



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
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Mr. Narendra Prasad
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REPLY TO THE ATTENTION OF:

November 15, 2016

Subject: Review of *Response to Comments Letter (RTC)* and *Feasibility Study (FS) Report Revision 2, Wisconsin Public Service Corporation's (WPSC) Former Marinette Manufactured Gas Plant (MGP) Site, Marinette, Wisconsin*, submitted May 20, 2016 by Natural Resource Technology, Inc. (NRT), on behalf of Wisconsin Energy Corporation (WEC).

Dear Naren,

EPA and Wisconsin DNR reviewed of the response to comments (RTC) letter and the *Feasibility Study (FS) Report, Revision 2, Wisconsin's Public Service Corporation's (WPSC's) Marinette Former Manufactured Gas Plant (MGP) Site, Marinette, Wisconsin*, dated May 20, 2016. The RTC letter included responses to EPA's March 25, 2016, comment letter regarding trailing comments from the *Alternatives Array Screening Technical Memorandum (AAS TM) (May 15, 2015), FS Report, Revision 0, WPSC's Marinette Former MGP Site, Marinette, Wisconsin (July 10, 2015)*, and comments from the *FS Report, Revision 1, WPSC's Marinette Former MGP Site, Marinette, Wisconsin (February 18, 2016)*. The RTC letter and FS Report Revision 2 are presented by Natural Resource Technology, Inc. (NRT), on behalf of Wisconsin Energy Corporation (WEC).

For convenience in tracking comments, both the original EPA AAS TM comment number, as well as the renumbered EPA comments by WEC/NRT are included as presented in the May 20, 2016, RTC letter. The comment numbers from the FS Report Revision 0 and the RTC letter are the same and are referenced below by the original EPA comment number.

NOTE: To prevent a Notice of Deficiency followed by either stipulated penalties agreed to in the 2006 Administrative Order on Consent or work take-over, EPA requires the following comments to be fully addressed and incorporated into the FS Rev. 2 document. Once comments are fully addressed, the FS can be considered eligible for (conditional) approval. Original EPA Specific Comment to the AASTM: 19, 27; Original EPA Specific Comment to the FS Rev.0: 9, 46, 49, 51; Original EPA Specific Comment to the FS Rev.1.¹

¹ The sand cover and RCM were placed over non-residual sediment having higher PAH concentrations throughout a thicker deposit of material than is typical of a residuals management sand cover scenario. While PAH concentrations at the sand surface (0-6") have been shown to meet the RAL of 22.8 mg/kg total PAHs (13), long-term conditions of the remedy must be taken into consideration in order to determine the level of confidence behind removal of the dredging Beneficial Use Impairment for this area and to properly develop the required dredge management plan for the Area of Concern.

With this in mind, use existing data to calculate the likely volume of PAH-contaminated sediment inventory that remains under the existing sand cover and RCM. Mass estimates and modeled mixing-zone PAH concentration would also be beneficial information.

Sediment and sand layer/RCM monitoring topics, and sediment as a pathway must be included and addressed. The RCM is an engineering control and supports future monitoring activities. Visible sheen monitoring alone is not an acceptable means to monitor sediment conditions or RCM function. This is due to the fact that total PAH remains in sediment (some located under the RCM) at 1-1.7 orders of magnitude above the cleanup action level of 22.8 mg/kg and 54 mg/kg total PAHs; therefore they cannot be considered residuals. Contingency plan for sediment and sand layer/RCM management must be included in FS options. Also, sediment is considered a pathway of concern and should be included in Sections 2.3.3, 2.5.4, 4.2.1, and Table 3.

If WBS/NRT intends to utilize upland groundwater monitoring well data as a component of the RCM monitoring, EPA and DNR recommend the installation of additional monitoring wells closer to the RCM because MW-312 is located a significant distance away from the RCM. Incidentally, soil sampling during well installation is recommended to further define limits of residual soil contamination in the Boom Landing Zone/North Source Area.

Summary of WEC/NRT's Response to Trailing Comments

NRT's RTC letter was evaluated to assess if the responses satisfactorily addressed trailing EPA comments from the AAS TM and FS Report Revisions 0 and 1.

AAS TM Comments

EPA Comments Addressed Satisfactorily by WEC/NRT or Not Applicable in FS Report Revision 2

- NRT Comment 1/EPA Specific Comments 2, 17, 20, 25, 47, and 49
- NRT Comment 2/EPA Specific Comment 8

EPA Comments Not Addressed Satisfactorily, Containing Incomplete Responses, or Needing Further Clarification by WEC/NRT in FS Report Revision 2

NRT Comment 3, 4/EPA Specific Comment 19, 27. Sediment related comments have not been addressed as previously commented on. See past comments and the specific comments below regarding the Introduction to the May 20, 2016, RTC Letter.

At least one more round of sediment sampling of the sand cover, and three rounds of sediment sampling of material deposited on the RCM are required, as well as visual inspection of the RCM and the area around the edges. Show that the RCM is in place and will continue to function as intended (e.g., it is not expected to reach capacity by showing calculations including groundwater upwelling and saturation capacity of RCM). EPA and Wisconsin DNR will use this information, as well as the volume of remaining PAH (13)-contaminated sediment above 22.8 mg/kg, to determine if there is a need to consider additional sediment remediation/removal, and/or if the placed sand should continue to be monitored as a sand cover or if it should be managed, alongside the RCM, as a remedial cap, requiring an agreed-upon plan for long-term monitoring and maintenance..

WPSC Marinette and Green Bay sites' sediments have been or are being addressed through excavation and placement of sand layer. For WPSC Green Bay, the sediment portion of the RI will "restart" following changed sediment conditions. The WPSC Marinette sediment conditions also changed following the RI sediment sample collection through the Non-Time Critical Removal Action. The RI Sediment data was used in the creation of the EE/CA as well as the Removal Action Plan, and cannot be considered a wasted effort. Since the Site sediment conditions are drastically changed following the Removal Action, it makes sense to use the data collected following the Removal Action (and supplement with newly collected sediment data) to document the current Site sediment risks to the benthic and ecological community as a whole.

FS Report Revision 0 Comments

EPA Comments Addressed Satisfactorily by WEC/NRT or Not Applicable in FS Report Revision 2

- NRT Comment 5/EPA Specific Comment 2

Please note that no text change is required. The action memorandum for the time-critical removal action (TCRA) states that applicable or relevant and appropriate requirements (ARARs) were being complied.

- NRT Comment 7/EPA Specific Comment 6
- NRT Comment 8/EPA Specific Comment 7
- NRT Comment 9/EPA Specific Comment 9
- NRT Comment 14/EPA Specific Comment 74

EPA Comments Not Addressed Satisfactorily, Containing Incomplete Responses, or Needing Further Clarification by WEC/NRT:

NRT Comment 6/EPA Specific Comment 3. Section 1.2.9.3, Sediment, Page 19, Paragraph 1. Please clarify that MGP-affected sediments were addressed in the Non-Time Critical Removal Action (NTCRA) and meet the ARARs, if this is the case.

NRT/WEC Response: The RAO for the NTCRA was as follows: *Remove NAPL- and PAH-contaminated sediments that have the potential to effect human health and ecological receptors.* NAPL- and PAH-contaminated sediments were removed to the extent practical during the NTCRA and a residual sand cover was placed to mix with undredged sediment and minimize potential effect undredged sediment would have on ecological receptors. NTCRA RAO is referenced in Section 2.4.

EPA Response: The surface water quality standards Wis. Admin. §NR 105 are applicable in this FS as part of the evaluation of the cap. The potentially responsible party (PRP) should provide documentation (or refer to prior documentation) of the surface water meeting these standards, or should include a statement that the alternatives will allow the remedy to meet these standards within a reasonable timeframe. Otherwise, the ARARs for this FS are not being met, and a global text change is needed.

NRT Comment 10-13/EPA Specific Comment 46, 49, 51, 52. Sediment related comments have not been addressed as previously commented on. See past comments and the specific comments below regarding the Introduction to the May 20, 2016, RTC Letter.

NRT Comment 15/EPA Specific Comment 54. Additionally, regarding EPA Specific Comment 54, and as mentioned above for General Comment 10, EPA provided preliminary comments to WEC/NRT regarding Table 1, the ARAR table, through a February 16, 2016, e-mail. EPA awaits a revised ARAR table submittal before evaluating ARAR table comments. Additional ARAR comments may be submitted (as well).

NRT/WEC Response: EPA provided additional ARAR comments on April 8, 2016. Upon consultation with legal counsel, all of the provided comments have been incorporated into Table 1 of the enclosed FS Revision 2, with the following exceptions:

1. **Wis. Admin. § 504.07:** Minimum design and construction criteria for final cover systems were not included as relevant and appropriate. The scope of NR 504.07 is specific to landfills, which are defined as solid waste facility for solid waste disposal Wis. Stat. § 289.01 (20). The Wisconsin Department of Natural Resources (WDNR) provides more applicable guidance specific to soil cover systems installed as part of remedial action in WDNR PUBL-RR-809, October 2013.

2. **Wis. Admin. § NR 105:** The phrase “Surface Water Quality Standards are used to develop sediment cleanup goals” was removed from the column describing the criteria and alternative.

EPA Response: WDNR input was transmitted with the instruction that it needed to be meshed with prior input from EPA, and it was expected to be submitted in the format previously requested by EPA (e.g., a column for “Applicable” versus “Relevant and Appropriate” versus “TBC”), and identification of the alternative associated with the ARAR. For example, many of the cited air quality regulations are relevant and appropriate for Alternative 2–4; however, the question was previously asked about whether WAC § NR 419.07 was applicable rather than relevant and appropriate. The response regarding Wis. Admin. § NR 504.07 is accepted.

FS Report Revision 1 Comments

EPA Comments Addressed Satisfactorily by WEC/NRT or Not Applicable in FS Report Revision 2

- EPA General Comments 1–3

EPA Comments Not Addressed Satisfactorily, Containing Incomplete Responses, or Needing Further Clarification by WEC/NRT:

EPA General Comment 4. EPA will not provide additional comments at this time, regarding the ARAR table or FS text sections evaluating compliance with ARARs until a revised ARAR table is presented based on submitted comments from the February 16, 2016, e-mail.

NRT/WEC Response: See response to EPA Specific Comment 54 on FS Revision 0.

EPA Response: See EPA Specific Comment 54 on FS Revision 0 above.

EPA Comments Addressed Satisfactorily by WEC/NRT or Not Applicable in FS Report Revision 2

- EPA Specific Comments 1-27

Comments on WEC/NRT’s Introduction to May 20, 2016, RTC Letter

WEC disagrees with conducting the sand cover and reactive core mat monitoring requested by EPA. In the introduction to the RTC letter, they provide their line of reasoning and evidence. The following comments are associated with statements or evidence cited in the letter, or point out evidence not included by WEC in their discussion.

1. **Page 2. Paragraph 1. Sentence 4.** In three of the sample locations (A1B33, A1E4, and A1B36 (A1F3)), the subsurface sediment PAH concentrations are trending upward (increasing) over time.
2. **Page 2. Paragraph 1. Sentence 5.** There is an exception to this statement according to the July 2, 2015, Residual Sand Cover Monitoring Results Memorandum. Figure 4, Isopach Contours, Comparison of 2013 Post-Sand to 2015 Bathymetry. This figure shows that a foot of material (12 inches) has eroded from the area around sample location A1B33.
3. **Page 2. Paragraph 2. Sentence 1.** It is also stated in several places in the FS Report and Removal Action Report that not all DNAPL could be completely removed from the shoreline due to site constraints.
4. **Page 2. Paragraph 2. Sentence 3.** Where is a figure that shows the placement of the test pits?
5. **Page 2. Paragraph 2. Sentence 4.** A review of the photographs contained in Appendix T2 of the Focused NAPL and Sediment Removal Action Report, now added as an appendix to the FS Report,

reveals that many photographs show evidence of mobile NAPL, such as oil sheening on the water surface in the excavator bucket, or dark oily stringers (photographs 7, 62, 93, 100, 107, 113, etc.).

6. **Page 3. Paragraph 1. Sentence 1.** According to page 36 of the Focused NPAL and Sediment Removal Action Report, Section 3.2, Upland Excavation of NAPL, “due to site constraints, not all NAPL impacts were able to be removed. Samples were collected of soils able to be removed. Samples were collected of soils visually free of NAPL.” Therefore, since soil samples were only collected when no visible NAPL was observed, such samples are not representative of the whole shoreline.
7. **Page 4. Paragraph 2. Sentence 1.** Neither of these wells is ideally located to provide this line of evidence. One is east of the old slough, and one is west of the old slough.
8. **Page 5. Figure 1.** Regarding sampling on top of the RCM, the idea is to sample any newly deposited sediment that may have accumulated on top of the stone layer placed as the top layer of the RCM on the river bottom. Also, a review of bathymetry from immediately post-construction against the most recent bathymetric survey would indicate if there is newly deposited material that can be sampled.
9. **Page 5. Paragraph 2. Sentence 3a (...no evidence of DNAPL in the upland soil areas).** This statement is contradicted by several statements within the Focused NAPL and Sediment Removal Action Report.
10. **Page 5. Paragraph 2. Sentence 3b (... impracticability of collecting RCM samples...).** This argument is only true based on the type of dredge equipment used. Hydraulic dredging would be able to handle dredging uneven bedrock surface better than mechanical dredging.
11. **Page 5. Paragraph 2. Sentence 3c (... we believe sampling of the RCM is not required.).** Check post-construction bathymetry versus 2015 bathymetry to determine if new sediment has deposited on the RCM.

Comments on FS Report Revision 2

1. **Page 1, Introduction and Site Background.** Document revision history outlined in this section should be updated to include EPA comments on Revision 1 and subsequent production and submittal of Revision 2.
2. **Page 19, Section 1.2.9.3.** In addition to the sediment thickness and concentrations under the sand cover, a cross section detailing the sediment thickness and concentrations along with the sand cover thickness and new depositional material should be developed based on current data. This will further define PAH-impacted material that will remain in the river and assess long-term conditions of the remedy (mixing) in order to assess if the restrictions on dredging beneficial use impairment targets have been met.
3. **Page 23, Section 1.2.9.3.** Monitoring well MW -312 is located a significant distance away from the reactive core mat (RCM). If WPSC/NRT intends to utilize upland groundwater monitoring well data as a component of the RCM monitoring, the DNR recommends the installation of additional monitoring well(s) closer to the RCM. Soil sampling during well installation is recommended to further define the limits of residual soil contamination in the Boom Landing Zone – North Source Area.
4. **Page 49, Section 4.1.2.2.** Integrate the summary table of surface barrier construction areas and sizes (like Table M prepared for Alt 3).
5. **Page 52, Section 4.1.2.4.** Plume stability monitoring should take advantage of monitored natural attenuation (MNA) processes. Excluding MNA monitoring should be reconsidered for this alternative.

6. **Page 56, Section 4.1.3.3.** At this time, visual sheen monitoring alone is not an acceptable means of monitoring sediment conditions.
7. **Page 59, Section 4.1.4.2.** If biostimulants are more appropriate for use in Alternative 4, then it would make more sense to cost biostimulants in the estimate and supporting assumptions for alternative description/evaluation.
8. **TABLE 3:** Add sediment to the table.

If you have any questions regarding any of the comments re-submitted or newly submitted, please do not hesitate to contact me. If you would like to have an open discussion regarding sediment sampling and monitoring requirements for this Site, we can arrange a meeting.

Best regards,



Margaret T. Gielniewski, RPM
U.S. EPA Region 5
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Electronic CC:
WEC
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CH2M