow for a risk to human health based on the presence of all of the following: contaminants of concern; an exposure route; and a receptor activity at the point of human exposure that could result in contaminant of concern intake.

"Off-site" or "outside the boundaries of the site" means not on-site.

"On-site", "on the site", or "at the site" means the same or geographically contiguous property owned by Ameren companies, including surface water bodies within the contiguous property, where an electric generating station is located that has within its boundaries one or more Ameren surface impoundments. The site may

be divided by public or private right-of-way, provided the entrance and exit between the properties is at a crossroads intersection and access is by crossing as opposed to going along the right-of-way. Noncontiguous properties that are connected by a right-of-way controlled by an Ameren company and to which the public does not have access are also considered on-site property.

"Operator" means the person responsible for the operation of the Ameren surface impoundment.

"Owner" means the person who owns the Ameren surface impoundment.

"Person" is any individual, partnership, co-partnership, firm, company, limited liability company, corporation, association, joint stock company, trust, estate, political subdivision, State agency, or any other legal entity, or their legal representative, agent or assigns. [415 ILCS 5/3.315]

"Potable" means *generally fit for human consumption in accordance with accepted water supply principles and practices.* (Illinois Groundwater Protection Act [415 ILCS 55/3(h)])

"Professional engineer" means a person who has registered and obtained a seal pursuant to the Professional Engineering Practice Act of 1989. [225 ILCS 325]

"Professional geologist" means a person licensed under the laws of the State of Illinois to practice as a professional geologist. [415 ILCS 5/58.2]

"Site" means any location, place, tract of land and facilities, including but not limited to, buildings, and improvements used for purposes subject to regulation or control by the Act or regulations thereunder. [415 ILCS 5/3.460]

"Statistically significant increasing trend" means the application of a Mann-Kendall analysis performed at 95 percent confidence to determine whether consecutive groundwater sampling data showing greater or lesser concentrations of constituents is statistically significant.

"Surface impoundment" means a natural topographic depression, a man-made excavation, or a diked area into which coal combustion wastes and free liquids are placed. For purposes of this Part, the Act, or any other Board rule, a surface impoundment that contains coal combustion waste is not a landfill. For purposes of this Part, the Act, or any other Board rule, a surface impoundment that contains

coal combustion waste is not a surface water body. For purposes of this Part, "attributable to a release from the surface impoundment" does not include (1) any NPDES discharge permitted by the Agency, (2) any exceedance of an applicable groundwater standard due to natural causes, or (3) any exceedance due to a source other than the surface impoundment.

Section 840.208 Site Closure Categories

a) Category 1. Impact to Existing Potable Water Supply: Closure Plan within Six Months

1) Category I applies to any Ameren surface impoundment where a Hydrogeologic Site Investigation performed in accordance with Section 840.214 shows that an existing potable water supply, either groundwater or surface water, is impacted by a contaminant attributable to the surface impoundment. An existing potable water supply is impacted if the level of a contaminant is attributable to a release from the surface impoundment that exceeds:

A) For groundwater, a Class I Groundwater Standard in 35 Ill. Adm. Code 620 within the setback of the existing groundwater supply; or

B) For surface water, a Public and Food Processing Water Supply Standard in 35 Ill. Adm. 302 Subpart C at the point at which water is withdrawn for treatment and distribution.

2) If an Ameren surface impoundment meets the criteria for Category I, the owner or operator must take immediate steps to mitigate the impact to any existing water supply.

3) If Category 1 applies, the owner or operator shall submit a closure plan to the Agency that meets Section 840.228 within six months after the effective date of this rule and shall complete closure of the surface impoundment in accordance with Section 840.234.

4) If use of the existing potable water supply is restricted such that it is no longer a point at which human consumption may reasonably be expected to occur, the owner or operator shall evaluate whether

a different site category is applicable as provided in Subsection (f) of this Section.

b) Category 2. Impact to Off-Site Water Supply Resource in Use as a Potable Water Supply: Closure Plan within Three Years

1) Unless Category 1 applies, Category 2 applies to any Ameren surface impoundment where a Hydrogeologic Site Investigation performed in accordance with Section 840.214 shows that an off-site potable water supply that is being used, either groundwater or surface water, is potentially impacted by a contaminant attributable to a release from the surface impoundment. A potable water supply is potentially impacted if:

A) Off-site groundwater is classified as Class I, the off-site concentration of a contaminant attributed to a release from the impoundment exceeds a Class I Groundwater Standard in 35 Ill. Adm. Code 620, and a potential migration pathway exists between the impoundment and a potable well that is in use; or

B) For off-site surface water, the level of a contaminant attributed to a release from the impoundment exceeds a Public and Food Processing Water Supply Standard in 35 Ill. Adm. 302 Subpart C outside of the area and volume of the receiving water within which mixing would be allowable for discharges under 35 Ill. Adm. Code 302.102.

2) If an Ameren surface impoundment meets the criteria for Category 2, the owner or operator must take immediate action to assess the potential for impact to any person using the groundwater or surface water as a potable water supply and take steps if necessary to mitigate any impact or restrict the use of any potable water supply. Such assessment could include additional monitoring and evaluation of off-site groundwater quality data; groundwater modeling; location of receptor and depth of receptor well; groundwater flow patterns and other site specific or geologic criteria.

3) If Category 2 applies, and the potential for impact cannot be

mitigated the owner or operator shall submit a closure plan to the Agency that meets Section 840.228 within three years after the effective date of this rule and shall complete closure of the surface impoundment in accordance with Section 840.234.

c) Category 3. Impact to Off-Site Water Supply Resource Not Currently in Use as a Potable Water Supply: Closure Plan within Six Years

1) Unless Category 1 or 2 applies, Category 3 applies to any Ameren surface impoundment where a Hydrogeologic Site Investigation performed in accordance with Section 840.214 shows that an off-site water supply resource, either groundwater or surface water, is potentially impacted by a contaminant attributable to a release from the surface impoundment. A water supply resource is impacted if

A) Off-site groundwater is classified as Class I, the off-site concentration of a contaminant attributed to a release from the impoundment exceeds a Class I Groundwater Standard in 35 Ill. Adm. Code 620, and either:

(i) no current use of the resource as a potable water supply exists; or

(ii) a current use of the resource as a potable water supply exists, but no potential migration pathway exists between the impoundment and a potable well that is in use; or

B) For off-site surface water, the level of a contaminant in groundwater discharging into a surface water exceeds a Public and Food Processing Water Supply Standard in 35 Ill. Adm. 302 Subpart C outside of the area and volume of the receiving water within which mixing would be allowable for discharges under 35 Ill. Adm. Code 302.102.

2) If an Ameren surface impoundment meets the criteria for Category 3, the owner or operator must take immediate action to assess the potential for use of the groundwater or surface water by a potential potable water supply user and take steps to mitigate the potential

for the human exposure pathway to become complete or restrict potential potable water use. Such assessment could include additional monitoring and evaluation of off-site groundwater quality data; groundwater modeling; location of receptor and depth of receptor well; groundwater flow patterns and other site specific or geologic criteria.

3) If Category 3 applies, the owner or operator shall submit a closure plan to the Agency that meets Section 840.228 within six years after the effective date of this rule and shall complete closure of the surface impoundment in accordance with Section 840.234.

d) Category 4. Impact Only to On-Site Water: Closure Plan within Eight Years

1) Unless Category 1, 2 or 3 applies, Category 4 applies to any Ameren surface impoundment where a Hydrogeologic Site Investigation performed in accordance with Section 840.214 shows that on-site groundwater or surface water is impacted by a contaminant attributable to the surface impoundment, but no off-site groundwater or surface water is impacted or potentially impacted. On-site groundwater or surface water is impacted if

A) For on-site groundwater, the level of a contaminant exceeds a groundwater standard in 35 Ill. Adm. Code 620 applicable to its class of groundwater; or

B) For on-site surface water, the level of a contaminant in groundwater discharging into a surface water exceeds a Public and Food Processing Water Supply Standard in 35 Ill. Adm. 302 Subpart C outside of the area and volume of the receiving water within which mixing would be allowable for discharges under 35 Ill. Adm. Code 302.102.

2) If an Ameren surface impoundment meets the criteria for Category 4, the owner or operator must take action to assess the potential for use of the groundwater or surface water by a water supply and take steps to mitigate the potential for the human exposure pathway to become complete or restrict potential potable water use.

3) If Category 4 applies, the owner or operator shall submit a closure plan to the Agency that meets Section 840.228 within eight years after the effective date of this rule and shall complete closure of the surface impoundment in accordance with Section 840.234.

e) Within 120 days after the effective date of this rule, the owner or operator shall submit to the Agency a notification for each Ameren surface impoundment stating the Site Category determined for each impoundment and the basis for the determination.

f) Re-Categorization Demonstration. If, following establishment of a Site Category for an Ameren surface impoundment, the owner or operator obtains information demonstrating that an impoundment should be placed in a different site category, the owner or operator shall notify the Agency and submit a closure plan that meets Section 840.228 within the time frame applicable for the category, unless the timeframe for that category has passed, in which case within six months from the date of notification. Such demonstration may include the following factors or criteria: additional monitoring and evaluation of off-site groundwater quality data; groundwater modeling; location of receptor and depth of receptor well; groundwater flow patterns and other site specific or geologic criteria.

g) Potential for Use Impairment

1) As provided in Section 840.218, the owner or operator of an Ameren surface impoundment shall evaluate whether, even in the absence of exceedances of applicable numerical groundwater standards in 35 Ill. Adm. Code Part 620, Subpart D, a statistically significant increasing trend that can be attributed to the surface impoundment demonstrates a potential for use impairment of an off-site potable water supply or off-site potable water supply resource. The trend analysis shall be based on constituents monitored in accordance with Section 840.218. For purposes of Subsection (g)(2) of this Section, a potential for use impairment shall only be demonstrated if:

A) Treatment or additional treatment would be necessary for an existing potable water supply to continue to supply potable water that meets applicable standards;

B) Treatment would be necessary for a potential potable water supply intending to supply potable water that meets applicable standards; or

C) An existing or potential use of the offsite groundwater as a potential water supply would not be possible even if treatment or additional treatment would be applied.

2) If an Ameren surface impoundment meets the criteria for potential use impairment under Subsection (g)(1) of this Section, the owner or operator shall estimate the time frame by which such use impairment is likely to occur. The owner or operator shall submit a closure plan to the Agency that meets Section 840.234 based on the estimate of potential use impairment with the goal of closing the surface impoundment within a time frame such that the use impairment does not occur.

Section 840.209 Voluntary Closure

The owner or operator of an Ameren surface impoundment that does not have a release to groundwater that exceeds applicable Illinois groundwater quality standards may otherwise use the procedures and requirements of this Subpart to close that impoundment.

Section 840.210 Abbreviations and Acronyms

Agency	Illinois Environmental Protection Agency
CQA	Construction Quality Assurance
GMZ	Groundwater Management Zone
mg/L	milligrams per liter
NPDES	National Pollutant Discharge Elimination System
TDS	total dissolved solids

Section 840.212 Incorporations by Reference

a) The Board incorporates the following material by reference:

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

"Methods for Chemical Analysis of Water and Wastes," March 1983, Doc. No. PB84-128677. EPA 600/4-79-020 (available on-line at http://nepis.epa.gov/).

"Methods for the Determination of Inorganic Substances in Environmental Samples," August 1993, Doc. No. PB94-120821 (referred to as "USEPA Environmental Inorganic Methods"). EPA 600/R-93-100 (available online at http://nepis.epa.gov/).

"Methods for the Determination of Metals in Environmental Samples," June 1991, Doc. No. PB91-231498. EPA 600/4-91-010 (available on-line at http://nepis.epa.gov/).

"Methods for the Determination of Metals in Environmental Samples Supplement I," May 1994, Doc. No. PB95-125472. EPA 600/4-94-111 (available on-line at http://nepis.epa.gov).

"Methods for the Determination of Organic and Inorganic Compounds in Drinking Water: Volume I," EPA 815-R-00-014 (August 2000) (available on-line at http://nepis.epa.gov).

"Practical Guide for Ground-Water Sampling," EPA Publication No. EPA/600/2-85/104 (September 1985), Doc. No. PB 86-137304, "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," USEPA Publication No. SW-846, as amended by Updates I, II, IIA, IIB, III, IIIA, and IIIB (Doc. No. 955-001-00000-1), (available on-line at http://www.epa.gov/epaoswer/hazwaste/test/main.htm).

USGS. United States Geological Survey, 1961 Stout St., Denver CO 80294, (303) 844-4169.

"Techniques of Water Resources Investigations of the United States Geological Survey, Guidelines for Collection and Field Analysis of Ground-Water Samples for Selected Unstable Constituents," Book I, Chapter D2 (1976).

b) This Section incorporates no later editions or amendments.

Section 840.214 Hydrogeologic Site Investigation

The owner or operator must design and implement a hydrogeologic site investigation to determine the nature and extent of contamination, if any, originating from Ameren surface impoundments and to develop hydrogeologic information for the uses set forth in this Part to determine the site category for each Ameren surface impoundment as required by Section 840.208(e). A hydrogeologic site investigation used to satisfy the requirements of this Section must contain hydrogeologic information sufficient for the following uses:

a) To define hydrogeology, including background conditions, and assess whether there are groundwater impacts associated with releases from the surface impoundment and, if so, the extent of such impacts;

b) To provide information to perform a model to assess the groundwater impacts associated with the surface impoundment;

c) To provide information to establish a groundwater monitoring system; and

d) To provide information to assess whether there are surface water impacts, including impacts to potable water resources and designated beneficial uses, associated with releases from the surface impoundment and, if so, the extent of such impacts.

Section 840.216 Groundwater Monitoring System

The owner or operator must design and install a groundwater monitoring system that enables it to monitor groundwater to evaluate groundwater quality and trends and to demonstrate compliance with the applicable groundwater quality standards at designated compliance points as set forth in Sections 840.220 and 840.222 of this Subpart. If approved in the groundwater monitoring program, any groundwater monitoring well in operation as of the effective date of these rules that complies with the requirements set forth in this Section may be used in satisfying the requirements of this Section.

a) Standards for monitoring well design and construction.

1) All monitoring wells must be cased in a manner that maintains the integrity of the bore holes.

2) Wells must be screened to allow sampling only at the specified interval.

3) All wells must be covered with vented caps, unless located in flood-prone areas, and equipped with devices to protect against tampering and damage.

b) The groundwater monitoring system must consist of a sufficient number of wells, installed at appropriate locations and depths to yield groundwater samples to:

1) Represent the quality of background water that has not been affected by contamination from Ameren surface impoundments at the site;

2) Represent the quality of groundwater at the compliance point or points; and

3) Determine compliance with Sections 840.220 and 840.222 of this Subpart.

c) Monitoring wells must be located in stratigraphic horizons that could serve as contaminant pathways.

d) The groundwater monitoring system approved in the groundwater monitoring program must include a maintenance plan.

Section 840.218 Groundwater Monitoring Program

The owner or operator must develop a groundwater monitoring program that enables it to monitor groundwater to evaluate groundwater quality both on-site and, if necessary, off-site to demonstrate compliance with Sections 840.220 and 840.222 of this Subpart. Within six months after the effective date of this rule, the owner or operator must prepare and submit to the Agency for review and approval, Groundwater Monitoring Programs for the Ameren surface impoundments. If an existing program meeting the requirement of this Section is not already in place, the owner or operator must begin the groundwater monitoring program upon completion of the installation of the groundwater monitoring system in accordance with Section 840.216 of this Subpart and the approved closure plan. The groundwater monitoring program must comply with following requirements:

a) The owner or operator must monitor each well included in the groundwater monitoring system pursuant to Section 840.216 on a quarterly basis for the

constituents identified in 35 Ill. Adm. Code 620.410(a) and (d) except radium-226 and radium-228. For wells in Class IV groundwater, monitoring shall be consistent with 35 Ill. Adm. Code 620.440. Any constituent that is not detectable in the down-gradient wells for four consecutive quarters or has a concentration that does not differ to a statistically significant degree from the concentration detected in the up-gradient wells for four consecutive quarters may be removed from the monitoring program in both the up-gradient and down-gradient wells with the exception of boron, pH, sulfate, and TDS. The owner or operator must also monitor for the following: specific conductance, groundwater elevation, and monitoring well depth.

b) Five years after approval of the Groundwater Monitoring Program, the owner or operator of an Ameren surface impoundment may request modification of the Groundwater Monitoring Program to reduce the frequency of groundwater monitoring to semi-annual sampling by demonstrating all of the following:

1) That monitoring effectiveness will not be compromised by the reduced frequency of monitoring;

2) That sufficient data has been collected to characterize groundwater; and

3) That concentrations of constituents monitored pursuant to subsection (a) of this Section at the down-gradient edge of the contaminant plume or, if extending off-site, the down-gradient property boundary, show no statistically significant increasing trends that can be attributed to the surface impoundment.

c) If concentrations of constituents monitored pursuant to subsection (a) of this Section at the down-gradient edge of the contaminant plume or, if extending off-site, the down-gradient property boundary show no statistically significant increasing trends that can be attributed to the surface impoundment for the five years after reducing the monitoring frequency to semiannual, the owner or operator may request modification of the post-closure care plan to reduce monitoring frequency to annual sampling by demonstrating all of the factors set forth in subsections (b)(1) through (b)(3) of this Section.

d) The owner or operator may discontinue groundwater monitoring upon Agency approval of the certified post-closure care report required by Section 840.242.

e) Sampling and analysis data from groundwater monitoring and decisions to remove any constituent from the monitoring program must be reported to the Agency as provided in Section 840.244 of this Subpart.

f) Representative samples from the groundwater monitoring system must be collected and analyzed in accordance with the procedures for groundwater monitoring and analysis set forth in the following documents, incorporated by reference at Section 840.212 of this Subpart, or other procedures approved by the Agency in the closure plan or post-closure care plan:

1) "Methods for Chemical Analysis of Water and Wastes";

2) "Methods for the Determination of Inorganic Substances in Environmental Samples";

3) "Methods for the Determination of Metals in Environmental Samples";

4) "Methods for the Determination of Metals in Environmental Samples - Supplement I";

5) "Methods for the Determination of Organic and Inorganic Compounds in Drinking Water: Volume I";

6) "Practical Guide for Ground-Water Sampling";

7) "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods" (SW-846), as amended by Updates I, II, IIA, IIB, III, IIIA, and IIIB;

8) "Techniques of Water Resources Investigations of the United States Geological Survey, Guidelines for Collection and Field Analysis of Ground-Water Samples for Selected Unstable Constituents."

g) The owner or operator of an Ameren surface impoundment must establish a groundwater monitoring quality assurance program for sample collection, preservation and analysis.

h) On an annual basis the owner or operator of an Ameren surface impoundment shall evaluate the results of groundwater sampling to determine if the impoundment needs to be re-categorized in accordance with Section

840.208(f). This evaluation shall also address whether, even in the absence of exceedances of applicable numerical groundwater standards in 35 Ill. Adm. Code 620, Subpart D, a statistically significant increasing trend that can be attributed to the surface impoundment demonstrates a potential for use impairment as provided in Section 840.208(g)(1). The trend analysis shall be based on constituents monitored in accordance with this Section. If such a statistically significant increasing trend is demonstrated, the owner or operator shall include such information in evaluating the need for closure of the impoundment under Section 840.208 (g)(2).

Section 840.219 Contents of Groundwater Monitoring Program

The Groundwater Monitoring Program must contain, at a minimum, the following information or documents:

a) Site map. The site map must identify all pertinent features and buildings at the site and must clearly identify the following:

1) All of the surface impoundments located at the site; and

2) All existing and proposed groundwater monitoring wells.

b) Description of the Ameren surface impoundments. The description must include all of the following information:

1) A description of the contents of each surface impoundment;

2) The estimated volume of material contained in each surface impoundment; and

3) An analysis of the structural integrity of each surface impoundment.

c) Description and results of any hydrogeologic site investigation performed at the site.

d) Plans, specifications and drawings for the groundwater monitoring system required by Section 840.216 of this Subpart, including, but not limited to,

a description of the maintenance plan required by Section 840.216(d).

e) Description of the groundwater monitoring required by Section 840.218 of this Subpart including, but not limited to, a description of the quality assurance program for sample collection, preservation and analysis.

Section 840.220 Groundwater Quality Standards

a) On-site, prior to the completion of the post-closure care period, the applicable groundwater quality standards at the site for concentrations of contaminants from Ameren surface impoundments are the concentrations as determined by groundwater monitoring, if those concentrations exceed the numeric standards for the applicable class of groundwater as set forth in 35 Ill. Adm. Code 620. After completion of the post-closure care period, the on-site concentrations of contaminants from Ameren surface impoundments, as determined by groundwater monitoring, if those concentrations exceed the numeric standards for the applicable class of groundwater as set forth in 35 Ill. Adm. Code 620, are the applicable groundwater standards at the site if:

1) To the extent practicable, the exceedence has been minimized and beneficial use, as appropriate for the class of groundwater, has been returned on-site;

2) Any threat to human health or the environment on-site has been minimized; and

3) An institutional control prohibiting potable uses of groundwater is placed on the site in accordance with the Uniform Environmental Covenants Act [765 ILCS 122] or an alternative instrument authorized for environmental uses under Illinois law and approved by the Agency. Existing potable uses of groundwater may be preserved as long as those uses remain fit for human consumption in accordance with accepted water supply principles.

b) Off-site, the applicable groundwater quality standards are the numeric standards for the applicable class of groundwater as set forth in 35 Ill. Adm. Code 620, unless a groundwater management zone (GMZ) has been established as provided in 35 Ill. Adm. Code 620.250 with the written

permission of the affected owners so that monitoring wells may be installed and other corrective actions designed and implemented as necessary to achieve compliance with 35 Ill. Adm. Code 620.

1) A GMZ for off-site properties with groundwater contamination from an Ameren surface impoundment and any related design and construction activities must be proposed and approved in the closure plan or post-closure care plan or any modification of those plans, as appropriate.

2) Groundwater quality standards for an off-site GMZ are set forth at 35 Ill. Adm. Code 620.450(a)(4).

Section 840.222 Demonstration of Compliance

a) Compliance with the on-site and off-site groundwater quality standards set forth in Sections 840.220 of this Subpart:

1) Compliance with on-site groundwater quality standards will be achieved when no statistically significant increasing trend that can be attributed to Ameren surface impoundments is detected in the concentrations of all constituents monitored in accordance with Section 840.218 of this Subpart at the down-gradient edge of the contaminant plume or, if extending off-site, the down-gradient property boundary for four consecutive years after changing to an annual monitoring frequency pursuant to Section 840.214(c) of this Subpart.

2) Compliance with off-site groundwater quality standards:

A) Compliance with off-site groundwater quality standards set forth in Section 840.220(b) of this Subpart will be achieved when:

i) No statistically significant increasing trend that can be attributed to the surface impoundment is detected in concentrations of constituents monitored in accordance with Section 840.218 of this Subpart at the down-gradient boundaries of the site for four

consecutive years after changing to an annual monitoring frequency pursuant to Section 840.218(c) of this Subpart; and

ii) All concentrations of constituents monitored in accordance with Section 840.218 of this Subpart are at or below the applicable groundwater quality standards as provided in Section 840.220(b) of this Subpart at the down-gradient boundaries of the site.

b) For purposes of demonstrating compliance, and commencing twenty-four months following submission of the Construction Quality Assurance Report set forth in Section 840.246 of this Subpart,

1) The owner or operator must perform an annual trend analysis for each monitoring well located at the down-gradient boundaries of the site for all constituents monitored in accordance with Section 840.218 of this Subpart, based on a minimum of eight consecutive samples, by applying Sen's Estimate of Slope.

2) If a groundwater management zone for off-site properties is established as provided in Section 840.220(b) of this Subpart, the demonstration of compliance will be determined as set forth in the GMZ approved in the closure plan or post-closure care plan, as appropriate.

c) Compliance with nondegradation standards during closure and post-closure care periods:

1) If the results of sampling and analysis show an increasing trend at any monitoring well located at the down-gradient boundaries of the site, a Mann-Kendall analysis must be performed at 95 percent confidence to determine whether the increasing trend is statistically significant. The owner or operator of the site must investigate the cause of a statistically significant increasing trend as determined under subsection (b) of this Section. If the statistically significant increasing trend occurs during post-closure care, such investigation must include more frequent inspection of the surface of the cover system and evaluation of background concentrations.

A) If an investigation performed in accordance with subsection (c)(1) of this Section attributes a statistically significant increasing trend to a superseding cause, the owner or operator must notify the Agency in writing, stating the cause of the increasing trend and providing the rationale used in such a determination.

B) If there is no superseding cause for the statistically significant increasing trend and sampling frequency has been reduced pursuant to Sections 840.218(b) or (c) of this Subpart to semiannual or annual sampling, the owner or operator must return to a quarterly sampling schedule. After four consecutive quarterly samples show no statistically significant increasing trend, the frequency of groundwater monitoring may be returned to either semi-annual or annual, whichever frequency was utilized prior to the return to quarterly sampling.

C) For purposes of this subsection (c)(1), notifications concerning statistically significant increasing trends and revisions of the sampling frequency must be reported to the Agency in writing within 30 days after making the determinations as provided in Section 840.244(f) of this Subpart.

2) If a statistically significant increasing trend is observed to continue over a period of two or more consecutive years and there are no superseding causes for the trend, the owner or operator must perform the following:

A) A hydrogeologic investigation; and

B) Additional site investigation, if necessary.

3) Based on the outcome of the activities required by subsection (c)(2) of this Section, the owner or operator must take action to mitigate statistically significant increasing trends that are causing, threatening or allowing exceedences of off-site groundwater

quality standards as set forth in Section 840.220(b). Such actions must be proposed as a modification to the post-closure care plan within 180 days after completion of the activities required by subsection (c)(2) of this Section.

Section 840.224 Final Slope and Stabilization

a) All final slopes must be designed and, in conjunction with the final cover, constructed to a grade capable of minimizing erosion.

b) Where feasible, all slopes must be designed to drain runoff away from the cover and to prevent excess ponding.

c) The Ameren surface impoundment must meet the stability criteria of 35 Ill. Adm. Code 811.304.

d) The owner or operator may use coal combustion waste generated at the site in establishing the final grade and slope as provided below:

1) The earthen berms surrounding the surface impoundment must be regraded to eliminate any freeboard between the top of the berm and the adjacent surface of the coal combustion waste;

2) Additional coal combustion waste only may be placed directly on top of coal combustion waste that is already in place;

3) The final slope of the cover shall be engineered to minimize erosion of cover materials (if soil cover), or to meet material requirements of exposed geomembrane systems, for the life of the cap;

4) Any additional coal combustion waste used to establish the final grade and slope is considered coal combustion by-product, and its use does not require any independent approval pursuant to Section 3.135 of the Act (415 ILCS 5/3.135).

Section 840.226 Final Cover System

The owner or operator must design and install a final cover system. The final cover

system must consist of a low permeability layer and a final protective layer. The Agency is authorized to approve a final cover system that consists of a low permeability layer and a final protective layer combined into a single engineered layer, if the single engineered layer is demonstrated to have the performance capability of two layers as set forth in this Section.

a) Standards for the low permeability layer. The low permeability layer must be designed to minimize surface infiltration and must consist of a geosynthetic membrane cover and be constructed in accordance with the following standards:

1) The geosynthetic membrane must have a minimum thickness of 40 mil (0.04 inches) and, in terms of hydraulic flux, be equivalent or superior to a three (3) foot layer of soil with a hydraulic conductivity of 1 x 10-7 centimeters per second.

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

b) Standards for the final protective layer.

1) The final protective layer must cover the entire geosynthetic membrane.

2) The final protective layer must be of sufficient thickness to protect the geosynthetic membrane from root penetration through the membrane. The final protective layer must be placed as soon as practical after placement of the geomembrane layer and consist of suitable soil material to support adequate vegetative growth to minimize cover soil erosion.

3) Unless an engineered material approved by the Agency is used, the final protective layer must consist of soil material capable of supporting vegetation. The Agency is authorized to approve other engineered Final Cover Systems that do not require vegetative cover.

c) Construction Quality Assurance Program. The final cover system must be constructed according to a construction quality assurance program that

meets the requirements of Section 840.246 of this Subpart.

Section 840.228 Closure Plan

a) As provided in Section 840.208, the owner or operator must prepare and submit to the Agency a Closure Plan for review and approval.

b) The owner or operator must maintain the Closure Plan onsite or at a location specified in the Closure Plan.

Section 840.230 Contents of Closure Plan

The Closure Plan must contain, at a minimum, the following information or documents:

a) Site map. The site map must identify all pertinent features and buildings at the site and must clearly identify the following:

1) All of the surface impoundments located at the site;

2) Any existing and proposed corrective action associated with the operation or closure of the Ameren surface impoundments; and

3) All existing and proposed groundwater monitoring wells.

b) Description of the Ameren surface impoundments. The description must include all of the following information:

1) A description of the contents of each surface impoundment;

2) The estimated volume of material contained in each surface impoundment; and

3) An analysis of the structural integrity of each surface impoundment.

c) Description of the closure activities to be performed in accordance with this Subpart and any additional activities performed by the owner or operator to close the surface

impoundment, including any dewatering, necessary to protect human health and the environment.

d) Description and results of the hydrogeologic site investigation required by Section 840.214 of this Subpart.

e) Description of the groundwater trend analysis methods as required by Section 840.222 of this Subpart.

f) Plans, specifications and drawings for the groundwater monitoring system required by Section 840.216 of this Subpart, including, but not limited to, a description of the maintenance plan required by Section 840.216(d).

g) Description of the groundwater monitoring program required by Section 840.218 of this Subpart including, but not limited to, a description of the quality assurance program for sample collection, preservation and analysis.

h) Identification of the location of the monitoring wells used for trend analyses required by Section 840.222 of this Subpart.

i) Plans, specifications and drawings for corrective action, if any.

j) Plans, specifications and drawings for the final slope design and construction and demonstration of compliance with the stability criteria required in Section 840.224.

k) Plans, specifications and drawings for the final cover system required by Section 840.226 of this Subpart.

l) Estimates of the amount of time to complete closure, including an estimate of the time required for hydrostatic equilibrium of groundwater beneath the surface impoundment, the cost of closure, and the cost of post-closure care.

m) A proposal for a groundwater management zone as set forth in Section 840.220(b) of this Subpart, if applicable, and including, but not limited to, plans, specifications and drawings for any structures or devices that must be constructed.

n) Description of the Construction Quality Assurance program required by Section 840.246 of this Subpart including, but not limited to, the sampling programs required by Section 840.246(b)(7) of this Subpart.

o) Description of actions proposed to mitigate statistically significant increasing trends in accordance with Section 840.222(c) of this Subpart, if applicable, including, but not limited to, plans, specifications, and drawings for any structures or devices that must be constructed.

p) Description of any institutional controls prohibiting potable uses and copies of instruments achieving those controls.

q) The signature and seal of the professional engineer supervising the preparation of the closure plan.

Section 840.232 Modification of Existing Permits

The owner or operator of the Ameren surface impoundment must timely submit to the Agency an application to revise any state operating permit or National Pollutant Discharge Elimination System ("NPDES") permit issued by the Agency that may be impacted as a result of the closure.

Section 840.234 Completion of Closure, Closure Report, and Certification of Completion of Closure

a) The owner or operator must complete closure of the Ameren surface impoundment within 36 months after the Agency's approval of the closure plan, unless the Agency approves an alternative timeline.

b) No later than 90 days after the completion of all closure activities required by this Subpart and approved in the closure plan, the owner or operator must prepare and submit to the Agency a closure report for review and approval. The report must include certification by a professional engineer that the surface impoundment has been closed in accordance with the approved closure plan required by Section 840.228 of this Subpart and the requirements of this Subpart. The report also must contain supporting documentation including, but not limited to:

1) Engineering and hydrogeology reports including, but not limited to, monitoring well completion reports and boring logs, all CQA reports, certifications, and designations of CQA officers-in-absentia required by Section 840.246 of this Subpart;

2) Photographs of the final cover system and any other photographs relied upon to document construction activities;

3) A written summary of closure requirements and activities as set forth in the closure plan and this Subpart B;

4) Any other information relied upon by the professional engineer in making the closure certification; and

5) The signature and seal of the professional engineer supervising the implementation of the closure plan, the preparation of the closure report, and making the certification of completion of closure.

Section 840.236 Post-Closure Maintenance of Cover System

The owner or operator must maintain the surface of the cover system beginning immediately after construction until approval of the post-closure report by the Agency.

a) The owner or operator must conduct inspections of the cover system at the same time and frequency as the groundwater monitoring sampling schedule set forth in Section 840.218 of this Subpart.

b) The owner or operator must fill or repair all rills, gullies, and crevices six inches or deeper. Areas identified as particularly susceptible to erosion must be recontoured.

c) The owner or operator must repair all eroded and scoured drainage channels and replace lining material, if necessary.

d) The owner or operator must fill or repair and recontour all holes and depressions created by settling so as to prevent standing water.

e) The owner or operator must revegetate all areas in excess of 100 square feet, cumulative, with failed or eroded vegetation.

f) The owner or operator must repair all tears, rips, punctures, and other damage to the geosynthetic membrane.

g) The owner or operator must prevent the growth of woody species on the protective cover.

Section 840.238 Post-Closure Care Plan

a) The owner or operator must prepare and submit to the Agency a post-closure care plan along with the closure plan for review and approval.

b) The owner or operator must maintain the post-closure care plan onsite or at a location specified in the post-closure care plan.

Section 840.240 Contents of Post-Closure Care Plan

The post-closure care plan, or modification thereof, must include, at a minimum, the following elements:

a) Description of the post-closure care activities required by Section 840.236 of this Subpart;

b) Description of the groundwater monitoring system required by Section 840.216 of the Subpart and a description of the maintenance plan for the groundwater monitoring system;

c) Description of the groundwater monitoring program required by Section 840.218 of this Subpart;

d) Identification of the location of the monitoring wells used for trend analyses required by Section 840.222 of this Subpart;

e) Description of the operation and maintenance that will be required for any corrective action required by this Subpart;

f) Description of the groundwater trend analysis methods as required by Section 840.222 of this Subpart;

g) Description of actions proposed to mitigate statistically significant increasing trends in accordance with Section 840.222(c) of this Subpart, if applicable, and the operation and maintenance of any structures or devices; and

h) The signature and seal of the professional engineer supervising the preparation of the post-closure care plan.

Section 840.242 Post-Closure Report and Certification of Completion of Post-Closure Care Plan

Post-closure care must continue until a demonstration of compliance with the groundwater quality standards as set forth in Section 840.220 has been approved by the Agency. The owner or operator must prepare and submit to the Agency for review and approval a post-closure report within 60 days after satisfying the requirements of the approved post-closure care plan and achieving the applicable groundwater quality standards as set forth in the plan and Section 840.220. The post-closure report must include a certification(s) by a professional engineer that the standards and requirements set forth in this Subpart A and approved in the post-closure care plan have been met. A professional geologist may supervise post-closure care activities as appropriate under the Professional Geologist Licensing Act (225 ILCS 745). The report also must contain supporting documentation including, but not limited to:

a) Engineering and hydrogeology reports including, but not limited to, documentation of compliance with the groundwater quality standards of Section 840.220;

b) Photographs of the final cover system and any other photographs relied upon to document construction activities;

c) A written summary of post-closure care requirements and activities as set forth in the post-closure care plan and this Subpart B and their completion;

d) Any other information relied upon by the professional engineer or professional geologist, as appropriate for the activity, in making the post-closure care certification(s); and

e) The signature and seal of the professional engineer and professional geologist supervising the implementation of the post-closure care plan,

and the signature and seal of the professional engineer supervising preparation of the post-closure report and making the certification of completion of the post-closure care plan.

Section 840.244 Recordkeeping and Reporting Requirements

a) The owner or operator must file an annual report with the Agency no later than January 31 of each year during closure and for the entire post-closure care period. Once the requirements of Section 840.242 of this Subpart have been met, annual reports are no longer required. The owner or operator must submit groundwater sampling and analysis data no later than 30 days after the sampling and analysis have been completed.

b) All annual reports must contain the following information:

1) Trend analyses based on at least eight quarters of post-closure monitored data required by Section 840.222(b) of all groundwater monitoring data generated by the groundwater monitoring program required by Section 840.218 of this Subpart;

2) A copy of any notice submitted to the Agency pursuant to Section 840.222(c)(1)(A);

3) A discussion of any statistically significant increasing trends and actions taken to mitigate such trends in accordance with Section 840.222(c)(3); and

4) The completed closure or post-closure activities performed during the preceding year.

c) The owner or operator must maintain onsite or at a location specified in the closure or post-closure care plan all monitoring data and trend analysis data for 10 years following generation of the data.

d) The owner or operator must maintain the closure plan until the end of the post-closure care period.

e) The owner or operator must maintain the post-closure care plan for 10 years following the certification of the post-closure report as required by

Section 840.242 of this Subpart.

f) All reports and notifications required under this Subpart to be submitted to the Agency must be submitted in writing to the Bureau of Water, Division of Public Water Supplies, Attn: Hydrogeology and Compliance Unit, 1021 North Grand Avenue East, P.O. Box 19276, Springfield, Illinois 62794-9276 or electronically as authorized and directed by the Agency.

Section 840.246 Construction Quality Assurance Program

a) The following components must be constructed according to a construction quality assurance program:

1) Implementation of any corrective action;

2) Construction of the final cover system subgrade and foundation to design parameters; and

3) Construction of ponds, ditches, lagoons and berms which are ancillary to the final cover system construction.

b) The construction quality assurance program must meet the following requirements:

1) The operator must designate a construction quality assurance (CQA) officer who is an Illinois licensed professional engineer (LPE).

2) At the end of each week of construction of the final cover system until construction is complete, a summary report must be either prepared by the CQA officer or under the supervision of the CQA officer. The report must include descriptions of the weather, locations where construction occurred during the previous week, materials used, results of testing, inspection reports, and procedures used to perform the inspections. The CQA officer must review and approve the report. The owner or operator shall retain all weekly summary reports certified by the CQA officer until the completion of the post-closure care period and must make those reports available at reasonable times for inspection and photocopying by

the Agency.

3) The CQA officer must exercise judgment to certify the following:

A) That the bedding material contains no undesirable objects;

B) That the closure plan has been followed;

C) That the anchor trench and backfill are constructed to prevent damage to the geosynthetic membrane;

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

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

F) That proper filter material consisting of uniform granular fill, to avoid clogging, is used in construction; and

G) That the filter material as placed must possess structural strength adequate to support the maximum loads imposed by the overlying materials and equipment used at the facility.

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

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

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

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

C) Construction of ponds, ditches, lagoons and berms.

6) If the CQA officer is unable to be present to perform, as required by subsection (b)(5) of this Section, the CQA officer must provide, in writing, the reasons for his or her absence, a designation of a person who must exercise professional judgment in carrying out the duties of the CQA officer-in-absentia, and a signed statement that the CQA officer assumes full responsibility for all inspections performed and reports prepared by the designated CQA officer-in-absentia during the absence of the CQA.

7) The sampling program must be implemented as part of the CQA plan for all construction activities in order to ensure, at a minimum, that construction materials and operations meet design specifications.

A) The sampling program must be designed prior to construction;

B) The sampling program must be based upon statistical sampling techniques and must establish and specify criteria for acceptance or rejection of materials and operations.

Section 840.248 Review, Approval, and Modification of Groundwater Monitoring Program, Closure Plan and Post-Closure Care Plan

The closure plan and post-closure care plan prepared and submitted to the Agency in accordance with Sections 840.228 and 840.238 of this Subpart, and any modifications to those plans, must be reviewed and approved by the Agency prior to implementation.

a) A groundwater monitoring program satisfying the requirements of Section 840.218 of this Subpart, a closure plan satisfying the requirements of Section 840.228 of this Subpart, a post-closure care plan satisfying the requirements of Section 840.238 of this Subpart, and any modifications to approved plans must be submitted to the Agency for review and approval prior to implementation. The Agency will have 90 days from the receipt of a plan or proposed modification to conduct a review and make a final

determination to approve or disapprove a plan or modification or to approve a plan or modification with conditions.

1) The Agency's record of the date of receipt of a plan or proposed modification to a plan will be deemed conclusive unless a contrary date is proved by a dated, signed receipt from the Agency or certified or registered mail.

2) Submission of an amended plan or amended modification to a plan restarts the time for review.

3) The owner or operator may waive the Agency's decision deadline upon a request from the Agency or at the owner's or operator's discretion.

b) A proposed modification to a groundwater monitoring program, closure plan or post-closure care plan must include the reason for the modification, all the information and supporting documentation that will be changed from or will supplement the information provided in the original or most recently approved plan, and the signature and seal of the professional engineer supervising the preparation of the proposed modification.

c) When reviewing a groundwater monitoring program or modification, the Agency must consider:

1) Whether the program or modification contains, at a minimum, all the elements required pursuant to Section 840.218 of this Subpart and has been accompanied by the information and supporting documentation necessary to evaluate the compliance of the proposed program relative to the standards and requirements of this Subpart B;

2) Whether the activities proposed are in accordance with the applicable standards and requirements of this Subpart B and are otherwise consistent with generally accepted engineering practices and principles of hydrogeology, accepted groundwater modeling practices, appropriate statistical analyses, and appropriate sampling techniques and analytical methods;

d) When reviewing a closure plan or modification, the Agency must consider:

1) Whether the plan or modification contains, at a minimum, all the elements required pursuant to Section 840.228 of this Subpart and has been accompanied by the information and supporting documentation necessary to evaluate the compliance of the proposed plan relative to the standards and requirements of this Subpart B;

2) Whether the activities, structures and devices proposed are in accordance with the applicable standards and requirements of this Subpart B and are otherwise consistent with generally accepted engineering practices and principles of hydrogeology, accepted groundwater modeling practices, appropriate statistical analyses, and appropriate sampling techniques and analytical methods;

3) The likelihood that the plan or modification will result in the containment of the coal combustion waste and associated contaminants and the attainment of the applicable groundwater quality standards as set forth in Sections 840.220 and 840.222 of this Subpart; and

4) Whether the plan or modification contains the required professional signatures and seals.

e) When reviewing a post-closure care plan or proposed modification, the Agency must consider:

1) Whether the plan or modification contains, at a minimum, all the elements required pursuant to Section 840.238 of this Subpart and has been accompanied by the information and supporting documentation necessary to evaluate the compliance of the proposed plan relative to the standards and requirements of this Subpart B;

2) Whether the activities, structures and devices proposed will be completed, operated and maintained in accordance with the

applicable standards and requirements of this Subpart B and are otherwise consistent with generally accepted engineering practices and principles of hydrogeology, accepted groundwater modeling practices, appropriate statistical analyses, and appropriate sampling techniques and analytical methods;

3) The management of risk relative to any remaining contamination, including, but not limited to, provisions for the use of long-term restrictions on the use of groundwater as a potable water supply, if appropriate; and

4) Whether the plan or modification contains the required professional signatures and seals.

f) Upon completion of the review, the Agency must notify the owner or operator in writing of its final determination on the plan or proposed modification. The notification must be made by certified or registered mail post-marked with a date stamp and with return receipt requested. The Agency's final determination will be deemed to have taken place on the post-marked date that the notice is mailed. If the Agency disapproves a plan or modification or approves a plan or modification with conditions, the written notification must contain the following information, as applicable:

1) An explanation of the specific type of information or documentation, if any, that the Agency deems the owner or operator did not provide;

2) A list of the provisions of the Act, this Subpart B, or other applicable regulations that may be violated if the plan or modification is approved as submitted;

3) A statement of the specific reasons why the Act, this Subpart B, or other applicable regulations may be violated if the plan or modification is approved as submitted; and

4) A statement of the reasons for conditions if conditions are required.

g) If the Agency disapproves a program, plan or modification, approves a program, plan or modification with conditions, or fails to issue a final determination within the applicable review period, the owner or operator may, within 35 days after receipt of the final determination or expiration of the review period, file an appeal with the Board. Appeals to the Board are subject to review under section 40 of the Act (415 ILCS 5/40).

Section 840.250 Review and Approval of Closure Report and Certification of Completion of Closure, Post-Closure Report and Certification of Completion of Post-Closure Care Plan

The closure report and post-closure report prepared and submitted to the Agency in accordance with Sections 840.234 and 840.242 of this Subpart must be reviewed and approved by the Agency prior to the completion of closure or post-closure care.

a) A closure report satisfying the requirements of Section 840.234 of this Subpart and a post-closure report satisfying the requirements of Section 840.242 of this Subpart must be submitted to the Agency for review and approval. Closure and post-closure activities will not be deemed complete until the reports are approved by the Agency.

b) Submission and review requirements and deadlines, notification requirements, and rights of appeal shall be the same as those set forth in Section 840.248 of this Subpart for closure plans and post-closure care plans.

c) When reviewing a closure report and certification of completion of closure, the Agency must consider whether the documentation demonstrates that the activities, structures and devices approved in the closure plan have been completed in accordance with this Subpart B and the approved closure plan including, but not limited to:

1) The performance of the hydrogeologic site investigation required by Section 840.214 of this Subpart;

2) The installation of the groundwater monitoring system required by Section 840.216 of this Subpart;

3) The implementation of corrective action, if any;

4) The construction of the final slope and compliance with the stability criteria as required by Section 840.224 of this Subpart;

5) The installation of the final cover system as required by Section 840.226 of this Subpart;

6) Compliance with the Construction Quality Assurance requirements of Section 840.246 of this Subpart;

7) The establishment of a groundwater management zone in accordance with Section 840.220(b) of this Subpart, if applicable;

8) The implementation of actions to mitigate increasing trends as required by Section 840.222(c) of this Subpart, if applicable;

9) The presence of professional signatures and seals as required by Section 840.234 of this Subpart.

d) When reviewing a post-closure report and certification of completion of post-closure care plan, the Agency must consider whether the documentation demonstrates that the activities, structures and devices approved in the post-closure care plan have been completed, operated and maintained in accordance with this Subpart B and the approved post-closure care plan including, but not limited to:

1) The post-closure maintenance of the cover system as required by Section 840.236 of this Subpart;

2) The maintenance of the groundwater monitoring system in accordance with Section 840.216(d) of this Subpart;

3) The implementation of the groundwater monitoring program as required by Section 840.218 of this Subpart;

4) The implementation of corrective action, if any;

5) The performance of the groundwater trend analysis as required by Section 840.222 of this Subpart;

6) The implementation of actions to mitigate increasing trends as required by Section 840.222(c) of this Subpart, if applicable;

7) Compliance with the requirements of the groundwater management zone as established pursuant to Section 840.220(b), of this Subpart if applicable;

8) Compliance with the groundwater quality standards set forth in Sections 840.220(a) and 840.220(b) of this Subpart as demonstrated in accordance with Section 840.222 of this Subpart; and

9) The presence of professional signatures and seals as required by Section 840.240 of this Subpart.

Section 840.252 Resource Conservation and Recovery Act

Nothing in this Subpart B shall be construed to be less stringent than or inconsistent with the provisions of the federal Resource Conservation and Recovery Act of 1976 (P.L. 94-580), as amended, or regulations adopted thereunder. To the extent that any rules adopted in this Subpart B are less stringent than any such laws or regulations applicable to the closure of the surface impoundment, such applicable federal RCRA laws and applicable implementing regulations will prevail.

SITE-SPECIFIC RULE FOR THE CLOSURE OF AMEREN COMPANY ASH PONDS: PROPOSED NEW 35 ILL. ADM. CODE 840, SUBPART B

TECHNICAL SUPPORT DOCUMENT

TSD 000001

Executive Summary

This technical support document (“TSD”) presents the rationale, documentation, and methodology developed by Ameren Energy Resources (“AER”) in support of this proposal for a site-specific rule for the closure of surface impoundments located at the Coffeen, Duck Creek, E.D. Edwards, Grand Tower, Hutsonville, Joppa, and Meredosia, and Newton Power Stations located in various counties in Illinois.Of the impoundments within the AER system that may be subject to closure under the proposed rulemaking, three went into service in the 1950s, two in the 1960s, eight in the 1970s, three in the 1980s, and one in 2000. Ash pond closures are site-specific. Each large, multi-acre project must be tailored to each facility and individually designed.

The phased closure approach based on risk to human health and the environment proposed in this submittal is considered reasonable, attainable, and cost-effective. The proposed rule requires AER to perform an initial assessment to categorize the ash ponds for a phased closure. Sites imposing the greatest risk to human health and the environment will close first and the least riskiest will fall to a lower category requiring closure during a later phase. Should conditions change over time, the rule provides for recategorization based on risk. The proposed rule requires each ash pond to be covered and capped with a geosynthetic membrane. The geosynthetic membrane will cover the impounded ash so that it is no longer subject to precipitation and surface water infiltration. When fully implemented, the proposed cap and closure scenario will improve groundwater quality around surface impoundments showing impacts to groundwater.

The TSD consists of several reports generated by several parties in preparation for this proposal, each document is incorporated into the TSD as chapters and each page has been bates

stamped to allow interested parties to easily reference the page. In addition to site maps, the TSD includes the following documents:

- Map of AER Power Stations in Illinois – This map shows where the eight energy centers are located in Illinois.
- Risk-Based Evaluation of the Site-Specific Rule for the Closure of Ameren Company Ash Ponds – This document evaluates the risk- based approach of the proposed rule. The assessment concludes that the proposed rule, from prioritizing the surface impoundments for closure to the closure plan and associated activities, will be protective of human health and the environment.
- Hydrogeological Assessment Reports – These reports analyze the available groundwater monitoring data and describe existing physical conditions, including the character of the area involved, at the Coffeen, Duck Creek, Edwards, Grand Tower, and Meredosia Power Stations. The reports evaluate groundwater quality data at the various surface impoundments located at these facilities and evaluate possible adverse impacts. Finally, the reports recommend future actions related to groundwater quality management.
- Affidavit of Duane Harley – Mr. Harley's affidavit discusses AER's basis for the proposed rulemaking and background information regarding each energy center and the surface impoundments at those energy centers that could close under the proposed rule. Mr. Harley also discusses the estimated costs of closure in place for each site.
- Maps of Individual Energy Centers – These maps show the location of ash ponds located at each energy center.

TABLE OF CONTENTS

CERTIFICATE OF SERVICE

I, the undersigned, certify that on this 9th day of April, 2013, I have personally served the attached **APPEARANCES OF RENEE CIPRIANO and AMY ANTONIOLLI, on behalf of proponent Ameren Energy Resources, PROPOSAL FOR SITE-SPECIFIC RULE FOR THE CLOSURE OF AMEREN ENERGY RESOURCES ASH PONDS, STATEMENT OF REASONS (with proposed regulatory language attached), TECHNICAL SUPPORT DOCUMENT, and MOTION FOR WAIVER OF SIGNATURE REQUIREMENT**, upon the following persons:

John Therriault, Assistant Clerk
Illinois Pollution Control Board
James R. Thompson Center
Suite 11-500
100 West Randolph
Chicago, Illinois 60601

and by first class mail, postage affixed, upon:

Division of Legal Counsel
Illinois Environmental Protection Agency
1021 North Grand Avenue, East
P.O. Box 19276
Springfield, Illinois 62794-9276

Division Chief of Environmental Enforcement
Office of the Attorney General
100 West Randolph St., Suite 1200
Chicago IL 60601

Office of Legal Services
Illinois Department of Natural Resources
One Natural Resources Way
Springfield IL 62702-1271

Amy Antoniolli

Renee Cipriano
Amy Antoniolli
SCHIFF HARDIN LLP
233 South Wacker Drive
Suite 6600
Chicago, Illinois 60606
312-258-5500