

October 22, 2021

Project No. CX21480652

**Paul Cederquist**

Environment and Safety Specialist  
Grand Haven Board of Light and Power  
1700 Eaton Drive  
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**UPDATE TO THE OCTOBER 14, 2019 J.B. SIMS GENERATING STATION INACTIVE UNITS 1/2  
IMPOUNDMENT AND UNIT 3 CLOSURE PLAN – INTERIM CONDITIONS FOR CLOSURE**

Dear Mr. Cederquist,

Golder Associates Inc. (Golder) is providing this letter to the Grand Haven Board of Light and Power (BLP) as information regarding the ongoing closure options review and activities for Coal Combustion Residuals (CCR) unit closure of the Units 1 and 2 Inactive Surface Impoundment (Inactive 1/2 Impoundment) at the Former J.B. Sims Generating Station (JB Sims, Site). On July 23, 2021, Golder provided the Michigan Department of Environment, Great Lakes and Energy (EGLE) with an emailed letter requesting a meeting (meeting date is pending) to discuss closure plan options. This letter also describes those options. This update is considered as an attachment to the JB Sims Inactive Units 1/2 Impoundment and Unit 3 Closure Plan, dated October 14, 2019 (2019 Closure Plan), prepared by Golder.

The current status of the CCR unit closure at the Site includes:

- Unit 3 East Bottom Ash Impoundment – has been closed by removal and the Site is working through closure approvals.
- Unit 3 West Bottom Ash Impoundment – has been closed by removal and the Site is working through closure approvals.
- Units 1 and 2 Inactive Ash Impoundment – are not closed yet due to the following items:
  - Updated delineation of the CCR unit boundary based on an expanded boundary delineation presented by United States Environmental Protection Agency (EPA) on November 24, 2020 and agreed upon by all parties (EGLE/EPA/BLP/Golder) on January 14, 2021.
  - Revision to the monitoring well network proposed on March 23, 2021, based on the expanded delineation of CCR unit boundary agreed to by all parties in January 2021. Neither EPA nor EGLE could approve the proposed monitoring well network revision until a flow and groundwater water level study was conducted based on changing groundwater flow patterns resulting from record high water levels

experienced at the site in 2020. Therefore, the BLP offered to develop a piezometer plan for review and approval during a conference call with EPA/EGLE on April 15, 2021.

- The piezometer plan was submitted by Golder on April 23, 2021. After comments by both EPA/EGLE and revisions to include the addition of stilling wells in the surrounding water bodies were addressed, a final work plan for piezometer and stilling well installations was approved by EGLE on June 22, 2021.
- A wetland permit application to install the approved piezometers was submitted to EGLE on June 28, 2021. The wetland permit to install the piezometers was issued by EGLE on July 29, 2021.
- Following EGLE approval of the wetland permit application and aligning the drilling contractor, the piezometer network was installed in September 2021, and initial groundwater elevations and survey information was collected on October 1, 2021. Water level elevation measurements will be taken monthly for the following several months to gain an understanding of the seasonality of the levels.
- Following evaluation of the new piezometer water level data, Golder anticipates proposing monitoring well network modifications to EGLE for approval in the first part of 2022.
- Following approval of the new groundwater monitoring network, and installation of any new wells that may be required, additional groundwater monitoring data will be gathered. A summary report will be provided per the required frequencies (quarterly, annually, etc.). Timeline is uncertain pending EGLE review and approval.
- The discovery of per- and polyfluoroalkyl substances (PFAS) constituents detected above laboratory reporting limits and regulatory criteria reported in June of 2021 with confirmation reported in July 2021 will also be considered in the inactive 1/2 impoundment closure.

Given the bulleted issues above, closure by removal, as noted in the 2019 Closure Plan, may not be the most appropriate closure option and other options are being considered as referenced in the July 23, 2021 emailed letter to EGLE:

- Closure by complete removal
- Closure in place with Michigan Part 115 (also 40 CFR 257 equivalent) compliant cap
- Consolidate and closure in place for a smaller footprint with Part 115 compliant cap
- Closure in place with in-situ stabilization (ISS) and Part 115 compliant cap
- Consolidate and closure in place for a smaller footprint with ISS and Part 115 compliant cap

Each of these options may require some or all the following measures to mitigate environmental and safety risks during closure:

- Hydraulic barrier wall (sheet pile, slurry, other)
- Dewatering with pre-treatment for constituents including PFAS
- An approved National Pollutant Discharge Elimination System (NPDES) permit or discharge approval to the local Public Owned Treatment Works with PFAS considerations

- Wetland/Floodplain permit and mitigation
- ISS
- Others to be determined

Golder is unaware of any closure deadlines in accordance with the Michigan state rules for an inactive impoundment. It may be necessary sometime towards the end of 2022 to request an extension for closure for the EPA timelines, given this expanded study time due to changing flow conditions, the expanded boundary based on EPA's delineation, and approval timelines for both the increased monitoring well network (following the groundwater flow study) and the permits (NPDES, Wetlands, etc. from both USACE and EGLE) necessary for remediation activities once those work plans are approved by EGLE.

For the reasons stated above, it is recommended to consider amending the previous Closure Plan to reflect the work that was done on Unit 3, the results of the water elevation monitoring, and the reconsideration of closure options for the Inactive Unit 1/2 Impoundment. This may be achieved by splitting out the Unit 3 Impoundments to reflect the work that was done and monitoring that still needs to be conducted and the Inactive 1/2 Impoundment.

Golder and GHBLP are currently working on the updates to the groundwater monitoring system with EGLE's Materials Management Division, Water Resources Division and the Remediation and Redevelopment Division along with the EPA.

Sincerely,

**Golder Associates Inc.**



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*Practice Leader*



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[https://golderassociates.sharepoint.com/sites/149934/project files/7 correspondence/general closure plan cover letter/ccr unit rcra closure plan attachment letter 10-22-21.docx](https://golderassociates.sharepoint.com/sites/149934/project%20files/7%20correspondence/general%20closure%20plan%20cover%20letter/ccr%20unit%20rcra%20closure%20plan%20attachment%20letter%2010-22-21.docx)