

Midwest Generation, LLC

Waukegan Generating Station

Documentation of Public Meeting

35 Ill. Adm. Code Sections 845.240(d) and 845.800(d)(2)

Midwest Generation, LLC's (MWG) Waukegan Generating Station (Waukegan Station) is located at 401 East Greenwood Avenue in Waukegan, Illinois. Waukegan Station operates the East and West Ash Ponds. Because the location of East and West Ash Ponds is designated as a potential area of environmental justice concern in the Illinois Environmental Protection Agency's (Agency) EJ Start screening tool, MWG is submitting a construction permit application for closure to the Agency by February 1, 2022.

Pursuant to Section 845.240, MWG held two public meetings on the tentative application and as required by subsection (d) of that section, MWG is placing documentation of the meeting in its operating record consisting of the following Exhibits:

Exhibit A: Public Notice (November 5, 2021)

Exhibit B: Map of 2-mile radius of impoundment (selected postal routes highlighted

blue) and USPS Every Door Direct Mail forms

Exhibit C: Posting of notice in conspicuous locations within 10 miles of the facility

Exhibit D: Letter to Illinois EPA requesting notice be sent to listserv for MWG

Exhibit E: Presentation for December 15 and 16, 2021 public meetings

Exhibit F: Summary of public meetings

Exhibit A:

Public Notice (November 5, 2021)

MWG Midwest Generation U.S.

Public Notice

Midwest Generation to Host Public Meetings on Closure Plans for Waukegan's West and East Ash Ponds

What:

Midwest Generation is hosting two public meetings to share information and engage with the community about its proposed plans to close the Waukegan Station's West and East Ash Ponds. It is anticipated that the Waukegan Station will no longer generate power from coal beginning in June 2022, which will eliminate coal emissions and new ash. Consistent with state and federal regulations, MWG is proposing to close the West Ash Pond by removing the remaining ash and repurposing the pond to treat non-coal ash wastewater, which includes stormwater and area runoff. MWG is proposing to close the East Ash Pond by installing a final cover system over the remaining ash and conducting long-term monitoring. MWG anticipates filing a construction permit application with the State of Illinois in February 2022. Following a presentation at the meetings, residents will have the opportunity to participate in a question-and-answer session. Spanish translation will be available.

When: Dec. 15, 2021, 6 p.m. to 8 p.m. CT

Dec. 16, 2021, 10 a.m. to 12 p.m. CT

Where: Due to COVID-19 restrictions, meetings will be virtual. Visit midwestgenerationllc.com on or after

Nov. 15, 2021 for information on how to participate. Participants can also dial in by phone during designated meeting times using the phone number **312.626.6799** and Meeting ID **823 5415 2005**.

Information on closure construction permit applications will be posted at midwestgenerationllc.com no later than Nov. 15, 2021. Contact: midwestgeneration@nrg.com



MWG

Notificación Pública

Midwest Generation, LLC Midwest Generation organizará reuniones públicas sobre los planes de cierre de los estanques de ceniza ubicados al oeste y este de Waukegan

Que:

Midwest Generation organizará dos reuniones públicas para compartir información e interactuar con la comunidad sobre sus planes propuestos para cerrar los estanques de ceniza ubicados al oeste y este de la estación de Waukegan. Se anticipa que la estación de Waukegan ya no generará energía a partir del carbón iniciando desde junio de 2022, lo que eliminará las emisiones de carbono y cenizas nuevas. De acuerdo con las regulaciones estatales y federales, MWG propone cerrar el estanque oeste de ceniza eliminando las cenizas restantes y reutilizando el estanque para tratar aguas residuales que no sean de cenizas de carbón, que incluyen aguas de lluvia y escorrentías del área. MWG propone cerrar el estanque este de ceniza instalando un sistema de cobertura final sobre las cenizas restantes y realizando monitoreo a largo plazo. MWG anticipa presentar una solicitud de permiso de construcción al Estado de Illinois en febrero de 2022. Luego de la presentación en las reuniones, los participantes tendrán la oportunidad de participar en una sesión de preguntas y respuestas. Se facilitará traducción al español.

Cuando: 15 de dic. de 2021, de 6 p.m. a 8 p.m. CT

16 de dic. de 2021, de 10 a.m. a 12 p.m. CT

Donde: Debido a las restricciones por COVID-19, las reuniones serán virtuales. Visite

midwestgenerationllc.com el 15 de nov. de 2021 o después de esa fecha para conocer más información sobre cómo participar. Los participantes también pueden participar mediante llamada telefónica durante tiempos designados de la reunión a través del número

312.626.6799 y ID de reunión 823 5415 2005.

La información sobre las solicitudes de permisos de construcción de cierre se publicará en **midwestgenerationllc.com** a más tardar el **15 de nov. de 2021.** Contacto: **midwestgeneration@nrg.com**





Public Notice

Midwest Generation to Host Public Meetings on Closure Plans for Waukegan's West and East Ash Ponds

What:

Midwest Generation is hosting two public meetings to share information and engage with the community about its proposed plans to close the Waukegan Station's West and East Ash Ponds. It is anticipated that the Waukegan Station will no longer generate power from coal beginning in June 2022, which will eliminate coal emissions and new ash. Consistent with state and federal regulations, MWG is proposing to close the West Ash Pond by removing the remaining ash and repurposing the pond to treat non-coal ash wastewater, which includes stormwater and area runoff. MWG is proposing to close the East Ash Pond by installing a final cover system over the remaining ash and conducting long-term monitoring. MWG anticipates filing a construction permit application with the State of Illinois in February 2022. Following a presentation at the meetings, participants will have the opportunity to participate in a question-and-answer session. Spanish translation will be available.

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Where: Due to COVID-19 restrictions, meetings will be virtual.

Visit **midwestgenerationIIc.com** on or after **Nov. 15, 2021** for information on how to participate. Participants can also dial in by phone during designated meeting times using the phone number

312.626.6799 and Meeting ID 823 5415 2005.

Information on closure construction permit applications will be posted at midwestgenerationllc.com no later than Nov. 15, 2021. Contact: midwestgeneration@nrg.com



PRSRT STD ECRWSS U.S. POSTAGE PAID EDDM RETAIL

**** ECRWSS EDDM **

Postal Customer

MWG

Notificación Pública

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Cuando:

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Donde:

Debido a las restricciones por COVID-19, las reuniones serán virtuales. Visite **midwestgenerationIlc.com** el **15 de nov. de 2021** o después de esa fecha para conocer más información sobre cómo participar. Los participantes también pueden participar mediante llamada telefónica durante tiempos designados de la reunión a través del número **312.626.6799** y ID de reunión **823 5415 2005.**

La información sobre las solicitudes de permisos de construcción de cierre se publicará en **midwestgenerationllc.com** a más tardar el **15 de nov. de 2021.** Contacto: **midwestgeneration@nrg.com**



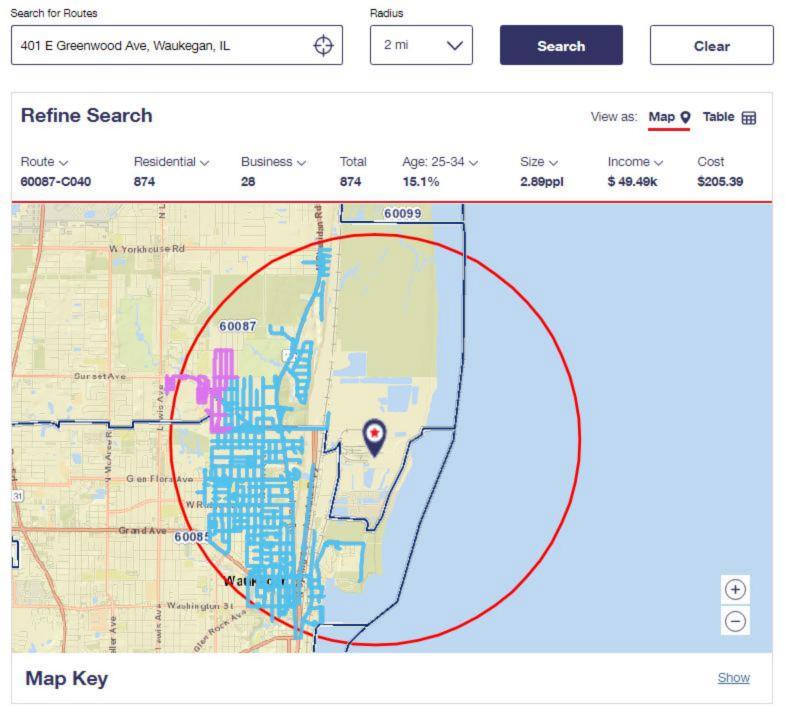
PRSRT STD ECRWSS U.S. POSTAGE PAID EDDM RETAIL

**** ECRWSS EDDM **

Postal Customer

Exhibit B:

Map of 2-mile radius of impoundment - selected postal routes highlighted blue



United States Postal Service

Every Door Direct Mail (EDDM) Retail®

Post Office: Note Mail Arrival Date & Time (Do Not Round Stamp)

		and Address of Individ		ŭ	Telephone (815) 582-4	1014		Name a	and Ad	dress of Mailing	g Ager	nt (If other than	Telephone	
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Ma		Meter Strip		Route Type(s) CTY		Incentive/Discount Claimed								
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	DDU	J Saturation	0.200	0 1,768	3 \$3	353.60				\$353.60	IN	Affix Meter Strip Here		
The mailer's signature certifies acceptance of liability for and agreement to pay any revenue deficiencies assessed on this mailing, subject to appeal. If an agent signs this form, the agent certifies that he or she is authorized to sign on behalf of the mailer and that the mailer is bound by the certification and agrees to pay any deficiencies. In addition, agents may be liable for any deficiencies resulting from matters within their responsibility, knowledge, or control. The mailer hereby certifies that all information furnished on this form is accurate, truthful, and complete; that the mail and the supporting documentation comply with all postal standards and the mailing qualifies for the prices and fees claimed; and that the mailing does not contain any matter prohibited by law or postal regulation. I understand that anyone who furnishes false or misleading information on this form or who omits information requested on this form may be subject to criminal and/or civil penalties, including fines and imprisonment.														
	Signat	ure of Mailer or Agent		7 777409	710000.10					acy policy vis		m.dopo.com	Telephone	
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EVERY DOOR DIRECT MAIL RETAIL®

5-Digit ZIP Code	Route Number	# of Mailpieces	5-Digit ZIP Code	Route Number	# of Mailpieces
60087	C026	439			
60087	C035	455			
60087	C040	874			

PS Form **3587**, July 2014 (*Page 2 of 2*) PSN 7530-13-000-6929

This form and mailing standards available on Postal Explorer at pe.usps.com

Sheet 1 of 1

			USPS TRACKING #			
Mailer Information Company Name: MINUTEMAN P Post Office of Mailing EDISON SQUARE		9309 9899 5550 0000 0359 9391 31				
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60087	C026		Residential			
Date:	Total # of Mailpieces per	Bundle:	Total # of Bundles*: of			
Do Not Deliver	Address		Do Not Deliver Address			

EDDM Mail Description

* Mailers must prepare bundles to comply with standards
Generated by USPS -- Every Door Direct Mail - Retail Facing Slip

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* Mailers must prepare bundles to comply with standards

Generated by USPS -- Every Door Direct Mail - Retail Facing Slip

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^{*} Mailers must prepare bundles to comply with standards
Generated by USPS -- Every Door Direct Mail - Retail Facing Slip

United States Postal Service

Every Door Direct Mail (EDDM) Retail®

Post Office: Note Mail Arrival Date & Time (Do Not Round Stamp)

		and Address of Individ		ŭ	Telephone (815) 582-4	1014		Name a	and Ad	dress of Mailing	g Ager	nt (If other than	Telephone	
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The mailer's signature certifies acceptance of liability for and agreement to pay any revenue deficiencies assessed on this mailing, subject to appeal. If an agent signs this form, the agent certifies that he or she is authorized to sign on behalf of the mailer and that the mailer is bound by the certification and agrees to pay any deficiencies. In addition, agents may be liable for any deficiencies resulting from matters within their responsibility, knowledge, or control. The mailer hereby certifies that all information furnished on this form is accurate, truthful, and complete; that the mail and the supporting documentation comply with all postal standards and the mailing qualifies for the prices and fees claimed; and that the mailing does not contain any matter prohibited by law or postal regulation. I understand that anyone who furnishes false or misleading information on this form or who omits information requested on this form may be subject to criminal and/or civil penalties, including fines and imprisonment.														
	Signat	ure of Mailer or Agent								acy policy vis			Telephone	
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EVERY DOOR DIRECT MAIL RETAIL®

5-Digit ZIP Code	Route Number	# of Mailpieces	5-Digit ZIP Code	Route Number	# of Mailpieces
60085	C007	637			
60085	C008	472			
60085	C010	432			
60085	C011	509			
60085	C014	516			
60085	C027	647			
60085	C057	513			

PS Form **3587**, July 2014 (*Page 2 of 2*) PSN 7530-13-000-6929

This form and mailing standards available on Postal Explorer at pe.usps.com

Mailer Information Company Name: MINUTEMAN PRE Post Office of Mailing WAUKEGAN		USPS TRACKING # 9309 9899 5550 0000 0359 9059 76			
5-Digit ZIP Code (Required):	Route Number (Required)	:	Delivery Type:		
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^{*} Mailers must prepare bundles to comply with standards
Generated by USPS -- Every Door Direct Mail - Retail Facing Slip

Mailer Information Company Name: MINUTEMAN P Post Office of Mailing WAUKEGAN	RESS JOLIET	USPS TRACKING # 9309 9899 5550 0000 0359 9060 10				
5-Digit ZIP Code (Required):	Route Number (Required):		Delivery Type:			
60085	C008		Residential			
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Do Not Deliver	Address		Do Not Deliver Address			

^{*} Mailers must prepare bundles to comply with standards

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Company Name:			
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5-Digit ZIP Code (Required):	Route Number (Required)	:	Delivery Type:
60085	C010		Residential
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^{*} Mailers must prepare bundles to comply with standards

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EDDM Mail Description

* Mailers must prepare bundles to comply with standards
Generated by USPS -- Every Door Direct Mail - Retail Facing Slip

Mailer Information Company Name: MINUTEMAN PRESS JOLIET Post Office of Mailing WAUKEGAN		USPS TRACKING # 9309 9899 5550 0000 0359 9059 69	
5-Digit ZIP Code (Required):	Route Number (Required):		Delivery Type:
60085	C027		Residential
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^{*} Mailers must prepare bundles to comply with standards

USPS TRACKING # 9309 9899 5550 0000 0359 9060 03 Delivery Type:	
Do Not Deliver Address	

EDDM Mail Description

Generated by USPS -- Every Door Direct Mail - Retail Facing Slip

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Exhibit C:

Posting of notice in conspicuous locations within 10 miles of the facility

MWG Canvass Summary

December 2021

To meet Section 845.240 Pre-Application Public Notification and Public Meeting regulation:

Post the notice in conspicuous locations throughout villages, towns, or cities within 10 miles of the facility, or use appropriate broadcast media (such as radio or television);

Waukegan Generating Station

We <u>identified and contacted</u> via telephone a total of **77 locations** within 10 miles of the facility in the City of Waukegan. The first day of outreach was Monday, November 8, 2021. The second day of outreach was Monday, November 22, 2021. In the instances where we were not able to post a notice, the facilities were closed or refused.

The bilingual public meeting notices were placed at 33 locations, including:

- The Community Center
- Walmart
- Waukegan Park District
- Waukegan Metra
- North Chicago Public Library
- North Chicago City Clerk
- Lake Bluff Public Library
- Lake Forest Library
- Park City City Hall
- Village of Beach Park
- Zion-Benton Public Library
- Zion City Hall
- Gurnee Village Hall
- Warren-Newport Public Library
- Walgreens (x2)
- Starbucks (x2)
- Dunkin (x4)
- USPS
- Super Fresh Market
- ALDI
- Carniceria La Mexicana
- Rubi's Bakery
- El Potosi
- Lake Bluff Park District
- Dollar General
- Village of Wadsworth
- Lake Forest Parks and Recreation

• Hermon Park

Nineteen refused or were closed, including:

- Greenbelt Cultural Center
- Lake County Law Library
- St. John's United Church
- Waukegan Community Church
- Christian Neighbors Church
- Wesley Free Methodist Church
- Community Christian Church of Lake County
- Church of Joy
- Church of God New Testament
- First Baptist Church
- Lake Bluff Village Offices
- Village Church of Gurnee
- Lakeland Church
- Naval Station Great Lakes Library
- Dept. Veterans Affairs Med Library
- Univer Health Sci Chicago Med Library
- Waukegan Public Library
- Dollar General
- Genesee Theatre

Pictures







Exhibit D:

Submittal to Illinois EPA requesting notice be sent to listserv for MWG



Midwest Generation, LLC Waukegan Generating Station 401 E. Greenwood Ave. Waukegan, Illinois 60087

November 5, 2021

VIA CERTIFIED MAIL

Illinois Environmental Protection Agency
DWPC – Permits MC #15
Attn: Part 845 Coal combustion Residual Rule Submittal
1021 North Grand Avenue East
P.O. Box 19276
Springfield, IL 62794-9276

Re: Waukegan Generating Station – Waukegan, Lake County, Illinois Facility ID No. W0971900021 Notice of Public Meetings for CCR Construction Permit Application

Dear Sir or Madam:

In accordance with the requirements of 35 IAC Section 845.240(b), please find enclosed the public meeting notice for the East Pond (ID No. W0971900021-01) and West Pond (ID No. W0971900021-02) at Waukegan Generating Station.

Midwest Generation, LLC requests that the Agency email this notice to the Agency's listserv for the facility. An electronic copy of this notification has been submitted to the Agency's CCR Coordinator.

If you have any questions or require additional information regarding this submittal, please contact me at

Sincerely,

Tharene Thealey
Sharene Shealey

Director, Environmental

CC via Email: Illinois EPA CCR Coordinator

Paulo Rocha, Waukegan Station Plant Manager

Mark Wehling, Waukegan Station Environmental Specialist

Jill Buckley, Environmental Manager

Exhibit E:

Presentation for December 15 and 16, 2021 public meetings



Waukegan – East & West Ash Ponds ID Nos. W0971900021-01 & -02

Proposed Closure Construction Project

December 2021

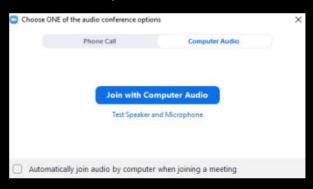


Interpretación en Zoom: Computadora

Closed Caption

Instrucciones Para la Audiencia Para Interpretación en Zoom

1. Seleccione unirse a la llamada con el audio de la computadora.



2. Seleccione el Globo "Interpretación" en la parte inferior izquierda de la pantalla.

More

3. Seleccione el idioma en que desea escuchar la interpretación.

Interpretation



(interprenet



COVID-19 PRECAUTIONS

- Holding this meeting virtually due to the COVID-19 pandemic
- Participants in Q and A portion will be following CDC protocols
 - Social Distancing
 - Wearing masks
 - Will pull down masks only to speak



Virtual Meeting Reminders

In today's meeting, you can:

Enter questions in "Q&A" or "Chat"

Click the Q&A or chat icon on your screen and type your question.

Participate in a live Q&A session

Verbal questions will be taken. After our presentation, we will provide instructions for the live Q&A.

Sign up for a post-meeting summary and IEPA listserv

During the meeting, click the link that Midwest Generation, LLC has placed in the Chat to complete the Google form.

<u>Public Website</u>: midwestgenerationllc.com



Meeting Agenda

- Illinois Coal Ash & Other Environmental Rules
- Waukegan Generating Station, West & East Ash Ponds
- Closure Alternatives Analysis and Groundwater Modeling
- Proposed Closure and Post-Closure Plan
- Question & Answer Session



Illinois Coal Ash Rules & Other Regulations

- In 2015, the US EPA finalized the Federal CCR Rules to regulate coal ash landfills and surface impoundments at power plants.
- In 2019, the state passed a law to regulate coal ash stored in CCR surface impoundments at power plants throughout Illinois.
 - The law required that the Illinois Environmental Protection Agency propose, and that the Illinois Pollution Control Board adopt, state regulations for storage and disposal of coal ash produced from electric generating facilities through a new permitting program.
 - As required by the law, the Illinois EPA and the Board undertook a public rulemaking process that resulted in the Board adopting regulations at 35 IAC Part 845 – Standards for the Disposal of Coal Combustion Residuals in Surface Impoundments (the Illinois Coal Ash Rules) in April 2021.
- Additionally, the East and West Ash Ponds are permitted as part of the Station's wastewater treatment system by the Illinois EPA under the NPDES permitting program.



What is a CCR? What is a CCR surface impoundment?

The Illinois Coal Ash Rules define both CCR and CCR surface impoundments:

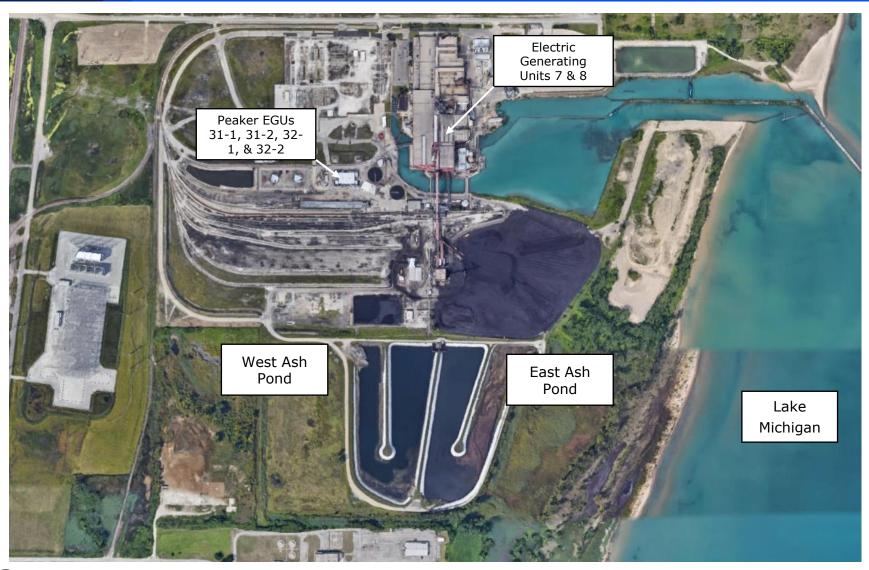
"Coal combustion residuals" or "CCR" means fly ash, bottom ash, boiler slag, and flue gas desulfurization materials generated from burning coal for the purpose of generating electricity by electric utilities and independent power producers.

"CCR surface impoundment" or "impoundment" means a natural topographic depression, man-made excavation, or diked area, which is designed to hold an accumulation of CCR and liquids, and the surface impoundment treats, stores, or disposes of CCR.

We're here today to present plans regarding a specific aspect of the Illinois Coal Ash Rules – the planned closure of Waukegan's East and West Ash Ponds.



Waukegan Generating Station



?

Question? Click the chat icon at the bottom of your screen to type a question. ¿Pregunta? Haga clic en el icono del chat en la parte inferior de la pantalla para escribir su pregunta.



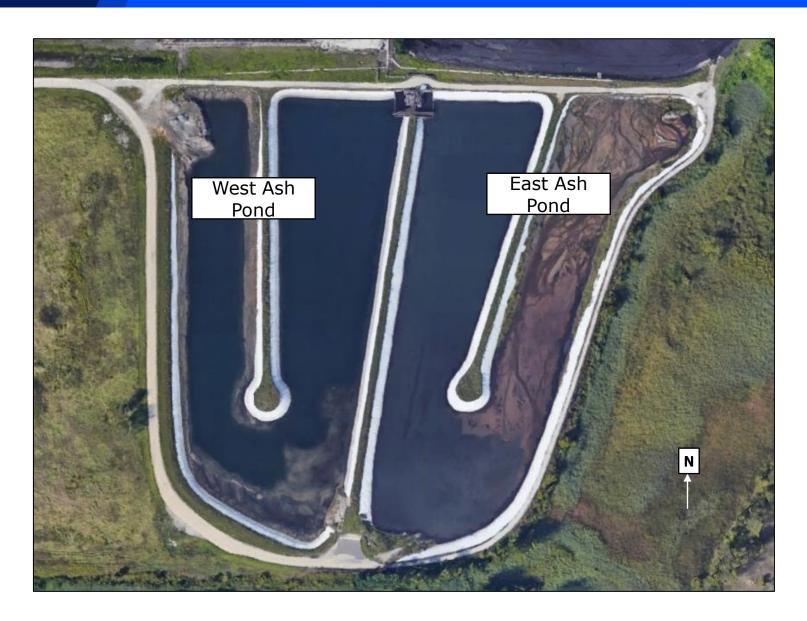
Waukegan Generating Station

- In June 2021, we announced the planned permanent retirement of Electric Generating Units 7 and 8 in June 2022.
 - Waukegan Station will not burn coal, nor produce CCR, after Units
 7 & 8 are retired.

• The ULSD-fired peaking units will continue to operate.



East and West Ash Ponds





East and West Ash Ponds

- The East and West Ash Ponds were originally built in the 1970's and lined with a synthetic rubber material called Hypalon®. The ponds were relined with a High-Density Polyethylene ("HDPE") liner (i.e., thick and impermeable plastic) in 2003 (East Ash Pond) and 2004 (West Ash Pond).
- Both the East and West Ash Ponds have been used to temporarily store CCR. The only type of CCR that is stored in these ponds is bottom ash, which is the non-combustible residue that settles to the bottom of the power plant's boilers.
- The East and West Ash Ponds at Waukegan operate "in parallel", meaning that only one of the two ponds is in-service at a time.
 - Currently, the East Ash Pond is in-service. The West Ash Pond is out-of-service (OOS) and will remain OOS until permitted by the Illinois EPA.
 - The West Ash Pond only contains a small amount of CCR and the sand and limestone warning layer. The warning layer was used to "warn" operators of the liner during periodic removal of ash from the Pond.



Evaluation of two closure methods, both allowed by regulation:

Closure by Removal of CCR

An owner or operator may elect to close a CCR surface impoundment by removing all CCR and decontaminating all areas affected by releases of CCR from the CCR surface impoundment. CCR removal and decontamination of the CCR surface impoundment are complete when all CCR and CCR residues, containment system components such as the impoundment liner and contaminated subsoils, and CCR impoundment structures and ancillary equipment have been removed. Closure by removal must be completed before the completion of a groundwater corrective action under Subpart F. (35 IAC Section 845.740(a))

Closure in Place

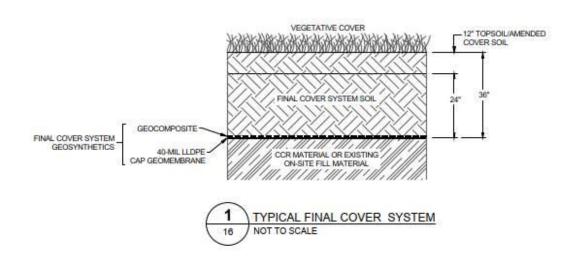
If a CCR surface impoundment is closed by leaving CCR in place, the owner or operator must install a final cover system that is designed to minimize infiltration and erosion, and, at a minimum, meets the requirements of this subsection (c). The final cover system must consist of a low permeability layer and a final protective layer. The design of the final cover system must be included in the preliminary and final written closure plans required by Section 845.720 and the construction permit application for closure submitted to the Agency. (35 IAC Section 845.750(c))

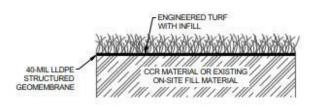


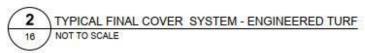
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Closure in-Place – Illinois EPA Prescribed Cover System and Alternative Cover System









Overview

 Closure Alternatives Analysis performed in accordance with Illinois Administrative Code, Title 35: Environmental Protection, Subtitle G: Waste Disposal, Chapter I: Pollution Control Board, Subchapter j: Coal Combustion Waste Surface Impoundments, Part 845 Standard for the Disposal of Coal Combustion Residuals in Surface Impoundments Section 845.710 Closure Alternatives.

Objective

- Evaluate long- and short-term effectiveness and protectiveness of the closure method.
- Evaluate the effectiveness for controlling future releases.
- Evaluate the ease of implementation.
- Address comments and concerns of residents within the communities adjacent to the project.

Cost estimates for each alternative have been prepared as required by the rule.



West Pond

- Option 1 Closure by Removal
- Option 2 Closure in Place

East Pond

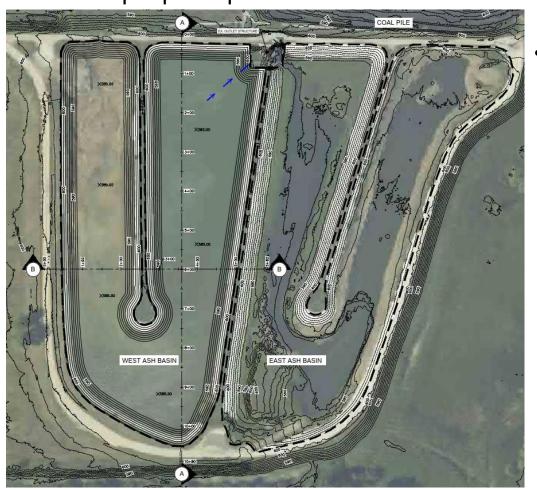
- Option 3 Closure by Removal
- Option 4 Closure in Place Minimum Grading
- Option 5 Closure in Place Maximum Grading
- Option 6 Closure in Place Intermediate Grading



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- Option 1 West Ash Pond Closure by Removal
 - Removal all material from pond and haul off site.
 - Clean and decontaminate existing liner system to remove all CCR.
 - Repurpose pond for stormwater management at the site.



- Estimated Quantities:
 - Approximate Area = 10 Acres
 - Material to Remove = 22,500 CY
 - Proposed Fill = 0 CY



- Option 2 West Ash Pond Closure in Place
 - Regrade remaining material.
 - Leave liner system in place.
 - Add soil fill to basin to achieve cap subgrade and construct new cap system.



- Estimated Quantities:
 - Approximate Area = 10 Acres
 - CCR to Regrade = 5,000 CY
 - Subgrade Fill = 68,000 CY
 - This would require the construction of an IEPA approved cap system.



- Option 3 East Ash Pond Closure by Removal
 - Removal all material from pond and haul off site.
 - Remove existing liner system and haul offsite.
 - Grade exposed base to manage stormwater.



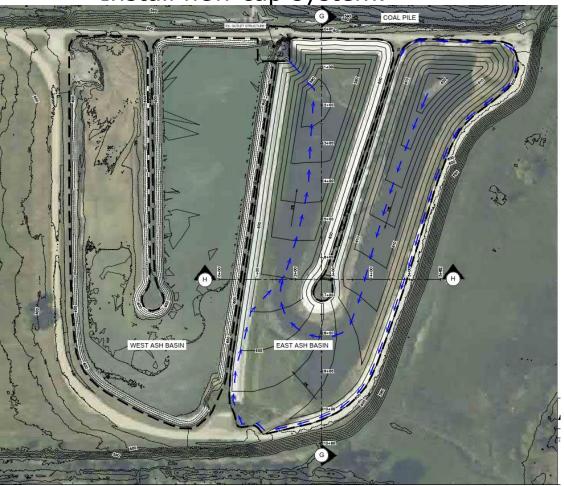
• Estimated Quantities:

- Approximate Area = 10 Acres
- Est. CCR to Remove = 70,000 CY
- Subgrade Fill = 0 CY



- Option 4 East Ash Pond Closure in Place, Minimum Grading
 - Regrade CCR in pond.
 - Limit soil fill while maintaining drainage.

Install new cap system.



- Estimated Quantities:
 - Approximate Area = 10 Acres
 - CCR to Regrade = 0 CY
 - Subgrade Fill = 106,000 CY
 - This would require the construction of an IEPA approved cap system.



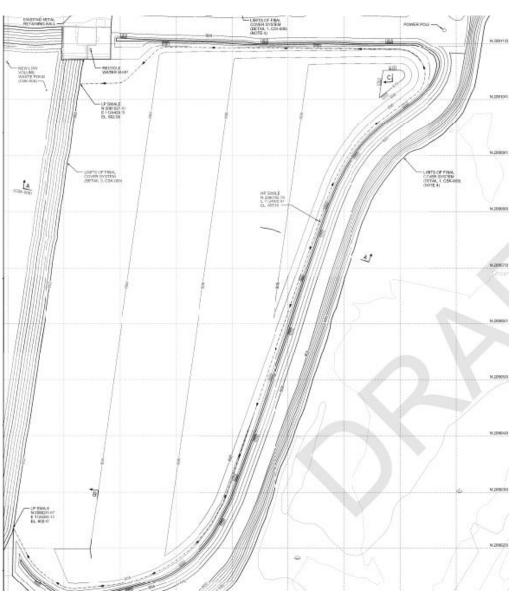
- Option 5 East Ash Pond Closure in Place, Maximum Grading
 - Regrade remaining CCR in pond.
 - Add soil fill to maximize slopes and height.

Install new cap system.



- Estimated Quantities:
 - Approximate Area = 10 Acres
 - Subgrade Fill = 368,000 CY
 - This would require the construction of an IEPA approved cap system.





- Option 6 East Ash Pond Close In Place, Intermediate Grading
 - Regrade remaining CCR in pond.
 - Add soil fill to achieve grades for drainage.
 - Install new cap system.

- Estimated Quantities:
 - Approximate Area = 10 Acres
 - Subgrade Fill = 260,000 CY
 - This would require the construction of an IEPA approved cap system.



Adjusted Standard Request – Reuse of West Ash Pond Liner System for non-CCR wastewater

With the announcement that coal-fired operations will cease at Waukegan Station in 2022, the Station will no longer produce CCR or CCR contact water, but the Station will still need to manage storm water – water from rain and snow melt – since it will remain an industrial facility.

In May 2021 and amended in September 2021, MWG requested an Adjusted Standard (AS) from the IPCB for the ability to reuse the liner system in the West Pond for non-CCR wastewater.

 Although ash has been removed from the West Ash Pond, the IL CCR rule requires the removal of the containment system components, impoundment structures, and ancillary equipment. MWG believes that these can be decontaminated and reused.



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Groundwater Monitoring Results

- Groundwater quality and flow conditions are monitored quarterly via a groundwater monitoring well network installed around the ponds.
- No Statistically Significant Increases of CCR constituents have been observed in the groundwater wells that are attributable to the East or West Ash Ponds.
- Illinois EPA recently informed Waukegan leaders that "Continued groundwater monitoring indicated a source other than East or West Ponds."





Groundwater Modeling

To comply with the Illinois Coal Ash Rule, MWG conducted groundwater modeling of the groundwater concentrations. The purpose of the groundwater modeling was to provide a platform from which to be able to compare the relative effectiveness of various closure and/or corrective action alternatives relative to groundwater quality on a short term and long-term basis for the CCR unit.

To accomplish this, the model establishes a <u>theoretical</u> source of contamination (i.e., not an actual source) in the pond and allowed to distribute itself over time until an equilibrium (stable) condition is observed by the model (worst case distribution of impacts).

This model looks at theoretical, potential contamination from the CCR unit – it assumes the pond has ash and water and that the liner is compromised or non-existent.

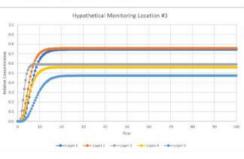
Once equilibrium is established, engineering alternatives can be overlain and the model is then run over a time sequence to evaluate the change/improvement in water quality associated with the proposed alternative.

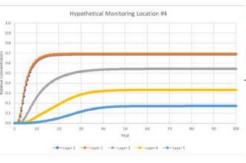


Groundwater Modeling Starting Conditions

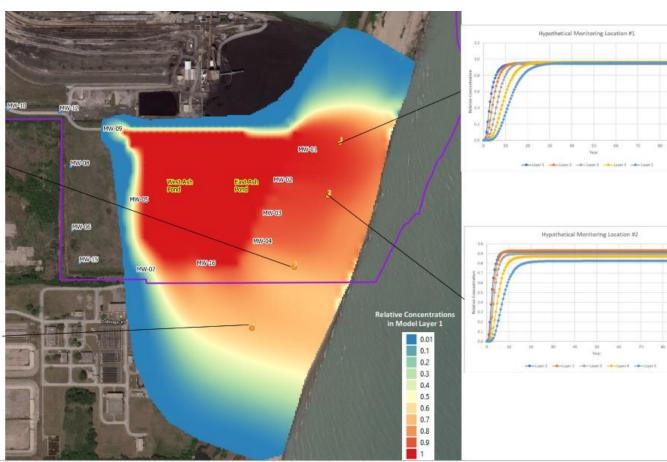
Assumes a hypothetical constant source at both East and West Ash Ponds:

Starting Conditions: Defined a surrogate source of "1" beneath Ash Ponds, forward run for 100 years with advection and dispersion











Groundwater Modeling Data

Four groundwater modeling scenarios were run:

- 1. Closure by removal of both East Ash Pond and West Ash Pond;
- 2. Closure by removal of the East Ash Pond, Closure in Place of the West Ash Pond;
- 3. Closure in place of both East Ash Pond and West Ash Pond; and
- 4. Closure in place of the East Ash Pond and Closure by removal & repurposing of the West Ash Pond for stormwater.

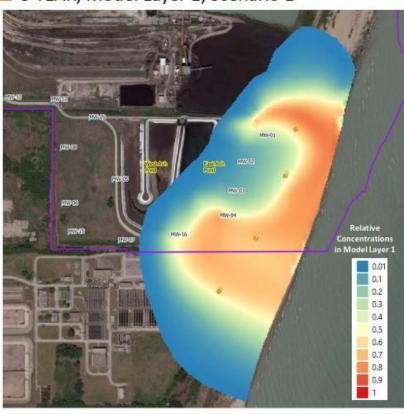


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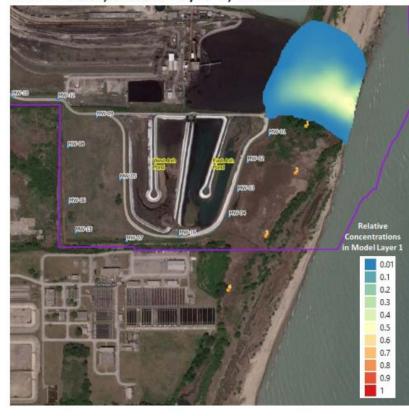


Corresponds to Closure by Removal of both East and West Ash Ponds:

5 YEAR, Model Layer 1, Scenario 1



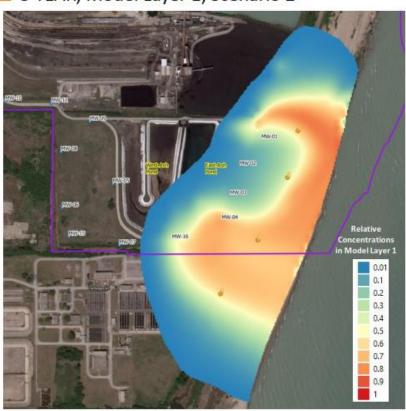
25 YEAR, Model Layer 1, Scenario 1



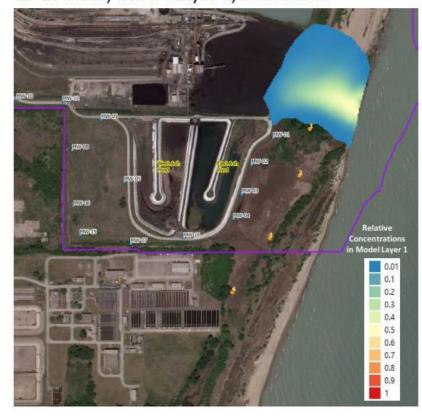


Corresponds to Closure by Removal of East Ash Pond and Closure in Place of West Ash Pond:

5 YEAR, Model Layer 1, Scenario 2



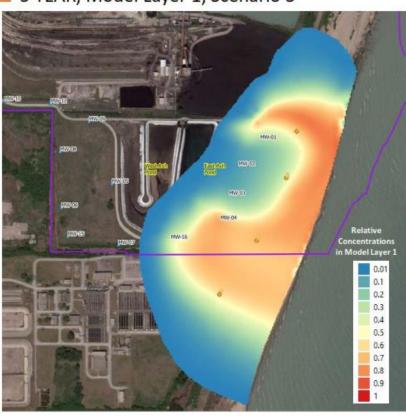
25 YEAR, Model Layer 1, Scenario 2



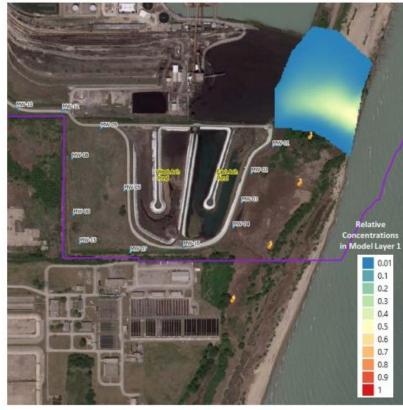


Corresponds to Closure in Place of both East and West Ash Ponds:

5 YEAR, Model Layer 1, Scenario 3



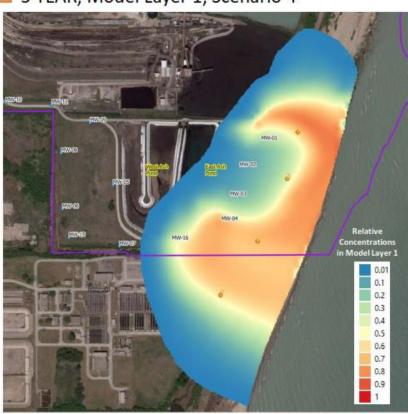
25 YEAR, Model Layer 1, Scenario 3



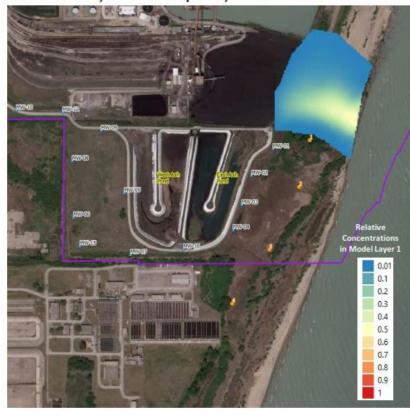


Corresponds to Closure by Removal of West Ash Pond (and repurpose) and Close in Place of East Ash Pond:

5 YEAR, Model Layer 1, Scenario 4



25 YEAR, Model Layer 1, Scenario 4



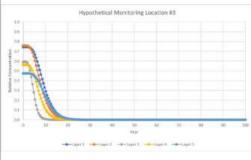


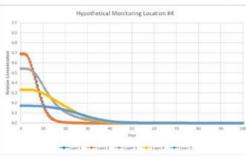
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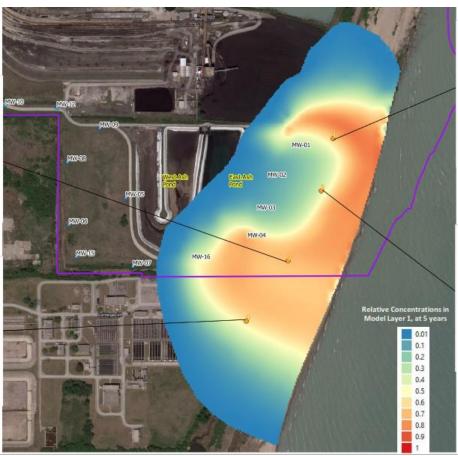
Groundwater Modeling Time vs. Concentration, 100 years post closure

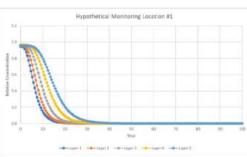
 Starting Conditions: Constant source distribution at 100 years

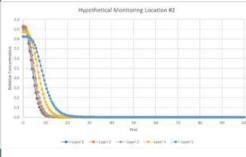














Closure Alternatives Analysis Summary

Closure by removal for both ash ponds, closure in place for both ash ponds were analyzed. The different closure options were evaluated based on effectiveness/protectiveness, and ease of implementation.

- Option 1 "Closure by Removal West Ash Basin" preferred closure option, protective of groundwater, structurally stable, provides infrastructure necessary for continued site operations.
- Option 2 "Closure in Place West Ash Basin" not preferred because of the station's desire to decontaminate and reuse the liner, repurposing the pond to treat stormwater runoff.
- Option 3 "Closure by Removal East Ash Basin" not preferred due to CCR hauling through community. Transport by barge is not practically feasible with existing site infrastructure. Transport by rail is not practically feasible for loading and shared use of rail lines with commuter trains.
- Options 4-6 "Closure in Place East Ash Basin variations" equivalently
 protective for groundwater as closure by removal once capping system is in
 place, structurally stable to prevent future release, reduce traffic through the
 surrounding community.
- Option 6 "Closure in Place Intermediate Grading" preferred alternative, protective of groundwater, structurally stable, provides best grading for future use of the area.



Proposed Closure Plan – East Ash Pond

Closure in Place with Alternate Final Cover (ClosureTurf).

- Isolates CCR from stormwater, protecting surface waters.
- Proven closure method at other surface impoundments in US, including in IL.
- Long term reliability in minimizing risk to human health and the environment.
- Closure construction could be completed in less than a year.
- Closure by removal more challenging no space to build onsite landfill, increased ash handling.

Based on site specific conditions, the Closure in Place scenario provides both short- and long-term protection to groundwater and surface water resources along with ensuring overall protection to the public health, welfare and safety.



Proposed Closure Plan - West Ash Pond

For the West Ash Pond, MWG will propose closure by removal & repurposing the liner for Plant stormwater.

- Waukegan Station is an industrial site and will be required to manage stormwater. Repurposing the West Ash Pond will allow Waukegan Station to manage stormwater.
- Most of the ash has already been removed from the West Ash Pond.
 - A small amount of ash and the sand and limestone warning layer remain in the West Ash Pond. The warning layer was used to "warn" operators of the liner during routine removal of ash from the Pond. These would be removed, and the liner cleaned.

Based on site specific conditions, the Closure by Removal scenario provide both short- and long-term protection to groundwater and surface water resources along with ensuring overall protection to the public health, welfare and safety.



Proposed Post Closure Care

The required post-closure care period for closure in place is at least 30 years or until contaminant concentrations are below the state standards. The required post-closure care period for closure by removal is at least 3 years or until contaminant concentrations are below the state standards.

 Because the groundwater monitoring wells that are upgradient and downgradient of the East Ash Pond are also upgradient and downgradient of the West Ash Pond, the current CCR monitoring well network will remain active for at least 30 years.

In this design, the West Ash Basin liner will be reused, and the pond will be repurposed to treat area stormwater runoff. The East Ash Basin will be closed with a final cover system and be an area of passive open space.



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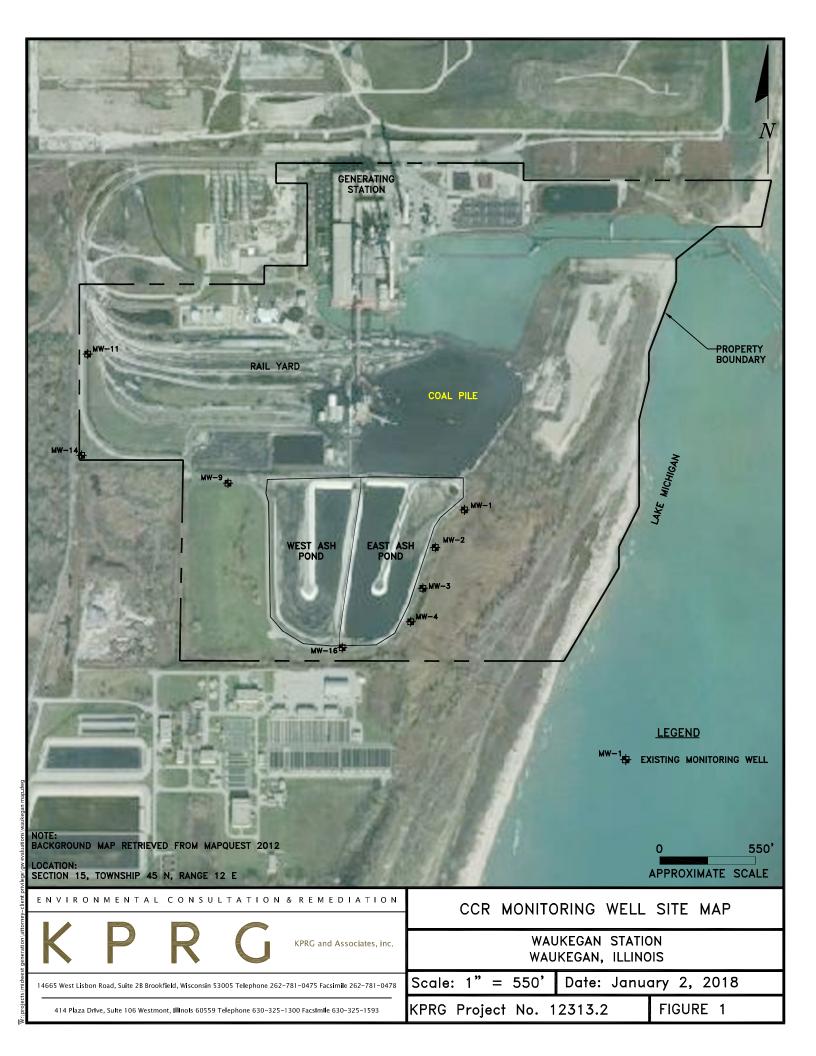


<u>Public Website</u>: midwestgenerationllc.com





Appendix 1 – CCR Rule Groundwater Monitoring Well Network







Appendix 2 – Illinois EPA Waukegan Station Part 845 Presentation filed with IPCB October 18, 2021

Filing can be found at: https://pcb.illinois.gov/documents/dsweb/Get/Document-104773



BUREAU OF WATER WAUKEGAN POWER STATION: PART 845 CCR SURFACE IMPOUNDMENTS

Darin LeCrone, P.E.

Manager, Permit Section

Division of Water Pollution Control

CCR STATUTE AND REGULATIONS

- On July 30, 2019, Governor Pritzker signed Public Act 101-171 which directed the Illinois Pollution Control Board (IPCB) to adopt rules for a coal combustion residuals (CCR) surface impoundment permitting program. This amendment to the Act requires additional protections and closure requirements for CCR Surface Impoundments (also known as coal ash ponds) at electric utilities and independent power producers.
- Final Rule 35 III. Adm. Code 845 adopted by the Board in April 2021.
- There are 23 site locations the Illinois EPA recognizes 72 CCR surface impoundments at power generating facilities, based on best available information.

CCR PERMITTING TIMELINE

- The rule requires all facilities to submit initial operating permit
 applications to the Illinois EPA by October 31, 2021.
- Closure construction permit applications in Est areas are due February 2022.

WAUKEGAN POWER STATION – COAL ASH PONDS

- IEPA recognizes 3 CCR Surface Impoundments subject to Part 845: East Pond, West Pond & Old Pond.
- NRG acknowledges East Pond & West Pond are subject to 40 CFR Part 257 and III. Adm. Code Part 845.
- NRG disputes that Old Pond is subject to Part 845.

WAUKEGAN POWER STATION – GROUNDWATER STANDARDS

- In 2012, IEPA issued a violation notice (VN) to NRG Waukegan for exceedances of Class I groundwater standards. Continued groundwater monitoring indicated a source other than East or West Ponds.
- Additional groundwater monitoring conducted indicates exceedances of Groundwater Protection Standards.
- IEPA will evaluate the adequacy of the facility's groundwater monitoring system and data during the review of the application for the Initial Operating Permit.
- Exceedances of groundwater protection standards under Part 845 requires an Alternative Source Demonstration or corrective action.

PERMITTING - PUBLIC PARTICIPATION

- Initial Operating Permit: Requires a 45-day public notice period with opportunity to submit written comments and request a public hearing.
- Construction Permit: Requires a 45-day public notice period with opportunity to submit written comments and request a public hearing. Facility will be required to hold 2 public meetings to outline their chosen closure method and discuss closure alternatives. The meetings must be held at least 30 days prior to submittal of a construction permit application.
- At least 30 days prior to the public meetings, the applicant must post on their publicly available website, all documentation relied upon in making their tentative application.
- If located in an area with significant non-English speaking residents, the notifications must be made in both English and the appropriate non-English language, and translation services must be provided at the meetings.
- Within 14 days after the public meetings, the applicant must distribute a general summary of the issues raised by the public, as well as a response to those issues.

WAUKEGAN POWER STATION – AGENCY DECISION

- The Agency will provide notice of its final permitting decision, along with responses to comments received during the public notice, and public hearing (if applicable).
- Notice of the final decision will be made to the applicant, to any
 person who provides comments or an email address to the Agency
 during the public notice or hearing process, and to any person on the
 Agency's listserv for the facility.
- Such a notice will briefly describe any significant changes or revisions made to the permit.

WAUKEGAN POWER STATION – NRG ADJUSTED STANDARD REQUESTS

- NRG filed an adjusted standard (AS) petition with Illinois Pollution Control Board on 5/11/21
- Petition was filed timely resulting in an automatic stay of Part 845 provisions for which relief sought
- NRG seeks inapplicability of Part 845 relative to Old Pond
- Initial petition sought reuse of existing HDPE liner in East Pond for low volume waste streams unrelated to coal ash

WAUKEGAN POWER STATION – NRG ADJUSTED STANDARD REQUESTS CONT

- NRG filed an amended adjusted standard petition with the Board on 9/17/21
- The amended petition still seeks inapplicability of Part 845 relative to Old Pond
- Amended petition seeks reuse of existing HDPÉ liner in West Pond for low volume waste streams (not ash related)
- Amended petition states that East Pond will be closed in place

WAUKEGAN POWER STATION – NRG ADJUSTED STANDARD REQUESTS CONT.

- The Agency intends to file Adjusted Standard recommendation with the Board for the Old Pond applicability petition by 1/31/22
- The Agency intends to file the Adjusted Standard recommendation with the Board for the West Pond liner petition as a separate recommendation
- The Adjusted Standard petitions will not affect the due date of the initial operating permit application.
- Depending on the Board's final decisions on the adjusted standard petition, the date of closure construction permit applications may be changed
- Station closure scheduled for June 2022



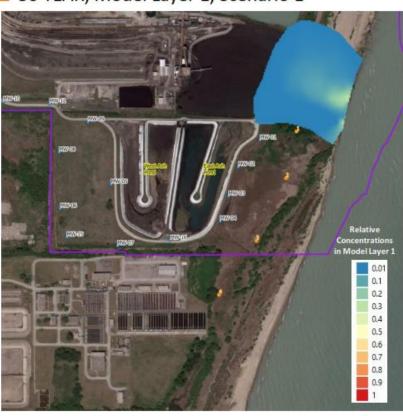


Appendix 3 – Additional Groundwater Modeling



Corresponds to Closure by Removal of both East and West Ash Ponds

50 YEAR, Model Layer 1, Scenario 1



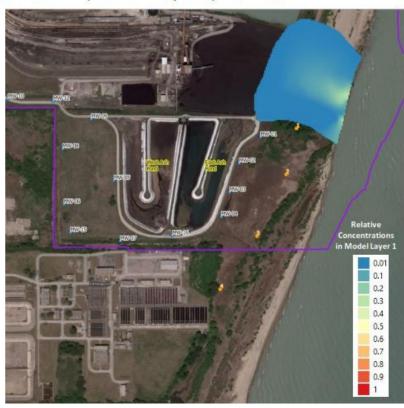
100 YEAR, Model Layer 1, Scenario 1

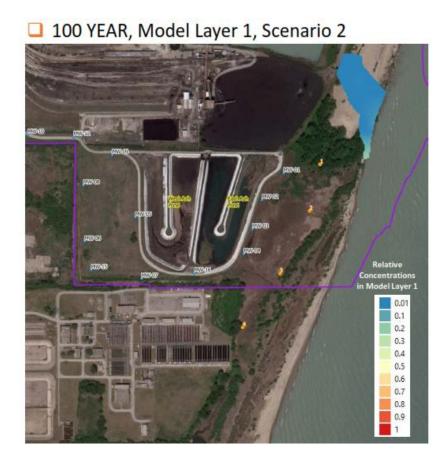




Corresponds to Closure by Removal of East Ash Pond and Closure in Place of West Ash Pond

50 YEAR, Model Layer 1, Scenario 2

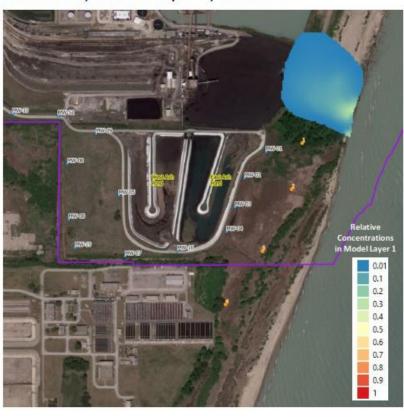




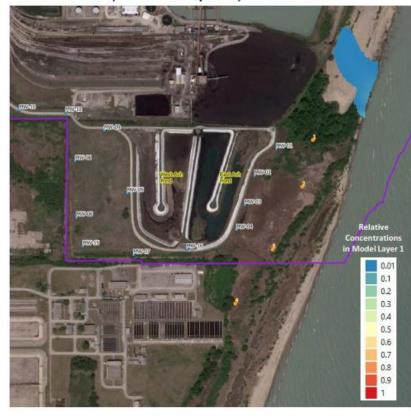


Corresponds to Closure in Place of both East and West Ash Ponds

50 YEAR, Model Layer 1, Scenario 3



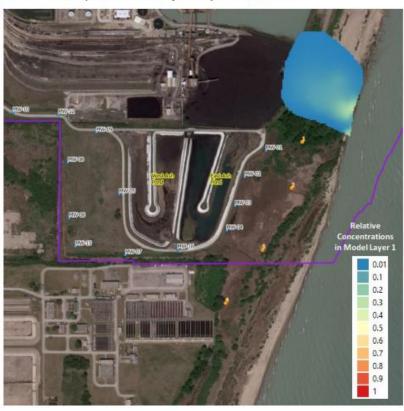
☐ 100 YEAR, Model Layer 1, Scenario 3





Corresponds to Closure by Removal of West Ash Pond (and repurpose) and Close in Place of East Ash Pond

50 YEAR, Model Layer 1, Scenario 4



100 YEAR, Model Layer 1, Scenario 4

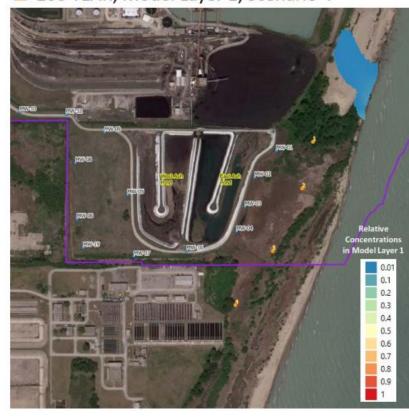


Exhibit F:

Summary of public meetings

Midwest Generation, LLC Waukegan Generating Station East and West Ash Ponds Proposed Closure Construction Project Public Meeting General Summary

INTRODUCTION

In accordance with Title 35 of the Illinois Administrative Code ("35 IAC") Section 845.240, Midwest Generation, LLC (MWG) posted the public meeting notice on the Closure Plans for Waukegan Generating Station's East and West Ash Ponds on its publicly available website and provided a copy of such notice to the Illinois Environmental Protection Agency (Illinois EPA or Agency) to email to its listserv for this facility. The bilingual public meeting notice was mailed to all residents within at least 1 mile of the facility on November 8, 2021, which totaled 5,494 residential mailing addresses. The notice was also posted in 33 public locations within 10 miles of the facility boundary.

The public meetings for Waukegan Generating Station's East and West Ash Ponds were held on December 15, 2021 from 6:00 p.m. to 8:00 p.m. and on December 16, 2021 from 10:00 a.m. to 12:00 p.m. The meetings were held virtually, and participants were invited to attend via Zoom or telephone. Sixty members of the public attended the December 15th meeting, and forty-six members of the public attended the December 16th meeting (the remaining attendees were MWG affiliate employees and consultants). At least nineteen members of the public attended both meetings. Attendees who wished to sign up for a copy of the meeting summary and/or be added to Illinois EPA's listserv for the facility were asked to sign up via a link to a Google form that was provided within the chat function of the Zoom meeting and posted on MWG's website, midwestgenerationllc.com. Forty attendees requested a copy of the meeting summary, thirty-seven of whom requested transmittal of their email address to the Agency to be added to the Agency's listserv for the facility. It was announced that the link would be available on MWG's public website for two weeks. After an introduction and approximate 30-minute presentation on the proposed closure construction plan, the public was given approximately 1 hour and 15 minutes during each meeting to ask questions and provide comments.

This document serves as a summary of the issues and questions raised during the meeting.

MWG proposes to close the East Ash Pond in place by installing an alternate final cover system (ClosureTurf®) and close the West Ash Pond by removing and disposing of the remaining material, decontaminating the geomembrane liner, and repurposing the pond to manage station stormwater.

SUMMARY OF ISSUES AND QUESTIONS RAISED DURING THE MEETING

Closure Method

Several attendees questioned why both ponds were not going to be closed by removal. MWG is proposing to close only the West Ash Pond in that manner so that the area can be reused to continue managing stormwater in accordance with the facility's National Pollutant Discharge Elimination System permit. Prior to the decision to permanently retire the two coal-fired electric generating units at Waukegan (Units 7 and 8) by June 2022, MWG planned to replace the East and West Ash Ponds with a remote submerged scraper

conveyor (SSC) as the means of managing the Station's coal ash. A remote SSC is a mechanical system that uses a large trough and conveyor to dewater ash, and MWG planned to install this system in the northeast corner of West Ash Pond where the existing ash sluice piping and recycle water piping are located and thus could have been readily integrated into the new system. This new remote SSC would have also provided a means of segregating bottom ash transport water from the other wastestreams managed in the ash ponds to facilitate compliance with the U.S. EPA's recently revised Effluent Limitation Guidelines (ELGs) for steam electric power plants.

In June 2020, MWG took the West Ash Pond out of service. At that time, the U.S. EPA had yet to finalize its proposed amendments to the alternative closure requirements in its CCR Rule (40 CFR Part 257 Subpart D); the Proposed Rule was published in December 2019. These amendments, which were finalized in late August 2020, require MWG to obtain alternative disposal capacity for all CCR and non-CCR wastestreams being managed in the East Ash Pond as soon as technically feasible. In order to install the new remote SSC in the West Ash Pond, MWG had to first close the West Ash Pond by removing the ash stored in pond so the area could be repurposed. Thus, in the summer of 2020, MWG began dewatering and removing the ash in the West Ash Pond in accordance with historical cleaning practices to ensure the new remote SSC could be installed as soon as technically feasible.

At the time the decision was made to permanently retire the coal-fired electric generating units at Waukegan (June 2021), only approximately 7,000 cubic yards of CCR remained in the West Ash Pond, compared to 70,000 cubic yards of CCR that was estimated to be in the East Ash Pond in 2021. Because the Station will need a pond to continue managing the site's stormwater, MWG opted to repurpose the West Ash Pond to manage non-CCR wastewater (as it has throughout its operating life, in addition to managing CCR wastewater) by removing the remaining 7,000 cubic yards of ash remaining in the pond, removing the pond's sand-and-limestone warning layer (which was in contact with CCR wastewater), and decontaminating the pond's HDPE geomembrane liner to be reused for stormwater management.

Because the Illinois CCR Rule requires the complete removal of a pond's liner and ancillary equipment / structures when closing an ash pond by removal, MWG requested an Adjusted Standard from the Illinois Pollution Control Board in May 2021 and amended the petition in September 2021 to reuse the West Ash Pond's existing HDPE geomembrane liner. Not only does MWG believe that the West Ash Pond's existing HDPE geomembrane liner and ancillary equipment / structures can be decontaminated and reused but reusing the West Ash Pond as a stormwater pond in this manner would prevent wasting a competent geosynthetic liner and would prevent the need to construct a new stormwater pond at the site. As such, this would ensure MWG develops alternative disposal capacity for the non-CCR wastestreams currently being managed in the East Ash Pond as soon as technically feasible as required by the U.S. EPA CCR Rule.

In summary, given the site-specific conditions and regulatory requirements, removing the small amount of ash remaining the West Ash Pond and repurposing the pond as a stormwater pond is the best closure scenario for providing both short- and long-term protection to groundwater and surface water resources along with ensuring overall protection to public health, welfare, and safety. Meanwhile, given the amount of ash that would need to be removed from the East Ash Pond, closing the East Ash Pond in-place is the best closure scenario for providing both short- and long-term protection to groundwater and surface water resources along with ensuring overall protection to public health, welfare, and safety.

Finally, the closure alternatives analysis presented one closure by removal scenario and three methods of closure in place for the East Ash Pond, the chief difference between the three methods being the amount of fill required for final grading: minimum, intermediate, and maximum. There is no difference in the groundwater modeling results for the closure in place or closure by removal alternatives, so all are equally

protective of groundwater. To limit offsite hauling, the closure in place option for the East Ash Pond is the preferred solution. For the closure in place options which were analyzed, the minimum and maximum amounts of fill are more prohibitive of potential future use. The minimum grading scenario creates a cap that will be above the perimeter berms (a hill) on the east side of the pond and grading down to a low point below the perimeter berms adjacent to the intake structure. The maximum grading will create a hill with steeper side slopes which will limit future reuse as compared to the intermediate grading scenario. The source of fill to achieve final closure grades is an onsite stockpile of sand dredged from the Waukegan Station intake canal which does not contain ash. MWG is proposing the intermediate fill and grading scheme that provides the best grading for future use of the area and are protective of groundwater.

Existing Geomembrane Liners

There were questions raised about the current liners in the East and West Ash Ponds. The East and West Ash Ponds are currently lined with 60-mil (60 thousandths of an inch) high-density polyethylene (HDPE) geomembrane liners that were installed in 2003 (East Ash Pond) and 2004 (West Ash Pond). While HDPE geomembrane is a proven liner material for preventing the infiltration of wastewater into groundwater and for preventing the infiltration of stormwater into capped waste, the East and West Ash Pond liners do not meet federal or state CCR regulations because the rules require a composite liner system with at least 2 feet of clay underneath the geomembrane liners. The purpose of the 2-foot-thick clay liner is to serve as a backup in case the overlying geomembrane liner leaks. However, groundwater monitoring at the site indicates that the existing liners are intact and are not leaking. Finally, geomembrane caps have been preapproved by the Illinois EPA as a final cover system component for CCR surface impoundments and have been approved for final cover systems installed over hazardous waste (CCR is a non-hazardous waste).

Groundwater

Several attendees questioned the groundwater monitoring well (MW) network, the construction and location of the wells, and groundwater monitoring results. The monitoring well network consists of 3 upgradient (i.e., background) wells and five downgradient wells. Well boring logs from upgradient well MW-14 shows that it is not completed in ash. Upgradient well MW-11 has some slag, and upgradient well MW-9 has some ash and slag. The background wells were established to understand the quality of groundwater entering the site and before any interaction with the East or West Ash Ponds. MWG has been using the current network to specifically monitor for releases of coal ash constituents from the East and West Ash Ponds since 2015 under the federal CCR rules; the groundwater monitoring well network was installed and approved by the Illinois EPA in 2010. The current network complies with the Federal CCR Rule which requires at least one well upgradient and at least three wells downgradient of the ponds. Based on the consistency of the data from the downgradient monitoring wells indicating little spatial variability in the results, the network is sufficient to monitor groundwater interacting with the East and West Ash Ponds. MWG submitted the groundwater monitoring network to the Illinois EPA for approval as part of its Illinois CCR Rule operating permit application on November 1, 2021.

The most recently completed groundwater monitoring results, second and third quarter 2021, show that all of the 22 constituents monitored at all five downgradient monitoring wells are at or below the proposed groundwater protection standards (GWPS). The proposed GWPS were submitted to Illinois EPA for review and approval as part of the Application for Initial Operating Permit. An alternate source demonstration completed under the federal CCR rules showed that the two CCR surface impoundments are not a source of the constituents in the groundwater. There are elevated concentrations of constituents in the upgradient wells, reflecting the groundwater quality of groundwater entering the site. The property directly to the west

of Waukegan Station is in the Illinois EPA Site Remediation Program ("SRP") due to historic contamination from its operations as a tannery. The property has an Environmental Land Use Control (ELUC), i.e., a deed restriction that limits potable water usage, that extends onto Waukegan Station property. The contaminant of concern for former tannery operations is arsenic, but other constituents, including boron, are detected in elevated concentrations at the western property boundary.

Questions were also asked about the Illinois Pollution Control Board's interim finding in the case PCB-13-15. While this matter is still under litigation and is not about the IL CCR rules, MWG has been actively addressing impacts for several years. Additionally, MWG has been doing the work required under both the federal and Illinois CCR rules, including confirming the structural integrity of the impoundments, monitoring the groundwater, and preparing plans for closure. The Board will determine whether there is any additional work required, but MWG believes many issues will be addressed by compliance with the Illinois CCR rules.

Groundwater Modeling

Multiple attendees questioned or commented upon the groundwater modeling. The model allows for a mathematical representation of the groundwater flow system. Actual groundwater level data collected from site monitoring wells over many years were used within the model to replicate the flow conditions within the aquifer that currently exist. Once the computer model can sufficiently replicate actual existing field conditions, various proposed engineering scenarios being considered and developed can then be overlain in the model to assess future short- and long-term effects of a proposed engineering option on changes in groundwater quality and flow conditions.

The purpose of groundwater modeling for the proposed construction permit application was to provide feedback to the engineering team to show the effectiveness of each closure scenario. Since the existing groundwater data do not indicate that the ponds are leaking, a "hypothetical release" was modeled for the ponds. This allowed for subsequent evaluation and comparison of the engineering alternatives relative to their effect on improvement of water quality relative to the hypothetical release. The modeling was done for the overall concepts - closure by removal of ash from both the East and West Ash Ponds, closure by removal of ash from the East Ash Pond and closure in place of the West Ash Pond, closure in place of both the East and West Ash Ponds, and closure in place of the East Ash Pond and closure by removal and repurposing of the West Ash Pond. The results show that all four scenarios are equally protective of groundwater and that no impacts would be detected in any scenario after approximately twenty-five years. This is because under each scenario, the source of the hypothetical impacts is removed or isolated from the underlying groundwater. In the closure by removal scenario the ash is directly removed from the impoundments. In the closure in-place scenarios, the liner is in place, the ash is dewatered, and an impermeable cap is placed over the CCR precluding any precipitation infiltration though the CCR materials, thereby eliminating any connection of the hypothetical source materials with the underlying groundwater. Additionally, it is predicted that no impacts would be measurable in Lake Michigan.

The full groundwater modeling report will be included with the construction permit application that will be submitted to Illinois EPA by February 1, 2022. The permit application will be posted to MWG's website within 14 days of submittal to the Illinois EPA.

ClosureTurf®

Questions were raised about the alternate final cover system, ClosureTurf®. ClosureTurf® is an engineered cap system designed by Watershed Geo that consists of a structured geomembrane under a synthetic turf with a sand infill. Over 2,500 acres of ClosureTurf® have been installed at more than 80 locations in more than 25 states, including the 45-acre Fly Ash and Bottom Ash Ponds at Ameren Energy's Meredosia Power Station in Meredosia, Illinois, which were closed in 2018.

Installation of proposed ClosureTurf® final cover system for the East Ash Pond is expected to require approximately 260,000 cubic yards of structural fill, 70,000 square yards of structured HDPE geomembrane cover, and 1,100 cubic yards of sand infill (for the artificial turf). Based on ongoing research, the structured geomembrane and artificial turf components of the proposed ClosureTurf® cap are expected to last over 400 years and over 100 years, respectively. The products used to manufacture these materials are also free of per- and polyfluoroalkyl substances (PFAS). The artificial turf component has also been tested at hurricane-level wind speeds and at storm rainfall intensities of over 6 inches per hour (more intense than the 500-year, 1-hour storm for Lake County, Illinois). The most significant rainfall event to date at a site with a ClosureTurf® cap occurred in 2014 in Pensacola, Florida, where 22 inches of rain fell over 24 hours (twice the intensity of the 500-year, 24-hour storm for Lake County, Illinois); no damage occurred to ClosureTurf® cap.

A question was raised about whether the ClosureTurf® cap can support natural vegetation. The artificial turf component of the ClosureTurf® cap will not support natural vegetation. However, one of the reasons why ClosureTurf® was selected for the East Ash Pond's final cover system is because the system's artificial turf component provides superior protection against wind and stormwater erosion compared to topsoil and native vegetation. The ClosureTurf® system requires no long-term maintenance such as reseeding, mowing or irrigation to maintain its erosion resistance. A common failure mechanism in vegetated final cover systems is failure of the plants to thrive and provide a "dense" enough cover to prevent erosion of the earthen cap. This engineered system resolves this issue. Periodic inspections and maintenance will be completed on the cap system as part of the post-closure care program.

A question was raised about the impacts of ClosureTurf® to local wildlife. The sand infill placed on the artificial turf will only be approximately ½ to ¾ of an inch thick, so the risk of burrowing animals being trapped or killed is minimal. Evidence of animals trying to burrow into the final cover system will be monitored during the routine inspections conducted as a part of the East Ash Pond's post-closure care program to ensure that the integrity of the ClosureTurf® system is not compromised by such activities.

A question was raised about the predictive leakage rate of ClosureTurf®. The estimated liquid flow rate through the structured geomembrane component of the proposed final cover system for the East Ash Pond is estimated to be 6.83×10^{-10} m³/sec/m². Please refer to Section 3.2 of the Preliminary Written Closure Plan for the East Ash Pond on MWG's Illinois CCR Rule compliance website for additional details on how the estimated liquid flow rate through the structured geomembrane component of the ClosureTurf® cap was calculated. It is important to note that this estimated liquid flow rate is based on the following assumptions: (1) a 2-mm-diameter hole is present for every acre of liner, and (2) 4.37 inches of rainwater is present on the liner. The first assumption is based on research indicating that geomembrane liners with robust construction quality assurance programs are not expected to have more than one unaddressed defect per acre. The second assumption is based on the 25-year, 24-hour precipitation depth for Lake County, Illinois

and is a conservative assumption because the final cover system is designed to preclude the accumulation of stormwater on the structured geomembrane.

It is also important to compare the estimated liquid flow rate through the structured geomembrane component of the proposed ClosureTurf® cap to the standard low-permeability layer prescribed by the Illinois CCR Rule, which is a 3-foot-thick soil layer with a hydraulic conductivity no greater than 1×10^{-7} cm/sec. The estimated liquid flow rate through this "standard" cap with 4.37 inches of stormwater above the cap is about 1.12×10^{-9} m³/sec/m². Therefore, the stormwater infiltration rate Illinois CCR Rule's standard low-permeability layer is expected to be 60% greater than the estimated infiltration rate through an unaddressed defect in the structured geomembrane component of the proposed ClosureTurf® cap.

Shoreline Erosion

Several attendees asked questions about shoreline erosion and how the East Ash Pond's final cover system may be impacted by loss of land between it and Lake Michigan. One attendee referenced a study that estimated Illinois Beach State Park has lost 27 to 62 feet of shoreline between 2010 and 2012. The referenced study appears to be quoted from an article published in the *Chicago Tribune* on May 30, 2017, titled "Lake Michigan Shoreline Erosion Could be Getting Worse, Research Shows." Per this article, the referenced rate of shoreline erosion occurred at the North Unit of Illinois Beach State Park. The article also states that the shoreline at the northern portion of Illinois Beach State Park "is arguably the hardest hit piece of coastline in the state" and "has retreated more than 600 feet between 1939 and 2014." However, the article also states that, farther south, the breakwater at Waukegan Harbor "has trapped enough sand to push the suburb's waterfront 860 feet into the lake, growing at a rate of 11 feet each year."

The Waukegan Generating Station is approximately 1.5 miles north of Waukegan Harbor, compared to over 4.5 miles away from the Illinois Beach State Park's North Unit, which is north of the former nuclear power plant in Zion, Illinois. Accordingly, the conditions at the Waukegan Generating Station are similar to those at Waukegan Harbor discussed in the *Chicago Tribune* article, as evidenced by the regular dredging of sand that accumulates in the Station's Intake Channel. Sand dredged by the Station is stockpiled onsite, which can be seen on Google Earth photographs.

A September 2020 study conducted by the Illinois Department of Natural Resources (IDNR) Coastal Management Program (CMP) and the Illinois State Geological Survey (ISGS) through the Prairie Research Institute¹ states that the shoreline along the Illinois Beach State Park's North Unit has retreated by as much as 820 feet between 1939 and 2017. Conversely, the study concluded that the shoreline along Illinois Beach State Park's South Unit has advanced lakeward by as much as 1,100 feet during the same time period. Per the U.S. Army Corps of Engineers (USACE), Chicago District's environmental assessment published in September 2019 for the ongoing Waukegan Harbor Dredging project², the shoreline gain along the southern part of Illinois Beach State Park is occurring at a rate "at or near what likely occurred in the natural setting."

The following figure, which was obtained from the referenced 2020 study conducted by the IDNR CMP and ISGS, provides a graphical representation of shoreline loss and gain between 1939 and 2017 from Waukegan Harbor to Winthrop Harbor. Per the study, areas of land loss are represented by warm colors, with the darkest warm-color shading representing areas with the largest land loss. Meanwhile, areas of land gain are represented by cool colors, with the darkest cool-color shading representing areas with the largest

¹ https://univofillinois.maps.arcgis.com/apps/MapSeries/index.html?appid=d77327796e4a425d9c1f4d12be53bd9f

² https://www.lrc.usace.army.mil/Missions/Civil-Works-Projects/Waukegan-Harbor-Dredging/

land gain. As shown on this figure, the Waukegan Generating Station is located within a portion of the 2020 study area that has seen some of the most land gain between 1939 and 2017.

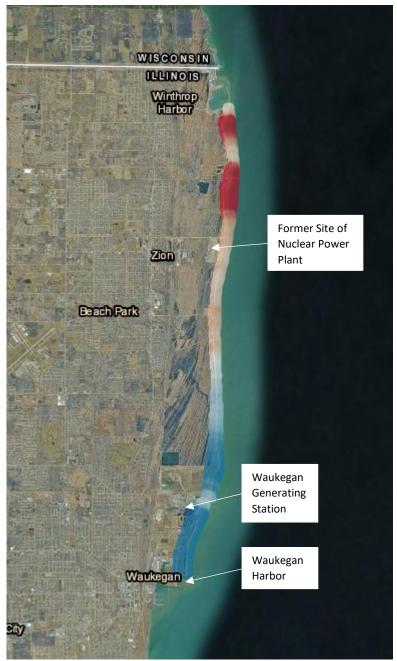


Figure Obtained from "Illinois Beach State Park: A Dynamic Shoreline" (September 11, 2020).

Per the following aerial image from Google Earth (taken in late May 2021), the East Ash Pond is approximately 690 to 850 feet west of Lake Michigan's apparent shoreline. Based on the 2017 *Chicago Tribune* article, the 2019 USACE environmental assessment for the Waukegan Harbor Dredging project, and the 2020 IDNR CMP and ISGS study, this portion of Lake Michigan's shoreline is more likely to gain land than to lose land via erosion. However, as part of MWG's regular inspections of the East Ash Pond's

final cover system during its post-closure care program, MWG will monitor the Lake Michigan shoreline east of the East Ash Pond to determine whether any shoreline losses are occurring and, if so, whether those losses would have a negative impact on the East Ash Pond's final cover system. If negative impacts are anticipated, appropriate remediation measures will be taken.



Other Closure Concerns

Questions were raised about using rail and barge to transport ash and the rail and conveyor system located at Waukegan Station. Transportation by rail and barge are not common methods of managing coal ash and would require the design and construction of new infrastructure at Waukegan Station and potentially, at the receiving facility. The current rail unloading system was designed to transfer coal in one direction, from a railcar to the generating station. It was not designed to transfer CCR (a different material than coal) nor to move material from the station to railcars. To use the rail system at Waukegan Station for transport of CCR, new loading and unloading equipment, as well as a new conveyor system, would need to be installed, requiring extensive environmental permitting. Necessary permits include NPDES, stormwater, and air construction permits. A barge loading system is not currently present at Waukegan Station, so like the rail system, a new system would need to be installed and would also require extensive environmental

permitting, such as NPDES, stormwater, air construction permits, and permits from the Illinois Department of Natural Resources and the Army Corp of Engineers.

Questions were raised about the beneficial use of ash remaining in the East Ash Pond. The process of evaluating the market for beneficial use of ash is done by MWG's commercial marketing team and MWG routinely evaluates the market for sources that would accept ash for beneficial use. Currently, there is not an identified end user for beneficial reuse of the ash in the East Ash Pond, and the material remaining in the West Ash Pond is not suitable for beneficial reuse. Regardless, the groundwater modeling results for closure by removal are the same as for closure in-place.

Questions were raised about whether the City of Waukegan was consulted in developing closure plans prior to presentation of the plan in the public meetings. MWG was scheduled to meet with the City of Waukegan in late September to discuss the closure of the ash ponds as well as items related to the redevelopment of the property. The City of Waukegan canceled the meeting. MWG remains willing to meet with the City of Waukegan to discuss closure plans and the redevelopment of the property.

Financial Assurance

Questions were asked about what financial systems are in place to ensure long-term monitoring is completed after closure. Owners of CCR surface impoundments are required to provide financial assurance to ensure the completion of closure, completion of post-closure care when applicable, and remediation of releases from CCR surface impoundments. MWG has provided such financial assurance in the form of performance bonds to Illinois EPA.

Closure Costs

Questions were asked about closure costs. Costs for each closure method were estimated in the closure alternatives analysis (CAA). For the West Ash Pond, the estimated cost difference between closure by removal and closure in place is 1% -- \$16,190,074 for closure by removal and \$16,425,940 for closure in place. For the East Ash Pond, the proposed closure method (in place with intermediate grading and an engineered turf cap) is estimated to be 20% more expensive than closure by removal in the CAA -- \$16,209,015 for closure by removal and \$19,497,113 for closure in place. MWG did not use cost as a determinative factor in selecting the closure methods – there is essentially no difference in the estimated costs of closing by removal and in place for the West Ash Pond and closing the East Ash Pond in place is estimated to be more expensive than closure by removal.

Drinking Water

Several questions were asked about the proximity of the CCR surface impoundments to Lake Michigan and potential impacts to the City of Waukegan's drinking water. MWG's analysis of the groundwater on the eastern edge of its property shows that there is little risk to Lake Michigan by the CCR surface impoundments, because the concentrations are below the Lake Michigan surface water standards. The design of each closure alternative is structurally stable, eliminating the risk of a breach into the Lake. Additionally, the City of Waukegan's 2021 Annual Water Quality Report states that its system and drinking water "had no violation of a contaminant level." The City further states that "since the water supply's intake is 6,200 ft into the lake there is low susceptibility to shoreline contaminants due to mixing and dilution." The full report, and prior year's reports, can be found here: https://www.waukeganil.gov/555/Reports.

Future Use

Several members of the public commented upon or questioned the future use of Waukegan Station, including converting Units 7 and 8 to gas-fired electric generating units and making the space accessible for public access. MWG is currently planning full retirement of Units 7 and 8 since market conditions and state law do not support conversion of Units 7 and 8 to natural gas fired units. In the near term, Waukegan Station will continue to operate as a power plant; the Station operates two ultra-low sulfur diesel fired peaking units. That said, MWG has taken initial steps to consider the potential for sustainable redevelopment related to solar and battery storage. The passage of the "Coal-to-Solar" program by the Illinois legislature under the Energy Transition Act in September 2021 is a positive outcome in support of pursuing a meaningful battery storage project at Waukegan and has the potential to jumpstart the beneficial reuse of this site. MWG is currently not able to suggest or predict other potential future uses for the facility.

SUMMARY OF REVISIONS, CHANGES, AND CONSIDERATIONS

Public engagement is an important part of the permitting process. Midwest Generation valued the opportunity to hear and consider the comments of individual community members and others who participated in the public meetings. We are proceeding with our proposal for closing the East Ash Pond in place by installing an alternate final cover system (ClosureTurf®) and close the West Ash Pond by removing and disposing of the remaining CCR, decontaminating the geomembrane liner, and repurposing the pond to treat station stormwaters as presented at the public meetings. Taking public comments into consideration, and with additional deliberations after the public meetings, our full analysis continues to indicate that our proposed plan – which remains subject to regulatory review and approval – prioritizes the environment and community well-being.