



Wisconsin Public Service Corporation

700 North Adams Street
P.O. Box 19001
Green Bay, WI 54307-9001

www.wisconsinpublicservice.com

February 24, 2017

Ms. Margaret Gielniewski
USEPA Region 5 – SR6J
77 W. Jackson Boulevard
Chicago, Illinois 60604-3590

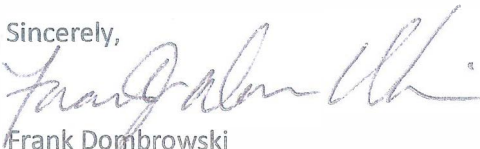
SUBJECT: Transmittal of Response to USEPA Comments on Feasibility Study Revision 2
Former Marinette MGP Site - Marinette, Wisconsin
Wisconsin Public Service Corporation (WPSC)
CERCLA Docket No. V-W-06-C-847
Site Spill ID – B5BT
CERCLIS ID – WIN000509952

Dear Ms. Gielniewski:

Attached please find the above referenced document. Hard copies of same will be distributed on behalf of WPSC by Natural resource Technology per the cc list below.

Please feel free to contact me at (414) 221-2156 or frank.dombrowski@we-energies.com if there are any questions or if further information may be needed.

Sincerely,


Frank Dombrowski
Principal Environmental Consultant
WEC Energy Group – Business Services
Environmental Dept.

Enclosures

Cc: Ms. Margaret Gielniewski, USEPA (US Mail and email)
Ms. Cheryl Bougie, WDNR (US Mail and email)
Ms. Kristin DuFresne, WDNR (US Mail and email)
Ms. Jennifer Knoepfle, CH2MHill (via email)
Mr. Brian Bartoszek, WBS
Ms. Jennifer Hagen, NRT
Mr. Marcus Byker, NRT



ENVIRONMENTAL CONSULTANTS

234 W. FLORIDA STREET, FIFTH FLOOR
MILWAUKEE, WISCONSIN 53204
(P) 414.837.3607
(F) 414.837.3608

Mr. Frank Dombrowski
WEC Business Services, LLC
Environmental Dept. - Land Quality Group
333 W. Everett St., A231
Milwaukee, WI 53203

February 24, 2017
(1549)

RE: Response to USEPA Comments
Feasibility Study (FS) Revision 2
Marinette Former MGP, Marinette, Wisconsin
Wisconsin Public Service Corporation (WPS)

CERCLA Docket No. V-W-06-C-847
Site Spill ID - B5BT
CERCLIS ID - WIN000509952

Dear Mr. Dombrowski:

Natural Resource Technology, Inc. (NRT) is providing this letter response to United States Environmental Protection Agency (USEPA) comments dated November 15, 2016 regarding the May 20, 2016 FS Revision 2 which includes trailing comments from the May 25, 2015 Alternatives Array Screening Technical Memorandum, July 10, 2015 FS Report Revision 0, and February 18, 2016 FS Report Revision 1 for the Wisconsin Public Service Corporation (WPSC) Former MGP Site, Marinette, Wisconsin.

PROPOSED REMEDIAL ALTERNATIVE FOR SEDIMENT

USEPA, Wisconsin Department of Natural Resources (WDNR), and WPSC representatives met on February 1, 2017 to review the comments provided to WPSC in the November 15, 2016 USEPA comment letter. The goal of this meeting was to reach consensus on how to address USEPA comments and thereby reduce the number of future revisions of the FS Report. During this meeting, it was agreed USEPA's primary concern with the previous versions of the FS Report was that it lacked performance monitoring of the Non-Time Critical Removal Action (NTCRA) for sediment. During the February 1, 2017 meeting, WPSC introduced the framework of a sediment remedial alternative that included performance monitoring. USEPA and WDNR provided feedback on the framework and it was agreed that additional details of the sediment remedial alternative would be developed for further review prior to drafting FS Revision 3. The sections below provide the additional detail.

RESIDUAL SAND COVER

Approximately 15,200 cubic yards of sediment were removed from the Menominee River as part of the NTCRA, which was completed in March 2013. Soft sediment was removed to the extent practicable by mechanical means and until visible non-aqueous phase liquid (NAPL) was removed. Due to an uneven bedrock surface, the mechanical dredge equipment was unable to completely remove a small portion of the dredge inventory on the bedrock surface after multiple attempts. Post-dredge confirmation samples indicated total (13) polycyclic aromatic hydrocarbon (PAH) concentrations exceeded the remedial action level (RAL) of less than 22.8 mg/kg total (13) PAH over approximately 12,250 square feet of the river compared with a total dredged area of approximately 60,600 square feet. Consequently, a residual sand cover with a minimum thickness of 10 inches was placed in areas where post-dredge confirmation samples showed residual total (13) PAHs concentrations greater than 22.8 mg/kg.

WPSC developed and USEPA approved a Sand Cover Monitoring Work Plan to assess the effectiveness of the residual sand cover. In accordance with the Work Plan, two years of semi-annual sediment monitoring and annual bathymetry measurements have been completed (2013-2014). Analytical results are summarized in the Residual Sand Cover Monitoring Results, submitted July 2, 2015, and indicate all of the 0-6 inch samples are below the remedial action level and with the exception of one sample (A1B35) are less than 1 mg/kg total (13) PAHs. Subsurface sand cover samples (greater than 6 inches below surface but within the residual sand cover) are also below the remedial action level with the exception of two sampling locations (A1B35 and A1B36/A1F3).

Now that the project is approaching the five-year review stage, additional sand cover monitoring will be performed to assess the ongoing effectiveness of the sand cover. The monitoring approach may be refined during the remedial design, but for purposes of the FS Revision 3, it will include the following:

Sediment Coring and Sampling – Consistent with the Sand Cover Monitoring Work Plan approach previously completed at the Site, sediment cores will be advanced at five locations on a semiannual basis for two years, resulting in 4 total events. Each core will be advanced 1.5-feet below top of sediment or to refusal, whichever is less. The core will be visually observed to evaluate the presence of new material that may have deposited on the residual sand cover. The thickness of new material, if observed, will be recorded on the field forms. The core will be logged, noting differences in material texture as a line of evidence to support newly deposited materials. The core will be subdivided into a 0 to 6-inch composite sample and a 6 to 18-inch composite sample. If sample refusal is encountered at less than 1.5 feet of penetration or recovery is less than 18 inches, the sample will be split as 0-6 inch and >6 inches. If sample refusal or recovery is less than 6 inches, the recovered sample will be analyzed as one interval. Samples will be submitted for analysis of total (13) PAHs. The 0 to 6-inch interval may also be analyzed for Beryllium 7 or comparable approach to provide additional line of evidence regarding if the source of the material is recent deposition or residual sand cover.

Sediment Coring and Sampling Metric – The goal of analyzing the 0 to 6-inch interval is to determine if an isolation layer remains present between MGP-affected sediment and the surface water column. A surface-weighted average concentration (SWAC) would be calculated for each round of sampling, using the five surficial sediment/sand sample results and half of the reporting limit if non-detect. The SWAC would be compared against the RAL of 22.8 mg/kg total (13) PAHs.

Bathymetric Survey – Consistent with the Sand Cover Monitoring Work Plan approach previously used at the Site, bathymetric survey will be conducted throughout the sand cover areas on an annual basis for two years, resulting in two total events.

Bathymetric Survey Metric – The goal of this sampling will be to determine if the top of sediment in the sand cover area is generally 10 inches higher than the post dredge top of sediment. Sand cover thickness would be compared against the target sand cover thickness of 10 inches to confirm that an adequate thickness of sediment cover is generally present throughout the area and the thickness of the sand cover is no less than 4 inches in any specific location.

Schedule – Sediment cover monitoring will be re-initiated in 2017. After which, the need for additional monitoring will be discussed with the USEPA and described in the remedial design. For cost purposes in the FS Report, it is assumed that the monitoring will coincide with the 5-year review for 25 years and will consist of two years of semi-annual sampling.

Contingency Action – If any portion of the sand cover thickness over the 12,250 square foot area is less than 4 inches, the average sand cover thickness is less than 10 inches, or if the SWAC of the 0 to 6-inch interval is greater than the RAL, WPSC and USEPA will review the combined lines of evidence and determine the need for additional monitoring or supplementing the cover with additional sand cover material.

REACTIVE CORE MAT (RCM)

As previously discussed with USEPA, it was not possible to remove all shoreline debris and sediment during the NTCRA due to a foundation for guy wire support of the broadcasting tower to the west of the Site. The reactive core mat (RCM) was voluntarily installed over an area of 19,500 sf (including side slopes) as a conservative contingency measure to protect surface water quality by reducing potential contaminant loading at the point of groundwater to surface water interface and to prevent any potential small stringers of NAPL that may be sorbed to upland soil and debris from migrating into the Menominee River. Prior to RCM placement, a series of test pits (UL1 – UL9) were advanced along the location where the RCM was installed to document the quality of the material that was unable to be removed due to constraints from the electrical tower guy wire. The test pits were logged (see Appendix S2 of the Removal Action Completion Report) and no visual NAPL was identified. Analytical results from grab samples from test pit sidewalls are presented in Table 8 of Removal Action Completion Report and none of the samples exceed default residential screening levels for PAHs.

To assess the ongoing effectiveness of the RCM to serve as a contingency measure to protect surface water quality, the following monitoring program will be included in FS Revision 3:

Surface Water Sheen Monitoring - As part of ongoing groundwater sampling events (i.e., semi-annual), field staff will conduct visual observations of surface water for the presence of sheen. Visual monitoring of surface water will be completed and presence or absence of sheen will be documented via photographs and logbooks. There is potential that sheen would be resulting from the adjacent marina, boat launch, and wastewater treatment plant outfall; therefore, if sheen is observed, an evaluation regarding the likely source of the sheen will be conducted.

Surface Water Sheen Monitoring Metric – Presence or absence of sheen on the surface water, which is not attributable to other activities on the river (i.e., boat refueling or boating activities), within the vicinity of the RCM, and potentially attributable to the MGP will be used as a line of evidence regarding the ongoing effectiveness of the RCM. This line of evidence, combined with results of additional monitoring will be used to assess the need to implement any potential contingency actions.

Groundwater Sampling – The two shoreline monitoring wells will be supplemented with a third monitoring well targeting the location of the former log run. These three wells will be monitored for presence of sheen or DNAPL and will be sampled for laboratory analysis of groundwater COCs.

Groundwater Sampling Metric – These wells will serve as sentinel wells and concentration of COCs in these wells will be compared against a site-specific point source effluent discharge limit, which will be developed in the FS Revision 3 based on NR105 & NR106 Wis. Admin. Code. In addition, these concentrations will be incorporated into a model of conceptual breakthrough of the RCM based on initial adsorption capacity and flux of contaminant mass discharging through the RCM. Contingency Action may be required if the RCM reaches conceptual breakthrough or if COCs in groundwater exceed the site-specific point source effluent discharge limit.

RCM Presence Evaluation – Coinciding with the sand cover monitoring event described above, the presence of the rip rap overlying the RCM will be determined through poling. For purposes of the FS Report, it is assumed five locations will be selected for poling. If ice is present, the RCM poling will be deferred to the next groundwater sampling event.

RCM Presence Metric – If the poling activity consistently identifies large rocks in the location of the RCM, it is reasonable to assume that the RCM that was placed under the large rocks remains in place. This line of evidence, combined with results of additional monitoring will be used to assess the need to implement any contingency actions.

Schedule – Surface water sheen monitoring and groundwater sampling will continue consistent with the site schedule for ongoing groundwater monitoring. RCM Presence Evaluation will be consistent with the schedule for sand cover monitoring.

Contingency Action – If sheen is observed (and is attributable to MGP residuals), groundwater monitoring wells adjacent to river exceed discharge criteria, or rocks overlying the RCM are not identified, surface water samples will be collected for direct comparison with water quality standards. Exceedances determined to be associated with MGP site related releases may necessitate follow up sampling, additional upland remedial action or groundwater treatment.

Response to USEPA's November 15, 2016 Comment Letter

For ease of review, USEPA comments are presented below in italics, followed by responses. The most recent comments are presented first, followed by earlier comments.

EPA November 15, 2016 Comment Letter Pg 1, Footnote 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.

Response: Additional monitoring is now included as part of Alternatives 3 and 4 of the FS Revision 3. Refer to WPSC proposed sediment monitoring approach detailed at the introduction to this Response to Comments Letter.

Please note, as discussed in our call on February 1, 2017, the Sheboygan AOC includes residual sand covers and successfully removed restrictions on dredging. <https://www.epa.gov/sheboygan-river-aoc/about-sheboygan-river-aoc#bui>.

EPA November 15, 2016 Comment Letter Pg 1, Footnote 2: 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.

Response: The likely mass and volume of the PAH-contaminated sediment inventory is included in FS Revision 3.

EPA November 15, 2016 Comment Letter Pg 2, Paragraph 1: 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.

Response: Additional monitoring will be included as part of Alternatives 3 and 4 of the FS Revision 3 to document the ongoing effectiveness of the previously completed remedy. Refer to WPSC proposed sediment monitoring approach detailed at the introduction to this Response to Comments Letter.

EPA November 15, 2016 Comment Letter Pg 2, Paragraph 2: 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.

Response: A new monitoring well is proposed in the former log run and adjacent to the RCM as part of Alternative 3 and 4 of the FS Revision 3. Refer to WPSC proposed sediment monitoring approach detailed at the introduction to this Response to Comments Letter.

EPA November 15, 2016 Comment Letter Pg 2, Footnote 1: 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.

Response: Refer to WPSC proposed sediment monitoring approach detailed at the introduction to this Response to Comments Letter. As discussed in the February 1 meeting, sampling material deposited on the RCM does not indicate the effectiveness of the RCM, particularly with the POTW discharges and other sources of non-MGP related depositional material in the area.

EPA November 15, 2016 Comment Letter Pg 2, Footnote 1: 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.

Response: An updated baseline risk assessment will be included as an appendix to FS Revision 3, documenting the current Site sediment risks to the benthic and ecological community, based on post NTCRA data.

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

Original EPA Specific Comment 19, 27 (NRT Comment 3, 4): 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.

Response: Refer to WPSC proposed sediment monitoring approach detailed at the introduction to this Response to Comments Letter.

FS Report Revision 0 Comments EPA Comments Not Addressed Satisfactorily, Containing Incomplete Responses, or Needing Further Clarification by WEC/NRT

Original EPA Specific Comment 3 (NRT Comment 6): 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.

Original WPSC 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.

Response: Surface water quality standards are included as ARARs in the FS Revision 3 and are part of the WPSC proposed sediment monitoring approach detailed at the introduction to this Response to Comments Letter.

Original EPA Specific Comment 46, 49, 51, 52 (NRT Comment 10-13): 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.

Response: Refer to WPSC proposed sediment monitoring approach detailed at the introduction to this Response to Comments Letter which addresses the sediment related comments previously provided by USEPA.

Original EPA Specific Comment 54 (NRT Comment 15): 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).

Original WPSC 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.

Response: Awaiting response from USEPA. The table format for Marinette FS Revision 2, submitted May 20, 2016 was consistent with USEPA's July 29, 2016 requested format for Manitowoc FS Revision 1 which was submitted September 13, 2016.

FS Report Revision 1 Comments Not Addressed Satisfactorily, Containing Incomplete Responses, or Needing Further Clarification by WEC/NRT

Original 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.

Original WPSC Response: See response to EPA Specific Comment 54 on FS Revision 0.

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

Response: See Response Original EPA Specific Comment 54 (NRT Comment 15) on FS Revision 0 (above).

COMMENTS ON WEC/NRT'S INTRODUCTION TO MAY 20, 2016, RTC LETTER

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.*

Response: The concentrations at the noted locations will be further evaluated and the proposed sediment monitoring approach is detailed at the introduction to this Response to Comments Letter.

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.*

Response: The majority of the sand cover area continues to have 10-inches or more of sand which is the targeted thickness. The sand thickness will be further evaluated and the proposed sediment monitoring approach is detailed at the introduction to this Response to Comments Letter.

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.*

Response: The RCM was voluntarily installed by WBS over an area of 19,500 sf (including side slopes) as an added, conservative contingency measure to protect surface water quality by reducing potential contaminant loading at the point of groundwater to surface water interface and to prevent any potential small stringers of NAPL that may be sorbed to upland soil and debris from migrating into the Menominee River. The shoreline was excavated to the extent practical. Test pits were excavated along the shoreline prior to RCM placement, a series of test pits (UL1 – UL9) were advanced along the location where the RCM was installed to document the quality of the material that was unable to be removed due to constraints from the electrical tower guy wire. The test pits were logged (see Appendix S2 of the Removal Action Completion Report) and no visual NAPL was identified. If NAPL is present in this area, it is very limited in extent and its potential for impacting surface water is fully mitigated by the RCM and ongoing monitoring protocol.

4. **Page 2. Paragraph 2. Sentence 3:** *Where is a figure that shows the placement of the test pits?*

Response: Test Pit Locations are included on Figure 6 – Previous Remedial Actions – Sediment.

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.).*

Response: Oil sheens within containment and observations of dark oily stringers on excavated material are common during remediation of MGP-affected sediment. See the proposed sediment monitoring approach detailed at the introduction to this Response to Comments Letter.

6. **Page 3. Paragraph 1. Sentence 1:** *According to page 36 of the Focused NAPL 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.*

Response: The RCM was installed over an area of 19,500 sf (including side slopes) as a conservative contingency measure to protect surface water quality by reducing potential contaminant loading at the point of groundwater to surface water interface and to prevent any potential small stringers of NAPL that may be sorbed to upland soil and debris from migrating into the Menominee River. The shoreline was excavated to the extent practical. Test pits were excavated along the shoreline prior to RCM placement, a series of test pits (UL1 – UL9) were advanced along the location where the RCM was installed to document the quality of the material that was unable to be removed due to constraints from the electrical tower guy wire. The test pits were logged (see Appendix S2 of the Removal Action Completion Report) and no visual NAPL was identified. If NAPL is present in this area, it is very limited in extent and its potential for impacting surface water is fully mitigated by the RCM and ongoing monitoring protocol.

Concerns for potentially remaining NAPL will be addressed through the proposed sediment monitoring approach detailed at the introduction to this Response to Comments Letter.

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.*

Response: An additional monitoring well, proposed to be located in the former slough/log run, is included in the proposed sediment monitoring approach detailed at the introduction to this Response to Comments Letter.

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.*

Response: There is a very obvious potential for material that has deposited within or on top of the stone layer to be impacted with PAHs not related to the MGP prior to deposition. See the proposed sediment monitoring approach detailed at the introduction to this Response to Comments Letter.

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.*

Response: Please see the Response to "COMMENTS ON WEC/NRT'S INTRODUCTION TO MAY 20, 2016, RTC LETTER" Comment 6 above.

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.*

Response: The soft sediment was removed to the extent practicable with the equipment used in the NTCRA. See the proposed sediment monitoring approach detailed at the introduction to this Response to Comments Letter regarding concerns for potential remaining DNAPL.

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.*

Response: The post-construction bathymetry versus 2015 bathymetry was included as Figure 5 in the Residual Sand Cover Monitoring Results, dated July 2, 2015. See the proposed sediment monitoring approach detailed at the introduction to this Response to Comments Letter.

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.*

Response: Section has been updated to include additional background information regarding submittal of FS Revision 2 and 3.

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.*

Response: The requested cross section is included in FS Revision 3.



3. **Page 2.3, 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.*

Response: An additional monitoring well, proposed to be located in the former slough/log run, is included in the proposed sediment monitoring approach detailed at the introduction to this Response to Comments Letter.

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).*

Response: A summary table of the surface barrier construction area for Boom Landing Zone is include in Section 4.1.2.2.

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.*

Response: Monitoring of MNA parameters will be included as part of Alternative 2; However, the goal of alternative 2 will remain to document that the plume is stable and not migrating toward the Marinette River.

6. **Page 56, Section 4.1.3.3:** *At this time, visual sheen monitoring alone is not an acceptable means of monitoring sediment conditions.*

Response: See the proposed sediment monitoring approach detailed at the introduction to this Response to Comments Letter.

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.*

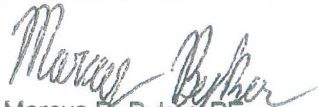
Response: Section 4.1.4.2 has been updated to clarify selection of chemical oxidants for the purposes of FS-level analysis.

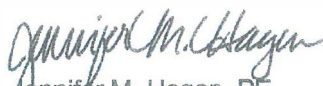
8. **Table 3:** *Add sediment to the table.*

Response: Sediment has been added to Table 3, as requested. See the proposed sediment monitoring approach detailed at the introduction to this Response to Comments Letter.

Sincerely,

NATURAL RESOURCE TECHNOLOGY, INC.


Marcus D. Byker, PE
Project Engineer


Jennifer M. Hagen, PE
Principal Engineer



Mr. Frank Dombrowski
February 24, 2017
Page 11



For distribution to:

Ms. Margaret Gielniewski (1 hardcopy and electronic copy)
Mr. Naren Prasad, WBS (electronic copy)
Ms. Kristin DuFresne, WDNR (1 hardcopy and electronic)
Ms. Cheryl Bougie, WDNR (1 hardcopy and electronic)
Ms. Jennifer Knoepfle, CH2M (electronic copy)

[File:\1549 Response to USEPA Comments on FS Rev 2 170224]