

Consulting
Engineers and
Scientists

December 19, 2022
Project 2103683

Mr. Eric Kovatch, P.G.
WEC Energy Group – Business Services, LLC
333 W. Everett Street, A231
Milwaukee, Wisconsin 53203

**Re: 2002 Landfill Inspection Report
Pleasant Prairie Power Plant Ash Landfill
Pleasant Prairie, Wisconsin**

Dear Mr. Kovatch:

GEI Consultants, Inc. (GEI) is pleased to provide this 2022 landfill inspection report for the Pleasant Prairie Power Plant (PPPP) Ash Landfill. The inspection was completed to comply with *40 CFR 257 Subpart D – Standards for the Disposal of Coal Combustion Residuals in Landfills and Surface Impoundments* and specifically with *§ 257.84(b) Annual inspections by a qualified professional engineer.*

§ 257.84 Inspection Requirements for CCR Landfills

(b) Annual inspections by a qualified professional engineer.

(1) Existing and new CCR landfills and any lateral expansion of a CCR landfill must be inspected on a periodic basis by a qualified professional engineer to ensure that the design, construction, operation, and maintenance of the CCR unit is consistent with recognized and generally accepted good engineering standards. The inspection must, at a minimum, include:

- (i) A review of available information regarding the status and condition of the CCR unit, including, but not limited to, files available in the operating record (e.g., the results of inspections by a qualified person and results of previous annual inspections); and
- (ii) A visual inspection of the CCR unit to identify signs of distress or malfunction of the CCR unit.

(2) *Inspection report.* The qualified professional engineer must prepare a report following each inspection that addresses the following:

- (i) Any changes in geometry of the structure since the previous annual inspection;
- (ii) The approximate volume of CCR contained in the unit at the time of the inspection;
- (iii) Any appearances of an actual or potential structural weakness of the CCR unit, in addition to any existing conditions that are disrupting or have the potential to disrupt the operation and safety of the CCR unit; and
- (iv) Any other change(s) which may have affected the stability or operation of the CCR unit since the previous annual inspection.

Background

We Energies owns and operates a solid waste disposal facility adjacent to PPPP in Section 9, Township 1 North, Range 22 East, in the village of Pleasant Prairie, Kenosha County, Wisconsin. The landfill property is bounded on the north by State Highway 50 (75th Street), on the south by Bain Station Road, and on the east and west by active rail lines. The We Energies PPPP Ash Landfill is regulated as an industrial waste landfill by the Wisconsin Department of Natural Resources (WDNR) under the provisions of Chapter 289 Wisconsin State Statutes, and all applicable requirements of Chapters NR 500 of the Wisconsin Administrative Code.

The design, construction, operation, closure, and post-closure care requirements are specified in the WDNR conditionally approved Plan of Operations, License No. 2786, FID# 230056310. Cell 1 of the PPPP Ash Landfill was reconstructed in 2013-2014 with an area of 7.4 acres and a design airspace capacity of 199,200 cy.

On August 31, 2018, a Plan of Operation Modification was submitted to the WDNR for the premature closure of Cell 1. The Plan of Operation Modification included a proposal to modify the final waste grades of Cell 1 to 5% to allow construction of the final cover. Premature closure of Cell 1 occurred to reduce leachate production and operational expenses of the landfill due to the decommissioning of the power plant. Final cover over Cell 1 was constructed over a period of three phases, with the first phase (eastern 2.6 acres) approved by the WDNR on July 18, 2019, the second phase (central 3.2 acres) approved by the WDNR on March 15, 2021, and the third phase (western 1.3 acres) approved by the WDNR on July 17, 2022. The We Energies PPPP Ash Landfill contains approximately 113,000 cubic yards of CCR, is closed, and will begin its post closure care period once receiving its closure licensing from WDNR.

GEI was retained to perform an annual inspection of the landfill in compliance with § 257.84(b) *Annual inspections by a qualified professional engineer*. The inspection was performed on December 8, 2022. Copies of the site location figure, landfill inspection forms, and inspection photo log are appended to this letter-report and constitute the entirety of the report.

Site Inspections

Review of the weekly inspections by a qualified person was conducted as part of the annual site inspection. There were no significant issues identified during the weekly inspections and action items were addressed in a timely manner. The weekly inspections are included in the operating record. This inspection also included a review of the previous annual inspection report contained in the operating record.

The annual site inspection included an inspection of the perimeter berms, and slopes, final covers, interior and exterior storm water controls, the leachate collection sump controls, the leachate storage and load-out controls, the leachate load-out pad, the site access road, and the cell entrance.

There were no signs or evidence of any distress or malfunction of the CCR unit, or any conditions that safety of the CCR unit. The perimeter berms did not show any evidence of structural weakness, erosion, or instability. The leachate sump and load-out facilities were operational and being properly maintained. The interior and exterior storm water controls were free of obstruction and operational. The access road, load-out pad and cell entrance were clean and free of obstructions. The overall final cover had a good growth of vegetation, with no visual bare areas.

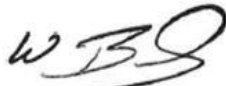
Closing

The annual inspection of the We Energies PPPP Ash Landfill was completed in compliance with § 257.84(b) *Annual inspections by a qualified professional engineer*. Overall, the landfill is in very good condition. The final cover system is currently being installed was completed over the western 1.2 acres, thus further reducing the potential for fugitive dust generation, contact water run-off, and storm water run-on with placed ash. The leachate system is functioning as designed and the landfill operators are keeping up with leachate hauling. Based on my observations and discussions with the landfill personnel the landfill is constructed and being operated in accordance with WDNR License No. 2786, FID# 230056310.

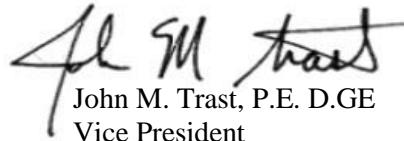
The inspection was completed by William Butler, P.E. I hereby certify that I am a licensed professional engineer in the State of Wisconsin in accordance with the requirements of ch. A-E 4, Wis. Adm. Code; that this document has been prepared in accordance with the Rules of Professional Conduct in ch. A-E 8, Wis. Adm. Code; and that, to the best of my knowledge, all information contained in this document is correct and the document was prepared in compliance with all applicable requirements in 40 CFR 257.84.

If you have any questions regarding this landfill inspection, please contact me at 920-471-0884.

Sincerely, GEI CONSULTANTS, INC.



William Butler, P.E.
Senior Geotechnical Engineer



John M. Trast, P.E. D.GE
Vice President

Attachments:

- Landfill Inspection Form 12/8/2022
- Landfill Inspection Photo Log



LBW:cah

PLEASANT PRAIRIE ASH LANDFILL - ANNUAL INSPECTION & CONDITION SUMMARY

INSPECTOR: William Butler, PE
INSPECTION DATE/TIME: 12/8/2022

WEATHER:

Temperature: 38° F
 Conditions: Overcast
 Wind: Moderate
 Wind Direction: SW
 Precipitation: None

LEACHATE COLLECTION SYSTEM:

<u>Load-out Facility:</u>	<u>Sump:</u>
High level alarms: No	Pump #1: Available
Low level alarms: No	Pump #2: Available
Leak alarms: No	Control Panel: Available
Level Sensor 1: 1.6 ft	Level: P1=10" / P2=8"
Ultrasonic Level Volume: 8030 gallons	Note: 50" sump level equates to 12" of head on base liner
Pump: Available	
Pad Condition: Good	

Comments: Leachate collection system is in good working condition. Leachate levels are being maintained in compliance with the operating license requirements.

STABILITY/EROSION OF FINAL COVERS & WASTE SLOPES:

Final Covers: <input checked="" type="checkbox"/>
Waste Slopes: <input checked="" type="checkbox"/>
Comments : The eastern 2.6 acres were closed in late 2018, the middle 3.2 acres were closed in late 2020 and western 1.3 acres closed in 2022. . The final cover slopes appear stable with no observed instability, no significant erosion, no woody vegetation, or no animal burrows. Everything with the crest appeared to be in good condition with no observed instability or significant erosion.

Note: Check mark indicates slope appears stable and no significant erosion.

LANDFILL OPERATIONS:

<u>Fugitive Dust Control:</u>	<u>Stormwater Management</u>
Tracking Pads : <input checked="" type="checkbox"/>	Exterior Ditches: <input checked="" type="checkbox"/>
Cattle Guards : <input checked="" type="checkbox"/>	Interior Ditches: <input checked="" type="checkbox"/>
Access Road Clean: <input checked="" type="checkbox"/>	
Landfill Surfaces Groomed: <input checked="" type="checkbox"/>	
Airbourne Dust Visible: No	
Sign of Recent Dust Deposition: No	
Comments: The landfill currently does not have an active landfill surface and does not intend to create additional airsp[ace with a lateral expansion. The landfill is in the proess of becoming administratively close and will subsequently begin its post closure care period.	

Note: Check mark indicates that the features are acceptable.

Photographic Log



Project: We Energies PPPP Landfill Inspection
Client: WEC Energy Group

GEI Proj. No.: 2103683



PHOTOGRAPH NO: 1	DATE: December 8, 2022	LATITUDE: 42.5647209460967	LONGITUDE: -87.9038932584482
SITE LOCATION: PLEASANT PRARIE, WISCONSIN			
DESCRIPTION: Looking north at the loadout pad area			
PHOTO BY: BILL BUTLER			
PHOTOGRAPH NO: 2	DATE: December 8, 2022	LATITUDE: 42.5651926039678	LONGITUDE: -87.9041685085792
SITE LOCATION: PLEASANT PRARIE, WISCONSIN			
DESCRIPTION: Control panels at loadout station			
PHOTO BY: BILL BUTLER			

Photographic Log



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PHOTOGRAPH NO: 3	DATE: December 8, 2022	LATITUDE: 42.5652028052379	LONGITUDE: -87.9038712945214
SITE LOCATION: PLEASANT PRARIE, WISCONSIN			
DESCRIPTION: Looking south at building			
PHOTO BY: BILL BUTLER			
PHOTOGRAPH NO: 4	DATE: December 8, 2022	LATITUDE: 42.5653680795218	LONGITUDE: -87.9038952726176
SITE LOCATION: PLEASANT PRARIE, WISCONSIN			
DESCRIPTION: West slope of cell 1, looking south. Slope is well vegetated, which was planted in 2022			
PHOTO BY: BILL BUTLER			

Photographic Log



Project: We Energies PPPP Landfill Inspection
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GEI Proj. No.: 2103683

<p>PHOTOGRAPH NO: 5</p>	<p>DATE: December 8, 2022</p>	<p>LATITUDE: 42.5654941245838</p>	<p>LONGITUDE: -87.9038775582482</p>
<p>SITE LOCATION: PLEASANT PRARIE, WISCONSIN</p>			
<p>DESCRIPTION:</p> <p>Looking East at north slope of cell 1. The dark color vegetation is the phase 3 color area, the light color vegetation in the background is the phase 1 and 2 cover areas</p>			
<p>PHOTO BY: BILL BUTLER</p>			
<p>PHOTOGRAPH NO: 6</p>	<p>DATE: December 8, 2022</p>	<p>LATITUDE: 42.564695398397</p>	<p>LONGITUDE: -87.9039438091286</p>
<p>SITE LOCATION: PLEASANT PRARIE, WISCONSIN</p>			
<p>DESCRIPTION:</p> <p>South slope of cell 1, looking east. The dark color vegetation is the phase 3 color area, the light color vegetation in the background is the phase 1 and 2 cover areas</p>			
<p>PHOTO BY: BILL BUTLER</p>			

Photographic Log



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PHOTOGRAPH NO: 7	DATE: December 8, 2022	LATITUDE: 42.5649585842378	LONGITUDE: -87.9035306171615
SITE LOCATION: PLEASANT PRARIE, WISCONSIN			
DESCRIPTION: Showing the crest vegetation growth planted for completion of cell 3 cover			
PHOTO BY: BILL BUTLER			
PHOTOGRAPH NO: 8	DATE: December 8, 2022	LATITUDE: 42.5650184225035	LONGITUDE: -87.9038915488429
SITE LOCATION: PLEASANT PRARIE, WISCONSIN			
DESCRIPTION: Photo of the crest of cell 1. Photo taken at west end of cover, looking east.			
PHOTO BY: BILL BUTLER			

Photographic Log



Project: We Energies PPPP Landfill Inspection
Client: WEC Energy Group

GEI Proj. No.: 2103683



PHOTOGRAPH No: 9	DATE: December 8, 2022	LATITUDE: 42.5653041052899	LONGITUDE: -87.8996461453413
SITE LOCATION: PLEASANT PRARIE, WISCONSIN			
DESCRIPTION: Looking at the north slope of cell 1, taken at east side looking west			
PHOTO BY: BILL BUTLER			
PHOTOGRAPH No: 10	DATE: December 8, 2022	LATITUDE: 42.565031029146	LONGITUDE: -87.8996181405556
SITE LOCATION: PLEASANT PRARIE, WISCONSIN			
DESCRIPTION: Looking at crest of cell 1, taken at east side looking west			
PHOTO BY: BILL BUTLER			

Photographic Log



Project: We Energies PPPP Landfill Inspection
Client: WEC Energy Group

GEI Proj. No.: 2103683



PHOTOGRAPH No: 11	DATE: December 8, 2022	LATITUDE: 42.5645984000194	LONGITUDE: -87.8989861795719
SITE LOCATION: PLEASANT PRARIE, WISCONSIN			
DESCRIPTION: Looking at east slope of cell 1, looking in the northwest direction			
PHOTO BY: BILL BUTLER			
PHOTOGRAPH No: 12	DATE: December 8, 2022	LATITUDE: 42.5645505908226	LONGITUDE: -87.8991910470882
SITE LOCATION: PLEASANT PRARIE, WISCONSIN			
DESCRIPTION: Looking at the south slope of cell 1, taken at east end of cell, looking west			
PHOTO BY: BILL BUTLER			

Photographic Log



Project: We Energies PPPP Landfill Inspection
Client: WEC Energy Group

GEI Proj. No.: 2103683

PHOTOGRAPH No: 13	DATE: December 8, 2022	LATITUDE: 42.5638889075466	LONGITUDE: -87.9041596081722
SITE LOCATION: PLEASANT PRARIE, WISCONSIN			
DESCRIPTION: Looking at cell 2 cover			
PHOTO BY: BILL BUTLER			
PHOTOGRAPH No: 14	DATE: December 8, 2022	LATITUDE: 42.5638775288043	LONGITUDE: -87.9042108580421
SITE LOCATION: PLEASANT PRARIE, WISCONSIN			
DESCRIPTION: Looking at cell 2 cover and south slope, looking northeast			
PHOTO BY: BILL BUTLER			