



OFFICE OF THE SECRETARY OF STATE

JESSE WHITE • Secretary of State

October 15, 2010

POLLUTION CONTROL BOARD
JOHN THERRIAULT ASSISTANT CLERK
100 W RANDOLPH ST, STE 11-500
CHICAGO, IL 60601

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CLERK'S OFFICE

OCT 20 2010

STATE OF ILLINOIS
Pollution Control Board

R09-21

Dear JOHN THERRIAULT ASSISTANT CLERK

Your rules Listed below met our codification standards and have been published in Volume 34, Issue 43 of the Illinois Register, dated 10/22/2010.

PROPOSED RULES

Site-Specific Closures of Coal Combustion Waste Surface Impoundments
35 Ill. Adm. Code 840
Point of Contact: Nancy Miller

16188

If you have any questions, you may contact the Administrative Code Division at
(217) 782 - 7017.

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1) Heading of the Part: Site-Specific Closures of Coal Combustion Waste Surface Impoundments

2) Code Citation: 35 Ill. Adm. Code 840

<u>Section Numbers:</u>	<u>Proposed Action:</u>
840.100	New
840.102	New
840.104	New
840.106	New
840.108	New
840.110	New
840.112	New
840.114	New
840.116	New
840.118	New
840.120	New
840.122	New
840.124	New
840.126	New
840.128	New
840.130	New
840.132	New
840.134	New
840.136	New
840.138	New
840.140	New
840.142	New
840.144	New
840.146	New
840.148	New
840.150	New
840.152	New

4) Statutory 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 Illinois Environmental Protection Act [415 ILCS 5/10, 27, 28] and Section 8 of the Illinois Groundwater Protection Act [415 ICLS 55/8].

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- 5) A Complete Description of the Subjects and Issues Involved: The Board proposes site-specific regulations providing standards for the closure of Ash Pond D, a surface impoundment managing coal combustion waste at the Hutsonville Power Station in Crawford County owned by Ameren Energy Generating Company (Ameren). The proposed site-specific regulations are based upon a joint proposal filed September 22, 2009, by Ameren and the Illinois Environmental Protection Agency (Agency). The proposal includes requirements for a final cover system for Ash Pond D, a groundwater monitoring system and program, a groundwater collection trench to address off-site impacts, and procedures for Agency oversight of closure and post-closure care.
- 6) Published studies or reports and sources of underlying data, used to compose this rulemaking: In its Statement of Reasons, Ameren indicated that it relied in preparing its original proposal on a number of technical documents and reports:
- a) Pond D Closure Alternatives Report: Hutsonville Power Station Crawford County, Illinois. Prepared by Natural Resources Technology, Inc., dated April 27, 2009.
 - b) Hutsonville Power Station Hutsonville, Illinois Hydrogeologic Assessment Final Report. Prepared by Natural Resources Technology, Inc., dated August 19, 1999.
 - c) Hutsonville Power Station Pond D Closure -- Human Health and Ecological Risk Assessment. Prepared by AECON, Inc., dated April 2009.
 - d) Groundwater Modeling of Hutsonville Pond D, prepared by Natural Resources Technology, dated April 3, 2009.
 - e) Preliminary Groundwater Monitoring Plan: Hutsonville Pond D, prepared by Natural Resources Technology, dated April 28, 2009.

Copies of these technical documents and reports are available under docket number R09-21 through the Board's Clerk's Office On-Line (COOL) on the Board's Web site at www.ipcb.state.il.us.

- 7) Will this proposed rule replace an emergency rule currently in effect? No.
- 8) Does this rulemaking contain an automatic repeal date? No.
- 9) Does this proposed rule contain incorporations by reference? Yes.

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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).

10) Are there any other proposed amendments pending on this Part? No.

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- 11) Statement of Statewide Policy Objectives: This proposed rule does not create or enlarge a state mandate as defined in Section 3(b) of the State Mandates Act. [30 ILCS 805/3].
- 12) Time, Place, and Manner in which interested persons may comment on this proposed rulemaking: The Board will accept written public comments on this proposal for a period of 45 days after the date of publication in the Illinois Register. Comments should refer to docket R09-21 and be addressed to:

Clerk's Office
Illinois Pollution Control Board
100 W. Randolph St., Suite 11-500
Chicago, IL 60601

Interested persons may request copies of the Board's opinion and order in R09-21 by calling the Clerk's office at 312-814-3620, or may download copies from the Board's Web site at www.ipcb.state.il.us. For more information, contact hearing officer Timothy Fox at 312/814-6085 or e-mail foxt@ipcb.state.il.us.

- 13) Initial Regulatory Flexibility Analysis:
- A) Types of small businesses, small municipalities and not for profit corporations affected: The site-specific rule is proposed to provide standards for the closure of Ash Pond D, a surface impoundment managing coal combustion waste owned by Ameren Energy Generating Company (Ameren), and is not expected to affect small businesses, small municipalities, or not-for-profit corporations.
- B) Reporting, bookkeeping or other procedures required for compliance: The joint proposal submitted by Ameren and the Agency includes new recordkeeping and reporting requirements, for which standards skills and processes are expected to suffice.
- C) Types of Professional skills necessary for compliance: Current recordkeeping and reporting skills and processes are expected to suffice for compliance with the proposed regulations, and new skills are not expected to be necessary.
- 14) Regulatory Agenda in which this rulemaking was summarized: July 2010 (34 Ill. Reg. 8746-47 (July 2, 2010)).

The full text of the Proposed Rules begins on the next page:

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TITLE 35: ENVIRONMENTAL PROTECTION

SUBTITLE G: WASTE DISPOSAL

CHAPTER I: POLLUTION CONTROL BOARD

SUBCHAPTER j: COAL COMBUSTION WASTE SURFACE IMPOUNDMENTS

PART 840

SITE-SPECIFIC CLOSURES OF COAL COMBUSTION WASTE SURFACE
IMPOUNDMENTS

SUBPART A: CLOSURE OF ASH POND D, HUTSONVILLE POWER STATION

Section	
840.100	Purpose
840.102	Applicability
840.104	Definitions
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840.108	Incorporations by Reference
840.110	Hydrogeologic Site Investigation
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840.134	Completion of Closure, Closure Report and Certification of Completion of Closure
840.136	Post-Closure Maintenance of Cover System
840.138	Post-Closure Care Plan
840.140	Contents of Post-Closure Care Plan
840.142	Post-Closure Report and Certification of Completion of Post-Closure Care Plan
840.144	Recordkeeping and Reporting Requirements
840.146	Construction Quality Assurance Program
840.148	Review, Approval, and Modification of Closure Plan and Post-Closure Care Plan
840.150	Review and Approval of Closure Report and Certification of Completion of Closure, Post-Closure Report and Certification of Completion of Post-Closure

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840.152 Care Plan
Resource Conservation and Recovery Act

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 5/22, 27, and 28) and Section 8 of the Illinois Groundwater Protection Act (415 ILCS 55/8).

SOURCE: Adopted in R09-21 at 35 Ill. Reg., _____ effective _____.

SUBPART A: CLOSURE OF ASH POND D, HUTSONVILLE POWER STATION

Section 840.100 Purpose

This Subpart provides for the closure of Ash Pond D located at the Hutsonville Power Station, 15142 East 1900 Avenue, Hutsonville, Crawford County, Illinois.

Section 840.102 Applicability

This Subpart applies exclusively to the closure and post-closure care of Ash Pond D, located at the Hutsonville Power Station.

Section 840.104 Definitions

Unless otherwise specified, the definitions of the Environmental Protection Act ("Act") [415 ILCS 5] apply to this Subpart. The following definitions also apply:

"Agency" means the Illinois Environmental Protection Agency.

"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)]

"Ash Pond D" means the surface impoundment designated as Ash Pond D, located at the Hutsonville Power Station, 15142 East 1900 Avenue, Hutsonville, Crawford County, Illinois.

"Board" means the Illinois Pollution Control Board.

"Contaminant" means any solid, liquid or gaseous matter, any odor, or any form of

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energy, from whatever source. [415 ILCS 5/3.165]

"Hutsonville Power Station" or "Hutsonville site" means the electric generating station located at 15142 East 1900 Avenue, Hutsonville, Crawford County, Illinois.

"Lower zone of underlying aquifer" means the sands and gravels beneath the fine-grained surficial alluvium within the Wabash River bedrock valley.

"Off-site" means any property that is not part of the Hutsonville Power Station.

"On-site" means the same or geographically contiguous property constituting the Hutsonville Power Station.

"Operator" means the person responsible for the operation of Ash Pond D.

"Owner" means the person who owns Ash Pond D.

"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]

"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 5/57.2]

"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 this act or regulations thereunder. [415 ILCS 5/3.460]

"Statistically significant" 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.

"Upper zone of underlying aquifer" means surficial sands and sandstones overlying shale west of the Wabash River bedrock valley, and sand lenses within the surficial fine grained alluvium.

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Section 840.106 Abbreviations and Acronyms

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

Section 840.108 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

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"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 840.110 Hydrogeologic Site Investigation

The owner or operator of Ash Pond D must design and implement a hydrogeologic site investigation to determine the nature and extent of contamination originating from Ash Pond D and to develop hydrogeologic information for the uses set forth below. If approved in the closure plan, any information from any hydrogeologic site investigation performed since 1999 may be used to satisfy the requirements of this Section. The uses of the hydrogeologic site investigation shall include, but not be limited to:

- a) Providing information to define hydrogeology and to assess the groundwater impacts associated with Ash Pond D;
- b) Providing information to perform a model to assess the groundwater impacts associated with closure of Ash Pond D; and
- c) Providing information to establish a groundwater monitoring system.

Section 840.112 Groundwater Monitoring System

The owner or operator of Ash Pond D must design and install a groundwater monitoring system that enables it to monitor groundwater to evaluate post-closure groundwater quality and trends and to demonstrate compliance with the applicable groundwater quality standards at designated compliance points as set forth in Sections 840.116 and 840.118 of this Subpart. If approved in the closure plan, any groundwater monitoring well in operation since 1999 that complies with the requirements set forth in this Section may be used in satisfying the requirements of this Section.

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- 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 Ash Pond D;
 - 2) Represent the quality of groundwater at the compliance point or points; and
 - 3) Determine compliance with Sections 840.116 and 840.118 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 closure plan must include a maintenance plan.

Section 840.114 Groundwater Monitoring Program

The owner or operator of Ash Pond D must develop a groundwater monitoring program that enables it to monitor groundwater to evaluate post-closure groundwater quality both on-site and off-site to demonstrate compliance with Sections 840.116 and 840.118 of this Subpart. The owner or operator must begin the groundwater monitoring program upon completion of the installation of the groundwater monitoring system in accordance with Section 840.112 and the approved closure plan. The groundwater monitoring program must comply with following requirements:

- a) The owner or operator of Ash Pond D must monitor each well included in the groundwater monitoring system pursuant to Section 840.112 on a quarterly basis

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for the constituents identified in 35 Ill. Adm. Code 620.410(a) and (d) except radium-226 and radium-228. 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, iron, manganese, 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 closure plan, the owner or operator of Ash Pond D may request modification of the post-closure care plan 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 boundaries of the Hutsonville site show no statistically significant increasing trends that can be attributed to Ash Pond D.
- c) If concentrations of constituents monitored pursuant to subsection (a) of this Section at the down-gradient boundaries of the Hutsonville site show no statistically significant increasing trends that can be attributed to Ash Pond D for the five years after reducing the monitoring frequency to semi-annual, the owner or operator of Ash Pond D 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 of Ash Pond D may discontinue groundwater monitoring upon Agency approval of the certified post-closure care report as required by Section 840.142.
- 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 840.144(a) of this Subpart.

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- 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 as incorporated by reference at Section 840.108 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";
 - 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 Ash Pond D must establish a groundwater monitoring quality assurance program for sample collection, preservation and analysis.

Section 840.116 Groundwater Quality Standards

- a) On-site, prior to the completion of the post-closure care period, the applicable groundwater quality standards at the Hutsonville site for concentrations of contaminants from Ash Pond D are the concentrations as determined by groundwater monitoring, if such concentrations exceed the numeric standards for Class I: Potable Resource Groundwater set forth in 35 Ill. Adm. Code 620.410. After completion of the post-closure care period, the on-site concentrations of

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contaminants from Ash Pond D as determined by groundwater monitoring, if such concentrations exceed the numeric standards for Class I: Potable Resource Groundwater set forth in 35 Ill. Adm. Code 620.410, are the applicable groundwater standards at the Hutsonville 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 Hutsonville 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 such 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 Class I: Potable Resource Groundwater set forth in 35 Ill. Adm. Code 620.410 in the upper zone of the underlying aquifer and the nondegradation standard of 35 Ill. Adm. Code 620.Subpart C in the lower zone of the underlying aquifer, 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 owner(s) for off-site property or properties with groundwater contamination from Ash Pond D so that monitoring wells may be installed and such 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 Ash Pond D and any related design and construction activities must be proposed and approved in the closure plan or post-closure care plan or any modification thereof, as appropriate.
 - 2) Groundwater quality standards for an off-site GMZ are set forth at 35 Ill. Adm. Code 620.450(a)(4).

Section 840.118 Demonstration of Compliance

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- a) Compliance with the on-site and off-site groundwater quality standards set forth in Sections 840.116(a) and (b) 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 Ash Pond D is detected in the concentrations of all constituents monitored in accordance with Section 840.114 of this Part at the down-gradient boundaries of the Hutsonville site for four consecutive years after changing to an annual monitoring frequency pursuant to Section 840.114(c) of this Subpart.
 - 2) Compliance with off-site groundwater quality standards:
 - A) Compliance with off-site groundwater quality standards set forth in Section 840.116(b) of this Part will be achieved when:
 - i) A statistically significant decreasing trend in concentrations of constituents monitored in accordance with Section 840.114 of this Subpart in the upper zone of the underlying aquifer at the down-gradient boundaries of the Hutsonville site is detected in the concentrations of all constituents monitored for a period of four consecutive years after changing to an annual monitoring frequency pursuant to Section 840.114(c) of this Subpart;
 - ii) No statistically significant increasing trend that can be attributed to Ash Pond D is detected in concentrations of constituents monitored in accordance with Section 840.114 of this Subpart in the lower zone of the underlying aquifer at the down-gradient boundaries of the Hutsonville site for four consecutive years after changing to an annual monitoring frequency pursuant to Section 840.114(c) of this Subpart; and
 - iii) All concentrations of constituents monitored in accordance with Section 840.114 of this Subpart are at or below the applicable groundwater quality standards as provided in Section 840.116(b) of this Subpart at the down-gradient boundaries of the Hutsonville site.

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- B) If a groundwater management zone for off-site properties with groundwater contamination from Ash Pond D is established as provided in Section 840.116(b) of this Subpart, the compliance points will be determined as set forth in the GMZ approved in the closure plan or post-closure care plan, as appropriate.
- b) For purposes of demonstrating compliance:
- 1) The owner or operator of Ash Pond D must perform an annual trend analysis for each monitoring well located at the down-gradient boundaries of the Hutsonville site for all constituents monitored in accordance with Section 840.114 of this Subpart, based on a minimum of four consecutive samples, by applying Sen's Estimate of Slope.
 - 2) If a groundwater management zone for off-site properties with groundwater contamination from Ash Pond D is established as provided in Section 840.116(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 Hutsonville 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 Ash Pond D 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 and the effectiveness of the groundwater collection trench required by Section 840.120 of this Subpart.
 - 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 of Ash Pond D must

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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 840.114(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 840.144(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 of Ash Pond D 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 840.116(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 840.120 Groundwater Collection Trench

- a) The owner or operator of Ash Pond D must design, install, and, consistent with any applicable wastewater discharge permit conditions, operate a groundwater collection trench along the south property boundary of the Hutsonville Power

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Station to prevent migration of groundwater impacted by Ash Pond D south of the property boundary.

- b) Plans for the groundwater collection trench including, but not limited to, a plan for operation and maintenance, must be approved by the Agency in the closure plan.
- c) The groundwater collection trench must be constructed according to a construction quality assurance program that meets the requirements of Section 840.146 of this Subpart.
- d) Once compliance with the groundwater quality standards as set forth in Section 840.116 has been achieved in accordance with Section 840.118(a), the owner or operator of Ash Pond D may discontinue operation of the groundwater collection trench.
 - 1) Upon discontinuing operation of the groundwater collection trench, the owner or operator must perform four quarterly sampling of the groundwater monitoring system wells as identified in the post-closure care plan, or modification thereof, to ensure compliance with the applicable groundwater quality standards set forth in Section 840.116.
 - 2) Results of the four quarterly sampling must be included in the post-closure report documentation. If compliance is not confirmed, operation of the groundwater collection trench and discharge system must be resumed.

Section 840.122 Groundwater Discharge System

- a) Groundwater collected in the groundwater collection trench must be directed to an outfall for which the Hutsonville Power Station has NPDES authorization or to another option as approved by the Agency in the closure plan or post-closure care plan in accordance with applicable law, including but not limited to, permit requirements.
- b) The groundwater discharge system must be constructed according to a construction quality assurance program that meets the requirements of Section 840.146 of this Subpart.
- c) Plans for the groundwater discharge system including, but not limited to, a plan for operation and maintenance, must be approved by the Agency in the closure plan.

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Section 840.124 Final Slope and Stabilization

- a) All final slopes must be designed and constructed to a grade capable of supporting vegetation and minimizing erosion.
- b) All slopes must be designed to drain runoff away from the cover and to prevent ponding.
- c) Ash Pond D 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 Ash Pond D 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 may be placed only directly on top of coal combustion waste that is already in place;
 - 3) The maximum final slope must be no greater than five (5) percent;
 - 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 840.126 Final Cover System

The owner or operator of Ash Pond D must design and install a final cover system for Ash Pond D. The final cover system must consist of a low permeability layer and a final protective layer.

- 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 1×10^{-7}

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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 at least three feet thick and must be sufficient to protect the geosynthetic membrane from freezing and minimize root penetration of the geosynthetic membrane.
 - 3) The final protective layer must consist of soil material capable of supporting vegetation.
 - 4) The final protective layer must be placed as soon as possible after placement of the geosynthetic membrane.
 - 5) The final protective layer must be covered with vegetation to minimize wind and water erosion.
- 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 840.146 of this Subpart.

Section 840.128 Closure Plan

- a) Within 180 days after the effective date of this rule, the owner or operator of Ash Pond D must prepare and submit to the Agency a closure plan for review and approval.
- b) The owner or operator of Ash Pond D must maintain the closure plan onsite or at a location specified in the closure plan.

Section 840.130 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

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Hutsonville Power Station and must clearly identify the following:

- 1) All of the surface impoundments located at the site;
 - 2) All existing and proposed groundwater collection trenches associated with the operation or closure of Ash Pond D; and
 - 3) All existing and proposed groundwater monitoring wells.
- b) Description of Ash Pond D. The description of Ash Pond D must include all of the following information:
- 1) A description of the contents of Ash Pond D;
 - 2) The estimated volume of material contained in Ash Pond D; and
 - 3) An analysis of the structural integrity of Ash Pond D.
- 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 Ash Pond D, including any dewatering.
- d) Description and results of the hydrogeologic site investigation required by Section 840.110 of this Subpart.
- e) Description of the groundwater trend analysis methods as required by Section 840.118 of this Subpart.
- f) Plans, specifications and drawings for the groundwater monitoring system required by Section 840.112 of this Subpart, including, but not limited to, a description of the maintenance plan required by Section 840.112(d).
- g) Description of the groundwater monitoring program required by Section 840.114 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 840.118 of this Subpart.
- i) Plans, specifications and drawings for the groundwater collection trench and

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discharge system set forth in Sections 840.120 and 840.122.

- j) Plans, specifications and drawings for the final slope design and construction and demonstration of compliance with the stability criteria required in Section 840.124.
- k) Plans, specifications and drawings for the final cover system required by Section 840.126 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 Ash Pond D, the cost of closure, and the cost of post-closure care.
- m) A proposal for a groundwater management zone as set forth in Section 840.116(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 840.146 of this Subpart including, but not limited to, the sampling programs required by Section 840.146(b)(7) of this Subpart.
- o) Description of actions proposed to mitigate statistically significant increasing trends in accordance with Section 840.118(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) The signature and seal of the professional engineer supervising the preparation of the closure plan.

Section 840.132 Modification of Existing Permits

Within 180 days of the effective date of this Subpart A, the owner or operator of Ash Pond D must timely submit to the Agency an application to revise any state operating permit or NPDES permit issued by the Agency as required by Sections 840.120 and 840.122 of this Subpart, if necessary.

Section 840.134 Completion of Closure, Closure Report and Certification of Completion of Closure

- a) The owner or operator must complete engineering and design activities for the

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closure of Ash Pond D within 180 days after the effective date of this rule.

- b) The owner or operator must complete closure of Ash Pond D within 18 months after the Agency's approval of the closure plan, unless the Agency approves an alternative timeline.
- c) 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 of Ash Pond D must prepare and submit to the Agency a closure report for review and approval. The report must include certification by a professional engineer that Ash Pond D has been closed in accordance with the approved closure plan required by Section 840.128 of this Part 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 840.146 of this Subpart;
 - 2) Photographs of the final cover system and groundwater collection trench 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 A;
 - 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 840.136 Post Closure Maintenance of Cover System

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

- a) After closure, and until completion of the post-closure report, the owner or operator of Ash Pond D must conduct inspections of the cover system at the same time and frequency as the groundwater monitoring sampling schedule set forth in

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Section 840.114 of this subpart.

- b) The owner or operator of Ash Pond D must fill all rills, gullies, and crevices six inches or deeper. Areas identified as particularly susceptible to erosion must be recontoured.
- c) The owner or operator of Ash Pond D must repair all eroded and scoured drainage channels and replace lining material, if necessary.
- d) The owner or operator of Ash Pond D must fill and recontour all holes and depressions created by settling so as to prevent standing water.
- e) The owner or operator of Ash Pond D must revegetate all areas in excess of 100 square feet, cumulative, with failed or eroded vegetation.
- f) The owner or operator of Ash Pond D 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 840.138 Post Closure Care Plan

- a) Within 180 days after the effective date of this Subpart A, the owner or operator of Ash Pond D must prepare and submit to the Agency a post-closure care 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 840.140 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 840.136 of this Subpart;
- b) Description of the groundwater monitoring system required by Section 840.112 of the Subpart and a description of the maintenance plan for the groundwater

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- monitoring system;
- c) Description of the groundwater monitoring program required by Section 840.114 of this Subpart;
 - d) Identification of the location of the monitoring wells used for trend analyses required by Section 840.118 of this Subpart;
 - e) Description of the operation and maintenance that will be required for the groundwater collection trench and discharge system required by Sections 840.120 and 840.122 of this Subpart;
 - f) Description of the groundwater trend analysis methods as required by Section 840.118 of this Subpart;
 - g) A proposal for a groundwater management zone as set forth in Section 840.116(b) of this Part, if applicable;
 - h) Description of actions proposed to mitigate statistically significant increasing trends in accordance with Section 840.118(c) of this Subpart, if applicable, and the operation and maintenance of any structures or devices; and
 - i) The signature and seal of the professional engineer supervising the preparation of the post-closure care plan.

Section 840.142 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 840.116 has been approved by the Agency. The owner or operator of Ash Pond D 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 Sections 840.116 through 840.118 of this Part. 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:

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- a) Engineering and hydrogeology reports including, but not limited to, documentation of compliance with the groundwater quality standards of this Subpart A and results of the four quarterly sampling performed under Section 840.120 of this Subpart;
- b) Photographs of the final cover system and groundwater collection trench 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 A 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 840.144 Recordkeeping and Reporting Requirements

- a) The owner or operator of Ash Pond D must file an annual report with the Agency no later than January 31 of each year during the closure of Ash Pond D and for the entire post-closure care period. Once the requirements of Section 840.142 of this Subpart have been met, annual reports are no longer required. The owner or operator must submit groundwater sampling and analysis data and decisions to remove constituents from the monitoring program 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 required by Section 840.118(b) of all groundwater monitoring data generated by the groundwater monitoring program required by Section 840.114 of this Subpart;
 - 2) A copy of any notice submitted to the Agency pursuant to Section 840.118(c)(1)(A);
 - 3) A discussion of any statistically significant increasing trends and actions

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taken to mitigate such trends in accordance with Section 840.118(c)(3);
and

- 4) The completed closure or post-closure activities performed during the preceding year.
- c) The owner or operator of Ash Pond D 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 of Ash Pond D must maintain the closure plan until the end of the post-closure care period.
- e) The owner or operator of Ash Pond D must maintain the post-closure care plan for 10 years following the certification of the post-closure report as required by Section 840.142.
- f) All reports, plans, modifications 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 840.146 Construction Quality Assurance Program

- a) The following components must be constructed according to a construction quality assurance program:
 - 1) Installation of the groundwater collection trench and discharge system required by Sections 840.120 and 840.122 of this Part;
 - 2) Compaction of the final cover system subgrade and foundation to design parameters;
 - 3) Application of final cover, including installation of the geomembrane; and
 - 4) Construction of ponds, ditches, lagoons and berms.
- b) The construction quality assurance program must meet the following requirements:

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- 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 certify the report. The owner or operator of the Hutsonville Power Station 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 the groundwater trench is constructed to intersect the water table;
 - G) That the groundwater trench is properly constructed to slope towards extraction points, and the extraction equipment is properly designed and installed;
 - H) That an appropriate operations and maintenance plan for the trench and extraction and discharge equipment is provided;

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- I) That proper filter material consisting of uniform granular fill, to avoid clogging, is used in construction; and
 - J) 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;
 - C) Installation of the groundwater collection trench and discharge system required by Sections 840.120 and 840.122 of this Subpart; and
 - D) 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

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techniques and must establish and specify criteria for acceptance or rejection of materials and operations.

Section 840.148 Review, Approval, and Modification of 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 840.128 and 840.138 of this Subpart, and any modifications to those plans, must be reviewed and approved by the Agency prior to implementation.

- a) A closure plan satisfying the requirements of Section 840.130 of this Subpart, a post-closure care plan satisfying the requirements of Section 840.140 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 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 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 840.130 of this Subpart and has been accompanied by the information and supporting documentation necessary

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to evaluate the compliance of the proposed plan relative to the standards and requirements of this Subpart A;

- 2) Whether the activities, structures and devices proposed are in accordance with the applicable standards and requirements of this Subpart A 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 ash and associated contaminants and the attainment of the applicable groundwater quality standards as set forth in Sections 840.116 and 840.118 of this Subpart;
 - 4) Whether the plan or modification contains the required professional signatures and seals.
- d) 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 840.140 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 A;
 - 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 A 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;
 - 4) Whether the plan or modification contains the required professional

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signatures and seals.

- e) 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 A, 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 A, 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.
- f) If the Agency disapproves a plan or modification, approves a 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 840.150 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 840.134 and 840.142 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 840.134 of this Subpart and a post-closure report satisfying the requirements of Section 840.142 of this

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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, review, and approval procedures and deadlines, notification requirements, and rights of appeal shall be the same as those set forth in Section 840.148 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 A and the approved closure plan including, but not limited to:
 - 1) The performance of the hydrogeologic site investigation required by Section 840.110 of this Subpart;
 - 2) The installation of the groundwater monitoring system required by Section 840.112 of this Subpart;
 - 3) The installation of the groundwater collection trench and discharge system or alternative as approved by the Agency as required by Sections 840.120 and 840.122;
 - 4) The construction of the final slope and compliance with the stability criteria as required by Section 840.124 of this Subpart;
 - 5) The installation of the final cover system as required by Section 840.126 of this Subpart;
 - 6) Compliance with the Construction Quality Assurance requirements of Section 840.146 of this Subpart;
 - 7) The establishment of a groundwater management zone in accordance with Section 840.116(b), if applicable;
 - 8) The implementation of actions to mitigate increasing trends as required by Section 840.118(c) of this Subpart, if applicable; and
 - 9) The presence of professional signatures and seals as required by Section

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- 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 A 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 840.136;
 - 2) The maintenance of the groundwater monitoring system in accordance with Section 840.112(d);
 - 3) The implementation of the groundwater monitoring program as required by Section 840.114 of this Subpart;
 - 4) The operation and maintenance of the groundwater collection trench and discharge system, or alternative approved by the Agency, as required by Sections 840.120 and 840.122;
 - 5) The performance of the groundwater trend analysis as required by Section 840.118 of this Subpart;
 - 6) The implementation of actions to mitigate increasing trends as required by Section 840.118(c) of this Subpart, if applicable;
 - 7) Compliance with the requirements of the groundwater management zone as established pursuant to Section 840.116(b), if applicable;
 - 8) Compliance with the groundwater quality standards set forth in Sections 840.116(a) and 840.116(b) as demonstrated in accordance with Section 840.118; and
 - 9) The presence of professional signatures and seals as required by Section 840.140.

Section 840.152 Resource Conservation and Recovery Act

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Nothing in this Subpart A 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 A are less stringent than or inconsistent with any such laws applicable to the closure of Ash Pond D, such laws will prevail.

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1) Heading of the Part: Site-Specific Closures of Coal Combustion Waste Surface Impoundments

2) Code Citation: 35 Ill. Adm. Code 840

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OCT 19 2010

STATE OF ILLINOIS
Pollution Control Board

<u>Section Numbers:</u>	<u>Proposed Action:</u>
840.100	New
840.102	New
840.104	New
840.106	New
840.108	New
840.110	New
840.112	New
840.114	New
840.116	New
840.118	New
840.120	New
840.122	New
840.124	New
840.126	New
840.128	New
840.130	New
840.132	New
840.134	New
840.136	New
840.138	New
840.140	New
840.142	New
840.144	New
840.146	New
840.148	New
840.150	New
840.152	New

4) Statutory 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 Illinois Environmental Protection Act [415 ILCS 5/10, 27, 28] and Section 8 of the Illinois Groundwater Protection Act [415 ILCS 55/8]

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- 5) A Complete Description of the Subjects and Issues Involved: The Board proposes site-specific regulations providing standards for the closure of Ash Pond D, a surface impoundment managing coal combustion waste at the Hutsonville Power Station in Crawford County owned by Ameren Energy Generating Company (Ameren). The proposed site-specific regulations are based upon a joint proposal filed September 22, 2009, by Ameren and the Illinois Environmental Protection Agency (Agency). The proposal includes requirements for a final cover system for Ash Pond D, a groundwater monitoring system and program, a groundwater collection trench to address off-site impacts, and procedures for Agency oversight of closure and post-closure care.
- 6) Published studies or reports and sources of underlying data, used to compose this rulemaking: In its Statement of Reasons, Ameren indicated that it relied, in preparing its original proposal, on a number of technical documents and reports:
- a) Pond D Closure Alternatives Report: Hutsonville Power Station Crawford County, Illinois. Prepared by Natural Resources Technology, Inc., dated April 27, 2009.
 - b) Hutsonville Power Station Hutsonville, Illinois Hydrogeologic Assessment Final Report. Prepared by Natural Resources Technology, Inc., dated August 19, 1999.
 - c) Hutsonville Power Station Pond D Closure -- Human Health and Ecological Risk Assessment. Prepared by AECON, Inc., dated April 2009.
 - d) Groundwater Modeling of Hutsonville Pond D, prepared by Natural Resources Technology, dated April 3, 2009.
 - e) Preliminary Groundwater Monitoring Plan: Hutsonville Pond D, prepared by Natural Resources Technology, dated April 28, 2009.

Copies of these technical documents and reports are available under docket number R09-21 through the Board's Clerk's Office On-Line (COOL) on the Board's Web site at www.ipcb.state.il.us.

- 7) Will this rulemaking replace any emergency rulemaking currently in effect? No
- 8) Does this rulemaking contain an automatic repeal date? No
- 9) Does this rulemaking contain incorporations by reference? Yes

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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).

10) Are there any other proposed rulemakings pending on this Part? No

POLLUTION CONTROL BOARD

NOTICE OF PROPOSED RULES

- 11) Statement of Statewide Policy Objectives: This proposed rulemaking does not create or enlarge a State mandate as defined in Section 3(b) of the State Mandates Act [30 ILCS 805/3].
- 12) Time, Place, and Manner in which interested persons may comment on this proposed rulemaking: The Board will accept written public comments on this proposal for a period of 45 days after the date of publication in the *Illinois Register*. Comments should refer to docket R09-21 and be addressed to:

John Therriault
Clerk's Office
Illinois Pollution Control Board
100 W. Randolph St., Suite 11-500
Chicago, IL 60601

Interested persons may request copies of the Board's opinion and order in R09-21 by calling the Clerk's office at 312-814-3620, or may download copies from the Board's Web site at www.ipcb.state.il.us. For more information, contact hearing officer Timothy Fox at 312/814-6085 or e-mail foxt@ipcb.state.il.us.

- 13) Initial Regulatory Flexibility Analysis:
- A) Types of small businesses, small municipalities and not for profit corporations affected: The site-specific rule is proposed to provide standards for the closure of Ash Pond D, a surface impoundment managing coal combustion waste owned by Ameren Energy Generating Company (Ameren), and is not expected to affect small businesses, small municipalities, or not-for-profit corporations.
- B) Reporting, bookkeeping or other procedures required for compliance: The joint proposal submitted by Ameren and the Agency includes new recordkeeping and reporting requirements, for which standards skills and processes are expected to suffice.
- C) Types of Professional skills necessary for compliance: Current recordkeeping and reporting skills and processes are expected to suffice for compliance with the proposed regulations, and new skills are not expected to be necessary.
- 14) Regulatory Agenda in which this rulemaking was summarized: July 2010

The full text of the Proposed Rules begins on the next page:

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

PART 840
SITE-SPECIFIC CLOSURES OF COAL COMBUSTION
WASTE SURFACE IMPOUNDMENTS

SUBPART A: CLOSURE OF ASH POND D, HUTSONVILLE POWER STATION

Section	
840.100	Purpose
840.102	Applicability
840.104	Definitions
840.106	Abbreviations and Acronyms
840.108	Incorporations by Reference
840.110	Hydrogeologic Site Investigation
840.112	Groundwater Monitoring System
840.114	Groundwater Monitoring Program
840.116	Groundwater Quality Standards
840.118	Demonstration of Compliance
840.120	Groundwater Collection Trench
840.122	Groundwater Discharge System
840.124	Final Slope and Stabilization
840.126	Final Cover System
840.128	Closure Plan
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840.132	Modification of Existing Permits
840.134	Completion of Closure, Closure Report and Certification of Completion of
	Closure
840.136	Post-Closure Maintenance of Cover System
840.138	Post-Closure Care Plan
840.140	Contents of Post-Closure Care Plan
840.142	Post-Closure Report and Certification of Completion of Post-Closure Care Plan
840.144	Recordkeeping and Reporting Requirements
840.146	Construction Quality Assurance Program
840.148	Review, Approval, and Modification of Closure Plan and Post-Closure Care Plan
840.150	Review and Approval of Closure Report and Certification of Completion of Closure, Post-Closure Report and Certification of Completion of Post-Closure Care Plan
840.152	Resource Conservation and Recovery Act

AUTHORITY: Implementing Section 22 of the Environmental Protection Act ~~415~~ ILCS 5/22~~1~~ and Section 8 of the Illinois Groundwater Protection Act ~~415~~ ILCS 55/8~~1~~, and authorized by Sections 22, 27, and 28 of the Environmental Protection Act ~~415~~ ILCS 5/22, 27, and 28~~1~~ and Section 8 of the Illinois Groundwater Protection Act ~~415~~ ILCS 55/8~~1~~.

SOURCE: Adopted in R09-21 at 35 Ill. Reg. ~~7~~ _____ effective _____.

SUBPART A: CLOSURE OF ASH POND D, HUTSONVILLE POWER STATION

Section 840.100 Purpose

This Subpart provides for the closure of Ash Pond D located at the Hutsonville Power Station, 15142 East 1900 Avenue, Hutsonville, Crawford County, Illinois.

Section 840.102 Applicability

This Subpart applies exclusively to the closure and post-closure care of Ash Pond D, located at the Hutsonville Power Station.

Section 840.104 Definitions

Unless otherwise specified, the definitions of the Environmental Protection Act ("Act") [415 ILCS 5] apply to this Subpart. The following definitions also apply:

"Agency" means the Illinois Environmental Protection Agency.

"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)]

"Ash Pond D" means the surface impoundment designated as Ash Pond D, located at the Hutsonville Power Station, 15142 East 1900 Avenue, Hutsonville, Crawford County, Illinois.

"Board" means the Illinois Pollution Control Board.

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

"Hutsonville Power Station" or "Hutsonville site" means the electric generating station located at 15142 East 1900 Avenue, Hutsonville, Crawford County, Illinois.

"Lower zone of underlying aquifer" means the sands and gravels beneath the fine-grained surficial alluvium within the Wabash River bedrock valley.

"Off-site" means any property that is not part of the Hutsonville Power Station.

"On-site" means the same or geographically contiguous property constituting the Hutsonville Power Station.

"Operator" means the person responsible for the operation of Ash Pond D.

"Owner" means the person who owns Ash Pond D.

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

"Professional engineer" means a person who has registered and obtained a seal pursuant to the Professional Engineering Practice Act of ~~1989~~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 5/57.2]

"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 ~~this act~~ the Act or regulations thereunder. [415 ILCS 5/3.460]

"Statistically significant" 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.

"Upper zone of underlying aquifer" means surficial sands and sandstones overlying shale west of the Wabash River bedrock valley, and sand lenses within the surficial fine grained alluvium.

Section 840.106 Abbreviations and Acronyms

Agency	Illinois Environmental Protection Agency
CQA	Construction Quality Assurance
GMZ	Groundwater Management Zone
Mg\L	milligrams per liter
NPDES	National Pollution <u>Pollutant</u> Discharge Elimination System
TDS	total dissolved solids

Section 840.108 Incorporations by Reference

a) The Board incorporates the following material by reference:

NTIS. National Technical Information Service, 5285 Port Royal Road, Springfield, VA ~~22161~~ 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/> ~~gov/~~ gov).

"Practical Guide for Ground-Water Sampling," EPA Publication No. EPA/600/2-85/104 (September 1985), Doc. No. PB 86-~~137304~~ 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~~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 840.110 Hydrogeologic Site Investigation

The owner or operator of Ash Pond D must design and implement a hydrogeologic site investigation to determine the nature and extent of contamination originating from Ash Pond D and to develop hydrogeologic information for the uses set forth ~~below~~in this Section. If approved in the closure plan, any information from any hydrogeologic site investigation performed since 1999 may be used to satisfy the requirements of this Section. The uses of the hydrogeologic site investigation shall include, but not be limited to:

a) Providing information to define hydrogeology and to assess the groundwater impacts associated with Ash Pond D;

b) Providing information to perform a model to assess the groundwater impacts associated with closure of Ash Pond D; and

c) Providing information to establish a groundwater monitoring system.

Section 840.112 Groundwater Monitoring System

The owner or operator of Ash Pond D must design and install a groundwater monitoring system that enables it to monitor groundwater to evaluate post-closure groundwater quality and trends and to demonstrate compliance with the applicable groundwater quality standards at designated compliance points as set forth in Sections 840.116 and 840.118 of this Subpart. If approved in the closure plan, any groundwater monitoring well in operation since 1999 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 Ash Pond D;

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

3) Determine compliance with Sections 840.116 and 840.118 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 closure plan must include a maintenance plan.

Section 840.114 Groundwater Monitoring Program

The owner or operator of Ash Pond D must develop a groundwater monitoring program that enables it to monitor groundwater to evaluate post-closure groundwater quality both on-site and off-site to demonstrate compliance with Sections 840.116 and 840.118 of this Subpart. The owner or operator must begin the groundwater monitoring program upon completion of the installation of the groundwater monitoring system in accordance with Section 840.112 and the approved closure plan. The groundwater monitoring program must comply with following requirements:

a) The owner or operator of Ash Pond D must monitor each well included in the groundwater monitoring system pursuant to Section 840.112 on a quarterly basis for the constituents identified in 35 Ill. Adm. Code 620.410(a) and (d) except radium-226 and radium-228. 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, iron, manganese, 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 closure plan, the owner or operator of Ash Pond D may request modification of the post-closure care plan 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 boundaries of the Hutsonville site show no statistically significant increasing trends that can be attributed to Ash Pond D.

c) If concentrations of constituents monitored pursuant to subsection (a) of this Section at the down-gradient boundaries of the Hutsonville site show no statistically significant increasing trends that can be attributed to Ash Pond D for the five years after reducing the monitoring frequency to ~~semi-annual~~ semiannual, the owner or operator of Ash Pond D 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 of Ash Pond D may discontinue groundwater monitoring upon Agency approval of the certified post-closure care report ~~as~~ required by Section 840.142.

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 840.144(a) 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 ~~as~~ incorporated by reference at Section 840.108 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 Ash Pond D must establish a groundwater monitoring quality assurance program for sample collection, preservation and analysis.

Section 840.116 Groundwater Quality Standards

a) On-site, prior to the completion of the post-closure care period, the applicable groundwater quality standards at the Hutsonville site for concentrations of contaminants from Ash Pond D are the concentrations as determined by groundwater monitoring, if ~~such~~those concentrations exceed the numeric standards for Class I: Potable Resource Groundwater set forth in 35 Ill. Adm. Code 620.410. After completion of the post-closure care period, the on-site concentrations of contaminants from Ash Pond D as determined by groundwater monitoring, if ~~such~~those concentrations exceed the numeric standards for Class I: Potable Resource Groundwater set forth in 35 Ill. Adm. Code 620.410, are the applicable groundwater standards at the Hutsonville 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 Hutsonville 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 ~~such~~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 Class I: Potable Resource Groundwater set forth in 35 Ill. Adm. Code 620.410 in the upper zone of the underlying aquifer and the nondegradation standard of 35 Ill. Adm. Code 620.Subpart C in the lower zone of the underlying aquifer, 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 ~~owner(s)~~owners for off-site ~~property~~ or properties with groundwater contamination from Ash Pond D so that monitoring wells may be installed and ~~such~~ 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 Ash Pond D and any related design and construction activities must be proposed and approved in the closure plan or post-closure care plan or any modification ~~thereof~~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 840.118 Demonstration of Compliance

a) Compliance with the on-site and off-site groundwater quality standards set forth in Sections 840.116(a) and (b) 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 Ash Pond D is detected in the concentrations of all constituents monitored in accordance with Section 840.114 of this ~~Part~~Subpart at the down-gradient boundaries of the Hutsonville site for four consecutive years after changing to an annual monitoring frequency pursuant to Section 840.114(c) ~~of this Subpart~~.

2) Compliance with off-site groundwater quality standards:

A) Compliance with off-site groundwater quality standards set forth in Section 840.116(b) of this ~~Part~~Subpart will be achieved when:

i) A statistically significant decreasing trend in concentrations of constituents monitored in accordance with Section 840.114 of this Subpart in the upper zone of the underlying aquifer at the down-gradient boundaries of the Hutsonville site is detected in the concentrations of all constituents monitored for a period of four consecutive years after changing to an annual monitoring frequency pursuant to Section 840.114(c) ~~of this Subpart~~.

ii) No statistically significant increasing trend that can be attributed to Ash Pond D is detected in concentrations of constituents monitored in accordance with Section 840.114 of this Subpart in the lower zone of the underlying aquifer at the down-gradient boundaries of the Hutsonville site for four consecutive years after changing to an annual monitoring frequency pursuant to Section 840.114(c) ~~of this Subpart~~; and

iii) All concentrations of constituents monitored in accordance with Section 840.114 of this Subpart are at or below the applicable groundwater quality standards as provided in Section 840.116(b) of this Subpart at the down-gradient boundaries of the Hutsonville site.

B) If a groundwater management zone for off-site properties with groundwater contamination from Ash Pond D is established as provided in Section 840.116(b) of this Subpart, the compliance points will be determined as set forth in the GMZ approved in the closure plan or post-closure care plan, as appropriate.

b) For purposes of demonstrating compliance:

1) The owner or operator of Ash Pond D must perform an annual trend analysis for each monitoring well located at the down-gradient boundaries of the Hutsonville site for all constituents monitored in accordance with Section 840.114 of this Subpart, based on a minimum of four consecutive samples, by applying Sen's Estimate of Slope.

2) If a groundwater management zone for off-site properties with groundwater contamination from Ash Pond D is established as provided in Section 840.116(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 Hutsonville 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 Ash Pond D 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~~the investigation must include more frequent inspection of the surface of the cover system and evaluation of background concentrations and the effectiveness of the groundwater collection trench required by Section 840.120 of this Subpart.

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 of Ash Pond D must notify the Agency in writing, stating the cause of the increasing trend and providing the rationale used in ~~such~~that determination.

B) If there is no superseding cause for the statistically significant increasing trend and sampling frequency has been reduced pursuant to ~~Sections~~Section 840.114(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~~semiannual 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 840.144(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 of Ash Pond D 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 840.116(b). ~~Such~~These 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 840.120 Groundwater Collection Trench

a) The owner or operator of Ash Pond D must design, install, and, consistent with any applicable wastewater discharge permit conditions, operate a groundwater collection trench along the south property boundary of the Hutsonville Power Station to prevent migration of groundwater impacted by Ash Pond D south of the property boundary.

b) Plans for the groundwater collection trench, including, but not limited to, a plan for operation and maintenance, must be approved by the Agency in the closure plan.

c) The groundwater collection trench must be constructed according to a construction quality assurance program that meets the requirements of Section 840.146 of this Subpart.

d) Once compliance with the groundwater quality standards ~~as~~ set forth in Section 840.116 has been achieved in accordance with Section 840.118(a), the owner or operator of Ash Pond D may discontinue operation of the groundwater collection trench.

1) Upon discontinuing operation of the groundwater collection trench, the owner or operator must perform four quarterly sampling of the groundwater monitoring system wells as identified in the post-closure care plan, or modification ~~thereof~~of that plan, to ensure compliance with the applicable groundwater quality standards set forth in Section 840.116.

2) Results of the four quarterly ~~sampling~~samplings must be included in the post-closure report documentation. If compliance is not confirmed, operation of the groundwater collection trench and discharge system must be resumed.

Section 840.122 Groundwater Discharge System

a) Groundwater collected in the groundwater collection trench must be directed to an outfall for which the Hutsonville Power Station has NPDES authorization or to another option as approved by the Agency in the closure plan or post-closure care plan in accordance with applicable law, including, but not limited to, permit requirements.

b) The groundwater discharge system must be constructed according to a construction quality assurance program that meets the requirements of Section 840.146 of this Subpart.

c) Plans for the groundwater discharge system, including, but not limited to, a plan for operation and maintenance, must be approved by the Agency in the closure plan.

Section 840.124 Final Slope and Stabilization

a) All final slopes must be designed and constructed to a grade capable of supporting vegetation and minimizing erosion.

b) All slopes must be designed to drain runoff away from the cover and to prevent ponding.

c) Ash Pond D 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 Ash Pond D 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 may be placed only directly on top of coal combustion waste that is already in place;

3) The maximum final slope must be no greater than ~~five-(5)~~ percent;

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 840.126 Final Cover System

The owner or operator of Ash Pond D must design and install a final cover system for Ash Pond D. The final cover system must consist of a low permeability layer and a final protective layer.

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 1×10^{-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. The final protective layer must:

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

2) ~~The final protective layer must be~~Be at least ~~three~~3 feet thick and must be sufficient to protect the geosynthetic membrane from freezing and minimize root penetration of the geosynthetic membrane.

3) ~~The final protective layer must consist~~Consist of soil material capable of supporting vegetation.

4) ~~The final protective layer must be~~Be placed as soon as possible after placement of the geosynthetic membrane.

5) ~~The final protective layer must be~~Be covered with vegetation to minimize wind and water erosion.

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 840.146 of this Subpart.

Section 840.128 Closure Plan

a) Within 180 days after the effective date of this ~~rule~~Subpart, the owner or operator of Ash Pond D must prepare and submit to the Agency a closure plan for review and approval.

b) The owner or operator of Ash Pond D must maintain the closure plan onsite or at a location specified in the closure plan.

Section 840.130 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 Hutsonville Power Station and must clearly identify the following:

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

2) All existing and proposed groundwater collection trenches associated with the operation or closure of Ash Pond D; and

3) All existing and proposed groundwater monitoring wells.

b) Description of Ash Pond D. The description of Ash Pond D must include all of the following information:

1) A description of the contents of Ash Pond D;

2) The estimated volume of material contained in Ash Pond D; and

- 3) An analysis of the structural integrity of Ash Pond D.
- 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 Ash Pond D, including any dewatering.
- d) Description and results of the hydrogeologic site investigation required by Section 840.110 of this Subpart.
- e) Description of the groundwater trend analysis methods ~~as~~ required by Section 840.118 of this Subpart.
- f) Plans, specifications and drawings for the groundwater monitoring system required by Section 840.112 of this Subpart, including, but not limited to, a description of the maintenance plan required by Section 840.112(d).
- g) Description of the groundwater monitoring program required by Section 840.114 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 840.118 of this Subpart.
- i) Plans, specifications and drawings for the groundwater collection trench and discharge system set forth in Sections 840.120 and 840.122.
- j) Plans, specifications and drawings for the final slope design and construction and demonstration of compliance with the stability criteria required in Section 840.124.
- k) Plans, specifications and drawings for the final cover system required by Section ~~840.126 of this Subpart~~ 840.126.
- l) Estimates of the amount of time to complete closure, including an estimate of the time required for hydrostatic equilibrium of groundwater beneath Ash Pond D, the cost of closure, and the cost of post-closure care.
- m) A proposal for a groundwater management zone as set forth in Section 840.116(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 840.146 of this Subpart, including, but not limited to, the sampling programs required by Section 840.146(b)(7) ~~of this Subpart~~.
- o) Description of actions proposed to mitigate statistically significant increasing trends in accordance with Section 840.118(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) The signature and seal of the professional engineer supervising the preparation of the closure plan.

Section 840.132 Modification of Existing Permits

Within 180 days ~~ef~~after the effective date of this Subpart A, the owner or operator of Ash Pond D must timely submit to the Agency an application to revise any ~~state~~State operating permit or NPDES permit issued by the Agency as required by Sections 840.120 and 840.122 of this Subpart, if necessary.

Section 840.134 Completion of Closure, Closure Report and Certification of Completion of Closure

a) The owner or operator must complete engineering and design activities for the closure of Ash Pond D within 180 days after the effective date of this ~~rule.~~
Subpart.

b) The owner or operator must complete closure of Ash Pond D within 18 months after the Agency's approval of the closure plan, unless the Agency approves an alternative timeline.

c) 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 of Ash Pond D must prepare and submit to the Agency a closure report for review and approval. The report must include certification by a professional engineer that Ash Pond D has been closed in accordance with the approved closure plan required by Section 840.128 of this ~~Part~~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 840.146 of this Subpart;

2) Photographs of the final cover system and groundwater collection trench 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 A;

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 840.136 Post Closure Maintenance of Cover System

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

a) After closure, and until completion ~~of the~~of the post-closure report, the owner or operator of Ash Pond D must conduct inspections of the cover system at the same time and frequency as the groundwater monitoring sampling schedule set forth in Section 840.114 of this ~~subpart~~Subpart.

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

- c) The owner or operator of Ash Pond D must repair all eroded and scoured drainage channels and replace lining material, if necessary.
- d) The owner or operator of Ash Pond D must fill and recontour all holes and depressions created by settling so as to prevent standing water.
- e) The owner or operator of Ash Pond D must revegetate all areas in excess of 100 square feet, cumulative, with failed or eroded vegetation.
- f) The owner or operator of Ash Pond D 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 840.138 Post Closure Care Plan

- a) Within 180 days after the effective date of this Subpart A, the owner or operator of Ash Pond D must prepare and submit to the Agency a post-closure care 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 840.140 Contents of Post-Closure Care Plan

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

- a) Description of the post-closure care activities required by Section 840.136 of this Subpart;
- b) Description of the groundwater monitoring system required by Section 840.112 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 840.114 of this Subpart;
- d) Identification of the location of the monitoring wells used for trend analyses required by Section 840.118 of this Subpart;
- e) Description of the operation and maintenance that will be required for the groundwater collection trench and discharge system required by Sections 840.120 and 840.122 of this Subpart;
- f) Description of the groundwater trend analysis methods ~~as~~ required by Section 840.118 of this Subpart;
- g) A proposal for a groundwater management zone as set forth in Section 840.116(b) of this ~~Part~~ Subpart, if applicable;
- h) Description of actions proposed to mitigate statistically significant increasing trends in accordance with Section 840.118(c) of this Subpart, if applicable, and the operation and maintenance of any structures or devices; and

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

Section 840.142 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 840.116 has been approved by the Agency. The owner or operator of Ash Pond D 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 Sections 840.116 through 840.118 of this ~~Part~~ Subpart. The post-closure report must include ~~a certification(s)~~ certifications 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 this Subpart ~~A~~ and results of the four quarterly ~~samplings~~ samplings performed under Section 840.120 of this Subpart;
- b) Photographs of the final cover system and groundwater collection trench 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 A 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~~ certifications; 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 840.144 Recordkeeping and Reporting Requirements

- a) The owner or operator of Ash Pond D must file an annual report with the Agency no later than January 31 of each year during the closure of Ash Pond D and for the entire post-closure care period. Once the requirements of Section 840.142 of this Subpart have been met, annual reports are no longer required. The owner or operator must submit groundwater sampling and analysis data and decisions to remove constituents from the monitoring program 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 required by Section 840.118(b) of all groundwater monitoring data generated by the groundwater monitoring program required by Section 840.114 ~~of this Subpart,~~

- 2) A copy of any notice submitted to the Agency pursuant to Section 840.118(c)(1)(A);
 - 3) A discussion of any statistically significant increasing trends and actions taken to mitigate such trends in accordance with Section 840.118(c)(3); and
 - 4) The completed closure or post-closure activities performed during the preceding year.
- c) The owner or operator of Ash Pond D 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 of Ash Pond D must maintain the closure plan until the end of the post-closure care period.
 - e) The owner or operator of Ash Pond D must maintain the post-closure care plan for 10 years following the certification of the post-closure report ~~as~~ required by Section 840.142.
 - f) All reports, plans, modifications 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~~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 840.146 Construction Quality Assurance Program

- a) The following components must be constructed according to a construction quality assurance program:
 - 1) Installation of the groundwater collection trench and discharge system required by Sections 840.120 and 840.122 of this Part;
 - 2) Compaction of the final cover system subgrade and foundation to design parameters;
 - 3) Application of final cover, including installation of the geomembrane; and
 - 4) Construction of ponds, ditches, lagoons and berms.
- 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 certify the report. The owner or operator of the Hutsonville Power Station 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 the groundwater trench is constructed to intersect the water table;
 - G) That the groundwater trench is properly constructed to slope ~~towards~~toward extraction points, and the extraction equipment is properly designed and installed;
 - H) That an appropriate operations and maintenance plan for the trench and extraction and discharge equipment is provided;
 - I) That proper filter material consisting of uniform granular fill, to avoid clogging, is used in construction; and
 - J) 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;
 - C) Installation of the groundwater collection trench and discharge system required by Sections 840.120 and 840.122 of this Subpart;
and
 - D) 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-~~officer.

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 840.148 Review, Approval, and Modification of 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 840.128 and 840.138 of this Subpart, and any modifications to those plans, must be reviewed and approved by the Agency prior to implementation.

a) A closure plan satisfying the requirements of Section 840.130 of this Subpart, a post-closure care plan satisfying the requirements of Section 840.140 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 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 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 840.130 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 ~~A-1~~.

2) Whether the activities, structures and devices proposed are in accordance with the applicable standards and requirements of this Subpart ~~A~~ 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 ash and associated contaminants and the attainment of the applicable groundwater quality standards~~as~~ set forth in Sections 840.116 and 840.118 of this Subpart;

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

d) 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 840.140 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~~A~~;

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~~A~~ 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;

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

e) 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~~A~~, 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~~A~~, 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.

f) If the Agency disapproves a plan or modification, approves a 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 840.150 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 840.134 and 840.142 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 840.134 of this Subpart and a post-closure report satisfying the requirements of Section 840.142 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, review, and approval procedures and deadlines, notification requirements, and rights of appeal shall be the same as those set forth in Section 840.148 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 ~~A~~ and the approved closure plan, including, but not limited to:

1) The performance of the hydrogeologic site investigation required by Section 840.110 of this Subpart;

2) The installation of the groundwater monitoring system required by Section 840.112 of this Subpart;

3) The installation of the groundwater collection trench and discharge system or alternative ~~as~~ approved by the Agency as required by Sections 840.120 and 840.122;

4) The construction of the final slope and compliance with the stability criteria ~~as~~ required by Section 840.124 of this Subpart;

5) The installation of the final cover system ~~as~~ required by Section 840.126 of this Subpart;

6) Compliance with the Construction Quality Assurance requirements of Section 840.146 of this Subpart;

7) The establishment of a groundwater management zone in accordance with Section 840.116(b), if applicable;

8) The implementation of actions to mitigate increasing trends as required by Section 840.118(c) of this Subpart, if applicable; and

9) The presence of professional signatures and seals ~~as~~ required by Section 840.134.

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 A 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 840.136;

2) The maintenance of the groundwater monitoring system in accordance with Section 840.112(d);

3) The implementation of the groundwater monitoring program ~~as~~ required by Section 840.114 of this Subpart;

4) The operation and maintenance of the groundwater collection trench and discharge system, or alternative approved by the Agency, ~~as~~ required by Sections 840.120 and 840.122;

5) The performance of the groundwater trend analysis ~~as~~ required by Section 840.118 of this Subpart;

6) The implementation of actions to mitigate increasing trends as required by Section 840.118(c) of this Subpart, if applicable;

7) Compliance with the requirements of the groundwater management zone as established pursuant to Section 840.116(b), if applicable;

8) Compliance with the groundwater quality standards set forth in Sections 840.116(a) and 840.116(b) as demonstrated in accordance with Section 840.118; and

9) The presence of professional signatures and seals ~~as~~ required by Section 840.140.

Section 840.152 Resource Conservation and Recovery Act

Nothing in this Subpart ~~A~~ 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~~ under that Act. To the extent that any rules adopted in this Subpart ~~A~~ are less stringent than or inconsistent with any ~~such laws~~ portion of RCRA applicable to the closure of Ash Pond D, ~~such laws~~ RCRA will prevail.

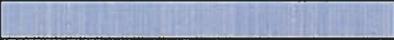
JCAR350840-1016188r01

~~POLLUTION CONTROL BOARD~~

~~NOTICE OF PROPOSED RULES~~

Document comparison done by DeltaView on Friday, October 15, 2010 1:08:20 PM

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

5
6 PART 840
7 SITE-SPECIFIC CLOSURES OF COAL COMBUSTION
8 WASTE SURFACE IMPOUNDMENTS
9

10 SUBPART A: CLOSURE OF ASH POND D, HUTSONVILLE POWER STATION
11

12	Section	
13	840.100	Purpose
14	840.102	Applicability
15	840.104	Definitions
16	840.106	Abbreviations and Acronyms
17	840.108	Incorporations by Reference
18	840.110	Hydrogeologic Site Investigation
19	840.112	Groundwater Monitoring System
20	840.114	Groundwater Monitoring Program
21	840.116	Groundwater Quality Standards
22	840.118	Demonstration of Compliance
23	840.120	Groundwater Collection Trench
24	840.122	Groundwater Discharge System
25	840.124	Final Slope and Stabilization
26	840.126	Final Cover System
27	840.128	Closure Plan
28	840.130	Contents of Closure Plan
29	840.132	Modification of Existing Permits
30	840.134	Completion of Closure, Closure Report and Certification of Completion of
31		Closure
32	840.136	Post-Closure Maintenance of Cover System
33	840.138	Post-Closure Care Plan
34	840.140	Contents of Post-Closure Care Plan
35	840.142	Post-Closure Report and Certification of Completion of Post-Closure Care Plan
36	840.144	Recordkeeping and Reporting Requirements
37	840.146	Construction Quality Assurance Program
38	840.148	Review, Approval, and Modification of Closure Plan and Post-Closure Care Plan
39	840.150	Review and Approval of Closure Report and Certification of Completion of
40		Closure, Post-Closure Report and Certification of Completion of Post-Closure
41		Care Plan
42	840.152	Resource Conservation and Recovery Act
43		

44 AUTHORITY: Implementing Section 22 of the Environmental Protection Act [415 ILCS 5/22]
45 and Section 8 of the Illinois Groundwater Protection Act [415 ILCS 55/8], and authorized by
46 Sections 22, 27, and 28 of the Environmental Protection Act [415 ILCS 5/22, 27, and 28] and
47 Section 8 of the Illinois Groundwater Protection Act [415 ILCS 55/8].
48

49 SOURCE: Adopted in R09-21 at 35 Ill. Reg. _____, effective _____.
50

51 SUBPART A: CLOSURE OF ASH POND D, HUTSONVILLE POWER STATION
52

53 **Section 840.100 Purpose**
54

55 This Subpart provides for the closure of Ash Pond D located at the Hutsonville Power Station,
56 15142 East 1900 Avenue, Hutsonville, Crawford County, Illinois.
57

58 **Section 840.102 Applicability**
59

60 This Subpart applies exclusively to the closure and post-closure care of Ash Pond D, located at
61 the Hutsonville Power Station.
62

63 **Section 840.104 Definitions**
64

65 Unless otherwise specified, the definitions of the Environmental Protection Act (Act) [415 ILCS
66 5] apply to this Subpart. The following definitions also apply:
67

68 "Agency" means the Illinois Environmental Protection Agency.
69

70 "*Aquifer*" means saturated (with groundwater) soils and geologic materials which
71 are sufficiently permeable to readily yield economically useful quantities of water
72 to wells, springs, or streams under ordinary hydraulic gradients. [415 ILCS
73 55/3(b)]
74

75 "Ash Pond D" means the surface impoundment designated as Ash Pond D,
76 located at the Hutsonville Power Station, 15142 East 1900 Avenue, Hutsonville,
77 Crawford County, Illinois.
78

79 "Board" means the Illinois Pollution Control Board.
80

81 "*Contaminant*" means any solid, liquid or gaseous matter, any odor, or any form
82 of energy, from whatever source. [415 ILCS 5/3.165]
83

84 "Hutsonville Power Station" or "Hutsonville site" means the electric generating
85 station located at 15142 East 1900 Avenue, Hutsonville, Crawford County,
86 Illinois.

87
88 "Lower zone of underlying aquifer" means the sands and gravels beneath the fine-
89 grained surficial alluvium within the Wabash River bedrock valley.
90
91 "Off-site" means any property that is not part of the Hutsonville Power Station.
92
93 "On-site" means the same or geographically contiguous property constituting the
94 Hutsonville Power Station.
95
96 "Operator" means the person responsible for the operation of Ash Pond D.
97
98 "Owner" means the person who owns Ash Pond D.
99
100 "*Person*" is any individual, partnership, co-partnership, firm, company, limited
101 liability company, corporation, association, joint stock company, trust, estate,
102 political subdivision, State agency, or any other legal entity, or their legal
103 representative, agent or assigns. [415 ILCS 5/3.315]
104
105 "Professional engineer" means a person who has registered and obtained a seal
106 pursuant to the Professional Engineering Practice Act of 1989 [225 ILCS 325].
107
108 "Professional geologist" means *a person licensed under the laws of the State of*
109 *Illinois to practice as a professional geologist.* [415 ILCS 5/57.2]
110
111 "*Site*" means any location, place, tract of land and facilities, including but not
112 limited to buildings, and improvements used for purposes subject to regulation or
113 control by the Act or regulations thereunder. [415 ILCS 5/3.460]
114
115 "Statistically significant" means the application of a Mann-Kendall analysis
116 performed at 95 percent confidence to determine whether consecutive
117 groundwater sampling data showing greater or lesser concentrations of
118 constituents is statistically significant.
119
120 "Upper zone of underlying aquifer" means surficial sands and sandstones
121 overlying shale west of the Wabash River bedrock valley, and sand lenses within
122 the surficial fine grained alluvium.

123
124 **Section 840.106 Abbreviations and Acronyms**

125		
126	Agency	Illinois Environmental Protection Agency
127	CQA	Construction Quality Assurance
128	GMZ	Groundwater Management Zone
129	Mg\L	milligrams per liter

130 NPDES National Pollutant Discharge Elimination System
131 TDS total dissolved solids
132

133 **Section 840.108 Incorporations by Reference**
134

135 a) The Board incorporates the following material by reference:
136

137 NTIS. National Technical Information Service, 5285 Port Royal Road,
138 Springfield VA 22161, (703) 605-6000.
139

140 "Methods for Chemical Analysis of Water and Wastes," March 1983, Doc.
141 No. PB84-128677. EPA 600/4-79-020 (available on-line at
142 <http://nepis.epa.gov/>).
143

144 "Methods for the Determination of Inorganic Substances in Environmental
145 Samples," August 1993, Doc. No. PB94-120821 (referred to as "USEPA
146 Environmental Inorganic Methods"). EPA 600/R-93-100 (available online
147 at <http://nepis.epa.gov/>).
148

149 "Methods for the Determination of Metals in Environmental Samples,"
150 June 1991, Doc. No. PB91-231498. EPA 600/4-91-010 (available on-line
151 at <http://nepis.epa.gov/>).
152

153 "Methods for the Determination of Metals in Environmental Samples
154 Supplement I," May 1994, Doc. No. PB95-125472. EPA 600/4-94-111
155 (available on-line at <http://nepis.epa.gov/>).
156

157 "Methods for the Determination of Organic and Inorganic Compounds in
158 Drinking Water: Volume I," EPA 815-R-00-014 (August 2000) (available
159 on-line at <http://nepis.epa.gov/>).
160

161 "Practical Guide for Ground-Water Sampling," EPA Publication No.
162 EPA/600/2-85/104 (September 1985), Doc. No. PB 86-137304, "Test
163 Methods for Evaluating Solid Waste, Physical/Chemical Methods,"
164 USEPA Publication No. SW-846, as amended by Updates I, II, IIA, IIB,
165 III, IIIA, and IIIB (Doc. No. 955-001-00000-1), (available on-line at
166 <http://www.epa.gov/epaoswer/hazwaste/test/main.htm>).
167

168 USGS. United States Geological Survey, 1961 Stout St., Denver CO 80294, (303)
169 844-4169.
170

171 "Techniques of Water Resources Investigations of the United States
172 Geological Survey, Guidelines for Collection and Field Analysis of

173 Ground-Water Samples for Selected Unstable Constituents," Book I,
 174 Chapter D2 (1976).

- 175
 176 b) This Section incorporates no later editions or amendments.
 177

178 **Section 840.110 Hydrogeologic Site Investigation**

179
 180 The owner or operator of Ash Pond D must design and implement a hydrogeologic site
 181 investigation to determine the nature and extent of contamination originating from Ash Pond D
 182 and to develop hydrogeologic information for the uses set forth in this Section. If approved in
 183 the closure plan, any information from any hydrogeologic site investigation performed since
 184 1999 may be used to satisfy the requirements of this Section. The uses of the hydrogeologic site
 185 investigation shall include, but not be limited to:

- 186
 187 a) Providing information to define hydrogeology and to assess the groundwater
 188 impacts associated with Ash Pond D;
 189
 190 b) Providing information to perform a model to assess the groundwater impacts
 191 associated with closure of Ash Pond D; and
 192
 193 c) Providing information to establish a groundwater monitoring system.
 194

195 **Section 840.112 Groundwater Monitoring System**

196
 197 The owner or operator of Ash Pond D must design and install a groundwater monitoring system
 198 that enables it to monitor groundwater to evaluate post-closure groundwater quality and trends
 199 and to demonstrate compliance with the applicable groundwater quality standards at designated
 200 compliance points as set forth in Sections 840.116 and 840.118 of this Subpart. If approved in
 201 the closure plan, any groundwater monitoring well in operation since 1999 that complies with the
 202 requirements set forth in this Section may be used in satisfying the requirements of this Section.
 203

- 204 a) Standards for monitoring well design and construction.
 205
 206 1) All monitoring wells must be cased in a manner that maintains the
 207 integrity of the bore holes.
 208
 209 2) Wells must be screened to allow sampling only at the specified interval.
 210
 211 3) All wells must be covered with vented caps, unless located in flood-prone
 212 areas, and equipped with devices to protect against tampering and damage.
 213
 214 b) The groundwater monitoring system must consist of a sufficient number of wells,
 215 installed at appropriate locations and depths to yield groundwater samples to:

- 216
- 217
- 218 1) Represent the quality of background water that has not been affected by
- 219 contamination from Ash Pond D;
- 220
- 221 2) Represent the quality of groundwater at the compliance point or points;
- 222 and
- 223 3) Determine compliance with Sections 840.116 and 840.118 of this Subpart.
- 224
- 225 c) Monitoring wells must be located in stratigraphic horizons that could serve as
- 226 contaminant pathways.
- 227
- 228 d) The groundwater monitoring system approved in the closure plan must include a
- 229 maintenance plan.
- 230

231 **Section 840.114 Groundwater Monitoring Program**

232

233 The owner or operator of Ash Pond D must develop a groundwater monitoring program that

234 enables it to monitor groundwater to evaluate post-closure groundwater quality both on-site and

235 off-site to demonstrate compliance with Sections 840.116 and 840.118 of this Subpart. The

236 owner or operator must begin the groundwater monitoring program upon completion of the

237 installation of the groundwater monitoring system in accordance with Section 840.112 and the

238 approved closure plan. The groundwater monitoring program must comply with following

239 requirements:

- 240
- 241 a) The owner or operator of Ash Pond D must monitor each well included in the
- 242 groundwater monitoring system pursuant to Section 840.112 on a quarterly basis
- 243 for the constituents identified in 35 Ill. Adm. Code 620.410(a) and (d) except
- 244 radium-226 and radium-228. Any constituent that is not detectable in the down-
- 245 gradient wells for four consecutive quarters or has a concentration that does not
- 246 differ to a statistically significant degree from the concentration detected in the
- 247 up-gradient wells for four consecutive quarters may be removed from the
- 248 monitoring program in both the up-gradient and down-gradient wells with the
- 249 exception of boron, iron, manganese, pH, sulfate, and TDS. The owner or
- 250 operator must also monitor for the following: specific conductance, groundwater
- 251 elevation, and monitoring well depth.
- 252
- 253 b) Five years after approval of the closure plan, the owner or operator of Ash Pond D
- 254 may request modification of the post-closure care plan to reduce the frequency of
- 255 groundwater monitoring to semi-annual sampling by demonstrating all of the
- 256 following:
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- 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 boundaries of the Hutsonville site show no statistically significant increasing trends that can be attributed to Ash Pond D.
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- c) If concentrations of constituents monitored pursuant to subsection (a) of this Section at the down-gradient boundaries of the Hutsonville site show no statistically significant increasing trends that can be attributed to Ash Pond D for the five years after reducing the monitoring frequency to semiannual, the owner or operator of Ash Pond D 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.
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- d) The owner or operator of Ash Pond D may discontinue groundwater monitoring upon Agency approval of the certified post-closure care report required by Section 840.142.
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- 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 840.144(a) of this Subpart.
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- 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 840.108 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";
 - 293
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 - 3) "Methods for the Determination of Metals in Environmental Samples";
 - 4) "Methods for the Determination of Metals in Environmental Samples – Supplement I";

- 300 5) "Methods for the Determination of Organic and Inorganic Compounds in
301 Drinking Water: Volume I";
302
303 6) "Practical Guide for Ground-Water Sampling";
304
305 7) "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods"
306 (SW-846), as amended by Updates I, II, IIA, IIB, III, IIIA, and IIIB;
307
308 8) "Techniques of Water Resources Investigations of the United States
309 Geological Survey, Guidelines for Collection and Field Analysis of
310 Ground-Water Samples for Selected Unstable Constituents."
311
312 g) The owner or operator of Ash Pond D must establish a groundwater monitoring
313 quality assurance program for sample collection, preservation and analysis.
314

315 **Section 840.116 Groundwater Quality Standards**
316

- 317 a) On-site, prior to the completion of the post-closure care period, the applicable
318 groundwater quality standards at the Hutsonville site for concentrations of
319 contaminants from Ash Pond D are the concentrations as determined by
320 groundwater monitoring, if those concentrations exceed the numeric standards for
321 Class I: Potable Resource Groundwater set forth in 35 Ill. Adm. Code 620.410.
322 After completion of the post-closure care period, the on-site concentrations of
323 contaminants from Ash Pond D as determined by groundwater monitoring, if
324 those concentrations exceed the numeric standards for Class I: Potable Resource
325 Groundwater set forth in 35 Ill. Adm. Code 620.410, are the applicable
326 groundwater standards at the Hutsonville site if:
327
328 1) To the extent practicable, the exceedence has been minimized and
329 beneficial use, as appropriate for the class of groundwater, has been
330 returned on-site;
331
332 2) Any threat to human health or the environment on-site has been
333 minimized; and
334
335 3) An institutional control prohibiting potable uses of groundwater is placed
336 on the Hutsonville site in accordance with the Uniform Environmental
337 Covenants Act [765 ILCS 122] or an alternative instrument authorized for
338 environmental uses under Illinois law and approved by the Agency.
339 Existing potable uses of groundwater may be preserved as long as those
340 uses remain fit for human consumption in accordance with accepted water
341 supply principles.
342

- 343 b) Off-site, the applicable groundwater quality standards are the numeric standards
344 for Class I: Potable Resource Groundwater set forth in 35 Ill. Adm. Code 620.410
345 in the upper zone of the underlying aquifer and the nondegradation standard of 35
346 Ill. Adm. Code 620.Subpart C in the lower zone of the underlying aquifer, unless
347 a groundwater management zone (GMZ) has been established as provided in 35
348 Ill. Adm. Code 620.250 with the written permission of the affected owners for
349 off-site or properties with groundwater contamination from Ash Pond D so that
350 monitoring wells may be installed and other corrective actions designed and
351 implemented as necessary to achieve compliance with 35 Ill. Adm. Code 620.
352
353 1) A GMZ for off-site properties with groundwater contamination from Ash
354 Pond D and any related design and construction activities must be proposed
355 and approved in the closure plan or post-closure care plan or any
356 modification of those plans, as appropriate.
357
358 2) Groundwater quality standards for an off-site GMZ are set forth at 35 Ill.
359 Adm. Code 620.450(a)(4).
360

361 **Section 840.118 Demonstration of Compliance**

- 362
363 a) Compliance with the on-site and off-site groundwater quality standards set forth
364 in Sections 840.116(a) and (b) of this Subpart:
365
366 1) Compliance with on-site groundwater quality standards will be achieved
367 when no statistically significant increasing trend that can be attributed to
368 Ash Pond D is detected in the concentrations of all constituents monitored
369 in accordance with Section 840.114 of this Subpart at the down-gradient
370 boundaries of the Hutsonville site for four consecutive years after
371 changing to an annual monitoring frequency pursuant to Section
372 840.114(c).
373
374 2) Compliance with off-site groundwater quality standards:
375
376 A) Compliance with off-site groundwater quality standards set forth in
377 Section 840.116(b) of this Subpart will be achieved when:
378
379 i) A statistically significant decreasing trend in concentrations
380 of constituents monitored in accordance with Section
381 840.114 of this Subpart in the upper zone of the underlying
382 aquifer at the down-gradient boundaries of the Hutsonville
383 site is detected in the concentrations of all constituents
384 monitored for a period of four consecutive years after

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changing to an annual monitoring frequency pursuant to Section 840.114(c);

ii) No statistically significant increasing trend that can be attributed to Ash Pond D is detected in concentrations of constituents monitored in accordance with Section 840.114 of this Subpart in the lower zone of the underlying aquifer at the down-gradient boundaries of the Hutsonville site for four consecutive years after changing to an annual monitoring frequency pursuant to Section 840.114(c); and

iii) All concentrations of constituents monitored in accordance with Section 840.114 of this Subpart are at or below the applicable groundwater quality standards as provided in Section 840.116(b) of this Subpart at the down-gradient boundaries of the Hutsonville site.

B) If a groundwater management zone for off-site properties with groundwater contamination from Ash Pond D is established as provided in Section 840.116(b) of this Subpart, the compliance points will be determined as set forth in the GMZ approved in the closure plan or post-closure care plan, as appropriate.

b) For purposes of demonstrating compliance:

1) The owner or operator of Ash Pond D must perform an annual trend analysis for each monitoring well located at the down-gradient boundaries of the Hutsonville site for all constituents monitored in accordance with Section 840.114 of this Subpart, based on a minimum of four consecutive samples, by applying Sen's Estimate of Slope.

2) If a groundwater management zone for off-site properties with groundwater contamination from Ash Pond D is established as provided in Section 840.116(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 Hutsonville site, a Mann-Kendall analysis must be performed at 95

428 percent confidence to determine whether the increasing trend is
 429 statistically significant. The owner or operator of Ash Pond D must
 430 investigate the cause of a statistically significant increasing trend as
 431 determined under subsection (b) of this Section. If the statistically
 432 significant increasing trend occurs during post-closure care, the
 433 investigation must include more frequent inspection of the surface of the
 434 cover system and evaluation of background concentrations and the
 435 effectiveness of the groundwater collection trench required by Section
 436 840.120 of this Subpart.

- 437
- 438 A) If an investigation performed in accordance with subsection (c)(1)
- 439 of this Section attributes a statistically significant increasing trend
- 440 to a superseding cause, the owner or operator of Ash Pond D must
- 441 notify the Agency in writing, stating the cause of the increasing
- 442 trend and providing the rationale used in that determination.
- 443
- 444 B) If there is no superseding cause for the statistically significant
- 445 increasing trend and sampling frequency has been reduced pursuant
- 446 to Section 840.114(b) or (c) of this Subpart to semiannual or annual
- 447 sampling, the owner or operator must return to a quarterly sampling
- 448 schedule. After four consecutive quarterly samples show no
- 449 statistically significant increasing trend, the frequency of
- 450 groundwater monitoring may be returned to either semiannual or
- 451 annual, whichever frequency was utilized prior to the return to
- 452 quarterly sampling.
- 453
- 454 C) For purposes of this subsection (c)(1), notifications concerning
- 455 statistically significant increasing trends and revisions of the
- 456 sampling frequency must be reported to the Agency in writing
- 457 within 30 days after making the determinations, as provided in
- 458 Section 840.144(f) of this Subpart.

459

460 2) If a statistically significant increasing trend is observed to continue over a

461 period of two or more consecutive years and there are no superseding

462 causes for the trend, the owner or operator must perform the following:

- 463
- 464 A) A hydrogeologic investigation; and
- 465
- 466 B) Additional site investigation, if necessary.
- 467

468 3) Based on the outcome of the activities required by subsection (c)(2) of this

469 Section, the owner or operator of Ash Pond D must take action to mitigate

470 statistically significant increasing trends that are causing, threatening or

471 allowing exceedences of off-site groundwater quality standards as set forth
472 in Section 840.116(b). These actions must be proposed as a modification
473 to the post-closure care plan within 180 days after completion of the
474 activities required by subsection (c)(2) of this Section.
475

476 **Section 840.120 Groundwater Collection Trench**
477

- 478 a) The owner or operator of Ash Pond D must design, install, and, consistent with
479 any applicable wastewater discharge permit conditions, operate a groundwater
480 collection trench along the south property boundary of the Hutsonville Power
481 Station to prevent migration of groundwater impacted by Ash Pond D south of the
482 property boundary.
483
- 484 b) Plans for the groundwater collection trench, including, but not limited to, a plan
485 for operation and maintenance, must be approved by the Agency in the closure
486 plan.
487
- 488 c) The groundwater collection trench must be constructed according to a
489 construction quality assurance program that meets the requirements of Section
490 840.146 of this Subpart.
491
- 492 d) Once compliance with the groundwater quality standards set forth in Section
493 840.116 has been achieved in accordance with Section 840.118(a), the owner or
494 operator of Ash Pond D may discontinue operation of the groundwater collection
495 trench.
496
- 497 1) Upon discontinuing operation of the groundwater collection trench, the
498 owner or operator must perform four quarterly sampling of the
499 groundwater monitoring system wells as identified in the post-closure care
500 plan, or modification of that plan, to ensure compliance with the
501 applicable groundwater quality standards set forth in Section 840.116.
502
- 503 2) Results of the four quarterly samplings must be included in the post-
504 closure report documentation. If compliance is not confirmed, operation of
505 the groundwater collection trench and discharge system must be resumed.
506

507 **Section 840.122 Groundwater Discharge System**
508

- 509 a) Groundwater collected in the groundwater collection trench must be directed to an
510 outfall for which the Hutsonville Power Station has NPDES authorization or to
511 another option as approved by the Agency in the closure plan or post-closure care
512 plan in accordance with applicable law, including, but not limited to, permit
513 requirements.

- 514
515 b) The groundwater discharge system must be constructed according to a construction
516 quality assurance program that meets the requirements of Section 840.146 of this
517 Subpart.
518
519 c) Plans for the groundwater discharge system, including, but not limited to, a plan
520 for operation and maintenance, must be approved by the Agency in the closure
521 plan.
522

523 **Section 840.124 Final Slope and Stabilization**
524

- 525 a) All final slopes must be designed and constructed to a grade capable of supporting
526 vegetation and minimizing erosion.
527
528 b) All slopes must be designed to drain runoff away from the cover and to prevent
529 ponding.
530
531 c) Ash Pond D must meet the stability criteria of 35 Ill. Adm. Code 811.304.
532
533 d) The owner or operator may use coal combustion waste generated at the site in
534 establishing the final grade and slope as provided below:
535
536 1) The earthen berms surrounding Ash Pond D must be regraded to eliminate
537 any freeboard between the top of the berm and the adjacent surface of the
538 coal combustion waste;
539
540 2) Additional coal combustion waste may be placed only directly on top of
541 coal combustion waste that is already in place;
542
543 3) The maximum final slope must be no greater than 5 percent;
544
545 4) Any additional coal combustion waste used to establish the final grade and
546 slope is considered coal combustion by-product, and its use does not
547 require any independent approval pursuant to Section 3.135 of the Act [415
548 ILCS 5/3.135].
549

550 **Section 840.126 Final Cover System**
551

552 The owner or operator of Ash Pond D must design and install a final cover system for Ash Pond
553 D. The final cover system must consist of a low permeability layer and a final protective layer.
554

- 555 a) Standards for the low permeability layer. The low permeability layer must be
556 designed to minimize surface infiltration and must consist of a geosynthetic
557 membrane cover and be constructed in accordance with the following standards:
558
- 559 1) The geosynthetic membrane must have a minimum thickness of 40 mil
560 (0.04 inches) and, in terms of hydraulic flux, be equivalent or superior to a
561 3 foot layer of soil with a hydraulic conductivity of 1×10^{-7} centimeters per
562 second.
563
 - 564 2) The geosynthetic membrane must be placed over a prepared base free
565 from sharp objects and other materials that may cause damage.
566
- 567 b) Standards for the final protective layer. The final protective layer must:
568
- 569 1) Cover the entire geosynthetic membrane.
570
 - 571 2) Be at least 3 feet thick and must be sufficient to protect the geosynthetic
572 membrane from freezing and minimize root penetration of the geosynthetic
573 membrane.
574
 - 575 3) Consist of soil material capable of supporting vegetation.
576
 - 577 4) Be placed as soon as possible after placement of the geosynthetic
578 membrane.
579
 - 580 5) Be covered with vegetation to minimize wind and water erosion.
581
- 582 c) Construction Quality Assurance Program. The final cover system must be
583 constructed according to a construction quality assurance program that meets the
584 requirements of Section 840.146 of this Subpart.
585

586 **Section 840.128 Closure Plan**
587

- 588 a) Within 180 days after the effective date of this Subpart, the owner or operator of
589 Ash Pond D must prepare and submit to the Agency a closure plan for review
590 and approval.
591
- 592 b) The owner or operator of Ash Pond D must maintain the closure plan onsite or at
593 a location specified in the closure plan.
594

595 **Section 840.130 Contents of Closure Plan**
596

597 The closure plan must contain, at a minimum, the following information or documents:

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- a) Site map. The site map must identify all pertinent features and buildings at the Hutsonville Power Station and must clearly identify the following:
 - 1) All of the surface impoundments located at the site;
 - 2) All existing and proposed groundwater collection trenches associated with the operation or closure of Ash Pond D; and
 - 3) All existing and proposed groundwater monitoring wells.
 - b) Description of Ash Pond D. The description of Ash Pond D must include all of the following information:
 - 1) A description of the contents of Ash Pond D;
 - 2) The estimated volume of material contained in Ash Pond D; and
 - 3) An analysis of the structural integrity of Ash Pond D.
 - 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 Ash Pond D, including any dewatering.
 - d) Description and results of the hydrogeologic site investigation required by Section 840.110 of this Subpart.
 - e) Description of the groundwater trend analysis methods required by Section 840.118 of this Subpart.
 - f) Plans, specifications and drawings for the groundwater monitoring system required by Section 840.112 of this Subpart, including, but not limited to, a description of the maintenance plan required by Section 840.112(d).
 - g) Description of the groundwater monitoring program required by Section 840.114 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 840.118 of this Subpart.
 - i) Plans, specifications and drawings for the groundwater collection trench and discharge system set forth in Sections 840.120 and 840.122.

- 641
642 j) Plans, specifications and drawings for the final slope design and construction and
643 demonstration of compliance with the stability criteria required in Section
644 840.124.
645
646 k) Plans, specifications and drawings for the final cover system required by Section
647 840.126.
648
649 l) Estimates of the amount of time to complete closure, including an estimate of the
650 time required for hydrostatic equilibrium of groundwater beneath Ash Pond D, the
651 cost of closure, and the cost of post-closure care.
652
653 m) A proposal for a groundwater management zone as set forth in Section 840.116(b)
654 of this Subpart, if applicable, and including, but not limited to, plans,
655 specifications and drawings for any structures or devices that must be constructed.
656
657 n) Description of the Construction Quality Assurance program required by Section
658 840.146 of this Subpart, including, but not limited to, the sampling programs
659 required by Section 840.146(b)(7).
660
661 o) Description of actions proposed to mitigate statistically significant increasing
662 trends in accordance with Section 840.118(c) of this Subpart, if applicable,
663 including, but not limited to, plans, specifications, and drawings for any structures
664 or devices that must be constructed.
665
666 p) The signature and seal of the professional engineer supervising the preparation of
667 the closure plan.
668

669 **Section 840.132 Modification of Existing Permits**

670
671 Within 180 days after the effective date of this Subpart A, the owner or operator of Ash Pond D
672 must timely submit to the Agency an application to revise any State operating permit or NPDES
673 permit issued by the Agency as required by Sections 840.120 and 840.122 of this Subpart, if
674 necessary.
675

676 **Section 840.134 Completion of Closure, Closure Report and Certification of Completion of**
677 **Closure**

- 678
679 a) The owner or operator must complete engineering and design activities for the
680 closure of Ash Pond D within 180 days after the effective date of this Subpart.
681

- 682 b) The owner or operator must complete closure of Ash Pond D within 18 months
683 after the Agency's approval of the closure plan, unless the Agency approves an
684 alternative timeline.
- 685
- 686 c) No later than 90 days after the completion of all closure activities required by this
687 Subpart and approved in the closure plan, the owner or operator of Ash Pond D
688 must prepare and submit to the Agency a closure report for review and approval.
689 The report must include certification by a professional engineer that Ash Pond D
690 has been closed in accordance with the approved closure plan required by Section
691 840.128 of this Subpart and the requirements of this Subpart. The report also must
692 contain supporting documentation, including, but not limited to:
- 693
- 694 1) Engineering and hydrogeology reports, including, but not limited to,
695 monitoring well completion reports and boring logs, all CQA reports,
696 certifications, and designations of CQA officers-in-absentia required by
697 Section 840.146 of this Subpart;
- 698
- 699 2) Photographs of the final cover system and groundwater collection trench
700 and any other photographs relied upon to document construction activities;
- 701
- 702 3) A written summary of closure requirements and activities as set forth in
703 the closure plan and this Subpart A;
- 704
- 705 4) Any other information relied upon by the professional engineer in making
706 the closure certification; and
- 707
- 708 5) The signature and seal of the professional engineer supervising the
709 implementation of the closure plan, the preparation of the closure report,
710 and making the certification of completion of closure.
- 711

712 **Section 840.136 Post-Closure Maintenance of Cover System**

713

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

716

- 717 a) After closure, and until completion of the post-closure report, the owner or
718 operator of Ash Pond D must conduct inspections of the cover system at the same
719 time and frequency as the groundwater monitoring sampling schedule set forth in
720 Section 840.114 of this Subpart.
- 721
- 722 b) The owner or operator of Ash Pond D must fill all rills, gullies, and crevices six
723 inches or deeper. Areas identified as particularly susceptible to erosion must be
724 recontoured.

- 725
726 c) The owner or operator of Ash Pond D must repair all eroded and scoured drainage
727 channels and replace lining material, if necessary.
728
729 d) The owner or operator of Ash Pond D must fill and recontour all holes and
730 depressions created by settling so as to prevent standing water.
731
732 e) The owner or operator of Ash Pond D must revegetate all areas in excess of 100
733 square feet, cumulative, with failed or eroded vegetation.
734
735 f) The owner or operator of Ash Pond D must repair all tears, rips, punctures, and
736 other damage to the geosynthetic membrane.
737
738 g) The owner or operator must prevent the growth of woody species on the
739 protective cover.
740

741 **Section 840.138 Post-Closure Care Plan**

- 742
743 a) Within 180 days after the effective date of this Subpart A, the owner or operator
744 of Ash Pond D must prepare and submit to the Agency a post-closure care plan
745 for review and approval.
746
747 b) The owner or operator must maintain the post-closure care plan onsite or at a
748 location specified in the post-closure care plan.
749

750 **Section 840.140 Contents of Post-Closure Care Plan**

- 751
752 The post-closure care plan, or modification of the plan, must include, at a minimum, the
753 following elements:
754
755 a) Description of the post-closure care activities required by Section 840.136 of this
756 Subpart;
757
758 b) Description of the groundwater monitoring system required by Section 840.112 of
759 the Subpart and a description of the maintenance plan for the groundwater
760 monitoring system;
761
762 c) Description of the groundwater monitoring program required by Section 840.114
763 of this Subpart;
764
765 d) Identification of the location of the monitoring wells used for trend analyses
766 required by Section 840.118 of this Subpart;
767

- 768 e) Description of the operation and maintenance that will be required for the
769 groundwater collection trench and discharge system required by Sections 840.120
770 and 840.122 of this Subpart;
- 771 f) Description of the groundwater trend analysis methods required by Section
772 840.118 of this Subpart;
- 773
774 g) A proposal for a groundwater management zone as set forth in Section 840.116(b)
775 of this Subpart, if applicable;
- 776
777 h) Description of actions proposed to mitigate statistically significant increasing
778 trends in accordance with Section 840.118(c) of this Subpart, if applicable, and
779 the operation and maintenance of any structures or devices; and
780
- 781 i) The signature and seal of the professional engineer supervising the preparation of
782 the post-closure care plan.
783
784

785 **Section 840.142 Post-Closure Report and Certification of Completion of Post-Closure Care**
786 **Plan**

787
788 Post-closure care must continue until a demonstration of compliance with the groundwater
789 quality standards set forth in Section 840.116 has been approved by the Agency. The owner or
790 operator of Ash Pond D must prepare and submit to the Agency for review and approval a post-
791 closure report within 60 days after satisfying the requirements of the approved post-closure care
792 plan and achieving the applicable groundwater quality standards as set forth in the plan and
793 Sections 840.116 through 840.118 of this Subpart. The post-closure report must include
794 certifications by a professional engineer that the standards and requirements set forth in this
795 Subpart A and approved in the post-closure care plan have been met. A professional geologist
796 may supervise post-closure care activities as appropriate under the Professional Geologist
797 Licensing Act [225 ILCS 745]. The report also must contain supporting documentation,
798 including, but not limited to:

- 799
800 a) Engineering and hydrogeology reports, including, but not limited to,
801 documentation of compliance with the groundwater quality standards of this
802 Subpart and results of the four quarterly samplings performed under Section
803 840.120 of this Subpart;
- 804
805 b) Photographs of the final cover system and groundwater collection trench and any
806 other photographs relied upon to document construction activities;
- 807
808 c) A written summary of post-closure care requirements and activities as set forth in
809 the post-closure care plan and this Subpart A and their completion;
- 810

- 811 d) Any other information relied upon by the professional engineer or professional
812 geologist, as appropriate for the activity, in making the post-closure care
813 certifications; and
- 814
- 815 e) The signature and seal of the professional engineer and professional geologist
816 supervising the implementation of the post-closure care plan, and the signature
817 and seal of the professional engineer supervising preparation of the post-closure
818 report and making the certification of completion of the post-closure care plan.
819

820 **Section 840.144 Recordkeeping and Reporting Requirements**

- 821
- 822 a) The owner or operator of Ash Pond D must file an annual report with the Agency
823 no later than January 31 of each year during the closure of Ash Pond D and for
824 the entire post-closure care period. Once the requirements of Section 840.142 of
825 this Subpart have been met, annual reports are no longer required. The owner or
826 operator must submit groundwater sampling and analysis data and decisions to
827 remove constituents from the monitoring program no later than 30 days after the
828 sampling and analysis have been completed.
829
- 830 b) All annual reports must contain the following information:
831
 - 832 1) Trend analyses required by Section 840.118(b) of all groundwater
833 monitoring data generated by the groundwater monitoring program
834 required by Section 840.114;
 - 835
 - 836 2) A copy of any notice submitted to the Agency pursuant to Section
837 840.118(c)(1)(A);
 - 838
 - 839 3) A discussion of any statistically significant increasing trends and actions
840 taken to mitigate such trends in accordance with Section 840.118(c)(3);
841 and
 - 842
 - 843 4) The completed closure or post-closure activities performed during the
844 preceding year.
 - 845
- 846 c) The owner or operator of Ash Pond D must maintain onsite or at a location
847 specified in the closure or post-closure care plan all monitoring data and trend
848 analysis data for 10 years following generation of the data.
849
- 850 d) The owner or operator of Ash Pond D must maintain the closure plan until the end
851 of the post-closure care period.
852

- 853 e) The owner or operator of Ash Pond D must maintain the post-closure care plan
854 for 10 years following the certification of the post-closure report required by
855 Section 840.142.
856
- 857 f) All reports, plans, modifications and notifications required under this Subpart to
858 be submitted to the Agency must be submitted in writing to the Bureau of Water,
859 Division of Public Water Supplies, Attn: Hydrogeology and Compliance Unit,
860 1021 North Grand Avenue East, P.O. Box 19276, Springfield, Illinois 62794-
861 9276 or electronically as authorized and directed by the Agency.
862

863 **Section 840.146 Construction Quality Assurance Program**
864

- 865 a) The following components must be constructed according to a construction
866 quality assurance program:
867
- 868 1) Installation of the groundwater collection trench and discharge system
869 required by Sections 840.120 and 840.122 of this Part;
870
 - 871 2) Compaction of the final cover system subgrade and foundation to design
872 parameters;
873
 - 874 3) Application of final cover, including installation of the geomembrane; and
875
 - 876 4) Construction of ponds, ditches, lagoons and berms.
877
- 878 b) The construction quality assurance program must meet the following
879 requirements:
880
- 881 1) The operator must designate a construction quality assurance (CQA)
882 officer who is an Illinois licensed professional engineer (LPE).
883
 - 884 2) At the end of each week of construction of the final cover system until
885 construction is complete, a summary report must be either prepared by the
886 CQA officer or under the supervision of the CQA officer. The report must
887 include descriptions of the weather, locations where construction occurred
888 during the previous week, materials used, results of testing, inspection
889 reports, and procedures used to perform the inspections. The CQA officer
890 must certify the report. The owner or operator of the Hutsonville Power
891 Station shall retain all weekly summary reports certified by the CQA
892 officer until the completion of the post-closure care period and must make
893 those reports available at reasonable times for inspection and
894 photocopying by the Agency.
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- 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 the groundwater trench is constructed to intersect the water table;
 - G) That the groundwater trench is properly constructed to slope toward extraction points, and the extraction equipment is properly designed and installed;
 - H) That an appropriate operations and maintenance plan for the trench and extraction and discharge equipment is provided;
 - I) That proper filter material consisting of uniform granular fill, to avoid clogging, is used in construction; and
 - J) 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;

- 939 C) Installation of the groundwater collection trench and discharge
940 system required by Sections 840.120 and 840.122 of this Subpart;
941 and
942
943 D) Construction of ponds, ditches, lagoons and berms.
944
945 6) If the CQA officer is unable to be present to perform, as required by
946 subsection (b)(5) of this Section, the CQA officer must provide, in writing,
947 the reasons for his or her absence, a designation of a person who must
948 exercise professional judgment in carrying out the duties of the CQA
949 officer-in-absentia, and a signed statement that the CQA officer assumes
950 full responsibility for all inspections performed and reports prepared by
951 the designated CQA officer-in-absentia during the absence of the CQA
952 officer.
953
954 7) The sampling program must be implemented as part of the CQA plan for
955 all construction activities in order to ensure, at a minimum, that
956 construction materials and operations meet design specifications.
957
958 A) The sampling program must be designed prior to construction.
959
960 B) The sampling program must be based upon statistical sampling
961 techniques and must establish and specify criteria for acceptance or
962 rejection of materials and operations.
963

964 **Section 840.148 Review, Approval, and Modification of Closure Plan and Post-Closure**
965 **Care Plan**
966

967 The closure plan and post-closure care plan prepared and submitted to the Agency in accordance
968 with Sections 840.128 and 840.138 of this Subpart, and any modifications to those plans, must
969 be reviewed and approved by the Agency prior to implementation.
970

- 971 a) A closure plan satisfying the requirements of Section 840.130 of this Subpart, a
972 post-closure care plan satisfying the requirements of Section 840.140 of this
973 Subpart, and any modifications to approved plans must be submitted to the
974 Agency for review and approval prior to implementation. The Agency will have
975 90 days from the receipt of a plan or proposed modification to conduct a review
976 and make a final determination to approve or disapprove a plan or modification or
977 to approve a plan or modification with conditions.
978
979 1) The Agency's record of the date of receipt of a plan or proposed
980 modification to a plan will be deemed conclusive unless a contrary date is

- 981 proved by a dated, signed receipt from the Agency or certified or
982 registered mail.
983
- 984 2) Submission of an amended plan or amended modification to a plan restarts
985 the time for review.
986
- 987 3) The owner or operator may waive the Agency's decision deadline upon a
988 request from the Agency or at the owner's or operator's discretion.
989
- 990 b) A proposed modification to a closure plan or post-closure care plan must include
991 the reason for the modification, all the information and supporting documentation
992 that will be changed from or will supplement the information provided in the
993 original or most recently approved plan, and the signature and seal of the
994 professional engineer supervising the preparation of the proposed modification.
995
- 996 c) When reviewing a closure plan or modification, the Agency must consider:
997
- 998 1) Whether the plan or modification contains, at a minimum, all the elements
999 required pursuant to Section 840.130 of this Subpart and has been
1000 accompanied by the information and supporting documentation necessary
1001 to evaluate the compliance of the proposed plan relative to the standards
1002 and requirements of this Subpart;
1003
- 1004 2) Whether the activities, structures and devices proposed are in accordance
1005 with the applicable standards and requirements of this Subpart and are
1006 otherwise consistent with generally accepted engineering practices and
1007 principles of hydrogeology, accepted groundwater modeling practices,
1008 appropriate statistical analyses, and appropriate sampling techniques and
1009 analytical methods;
1010
- 1011 3) The likelihood that the plan or modification will result in the containment
1012 of the ash and associated contaminants and the attainment of the
1013 applicable groundwater quality standards set forth in Sections 840.116 and
1014 840.118 of this Subpart;
1015
- 1016 4) Whether the plan or modification contains the required professional
1017 signatures and seals.
1018
- 1019 d) When reviewing a post-closure care plan or proposed modification, the Agency
1020 must consider:
1021
- 1022 1) Whether the plan or modification contains, at a minimum, all the elements
1023 required pursuant to Section 840.140 of this Subpart and has been

- 1024 accompanied by the information and supporting documentation necessary
 1025 to evaluate the compliance of the proposed plan relative to the standards
 1026 and requirements of this Subpart;
 1027
- 1028 2) Whether the activities, structures and devices proposed will be completed,
 1029 operated and maintained in accordance with the applicable standards and
 1030 requirements of this Subpart and are otherwise consistent with generally
 1031 accepted engineering practices and principles of hydrogeology, accepted
 1032 groundwater modeling practices, appropriate statistical analyses, and
 1033 appropriate sampling techniques and analytical methods;
 1034
- 1035 3) The management of risk relative to any remaining contamination,
 1036 including, but not limited to, provisions for the use of long-term
 1037 restrictions on the use of groundwater as a potable water supply, if
 1038 appropriate;
 1039
- 1040 4) Whether the plan or modification contains the required professional
 1041 signatures and seals.
 1042
- 1043 e) Upon completion of the review, the Agency must notify the owner or operator in
 1044 writing of its final determination on the plan or proposed modification. The
 1045 notification must be made by certified or registered mail post-marked with a date
 1046 stamp and with return receipt requested. The Agency's final determination will be
 1047 deemed to have taken place on the post-marked date that the notice is mailed. If
 1048 the Agency disapproves a plan or modification or approves a plan or modification
 1049 with conditions, the written notification must contain the following information,
 1050 as applicable:
 1051
- 1052 1) An explanation of the specific type of information or documentation, if
 1053 any, that the Agency deems the owner or operator did not provide;
 1054
- 1055 2) A list of the provisions of the Act, this Subpart, or other applicable
 1056 regulations that may be violated if the plan or modification is approved as
 1057 submitted;
 1058
- 1059 3) A statement of the specific reasons why the Act, this Subpart, or other
 1060 applicable regulations may be violated if the plan or modification is
 1061 approved as submitted; and
 1062
- 1063 4) A statement of the reasons for conditions if conditions are required.
 1064
- 1065 f) If the Agency disapproves a plan or modification, approves a plan or modification
 1066 with conditions, or fails to issue a final determination within the applicable review

1067 period, the owner or operator may, within 35 days after receipt of the final
1068 determination or expiration of the review period, file an appeal with the Board.
1069 Appeals to the Board are subject to review under Section 40 of the Act [415 ILCS
1070 5/40].
1071

1072 **Section 840.150 Review and Approval of Closure Report and Certification of Completion**
1073 **of Closure, Post-Closure Report and Certification of Completion of Post-Closure Care Plan**
1074

1075 The closure report and post-closure report prepared and submitted to the Agency in accordance
1076 with Sections 840.134 and 840.142 of this Subpart must be reviewed and approved by the
1077 Agency prior to the completion of closure or post-closure care.
1078

- 1079 a) A closure report satisfying the requirements of Section 840.134 of this Subpart
1080 and a post-closure report satisfying the requirements of Section 840.142 of this
1081 Subpart must be submitted to the Agency for review and approval. Closure and
1082 post-closure activities will not be deemed complete until the reports are approved
1083 by the Agency.
1084
- 1085 b) Submission, review, and approval procedures and deadlines, notification
1086 requirements, and rights of appeal shall be the same as those set forth in Section
1087 840.148 of this Subpart for closure plans and post-closure care plans.
1088
- 1089 c) When reviewing a closure report and certification of completion of closure, the
1090 Agency must consider whether the documentation demonstrates that the activities,
1091 structures and devices approved in the closure plan have been completed in
1092 accordance with this Subpart and the approved closure plan, including, but not
1093 limited to:
1094
- 1095 1) The performance of the hydrogeologic site investigation required by
1096 Section 840.110 of this Subpart;
 - 1097 2) The installation of the groundwater monitoring system required by Section
1098 840.112 of this Subpart;
 - 1099 3) The installation of the groundwater collection trench and discharge system
1100 or alternative approved by the Agency as required by Sections 840.120
1101 and 840.122;
 - 1102 4) The construction of the final slope and compliance with the stability
1103 criteria required by Section 840.124 of this Subpart;
 - 1104 5) The installation of the final cover system required by Section 840.126 of
1105 this Subpart;
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- 6) Compliance with the Construction Quality Assurance requirements of Section 840.146 of this Subpart;
 - 7) The establishment of a groundwater management zone in accordance with Section 840.116(b), if applicable;
 - 8) The implementation of actions to mitigate increasing trends as required by Section 840.118(c) of this Subpart, if applicable; and
 - 9) The presence of professional signatures and seals required by Section 840.134.
- 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 A and the approved post-closure care plan, including, but not limited to:
- 1) The post-closure maintenance of the cover system required by Section 840.136;
 - 2) The maintenance of the groundwater monitoring system in accordance with Section 840.112(d);
 - 3) The implementation of the groundwater monitoring program required by Section 840.114 of this Subpart;
 - 4) The operation and maintenance of the groundwater collection trench and discharge system, or alternative approved by the Agency, required by Sections 840.120 and 840.122;
 - 5) The performance of the groundwater trend analysis required by Section 840.118 of this Subpart;
 - 6) The implementation of actions to mitigate increasing trends as required by Section 840.118(c) of this Subpart, if applicable;
 - 7) Compliance with the requirements of the groundwater management zone as established pursuant to Section 840.116(b), if applicable;

- 1152 8) Compliance with the groundwater quality standards set forth in Sections
1153 840.116(a) and 840.116(b) as demonstrated in accordance with Section
1154 840.118; and
1155
1156 9) The presence of professional signatures and seals required by Section
1157 840.140.
1158

1159 **Section 840.152 Resource Conservation and Recovery Act**
1160

1161 Nothing in this Subpart shall be construed to be less stringent than or inconsistent with the
1162 provisions of the federal Resource Conservation and Recovery Act of 1976 (P.L. 94-580), as
1163 amended, or regulations adopted under that Act. To the extent that any rules adopted in this
1164 Subpart are less stringent than or inconsistent with any portion of RCRA applicable to the
1165 closure of Ash Pond D, RCRA will prevail.