

December 30, 2020

Project No. 18113500

**Mr. Kent A. Walters**

Michigan Department of Environment, Great Lakes, and Energy  
Materials Management Division  
350 Ottawa Ave. NW, Unit 10  
Grand Rapids, MI 49503

**RESPONSE TO EGLE COMMENTS: JB SIMS REQUEST FOR MIXING ZONE AUTHORIZATION**

Dear Mr. Walters,

On behalf of the Grand Haven Board of Light and Power (GHBLP), Golder Associates Inc. (Golder) has prepared this letter to address comments that were received by the GHBLP on November 13, 2020 from the Michigan Department of Environment, Great Lakes, and Energy (EGLE), regarding the J.B. Sims Generating Station (JB Sims) – Mixing Zone Determination Report dated October 9, 2020. Since there are no numbered comments in the November 13, 2020 letter, Golder has included the comments below with a response for each paragraph independently. For ease of review, EGLE provided communication is presented in bold/italicized text. GHBLP’s response immediately follows.

**EGLE COMMUNICATION DATED NOVEMBER 13, 2020 AND GHBLP RESPONSE**

***The Michigan Department of Environment Great Lakes and Energy (EGLE) is in receipt of the submitted document “Request for Mixing Zone Based Criteria Inactive J.B. Sims Generating Station 1231 N 3rd St, Grand Haven, MI 49417.”***

**Response:** Golder and GHBLP appreciate the acknowledgement of receiving the Request for Mixing Zone Based Criteria.

***Though the submitted document is proposed as a remedy/remedial mechanism under state law for impacted groundwater from Units 1/2, the proposed actions also purport to address groundwater contamination from Units 3A/3B. EGLE, therefore, considers this as a request for both Unit 1/2 and Unit 3A/3B. This request for a mixing zone-based criteria is premature and EGLE is unable to approve or deny the request for the reasons outlined below.***

**Response:** Golder and GHBLP agree that the Request for Mixing Zone-Based Criteria is a proposed remedy/remedial mechanism under state law. However, Golder and GHBLP have made the request based on a holistic approach to evaluating the groundwater contamination at the entire JB Sims site under Part 201. Available groundwater quality data submitted for the site does not reflect impacts from the Unit 3 Impoundments but rather is from historical fill material and buried waste in the area. Documentation of this has been provided in an Alternate Source Demonstration (Golder, 2020). Based on a review of the JB Sims available data, the

geochemical fingerprinting of the groundwater analytical data does not plot similar to process water formerly routed through the Unit 3 impoundments. A summary of geochemical data is available on the GHBLP CCR Rule Compliance public facing website, dated November 17, 2020. Further, as described in the summary letter, dated November 17, 2020, the results of the geochemical analysis indicate that the integrity of the clay liner for Unit 3 Impoundments were intact up to the closure by removal. Additionally, as of November 9, 2020, CCR has been removed from the Unit 3 impoundments and Unit 3 impoundments are certified closed. A closure documentation report for the Unit 3 Impoundments was submitted to EGLE on December 11, 2020. This closure documentation report for Unit 3 Impoundments provides additional evidence that the clay liner for the Unit 3 Impoundments remained intact up to the completion of the closure by removal. In addition, there is well documented information regarding historical land uses (potential alternate sources) other than the CCR impoundments, such as historically placed ash fill material and municipal waste materials from previous historical uses. Therefore, the Request for Mixing Zone-Based Criteria can be an appropriate remedy/remedial mechanism under state law for impacted groundwater for JB Sims site.

***Grand Haven Board of Light and Power's (GHBLP) request for a mixing zone-based criteria is based on its proposal to leave coal ash in place in Unit 1/2. Regarding state law requirements, if GHBLP opts to close Units 1/2 with coal ash in place, GHBLP is subject to the closure requirements in Part 115 for Type III landfills, including the groundwater monitoring requirements applicable to Type III landfills in the Part 115 rules including R. 299.4906. GHBLP's request for a mixing-zone based criteria is premature because it has not taken necessary steps under Part 115 and the Part 115 rules, including but not limited to, meeting the groundwater monitoring requirements, for closure in place for Unit 1/2 that would allow EGLE to review the request. Additionally, GHBLP should bear in mind that regardless of its requests under state law, Unit 1/2 is subject to the federal coal ash combustion residuals program requirements in 40 CFR 257, including its closure requirements.***

**Response:** The Request for Mixing Zone-Based Criteria that was submitted for EGLE review is not linked to a proposal to leave coal ash in place in Units 1/2 impoundment. The evaluation or feasibility regarding how to close Units 1/2 impoundment is currently ongoing based on current site conditions. As mentioned above, it is however a request based on a holistic approach to evaluating the groundwater impacts at JB Sims. JB Sims indicated in communication with EGLE that additional monitoring points were being evaluated and would be installed after site development/construction activities in the area of well placement was complete.

In addition, as presented in the Letter from Jaffe Raitt Heuer & Weiss, PC (Jaffe) dated December 1, 2020, Units 1/2 impoundment is not regulated under Part 115 based on the definition in the Part 115 statute of "existing coal ash impoundment". Please refer to the Letter from Jaffe for additional supporting regulatory references. In regard to the requirements for the CCR Rule, GHBLP will work with the EGLE and EPA regarding the closure requirements for the Units 1/2 impoundment.

From a holistic approach to evaluating the groundwater impacts at JB Sims, Golder does not agree that the request for mixing zone-based criteria is premature. Based on the fact that JB Sims site is on a man-made island in the Grand River and Michigan law allows for an evaluation of the mixing zone at the groundwater surface water interface, it is logical and was recommended by EGLE Part 115 staff during a meeting in October 2019. However, Golder has provided in the summary section a breakdown of the regulatory mechanism for the groundwater impacts at JB Sims for the request for mixing zone-based criteria.

**Furthermore, on December 28, 2018, Public Act 640 was put into effect subjecting the JB Sims coal ash impoundments, Unit 3A/3B, to the coal ash requirements in Part 115, including the groundwater monitoring requirements. GHBLP indicated on its CCR Rule Compliance public facing website that it is utilizing a multiunit groundwater monitoring system, which is different than if each unit at the facility was monitored by separate groundwater monitoring plans. If a multiunit groundwater monitoring system under R 299.4906 detects constituents over groundwater protection standards, then all units are subject to assessment monitoring under R. 299.4441. This also means that both Units 3A/3B and 1/2 are subject to R. 299.4440 to R 299.4445. Consistent with that requirement, on May 15, 2018 GHBLP submitted a notice of assessment monitoring on their public facing website for the multiunit monitoring system, which includes both units 3A/3B and 1/2.**

**Response:** Based on additional data collection and clarification of Unit 1/2 waste boundary by EPA on November 24, 2020, Golder and GHBLP have determined that the previous multi-unit groundwater monitoring network is no longer appropriate. As noted elsewhere, Golder has certified closure of Units 3A and 3B and that neither have leaked and so groundwater monitoring of those Units is no longer necessary. Therefore, it is appropriate to identify a groundwater monitoring network for the Unit 1/2 impoundment. This will allow the Unit 1/2 impoundment and groundwater impacts to be addressed following an appropriate regulatory framework and proper guidance. Golder intends to provide a modified network re-certification for the Unit 1/2 Impoundment. GHBLP would like to add this discussion to the agenda for the workgroup discussion in January 2021. Although groundwater impacts detected in the vicinity of Units 3A and 3B may be attributed to ash fill and MSW, those impacts do not relate to Units 3A and 3B themselves. The assessment monitoring program, that will be established for Unit 1/2 and the JB Sims Site will include continued monitoring of the detection wells associated with the now-closed Unit 3. As such, Unit 3 closure is deemed complete.

On December 11, 2020, Golder submitted a documentation of CCR removal report for Unit 3 impoundments. As described above, the results of the geochemical analysis are in support of our strategy and confirm that the integrity of the clay liner for Unit 3 Impoundments were intact up to the closure by removal. An alternate source demonstration (ASD) for the statistical exceedances noted in monitoring wells for the Unit 3 impoundments was submitted because currently available data indicate that the Unit 3 Impoundments are not the source of groundwater impacts at JB Sims. The ASD for the Unit 3 impoundments was provided under separate cover.

As stated above, Units 1/2 impoundment is not regulated under Part 115. JB Sims will continue to work with the EPA regarding the closure requirements for Units 1/2 impoundment. However, data illustrates that the groundwater impacts at JB Sims are not likely from Units 1/2 impoundment, but rather from previous historical uses such as:

- Beneficially using ash as fill to “create land” on the site
- Historical placement of Municipal Solid Waste (MSW) materials co-mingled with CCR placement

Therefore, the request for mixing zone-based criteria is the result of groundwater impacts at the JB Sims site from historical uses and not just the Unit 1/2 impoundment.

**GHBLP’s request for a mixing zone-based criteria is premature because it has failed to take statutorily required steps when a groundwater monitoring system detects constituents over groundwater protection standards. As stated above, though GHBLP’s was submitted as a request for Unit 1/2, the request for a mixing zone-based criteria also purports to address groundwater contamination from Unit 3A/3B. Under**

***the coal ash requirements applicable to Unit 3A/3B, once the assessment monitoring requirements are triggered, Part 115 requires that an owner/operator submit a Response Action Plan. Sec. 11519b(2) states, If the detection monitoring required in sections 11511a(3), 11512a(1), and 11519a(1)(h) confirms a statistically significant increase over background for 1 or more of the constituents listed in section 11511a(3), the owner and operator of a coal ash landfill or coal ash impoundment shall comply with R 299.4440 and 299.4441 of the Part 115 rules, including, as applicable, conducting assessment monitoring and preparation of a response action plan in compliance with R 299.4442 of the Part 115 rules.***

**Response:** As stated above, Golder submitted an ASD to document that the groundwater impacts in the vicinity of the Unit 3 impoundments are not from the Unit 3 impoundments but rather from beneficial-use of ash fill that was historically placed to create land, or the MSW materials that was historically placed at JB Sims. In addition, the data for the closure of Unit 3 impoundments (CCR Removal Documentation Report, dated December 11, 2020) indicate that the clay liner for Unit 3 impoundments remained intact and leakage through the clay liner system for Unit 3 impoundments did not occur.

Since only the Unit 3 impoundments are regulated under Part 115 and the groundwater contamination is not the result of Unit 3 impoundments, the regulatory requirements described above do not apply. An Assessment of Corrective Measures is underway that will present multiple alternatives for corrective action at JB Sims that will provide for continued monitoring and implementation of a remedial strategy that will achieve groundwater protection standards at an appropriate compliance point. Since there is likely groundwater contamination from sources beyond the unlined impoundment, a holistic approach to corrective action for the JB Site is more appropriate. GHBLP's request for mixing zone-based criteria is based on the groundwater impacts at the site, proximity to surface water body (Grand River), the provisions of Part 201, and the size and flow of the Grand River.

***According to analytical results and the GHBLP CCR Rule Compliance public facing website, the site has entered assessment monitoring. According to the GHBLP website, a notice of assessment monitoring was placed in the operating record on May 15, 2018, yet EGLE has not yet received a Response Action Plan as required by Sec. 11519b (2) and R 299.4442 of Part 115. This Response Action Plan is necessary for EGLE to be able to review GHBLP's request for a mixing zone-based criteria.***

**Response:** Golder was in the process of preparing an Assessment of Corrective Measures (ACM) in accordance with the CCR Rule when EGLE shifted the focus of the project, requesting a Hydrogeologic Monitoring Plan (HMP) in accordance with PA 640 (Part 115 amendment). EGLE, Golder, and GHBLP have yet to concur on an approved HMP. Since an HMP has not yet been approved, or determined to be applicable for the site, a Response Action Plan has not formally been submitted. However, many elements to the Response Action Plan are included in the draft HMP that was submitted to EGLE which includes both detection and assessment monitoring programs. Based on the amount of data previously provided in the draft HMP, annual CCR Reports, and the request for mixing zone-based criteria, as well as other data provided on the GHBLP CCR Rule Compliance public facing website, Golder believes sufficient data is available to prepare a response action plan and for EGLE to review GHBLP's request for mixing zone-based criteria for the groundwater contamination at JB Sims under Part 201, since groundwater impacts are likely from historical ash fill and MSW placed on the island.

***Additionally, for coal ash impoundments that require a Response Action Plan as detailed above, additional requirements in the Part 115 rules must be met. Specifically, section 11519b(4) requires, "If the***

***owner or operator of a coal ash landfill or coal ash impoundment is obligated to prepare a response action plan, the owner or operator shall comply with R 299.4442 to R 299.4445 of the Part 115 rules, as applicable.” EGLE staff have not received any of the documents required by R 299.4442 through R 299.4445. Rule 299.4442 requires EGLE approval or denial of a Response Action Plan. The Assessment of Corrective Measures requires a public meeting with interested and affected parties before selecting a remedy as indicated in R 299.4443. Rule 299.4444 requires a Remedial Action Plan that is protective of human health and the environment while meeting groundwater protection standards, and that includes a plan for source control. In addition, the Remedial Action Plan must be submitted to EGLE’s Materials Management Division for review and approval or denial.***

**Response:** As stated previously, the groundwater impacts at JB Sims should not be regulated under Part 115 but rather under Part 201. GHBLP will work with EGLE and EPA regarding the groundwater impacts that are the result of ash used as beneficial fill, and MSW. Golder requests EGLE’s review of the request for mixing zone-based criteria referencing Part 201 for the groundwater impacts at JB Sims site since the groundwater contamination is from multiple sources that would likely still exist even after closure of the Units 1/2 Impoundment is complete.

***GHBLP’s request for mixing zone-based criteria is premature because GHBLP has failed to take necessary steps that would provide EGLE with the statutorily required information needed to properly review GHBLP’s request.***

**Response:** Due to the historical site uses (beneficial ash fill and municipal solid waste placement), Golder and GHBLP are evaluating the groundwater impacts at JB Sims as a whole and not just one of several sources. Since impacts around the perimeter of JB Sims are not exceeding expected mixing zone-based criteria, BLP’s focus is on a remedial strategy that is more appropriate for the Site as a whole. Groundwater impacts are from multiple sources that would likely still exist even after closure of the Units 1/2 Impoundment is complete. As stated above, the request for mixing zone-based criteria is for a portion of the remedy/remedial mechanism under state law in regard to the groundwater impacts at JB Sims.

***Finally, GHBLP’s request is premature because EGLE has informed GHBLP that its current monitoring well network is insufficient to properly monitor potential groundwater impacts from Unit 3A/3B and Unit 1/2. In order for a mixing zone-based criteria request to be reviewed, GHBLP must have a sufficient monitoring well network to provide the appropriate data. The Environmental Protection Agency (EPA) has also informed GHBLP in its July 13, 2020 letter of federal requirements for its groundwater monitoring system, applicable to both Units 1/2 and 3A/B,***

***The regulation on groundwater monitoring systems at 40 C.F.R. § 257.91 requires a sufficient number of wells correctly placed that yield groundwater samples from the uppermost aquifer that accurately represent background groundwater and the quality of groundwater passing through the waste boundary of the unit. Based on the information on BLP’s CCR website, it is not clear that BLP’s groundwater monitoring system meets these requirements.***

**Response:** The original monitoring well certification report includes four wells around the now former Unit 3 impoundments in 2017. This network is sufficient for a detection monitoring well network of the Unit 3 impoundment. An additional four detection monitoring wells were also installed around the Units 1/2 impoundment in 2018 when it was determined that this unit was regulated under the federal rule. However, given

the groundwater impacts identified at the site and the additional monitoring around the Units 1/2 impoundment, GHBLP installed additional assessment monitoring wells to further evaluate groundwater quality at the site. Following review of analytical data and changing groundwater flow patterns, GHBLP added two additional assessment monitoring wells and staff gauges in 2019. In addition, GHBLP increased the water level gauging at JB Sims from semiannual to twice per month in November 2019 and continued through September 2020 to assist with the evaluation of groundwater flow patterns. Golder and GHBLP have indicated to EGLE our intent to add additional monitoring wells to the networks following site development and upon approval of the remedial strategy.

As noted above, the Unit 3 Impoundments have been: emptied, rendered inoperable, cleaned, inspected and sampled to confirm CCR and CCR impacted soils removal. There is no documentation that the Unit 3 Impoundments have leaked or otherwise caused residual contamination. As provided in the Unit 3 CCR Removal Documentation Report, dated December 11, 2020, the data for the closure of Unit 3 impoundments document that the clay liner for Unit 3 impoundments remained intact and leakage through the clay liner system for Unit 3 impoundments did not occur. GHBLP is willing to work with EGLE on adapting the monitoring system for the JB Sims site. However, the development of mixing zone-based criteria and of approval of a mixing zone itself are independent of monitoring of Impoundments within the footprint of the JB Sims site.

***Before any potential remedy or remedial mechanism can be reviewed by EGLE that addresses groundwater contamination for Unit 3A/3B, GHBLP must have a ground water monitoring program that meets the requirements in Sec. 11519a(1)(h) of Part 115.***

**Response:** We believe that once EGLE has reviewed the documentation of closure by removal for the Unit 3 Impoundments and the alternate source demonstration presenting the groundwater chemistry for the site compared to the Unit 3 Impoundments as well as the forthcoming Assessment of Corrective Measures Report for Units 1/2 impoundment, they will have sufficient information to review the remedial strategy including the mixing zone request for the site focusing on protection of the Grand River from multiple sources that were placed on and in the JB Sims site and which we believe to be regulated under Part 201. A long-term monitoring program will be part of that plan.

Since the groundwater contamination identified at JB Sims is not from a CCR unit that is regulated by Part 115, Golder is requesting that EGLE review the request for mixing zone-based criteria as a piece of the remedy/remedial mechanism under state law in regard to the groundwater contamination at JB Sims site. Golder will continue to evaluate groundwater quality at the site and closure options for the Units 1/2 impoundment given the alternate boundary recently presented by EPA.

## SUMMARY

Based on the review of the applicable regulations, Golder and GHBLP understand the JB Sims site to be regulated under multiple regulations.

- Engineered and clay lined Unit 3 impoundments are regulated under the CCR Rule and Part 115. However, the groundwater contamination around Unit 3 impoundments is not a result of leakage from the Unit 3 impoundments. Documents have been provided recently regarding the closure of Unit 3 impoundments as well as an ASD, for statistical exceedances that have been identified in monitoring wells around the Unit 3 impoundments. Unit 3 documentation was submitted prior to the December 28, 2020 deadline for closure by removal under the CCR Rule and Part 115.

- Unlined Units 1/2 impoundment is regulated under the CCR Rule and not Part 115. Due to the potential groundwater contamination from the unlined Units 1/2 impoundment, Golder and GHBLP are evaluating the JB Sims site under Part 201.
- Groundwater contamination related to historical fill placement at JB Sims, including the beneficial ash placement to create land and previously placed municipal waste, should be regulated under Part 201.

Golder and GHBLP has provided or will provide the following documents under separate cover (with anticipated submittal dates).

- Unit 3 CCR Removal Documentation Report in accordance with CCR Rule and Part 115 (submitted December 11, 2020)
- Alternate Source Demonstration for Unit 3 impoundments in accordance with CCR Rule and Part 115 (submitted December 28, 2020)
- Assessment of Corrective Measures Report for Units 1/2 impoundment in accordance with CCR Rule, which will serve as the initial assessment report for Part 201 (January 2021)
- Work Plan for additional monitoring wells for the JB Sims site (January 2021)
  - JB sims site, one additional upgradient/background monitoring well further upgradient than the existing background monitoring well MW-7.
  - Units 1/2, five additional downgradient monitoring wells
  - JB Sims site, two additional downgradient/side gradient monitoring wells
  - Additional monitoring to evaluate the sources of groundwater impacts and to evaluate remedial alternatives.
- Annual Groundwater Monitoring and Corrective Action Report in accordance with CCR Rule and Part 115 (January 2021)
- Monitoring Well Network Certifications for Unit 3 impoundments in accordance with CCR Rule and Part 115 (January 2021)
- Monitoring Well Network Certification for Units 1/2 impoundment in accordance with CCR Rule (January 2021)
- Feasibility Study for closure of the site (including Units 1/2 impoundment, ash used as historical fill, and MSW) in accordance with CCR Rule and Part 201 (2021)

Based on the information provided, Golder and GHBLP are requesting that EGLE review the mixing zone-based criteria request as a remedy/remedial mechanism for the JB Sims site under state law (Part 201). We will continue working with EGLE to evaluate closure options for the Unit 1/2 impoundment in consideration of the additional waste on the property. We will continue to evaluate alternative remedies for groundwater corrective action following the options of Part 201 and 40 CFR 257 as applicable.

Sincerely,

**Golder Associates Inc.**



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[https://golderassociates.sharepoint.com/sites/27317g/deliverables/200 reports/mixing zone analysis/12.2020 mzd response/mzd response to comment\\_final 12-30-20.docx](https://golderassociates.sharepoint.com/sites/27317g/deliverables/200%20reports/mixing%20zone%20analysis/12.2020%20mzd%20response/mzd%20response%20to%20comment_final%2012-30-20.docx)