STATE OF MICHIGAN
DEPARTMENT OF
ENVIRONMENT, GREAT LAKES, AND ENERGY
GRAND RAPIDS DISTRICT OFFICE

GRETCHEN WHITMER
GOVERNOR

PHILLIP D. ROOS
DIRECTOR

July 11, 2024

VIA EMAIL

Lara L. Zawaideh, Associate Vice President
100 Oakbrook Drive, Suite 200
Ann Arbor, Michigan 48104

Dear Lara Zawaideh

SUBJECT: J.B. Sims Generating Station; Hydrogeologic Monitoring Plan; Ottawa County; Waste Data System Number 445580

The Michigan Department of Environment, Great Lakes, and Environment (EGLE) has reviewed the document titled, "Hydrogeologic Monitoring Plan for Compliance with Michigan Part 115 Solid Waste Management Regulation" received on June 18, 2024. After review, EGLE has identified multiple deficiencies within the proposed Hydrogeologic Monitoring plan as outlined below.

Part 115 Requirements Checklist

R 299.4905(1)c requires a monitoring program for any surface water that may receive runoff from the active work area. The checklist states that this is not required; however, much of coal ash impoundment Unit 1/2 is located within a wetland and surface water body. An "active work area" is defined as "…the area which is or will be used for the storage, transport, or disposal of solid waste…" Given the defined area of Unit 1/2 is storing solid waste and is in a surface water body, surface water could receive runoff from the active work area, and therefore would require a surface water monitoring program.

R 299.4440(10) should be outlined more clearly in the report as to the steps of assessment monitoring.

R 299.4442 should be included with the Hydrogeologic Monitoring Plan (HMP). The response action plan was submitted to EGLE on March 24,2024. Please include the response action plan as an appendix within the HMP.

R 299.4443 should be included with the HMP. The assessment of corrective measures was submitted to EGLE on May 1, 2024. Please include the assessment of corrective measures as an appendix within the HMP.

R 299.4444 should be referenced in text in section 9.0 and discussed. Currently only R 299.4445 is referenced.

EGLE Technical Review

Section 1.1.1
The last sentence includes a typo and should be, “waste was placed *in* the topographic low”.

Section 1.2
The monitoring well network was deemed insufficient by EGLE well before the revisions to the Unit 1/2 boundary as indicated by EGLEs March 20, 2019, correspondence to Paul Cederquist.

Section 3.4
Text states that Appendix F provides the proposed sample collection and safety procedures which should be referencing appendix E.

Section 3.6.3
Text references Table 8; however, it appears it should reference Table 12.

Section 3.6.5 – Accuracy
Text refers to Table 9; however, it appears if should be referring to Table 13.

Section 3.7.1 – Sample Collection and Field Measurements Data Package Deliverables
Please provide all field sampling forms with quarterly reports.

Section 5.0
The Materials Management Division uses the 30th of each quarter for report submittals. January 30, April 30, July 30, and October 30 are the due dates for quarterly reports.

The last sentence in bullet #4 is a repeat of bullet #3.

Section 9.0
A public meeting is also required under Part 115 R 299.4443(4)

Section 10.0
Page 45 is duplicated.

Table 9
Text indicates that detection monitoring will occur semiannually; however, R 299.4440 (1)(a) indicates primary indicators, conductivity and pH will shall be sampled at least quarterly during the active life and semiannually during the post-closure period unless petitioned for an alternative frequency as indicated in R 299.4440 (5) and (6)

The table indicates Detection monitoring was completed, while technically it is ongoing.

Table 11
Please review the Materials Management Division OpMemo 115/14 for target detection limits
https://www.michigan.gov/egle/-/media/Project/Websites/egle/Documents/Policies-Procedures/MMD/Laboratory-Detection-Limits-115-14.pdf?rev=81e681d3598b438daef3669f41e1f309&hash=19DE8641D76C89DBDAD6643C7AB54FC8

Table 12
The table headers have a formatting issue as another header is present midway in the table on Page 34.

Appendix B
Additional groundwater flow maps should be included with the HMP to show seasonality and variability of groundwater flow.

Appendix C
The PDR logs have large comment bubbles covering most of the logs.

Appendix D
Cross Section A-A'
How is refuse described on the cross sections? MW-34 has trash/urban fill in its boring log but is not shown in the cross section.

Please include all boring logs that are used in the cross sections. Many of the SB logs are not included in Appendix C.

PDR-3 boring is located in the middle of Unit 3A/3B but appears to be located on the west berm of Unit 3A/3B in the cross section.

Cross section B-B'
PDR-3 boring log does not describe bottom ash, however, approximately 10 feet of ash is displayed on the cross section.

Cross Section C-C'
A discrepancy exists between cross sections B-B' and C-C' as the PDR-3 log shows ash in one cross section and not in the other.

PDR-2 on the cross section shows ash, however no ash is described in the boring log.

The labeling for "Bottom Ash" in the legend is incomplete.

Appendix E

Section 3.0

Is the equipment checked for calibration at the end of the day to ensure the probes did not drift throughout the sampling event?

Section 5.1.1

Please explain the reasoning for positioning equipment upwind of the sampling location vs downwind.

Section 5.1.2

Please explain the reasoning for using a bailer for less than two feet of water column

Please explain the procedure for sampling locations that do not clear up below 10 NTU. Should a dissolved sample be collected along with total metals? What is the standard operating procedure?

Section 5.1.4

EGLE does not recommend decontaminating and reusing peristaltic or bladder tubing at multiple well locations. EGLE recommends using dedicated tubing for each sampling location or replacing tubing.

Section 5.1.5

An equipment blank may be needed if a bailer is used for sampling.

Appendix F

Section 2.2

EGLE should be notified with any proposed changes to background along with reasoning.

Section 2.1.3

Any outliers excluded from the dataset should be indicated and provide reasoning to EGLE for any outlier exclusions.

Section 2.1.4

There appears to be no Table 3 or Table 4 and Table 5 appears before Table 1 and Table 2.

Section 2.2.2

When does resampling for Statistically Significant Increase (SSI) occur?

Section 2.2.3

Determination of State Groundwater Protection Standards (GPS) – Reference to Table 1 should be to Table 2 since the State of Michigan program includes additional parameters which would include additional background values and GPS.

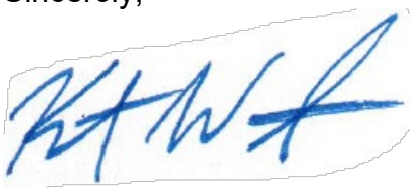
Section 2.2.4
EGLE notes that clean closure also requires removal of coal ash. Clean closure is not met by just simply meeting the GPS.

Table 2
The table lists an incorrect value for mercury GSI which should be 0.0000013 mg/L, the table lists the GSI as 0.0013 mg/L, the GPS will need to be adjusted due to this unit error.

The table list an incorrect value for silver non-residential drinking water criteria. The table lists 0.0098 mg/L when it should be 0.098 mg/L.

Please review these deficiencies and correct them as necessary or provide response. If after review, the site would like further discussion or clarification on any of the content provided, please contact Kent Walters at WaltersK7@Michigan.gov or by phone at 616-278-4350.

Sincerely,



Kent A. Walters, Geologist
Materials Management Division
Grand Rapids District Office
Department of Environment, Great Lakes and Energy

CC: Derek Gajdos, City of Grand Haven
Molly Reeves, HDR
Tanten Buszka, HDR
Fred L. Sellers, EGLE
Tim Unseld, EGLE

Former J.B. Sims Generating Station Hydrogeologic Monitoring Plan

Section	EGLE Comment	HDR Action/Response
Appendix A - HMP Checklist	R 299.4905(1)c requires a monitoring program for any surface water that may receive runoff from the active work area. The checklist states that this is not required; however, much of coal ash impoundment Unit 1/2 is located within a wetland and surface water body. An "active work area" is defined as "...the area which is or will be used for the storage, transport, or disposal of solid waste..." Given the defined area of Unit 1/2 is storing solid waste and is in a surface water body, surface water could receive runoff from the active work area, and therefore would require a surface water monitoring program.	HDR updated the checklist and added Section 2.4 to define the surface water monitoring plan.
Appendix A - HMP Checklist	R 299.4440(10) should be outlined more clearly in the report as to the steps of assessment monitoring	No Alternate Source Demonstration was made. Additional detail was added to Section 2.4 to address surface water monitoring.
Appendix A - HMP Checklist	R 299.4442 should be included with the Hydrogeologic Monitoring Plan (HMP). The response action plan was submitted to EGLE on March 24,2024. Please include the response action plan as an appendix within the HMP	The Response Action Plan is addressed in Section 7.0 and added as Appendix G
Appendix A - HMP Checklist	R 299.4443 should be included with the HMP. The assessment of corrective measures was submitted to EGLE on May 1, 2024. Please include the assessment of corrective measures as an appendix within the HMP	The Former JB Sims Assessment of Corrective Measures (ACM) was published on August 5, 2024 not May 1, 2024. The ACM was added as Appendix H.
Appendix A - HMP Checklist	R 299.4444 should be referenced in text in section 9.0 and discussed. Currently only R 299.4445 is referenced	HDR revisded text in Section 9.0 to further address requirements set in 299.4444
Section 1.1.1	The last sentence includes a typo and should be, "waste was placed in the topographic low.	HDR revised text to address editoral change.
Section 1.2	The monitoring well network was deemed insufficient by EGLE well before the revisions to the Unit 1/2 boundary as indicated by EGLEs March 20, 2019, correspondence to Paul Cederquist.	HDR revised text regarding well network insufficiencies prior to March 2019.
Section 3.4	Text states that Appendix F provides the proposed sample collection and safety procedures which should be referencing appendix e.	HDR revised text to reference Appendix E.
Section 3.6.3	Text references Table 8; however, it appears it should reference Table 12	HDR revised text to reference Table 12.
Section 3.6.5	Text refers to Table 9; however, it appears if should be referring to Table 13	HDR revised text to reference Table 13.
Section 3.7.1	Please provide all field sampling forms with quarterly reports.	HDR revised text to include Field Data Sheets in Quarterly Reports.
Section 5.0	The Materials Management Division uses the 30th of each quarter for report submittals. January 30, April 30, July 30, and October 30 are the due dates for quarterly reports	HDR revisded Quarterly Report due dates to match the MMD guidelines.
Section 5.0	The last sentence in bullet #4 is a repeat of bullet #3	HDR revised the bullet list to remove the duplicated sentence.
Section 9.0	A public meeting is also required under Part 115 R 299.4443(4)	HDR revised the text to include the reference to R 299.4443(4)
Section 10.0	Page 45 is duplicated	HDR removed the duplicated page 45.
Section 3.3 - Table 9	Text indicates that detection monitoring will occur semiannually; however, R 299.4440 (1)(a) indicates primary indicators, conductivity and pH will shall be sampled at least quarterly during the active life and semiannually during the post-closure period unless petitioned for an alternative frequency as indicated in R 299.4440 (5) and (6) The table indicates Detection monitoring was completed, while technically it is ongoing	HDR revised the table to accurately address the technicallity.
Section 3.5.2 - Table 11	Please review the Materials Management Division OpMemo 115/14 for target detection limits	HDR reviewed the MMD detection limits then reached out to Trace Analytical Laboratories to update the method detection limits.
Table 12	The table headers have a formatting issue as another header is present midway in the table on Page 34.	HDR revised the header formatting.
Appendix B	Additional groundwater flow maps should be included with the HMP to show seasonality and variability of groundwater flow.	HDR revised the appendix to include those made from April 2023 to April 2024.
Appendix C	The PDR logs have large comment bubbles covering most of the logs.	The comment bubbles are from the original report denoting that large parts of the logs are shown on separate pages consisting of cone penitration testing (CPT) that are not tradtional boring logs.
Appendix D - Cross Section A-A'	How is refuse described on the cross sections? MW-34 has trash/urban fill in its boring log but is not shown in the cross section	HDR revisded the cross section to include refuse at MW-34
Appendix D	Please include all boring logs that are used in the cross sections. Many of the SB logs are not included in Appendix C.	HDR revisded Appendix C to include the missing logs and removed other unused logs.
Appendix D	PDR-3 boring is located in the middle of Unit 3A/3B but appears to be located on the west berm of Unit 3A/3B in the cross section	HDR revised the location of the PDR-3 boring.
Appendix D - Cross Section B-B'	PDR-3 boring log does not describe bottom ash, however, approximately 10 feet of ash is displayed on the cross section.	HDR revised the cross section to remove the CCR previously shown.
Appendix D - Cross Section C-C'	A discrepancy exists between cross sections B-B' and C-C' as the PDR-3 log shows ash in one cross section and not in the othe	HDR revised the cross section to remove the CCR previously shown.
Appendix D	PDR-2 on the cross section shows ash, however no ash is described in the boring log	HDR revised the cross section to remove the CCR previously shown.
Appendix D	The labeling for "Bottom Ash" in the legend is incomplete	HDR revised the cross section with a fix to the labeling issue.
Appendix E - Section 3.0	Is the equipment checked for calibration at the end of the day to ensure the probes did not drift throughout the sampling event?	HDR revised the text to include an end of the day bump test to sampling events to observe potential drift.
Appendix E - Section 5.1.1	Please explain the reasoning for positioning equipment upwind of the sampling location vs downwind.	HDR revised the text and removed that requirement for pre-purge requirement.
Appendix E - Section 5.1.2	Please explain the reasoning for using a bailer for less than two feet of water colum.	HDR revised the text and removed the procedure.
Appendix E	Please explain the procedure for sampling locations that do not clear up below 10 NTU. Should a dissolved sample be collected along with total metals? What is the standard operating procedure?	HDR revised the text to add in the procedure followed by field staff for wells that stabilize above 10 NTU.
Appendix E - Section 5.1.4	EGLE does not recommend decontaminating and reusing peristaltic or bladder tubing at multiple well locations. EGLE recommends using dedicated tubing for each sampling location or replacing tubing.	HDR revised text to clairify that only existing dedicated tubing or new tubing will be used for sample collection.

Appendix E - Section 5.1.5	An equipment blank may be needed if a bailer is used for sampling	HDR acknowledges the EGLE comment and should a bailer be used the proper steps will be taken to ensure sample integrety.
Appendix F - Section 2.2	EGLE should be notified with any proposed changes to background along with reasoning.	HDR revised the text to include the notification and justification to EGLE.
Appendix F - Section 2.1.3	Any outliers excluded from the dataset should be indicated and provide reasoning to EGLE for any outlier exclusions.	HDR revised the text to include EGLEs request.
Appendix F - Section 2.1.4	There appears to be no Table 3 or Table 4 and Table 5 appears before Table 1 and Table 2.	HDR revised the table numbering.
Appendix F - Section 2.2.2	When does resampling for Statistically Significant Increase (SSI) occur?	HDR revised the text to clairify when resampling when SSI resampling occurs.
Appendix F - Section 2.2.3	Determination of State Groundwater Protection Standards (GPS) – Reference to Table 1 should be to Table 2 since the State of Michigan program includes additional parameters which would include additional background values and GPS.	HDR revised the text to reference Table 2.
Appendix F	EGLE notes that clean closure also requires removal of coal ash. Clean closure is not met by just simply meeting the GPS.	HDR acknowledges the requirements, no changes needed.
Appendix F - Table 2	The table lists an incorrect value for mercury GSI which should be 0.0000013 mg/L, the table lists the GSI as 0.0013 mg/L, the GPS will need to be adjusted due to this unit error	HDR revised the table to reflect the corrected value.
Appendix F - Table 2	The table list an incorrect value for silver non-residential drinking water criteria. The table lists 0.0098 mg/L when it should be 0.098 mg/L.	HDR revised the table to reflect the corrected value.