

**ASSESSMENT OF CORRECTIVE MEASURES  
DEADLINE EXTENSION DEMONSTRATION  
40 CFR §257.96(a) AND PART 115 RULE 443  
GRAND HAVEN BOARD OF LIGHT AND POWER  
JB SIMS GENERATING STATION  
INACTIVE 1/2 IMPOUNDMENT AND FORMER 3A/B IMPOUNDMENTS**

Pursuant to 40 CFR §257.96(a) and State of Michigan Public Act 640 Sec.11519b and Part 115 Rule 443, Grand Haven Board of Light and Power (GHBLP), Former J.B. Sims Generating Station (JB Sims) Inactive Units 1/2 Impoundment (Inactive 1/2 Impoundment) and Former Unit 3A and 3B Impoundments (Former 3A/B Impoundments) have initiated the evaluation of assessment of corrective measures (ACM) based on finding statistically significant levels (SSLs) above groundwater protection standards defined under 257.95(h) on February 8, 2019.

However, additional time is needed to complete the assessment of corrective measures due to site-specific conditions and circumstances. In particular, (1) changes in groundwater flow patterns on site due to record high water levels experienced in 2020 and (2) significant changes to the boundary of the Inactive 1/2 Impoundment Unit due to agency confirmation of the Unit boundary on January 14, 2021. The U.S. Environmental Protection Agency (EPA) and Michigan Department of Environment, Great Lakes and Energy (EGLE) evaluated these factors and other reports submitted by GHBLP and determined that changes and expansions to the groundwater monitoring well network were needed. Following a discussion on April 14, 2021 regarding adding additional monitoring wells, both EPA and EGLE recommended GHBLP, and Golder gather additional field information on groundwater levels and flow so that an approved work plan to expand the monitoring well network can be approved by both EPA and EGLE.

Therefore, given EPA and EGLE's requests that additional groundwater level and data be developed to assess the Units, an ACM cannot be completed at this time. Below is a summary timeline for establishing the CCR unit boundary for the Inactive 1/2 Impoundment, the upgradient/background evaluation based on the boundary changes for the Inactive 1/2 Impoundment, as well as the documented change in site-specific conditions.

- Initiated Assessment of Corrective Measures – February 8, 2019, based on SSLs in the initially established Groundwater Monitoring Network.
- E-mail communication from the EGLE regarding Groundwater Monitoring Network – March 20, 2019, requesting staff gauges, additional wells, and additional water level monitoring, which halted the preparation of the ACM report.
- Conference call with EGLE on April 25, 2019 regarding groundwater monitoring network, discussion of the hydrogeologic complexities, impoundment delineations, and newly enacted State of Michigan Public Act 640 (December 28, 2018).
- Developed work plan for installation of additional assessment monitoring wells (MW-9 & MW-10), advancement of soil boring, and installation of six staff gauges to assist with hydrogeologic complexities at JB Sims – June 2, 2019 and approved by EGLE on July 26, 2019.
- Additional assessment monitoring wells (MW-9 & MW-10) were installed on August 12, 2019. The first sampling event was conducted on September 30, 2019.

- A closure plan update and impoundment delineation notification and corresponding reports were submitted to EGLE on October 14, 2019.
- Meeting on October 18, 2019, EGLE made reference to Act 641 rules that were passed in January 1979 as a mechanism for drawing a line between ash that was placed prior to 1978 (which could remain) and ash that was placed post 1978 (which needs to be removed). A follow up letter containing additional information based on this guidance was submitted on November 19, 2019.
- As requested by EGLE, GHBLP submitted a Hydrogeologic Monitoring Plan (HMP) to EGLE for review on October 31, 2019. To date no approval for the HMP has been received and a dialogue was held with EGLE and EPA to further define the Inactive 1/2 Impoundment and the HMP for the Units.
- Meeting on November 27, 2019 with EGLE, specifically the Remedial Advisory Team, to discuss the HMP.
- Communication from EGLE on March 6, 2020 that EPA does not consider the date the ash was placed as pertinent in defining the limits of the impoundment.
- Meeting on March 26, 2020 with EGLE regarding closure options.
- GHBLP submitted a work plan to decommission monitoring well MW-1 and replace with MW-1R since the original well was located in the footprint of an electrical substation on April 21, 2020 and EGLE approved on April 22, 2020.
- Meeting on April 27, 2020 with EPA regarding the Impoundment Closure. GHBLP and Golder were seeking regulatory guidance on properly defining the units and delineation, achieve closure of units, and deadlines for closure. GHBLP provided photographic documentation of site conditions impacting closure activities for Inactive 1/2 impoundment as delineated by Golder. EPA requested a summary of the corrective actions that have been conducted to date.
- Communication via e-mail on April 29, 2020 with EPA regarding the flooding on Harbor Island causing a delay in field investigations.
- GHBLP provided summary of corrective actions to EPA on April 30, 2020 as requested in the meeting on April 27, 2020.
- Letter communication from EPA on July 13, 2020 regarding definition and delineation of the surface impoundments located at the Site.
- Meeting with EGLE and EPA on August 24, 2020 to update on the closure process for the now Former 3A/B impoundments (which had already begun), understanding of how Inactive 1/2 Impoundment will be delineated by regulatory agencies, and future closure strategy.
- Meeting with EPA and EGLE on November 24, 2020, where EPA presented their delineation of Inactive 1/2 Impoundment based on 1968 historical aerial photograph to GHBLP and Golder. Additional follow up technical meetings were scheduled for January 2021.
- CCR Removal Documentation Report completed and placed in operating record following completion of removal activities for Former 3A/B Impoundments on December 11, 2020. Due to inadequate construction documentation when Units were construction, GHBLP is currently working to see if it can find and confirm analytical baseline concentrations of source clay materials.
- Meeting with EGLE and EPA on January 8, 2021 to discuss a revised groundwater monitoring network. An additional technical meeting was scheduled for April 2021 to further discuss proposed monitoring well locations.
- Meeting with EGLE and EPA on January 14, 2021 to discuss the delineation of Inactive 1/2 Impoundment. The delineation of Inactive 1/2 Impoundment was agreed to by GHBLP, EGLE and EPA during this call.
- Meeting with EGLE and EPA on April 14, 2021 to discuss proposed expansion to groundwater monitoring network based on EPA expanded delineation of Inactive 1/2 impoundment in January. Based on the

hydrogeologic complexities at the site, it was determined that further data regarding groundwater flow was necessary before either EPA or EGLE could approve a workplan establishing potential locations for additional groundwater monitoring wells. Appropriate upgradient/background monitoring well locations for statistical analyses remains unresolved until a more robust study of groundwater flow is conducted based on site complexities and changing conditions.

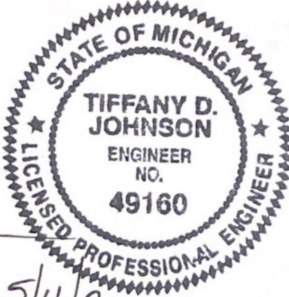
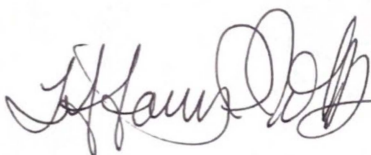
- GHBLP submitted a work plan for piezometer installation and additional data collection on April 23, 2021 to EGLE and EPA for review. GHBLP is awaiting EGLE and EPA response before proceeding with installation. Piezometers can be converted to detection monitoring wells if determined appropriate.

As described above, GHBLP is re-evaluating the groundwater detection monitoring well network based on the EPA and EGLE revised boundary for the Inactive 1/2 Impoundment and changes in groundwater flow patterns. The network cannot be installed until a work plan is approved by the Department. Both EPA and EGLE have requested additional testing be conducted on ground water flow before they will comment on additional monitoring well installation locations. Since the existing conceptual site model (CSM) was based on a different boundary for the Inactive 1/2 Impoundment as well as the changing groundwater flow patterns on the site due to rising record high water levels experienced in 2020, an ACM cannot be completed until the items outlined in the April 20, 2021 Work Plan are completed and reviewed. However, GHBLP and Golder are researching measures taken by other similar facilities to refine corrective measure options and assessment measures so that the process may proceed once the items outlined above are completed. Once the piezometers are installed, and additional data is collected, an updated HMP and CSM will be necessary for a complete evaluation of appropriate corrective measures that can be undertaken to meet the requirements of 40 CFR §257.96(c) and Part 115 Rule 443. Since the revised boundary for the Inactive 1/2 Impoundment was not established until January 14, 2021 and it was recommended by EPA and EGLE on April 14, 2021 that additional water level data be collected, the items outlined in the April 23, 2021 work plan need to be completed before further expanding the groundwater monitoring network. As such an extension of time is necessary for the preparation of the ACM based on a more thorough evaluation of technical data to develop the most appropriate solutions for the protection of groundwater quality. Therefore, GHBLP is requesting concurrence that the ACM be submitted within 90 days following the installation of approved groundwater wells resulting in a more comprehensive monitoring network within a groundwater monitoring system certification (40 CFR §257.105(h)(3) and HMP (Public Act 640 Sec.11519b(1)(h) and Part 115 Rule 905). If an additional 60 days is necessary for the submittal of the ACM, GHBLP will make an additional request.

### CERTIFICATION

In accordance with 40 CFR §257.96, I, Tiffany D. Johnson, PE, being a Registered Professional Engineer licensed in the state where the CCR unit is located, do hereby certify to the best of my knowledge, information, and belief, that the information provided above is accurate.

Golder Associates Inc.



5/4/21

Tiffany D. Johnson, PE  
Michigan Registered Professional Engineer No. 6201049160