

ASHLAND/NSP LAKEFRONT SITE – Wet Dredge Pilot Study
CERCLA Docket No. V-W-14-C-006
USEPA ID# WISFN0507952

SEPTEMBER 2016 MONTHLY PROGRESS REPORT (No. 6)

Pursuant to Paragraph 53 of the Amended and Restated Administrative Settlement Agreement and Order on Consent for Wet Dredge Pilot Study of Chequamegon Bay at the Ashland/Northern States Power Lakefront Superfund Site (AOC), effective March 18, 2016, Northern States Power Company (NSPW), a Wisconsin Corporation, submits the following Monthly Progress Report for Wet Dredge Pilot Study Construction.

A. Activity for this Reporting Period

The following is a summary of the actions that were taken toward compliance with the AOC during this reporting period:

- Marine-based mechanical re-dredge of DMU-E1 commenced on September 8, 2016 and was completed on September 19, 2016.
- Hydro-jetting of the shoreline bulkhead wall bounding DMU-E2 was performed September 10, 12, and 13, 2016.
- Interim post-dredge sediment samples were collected from DMU-E2 on September 14, 2016.
- Marine-based mechanical re-dredge of DMU-E2 commenced on September 19, 2016 and was completed on September 23, 2016.
- Performed quality assurance (QA) hydrographic survey of the Extended Pilot Study Dredge Area to confirm mechanical dredging to target elevation on September 23, 2016.
- Marine-based hydraulic dredging in the Extended Pilot Area commenced on September 23, 2016 and was completed on September 29, 2016.
- Performed QA hydrographic survey of the Extended Pilot Study Dredge Area to confirm hydraulic dredging to target elevation on September 29, 2016.
- Performed water quality containment areas intra-system in-situ measurements and sampling.
- Performed water quality monitoring in-situ measurement and sampling.
- Performed real-time water quality monitoring in-situ measurements.
- Performed sheen visibility checks beyond the tertiary curtain with documentation every 4 hours.
- Performed manual noise monitoring.
- Performed manual hand-held air monitoring.
- Performed real-time air monitoring.
- Performed sediment offloading, dewatering, stabilization, and hauling activities.
- Continued water treatment activities.

B. Analytical Data Received

Laboratory and field data were generated related to the following:

- Performance water quality monitoring
- Containment areas intra-system water quality monitoring
- Interim post-dredge sediment sampling
- Air monitoring
- Noise monitoring

As discussed with USEPA, data is available to USEPA and other regulatory agencies on the Wet Dredge Pilot Study project SharePoint website.

C. Challenges Encountered and Corrective Actions Taken

- The September 7, 2016 Performance Monitoring chain of custody samples identified benzo(a)pyrene in PM-4 (surface) and PM-5 (surface) compliance water quality monitoring locations at 0.022 parts per billion (ppb) and 0.65 ppb, respectively; and benzo(b)fluoranthene in PM-4 (surface) and PM-5 (surface and 2/3s) compliance water quality monitoring locations at 0.048 ppb, 0.88 ppb, and 0.038 ppb, respectively. The analytical results for this event were posted to the project SharePoint on September 12, 2016. *Monitoring Plan* protocols were followed. All subsequent results for the month of September were below water quality standards for all parameters at the compliance locations.
- The table below provides a summary of the surface water turbidity Alert Level response notifications that were received during the month of September while performing sediment removal operations in the Extended Pilot Area.

Water Quality Monitoring Turbidity Alert Level Summary

Date	Response Level Type	Monitoring Event	Location	Delta above Background (NTU)	Time of Incident
9/11/16	Alert	NA	B-4	18.89	00:00 – 01:00
9/13/16	Alert	NA	B-1	21.48	21:00 – 22:00
9/13/16	Alert	NA	B-1	24.67	22:00 – 23:00
9/14/16	Alert	NA	B-1	24.77	23:00 – 00:00
9/14/16	Alert	NA	B-1	23.32	00:00 – 01:00
9/14/16	Alert	NA	B-1	20.65	01:00 – 02:00
9/14/16	Alert	NA	B-1	17.45	02:00 – 03:00
9/14/16	Alert	NA	B-2	18.74	03:00 – 04:00
9/14/16	Alert	NA	B-2	21.94	04:00 – 05:00
9/14/16	Alert	NA	B-2	22.73	05:00 – 06:00
9/14/16	Alert	NA	B-2	20.18	06:00 – 07:00
9/17/16	Alert	NA	B-3	18.15	23:00 – 00:00
9/17/16	Alert	NA	B-3	17.11	02:00 – 03:00
9/17/16	Alert	NA	B-3	21.04	03:00 – 04:00
9/17/16	Alert	NA	B-3	23.79	04:00 – 05:00
9/19/16	Alert	NA	B-2	20.71	16:00 – 17:00
9/19/16	Alert	NA	B-3	26.29	19:00 – 20:00
9/19/16	Alert	NA	B-4	25.47	21:00 – 22:00
9/19/16	Alert	NA	B-4	21.90	22:00 – 23:00
9/22/16	Alert	NA	B-3	21.25	04:00 – 05:00
9/22/16	Alert	NA	B-3	22.56	19:00 – 20:00
9/23/16	Alert	NA	B-3	19.74	00:00 – 01:00
9/23/16	Alert	NA	B-3	19.52	02:00 – 03:00

- To address the elevated turbidity readings associated with on-the-water operations, the following best management practices (BMPs) were implemented:
 - On September 12, 2016, the marine contractor commenced daily drone flights to inspect curtain and site conditions.
 - On September 14, 2016, additional posts were installed to support the tertiary curtain. These posts were driven to minimize curtain movement.
 - On September 16, 2016, inspection of the gap barrier systems was performed by the marine contractor from the water surface. Marine contractor found a tear in the seam of the east gap curtain where the 50-foot lengths tie together. Marine contractor replaced the entire curtain in the east gap. Additionally, marine contractor divers performed a below the water inspection of the tertiary curtain. Marine contractor divers found one location (where the curtain makes the bend to the east) where the bedload baffle shackle had come loose from the bottom anchor. Divers reattached the bottom portion of the bedload baffle curtain to the anchor line.
 - From September 17-21, 2016, pumping surface water from within the primary curtain area into the on-site modutank in an effort to mitigate elevated turbidity levels was performed. Pump rate was approximately 150 gallons per minute (gpm).
 - On September 17, 2016, a serrated cutting edge was installed on the JD 380 dredge bucket to improve ability to cut through hard clay material. The serrated edge increases cutting efficiency which potentially reduces attempts, which would then result in reduced turbidity generated.
 - On September 20, 2016, an additional full-length (10 foot) impermeable curtain was deployed inside the primary area to address elevated turbidity related to marine-based mechanical dredging operations. The curtain was secured to the posts associated with the oil-boom curtain.

D. Upcoming Activities

The following data collection or other activities are anticipated to be conducted over the next 6 weeks:

- Continue water quality containment areas intra-system in-situ measurements and sampling.
- Continue performance water quality monitoring in-situ measurement and sampling.
- Continue real-time water quality monitoring in-situ measurements.
- Continue sheen visibility checks beyond the tertiary curtain with documentation every 4 hours.
- Continue manual noise monitoring.
- Continue manual hand-held air monitoring.
- Continue real-time air monitoring.
- Perform post-dredge confirmation sediment sampling in the Extended Pilot Area (scheduled for October 4, 2016).
- Commence and complete restorative layer placement in the Extended Pilot Area.
- Continue sediment off-loading, dewatering, stabilization and hauling activities.
- Continue water treatment activities.
- Decontaminate and demobilize marine-based equipment.
- Remove barrier system components pending favorable water quality conditions.
- Commence 2016 upland site infrastructure modifications.

E. Modifications Proposed or Approved

- Submitted a summary plan to Agencies on September 2, 2016, outlining proposed fall 2016 upland infrastructure improvements being contemplated by NSPW to support 2017 full-scale dredge work. Received approval from the Agencies to submit a build-out work design package on September 22, 2016.
- Submitted a detailed *2016 Upland Site Infrastructure Modifications Plan Technical Memorandum #16-6* to the Agencies for approval on September 23, 2016. Received comments on the plan from the Agencies (dated September 26, 2016) on September 30, 2016.
- Submitted *Water Quality Contingencies Column Settling Testing Results and Recommendations Technical Memorandum #16-5* to the Agencies for approval on September 27, 2016.
- Submitted the *60% Design for Phase 2 Wet Dredge* to the Agencies for review on September 30, 2016.

F. Community Involvement

The following activities associated with the Public Communication and Involvement Plan, led by the Wisconsin Department of Natural Resources (WDNR), were conducted during this reporting period.

- No were no CAG or public meetings in September.
- There are no planned CAG or public meetings scheduled for October.