

April 11, 2013

Enbridge Energy, Limited Partnership c/o Mr. Rich Adams Vice President, Operations Superior City Centre Second Floor 1409 Hammond Ave, Superior, Wisconsin 54880

Re: Disapproval of April 4, 2013 Submittal in response to the March 14, 2013 Order (Docket No. CWA 1321-5-13-001) for Recovery of Submerged Oil from the Enbridge Line 6B Discharge near Marshall, MI

Dear Mr. Adams:

The United States Environmental Protection Agency (U.S. EPA) has reviewed the following document submitted by Enbridge Energy, Limited Partnership and its affiliates (Enbridge) on April 4, 2013:

Enbridge Line 6B MP 608, Marshall, MI Pipeline Release, 2013 Consolidated Work Plan, Prepared for United States Environmental Protection Agency, Enbridge Energy, Limited Partnership, Submitted April 4, 2013

The 2013 Consolidated Work Plan (Work Plan) was submitted to U.S. EPA in response to requirements in Paragraph 48 of the Administrative Order (Order) issued to Enbridge on March 14, 2013.

U.S. EPA disapproves Enbridge's above-referenced Work Plan submitted on April 4, 2013.

U.S. EPA has evaluated Enbridge's Work Plan submittal and determined that it cannot be approved due to a substantial lack of detail, particularly with regards to the specific submerged oil removal strategy. The Work Plan, as submitted, is not sufficient to describe the removal action and/or to allow the U.S. EPA to properly evaluate Enbridge's removal and assessment plan. As a result, the Work Plan is rejected in whole. However, U.S. EPA has written an outline for a Work Plan which Enbridge should use as a minimum guide as it prepares a revised Work Plan. U.S. EPA has retained portions of the Enbridge Work Plan in this outline and has included elements from the Supplement to the 2011 Summer Strategic Work Plan for the Performance of Dredging Submerged Oil Impacted Sediments (Enbridge, July 30, 2011).

Enbridge shall prepare a revised Work Plan that includes detailed descriptions of all work elements described in Paragraph 48 of the Order for the planned oil removal and assessment activities. This revised Work Plan shall incorporate the attached outline along with the

corresponding detailed narrative descriptions. In addition, U.S. EPA has identified some of the critical considerations required in the various sections of the Work Plan. However, the partial list of critical considerations identified in the attached outline shall not be considered as all-inclusive and Enbridge shall include a full and complete set of details in the revised Work Plan.

Enbridge shall submit the revised Work Plan to the U.S. EPA by 5:00 pm (Eastern) on Tuesday, April 16, 2013. Further, Enbridge shall present the revised Work Plan to U.S. EPA at our offices at 10:00 am (Eastern) on Wednesday, April 17, 2013. If Enbridge requires any clarification before submittal, U.S. EPA and its representatives are available to meet or to confer by telephone. Further meetings may be necessary after submission, daily if needed, to revise the Work Plan until U.S. EPA approves it or approves it with modifications.

If you have any questions regarding this letter, please contact me immediately at (231) 301-0559.

Sincerely,

Ralph H. Dollhopf

Federal On-Scene Coordinator

U.S. EPA, Region 5

Attachment (Work Plan outline)

CC: Karen Peaceman, U.S. EPA, ORC Charles Mikalian, U.S. EPA, ORC Sheila McAnaney, U.S. EPA, ORC Jeff Kimble, U.S. EPA, Region 5 Michelle DeLong, MDEQ Mark Ducharme, MDEQ Records Center, U.S.EPA, Region 5

Red Text indicates U.S. EPA's minimum expectations for the content of the selected subsection.

2011 SSSWP is defined as the Supplement to the 2011 Summer Strategic Work Plan for the Performance of Dredging Submerged Oil Impacted Sediments (Enbridge, July 30, 2011)

#### 1.0 INTRODUCTION

- 1.1 Background
- 1.2 Regulatory Framework
- 1.3 Purpose and Objectives
- Dredging, submerged oil reassessment; collection of scientific data; collection of surface water measurements; continued oil sheen/globule management; installation, monitoring and maintenance of containment devices; air monitoring/sampling; water, sediment and/or soil sampling; disposal of wastes
- 1.4 Health and Safety Requirements
- 1.5 Organizational Structure
- 1.6 Other Work Plan Activities
- Summary of other work activities required by Paragraphs 44, 46, and 47 of the Order and the Work Plans under which this work will be conducted

#### 2.0 PRE-DREDGE ACTIVITIES

- 2.1 Siting and Access
- Identify area boundaries for each of the dredge areas
- River access and dredge materials location access
- Accelerated access so that dredge operations, including permitting, are not delayed
  - 2.1.1 Ceresco Dam
  - Describe dredging method selected including dredge footprint and cut depths, dewatering pad and water treatment pad laydown areas. Additional detail to be provided in the Dredge Operations Section 3.0 below. (Refer back to Section 1.1.1 of the 2011 SSSWP previously developed)
  - 2.1.2 Mill Ponds Dam
  - Describe dredging method selected including dredge footprint and cut depths, dewatering pad and water treatment pad laydown areas. Additional detail to be provided in the Dredge Operations Section 3.0 below. (Refer back to Section 1.1.2 of the 2011 SSSWP previously developed)
  - 2.1.3 Morrow Lake Delta
  - Describe dredging method selected including dredge footprint and cut depths, dewatering pad and water treatment pad laydown areas. Additional detail to be provided in the Dredge Operations Section 3.0 below. (Refer back to Section 1.1.3 of the 2011 SSSWP previously developed)
  - 2.1.4 Sediment Traps
  - Describe dredging method selected including dredge footprint and cut depths, dewatering pad and water treatment pad laydown areas. Additional detail to be provided in the Dredge Operations Section 3.0 below
  - 2.1.5 Management of Public River Access During Dredging Activities
    2.1.5.1 Procedures for Ensuring Safety of Public During Dredging Activities
    - Consider use of escort boats to transport public users to safe egress locations

- 2.1.5.2 Use of Buov Permit to Manage Public River Access
- Consider methods for minimizing river closure utilizing buoys around work areas
- 2.1.5.3 Establishment of Additional Public Ingress/Egress Locations to Minimize River Closure During Dredging
- 2.2 Hydraulic Dredging Means and Methods refer to 2011 SSSWP
  - 2.2.1 Dewatering Pad Construction
  - 2.2.2 Dewatering of Sediment and Conditioning
  - 2.2.3 Sediment Bag Operations and Solidification
  - 2.2.4 Water Treatment and Discharge
- 2.3 Mechanical Dredging Means and Methods refer to 2011 SSSWP
  - 2.3.1 Temporary Onsite Staging Locations
  - 2.3.2 Sediment Solidification
- 2.4 Bench Scale Tests refer to 2011 SSSWP
- 2.5 Environmental Protection and Regulatory Compliance
  - 2.5.1 MDEQ Water Resources Division Dredge Permit Preparations
  - Permit applications prepared and submitted for each dredge area separately
  - Permit applications prepared and submitted immediately to cover entire proposed dredge areas and refined if necessary based on updated poling data
  - For sediment trap dredge areas, include the entire boundary of moderate and heavy sub oil impacted areas and not just the GIS trap boundary
  - 2.5.2 Michigan NPDES Permit
  - Refer to 2011 SSSWP and/or 2010 Ceresco Dredge Work Plan
  - 2.5.3 Release/Spill Reporting
- 2.6 Standard Operating Procedures

Site-specific SOPs developed for:

- Pipeline leak testing and systems start up
- Fueling the dredge and other marine equipment
- Unloading/storing, deploying and operating Geotubes®
- WTP unit operations, including filter backwashing
- WTP sampling and analytical testing
- Short-term and extended systems shut down
- Spill response
- Equipment decontamination and demobilization
- Other applicable SOPs as needed.
- 2.7 Quality Assurance/Quality Control
- Dredging field team leaders, roles and responsibilities, including agency involvement
- Field data collection and documentation
- Poling procedures during dredging
- Completeness checks of oil recovery efforts and documentation
- 2.8 Preventative Maintenance
- Maintenance schedule for equipment
- Equipment inspection
- Inspection checklist
- 2.9 Evaluation of Legacy Contamination
- Review of previous collected analytical data
- Review collection points of previous data to ensure proper coverage
- Data gaps beneath dredge areas

- Need for additional data including potential analysis of existing core samples
- Provide conclusions of legacy contamination evaluation

#### 2.10 Residuals Cover

- Potential for post dredging residuals cover should evaluation of legacy contamination indicate the need
- Residuals cover should closely match substrate removed
- Methods used to match residuals cover to substrate
- Sourcing of residuals to be utilized
- Residuals placement methods and quantities
- 2.11 Pre-Dredge Surveys

## 3.0 DREDGING OPERATIONS

- 3.1 Ceresco Dam Dredging
  - 3.1.1 Mobilization and Site Preparation
  - Mobilization of equipment and key personnel, including consulting services and other Enbridge contractors. See 2011 SSSWP for details
  - 3.1.2 Sequence of Work
  - Dredge activity sequencing including survey control, establishment of dredge reaches for daily dredge calculation areas and volume removal, buoy placement, lateral and terminal sediment containment curtains, installation of downstream submerged oil curtain placement and removal, conveyance piping deployment and modification, dredge repositioning in new reaches, post dredge poling assessment, dredge lanes, etc.
  - 3.1.3 Dredging

## 3.1.3.1 Dredging Method

Describe in detail the method of dredging selected similar to 2011 SSSWP

## 3.1.3.2 Dredge Template (Area, depth, volume)

- Use moderate and heavy poling delineations from the 2012 Sediment Trap poling or 2012 Late Summer Reassessment as basis for dredge template area at Ceresco
- Provide dredge template acres based on the 2012 poling data.
- Refinements to the dredge template area are possible based on the Spring 2013 Poling Reassessment results
- Proposed dredge depths subject to approval by U.S. EPA, with ultimate determination based on post-dredge poling results indicating no moderate or heavy detections
- Numerical value for the expected dredge volume based on the above indicated depth
- Enbridge may elect to enhance the sediment trapping capability of portions of the Ceresco impoundment by removing more sediment in selected locations than is required for oil removal; if so, the locations should be described in the text and identified on the submitted final maps

### 3.1.3.3 Containment

- Locations, depths and dredge lanes
- Sediment containment including booms, curtains, and skirts
- Sequencing of curtain configuration as dredge lanes and reaches are completed

- Local containment configuration and submerged oil downstream containment implementation
- 3.1.3.4 Water Quality Monitoring refer to 2011 SSSWP, Section 3.1.2 3.1.3.5 Conveyance
- Dredge sediment conveyance methods, pipe size, expected, deployment locations, leak testing, booster pumps stations, and expected flows
- 3.1.4 Chemical Conditioning refer to 2011 SSSWP, Section 3.2
- 3.1.5 Dewatering of Sediment refer to 2011 SSSWP, Section 3.3
  - 3.1.5.1 Geotube® Operations (or alternative method) refer to 2011 SSSWP, Section 3.3.1
  - 3.1.5.2 Containment and Collection of Weep Water refer to 2011 SSSWP, Section 3.3.2
  - 3.1.5.3 Water Treatment and Discharge refer to 2011 SSSWP, Section 3.3.3

## 3.2 Mill Ponds Dredging

- 3.2.1 Mobilization and Site Preparation
- Mobilization of equipment and key personnel, including consulting services and other Enbridge contractors. See 2011 SSSWP for details
- 3.2.2 Sequence of Work
- Dredge activity sequencing including survey control, establishment of dredge reaches for daily dredge calculation areas and volume removal, buoy placement, lateral and terminal sediment containment curtains, installation of downstream submerged oil curtain placement and removal, conveyance piping deployment and modification, dredge repositioning in new reaches, post dredge poling assessment, dredge lanes, etc.

#### 3.2.3 Dredging

## 3.2.3.1 Dredging Method

Describe in detail the method of dredging selected similar to 2011 SSSWP

- 3.2.3.2 Dredge Template (Area, depth, volume)
- Use moderate and heavy poling delineations from the 2012 Sediment Trap poling or 2012 Late Summer Reassessment as basis for dredge template area at Mill Ponds
- Provide dredge template acres based on the 2012 poling data
- Refinements to the dredge template area are possible based on the Spring 2013 Poling Reassessment results
- Proposed dredge depths subject to approval by U.S. EPA, with ultimate determination based on post-dredge poling results indicating no moderate or heavy detections
- Numerical value for the expected dredge volume based on the above indicated depth
- Enbridge may elect to enhance the sediment trapping capability of portions of the Mill Ponds impoundment by removing more sediment in selected locations than is required for oil removal; if so, the locations should be described in the text and identified on the submitted final maps

### 3.2.3.3 Containment

- Locations, depths and dredge lanes
- Sediment containment including booms, curtains, and skirts

- Sequencing of curtain configuration as dredge lanes and reaches are completed
- Local containment configuration and submerged oil downstream containment implementation
- 3.2.3.4 Water Quality Monitoring refer to 2011 SSSWP, Section 3.1.2 3.2.3.5 Conveyance
- Dredge sediment conveyance methods, pipe size, expected, deployment locations, leak testing, booster pumps stations, and expected flows
- 3.2.4 Chemical Conditioning refer to 2011 SSSWP, Section 3.2
- 3.2.5 Dewatering of Sediment refer to 2011 SSSWP, Section 3.3
  - 3.2.5.1 Geotube® Operations (or alternative method)

See the 2011 SSSWP, Section 3.3.1

3.2.5.2 Containment and Collection of Weep Water – refer to 2011 SSSWP, Section 3.3.2

3.2.5.3 Water Treatment and Discharge – refer to 2011 SSSWP, Section 3.3.3

### 3.3 Morrow Lake Delta/Morrow Lake Dredging

- 3.3.1 Mobilization and Site Preparation
- Mobilization of equipment and key personnel, including consulting services and other Enbridge contractors. See 2011 SSSWP for details
- 3.3.2 Sequence of Work
- Dredge activity sequencing including survey control, establishment of dredge reaches for daily dredge calculation areas and volume removal, buoy placement, lateral and terminal sediment containment curtains, installation of downstream submerged oil curtain placement and removal, conveyance piping deployment and modification, dredge repositioning in new reaches, post dredge poling assessment, dredge lanes, etc.

### 3.3.3 Dredging

#### 3.3.3.1 Dredging Method

Describe in detail the method of dredging selected similar to 2011 SSSWP

- 3.3.3.2 Dredge Template (Area, depth, volume)
- Use moderate and heavy poling delineations from the 2012 Sediment Trap poling or 2012 Spring Reassessment as basis for dredge template area at Morrow Lake Delta
- Provide dredge template acres based on the 2012 poling data
- Refinements to the dredge template area are possible based on the Spring 2013 Poling Reassessment results
- Proposed dredge depths subject to approval by U.S. EPA, with ultimate determination based on post-dredge poling results indicating no moderate or heavy detections
- Numerical value for the expected dredge volume based on the above indicated depth
- Enbridge may elect to enhance the sediment trapping capability of portions of the Morrow Lake Delta impoundment by removing more sediment in selected locations than is required for oil removal; if so, the locations should be described in the text and identified on the submitted final maps

#### 3.3.3.3 Containment

- Locations, depths and dredge lanes
- Sediment containment including booms, curtains, and skirts
- Sequencing of curtain configuration as dredge lanes and reaches are completed
- Local containment configuration and submerged oil downstream containment implementation
- 3.3.3.4 Water Quality Monitoring refer to 2011 SSSWP, Section 3.1.2 3.3.3.5 Conveyance
- Dredge sediment conveyance methods, pipe size, expected, deployment locations, leak testing, booster pumps stations, and expected flows
- 3.3.4 Chemical Conditioning refer to 2011 SSSWP, Section 3.2
- 3.3.5 Dewatering of Sediment
  - 3.3.5.1 Geotube® Operations (or alternative method) refer to 2011 SSSWP, Section 3.3
  - 3.3.5.2 Containment and Collection of Weep Water refer to 2011 SSSWP, Section 3.3.2
  - 3.3.5.3 Water Treatment and Discharge refer to 2011 SSSWP, Section 3.3.3
- 3.4 Sediment Trap Dredging (MP 10.40 N, MP 21.5)
  - 3.4.1 Mobilization and Site Preparation
  - Mobilization of equipment and key personnel, including consulting services and other Enbridge contractors. See 2011 SSSWP for details
  - 3.4.2 Sequence of Work
  - Dredge activity sequencing including survey control, establishment of dredge reaches for daily dredge calculation areas and volume removal, buoy placement, lateral and terminal sediment containment curtains, installation of downstream submerged oil curtain placement and removal, conveyance piping deployment and modification, dredge repositioning in new reaches, post dredge poling assessment, dredge lanes, etc.
  - 3.4.3 Dredging
    - 3.4.3.1 Dredging Method

Describe in detail the method of dredging selected

- 3.4.3.2 Dredge Template (Area, depth, volume)
- Moderate and heavy poling locations from the Fall 2012 Sediment Trap Monitoring Poling data as the basis for the Dredge Template area at individual sediment trap locations
- Numerical values for the dredge template areas in acres, based on the 2012 poling data
- Proposed dredge depths subject to approval by U.S. EPA, with ultimate determination based on post-dredge poling results indicating no moderate or heavy detections
- Minimum initial cut depth of 1.0 feet at each sediment trap
- Numerical value for the expected dredge volume at each trap based on the above indicated data
- Enbridge may elect to enhance the sediment trapping capability of individual sediment traps by removing more sediment in selected locations than is required for oil removal; if so, the locations should be described in the text and identified on the submitted final maps

#### 3.4.3.3 Containment

- Locations, depths and dredge lanes
- · Sediment containment including booms, curtains, and skirts
- Sequencing of curtain configuration as dredge lanes and reaches are completed
- Local containment configuration and submerged oil downstream containment implementation
- 3.4.3.4 Water Quality Monitoring refer to 2011 SSSWP, Section 3.1.2
- 3.4.3.5 Conveyance
- Dredge sediment conveyance methods, pipe size, expected, deployment locations, leak testing, booster pumps stations, and expected flows
- 3.4.4 Chemical Conditioning refer to 2011 SSSWP, Section 3.2
- 3.4.5 Dewatering of Sediment
  - 3.4.5.1 Geotube® Operations (or alternative method)
  - 3.4.5.2 Containment and Collection of Weep Water
  - 3.4.5.3 Water Treatment and Discharge

#### 4.0 POST-DREDGE ACTIVITIES

- 4.1 Post Dredge Poling Reassessments
- Present methods and state that if conditions allow, activity will be completed in 2013
- 4.2 Post Dredge Surveys
- 4.3 Demobilization and Decontamination
- Equipment decon and demobe process
- Personnel decon and demobe process
- Decon water management
- 4.4 Waste Management
- All waste generated during the dredging and dewatering activities will be handled in accordance to the U.S. EPA approved Waste Treatment, Transportation, and Disposal Plan (WTTD)
- Describe characterization of dredged sediment, and other oily debris
- Describe sampling of waste material
- Describe transportation and disposal of dredged materials, including methods of solidification and consolidation
- 4.5 Contingencies
- Outline potential contingencies that could cause the project's schedule to suffer
- 4.6 Dredging Completion Reports

## **5.0 SUBMERGED OIL REASSESSMENT**

- 5.1 Objectives
- 5.2 Methods and Procedures
- 5.3 Spring 2013 Reassessment
- Provide discussion for a complete affected river reassessment following methods for selection of target areas and transects as outlined in the 2012 CWP and any areas requiring additional focus (i.e. areas that NEBA recommended more frequent monitoring)
- Indicate that the following will be provided for U.S. EPA review and approval no later than one week following completion of the 2013 Spring Poling Reassessment:

scaled maps (e.g., both hardcopy and GIS format) of poling results and polygons delineating moderate/heavy areas

- 5.4 Morrow Lake Delta and Morrow Lake
- 5.5 Monitoring Downstream of the Morrow Lake Dam
- 5.6 Data Collection and Documentation
- 5.7 Data Analysis and Transmittal

#### **6.0 SUPPLEMENTAL DATA COLLECTION**

- 6.1 Walling Tube Installation, Collection and Analysis
- Provide plans that describe a timely delivery of sample weights to U.S. EPA for evaluation of compositing and prioritizing samples
- Add description of compositing and prioritizing for laboratory analyses for samples that have insufficient weights
- Add a sample and data handling description. Identify latest version of QAPP covering analytical methods
- Sample handling and analysis section must demonstrate acceptable turn-aroundtime and method to expedite turn-around-times
- 6.2 Support for Hydrodynamic and Sediment Transport Modeling
- Other scientific data to be collected, if directed by U.S. EPA (e.g., similar to the 2012 CWP), which may include but are not limited to: poling data, streambed sediment core collection, collection of location or elevation survey data, erodibility measurements or experiments, and flow velocity or discharge measurements
- Additional laboratory analysis of samples, if directed by U.S. EPA, which may include oil fingerprinting, particle size analyses, and total organic content

### 7.0 TEMPERATURE AND RIVER FLOW / STAGE MONITORING

- 7.1 Surface Water and Sediment Temperature Collection
- Continued daily surface water and sediment temperature measurements at seven boat launch locations as well as during the 2013 Poling Reassessment and 2013 Sediment Trap monitoring events
- Continued use of methods and instruments described in the project temperature measurement SOP
- 7.2 Kalamazoo River Flow and Stage Data
- Continued acquisition and use of data from the three USGS stream gage stations located along the affected portion of the Kalamazoo River (e.g., Marshall, Battle Creek and Comstock stations)
- Stage data collected at additional locations as directed by U.S. EPA

## **8.0 SHEEN MANAGEMENT**

- 8.1 Sheen Tracking
- Continue to update and maintain the Sheen Tracking Master Table including observations by the situation team(s), aerial overflights, routine sheen sweep teams, public complaints, and any other observations
- Continue to deliver updated versions of the Sheen Tracking Master Table on a weekly basis
- 8.2 Sheen Testing
- Continue to test sheen observations as necessary using all current methods including: Stick Test, Jar Test, Hexane Test, and UV Testing

### 8.3 Sheen Response

- 8.3.1 Response to Observed Sheen
- Response to Observations of Oil Sheen flowchart
- Sheen sweep crews dispatched in a timely manner
- Methods of sheen recovery available
- 8.3.2 Routine Sheen Sweeps
- Routine sheen sweeps in the Kalamazoo River to manage non-work areas where sheen is observed
- As conditions warrant, routine sheen sweep will be deployed to target locations, as determined by historical sites with sheen observations and recurring sheen observations
- 8.3.3 Control Point Boom Installation and Maintenance
- Deployment of control point boom, other surface boom if necessary to control sheen

#### 9.0 AIR MONITORING AND SAMPLING

 Discuss methods for conducting work site and community air monitoring and sampling during dredging activities

## 10.0 ADDITIONAL WATER, SEDIMENT AND/OR SOIL SAMPLE COLLECTION

- Explain circumstances or potential needs for additional sample collection [e.g., large flood event (2-yr. or higher); endpoints; etc.]
- Potential types of sampling --- sediment cores, focus poling, etc.
- Sample handling and analysis section must cite U.S. EPA approved procedures, and must demonstrate reasonable turn-around-time and method to expedite turn-around-times

### 11.0 DISPOSAL

- Disposal of all wastes must occur according to the WTTD Plan
- Disposal of all wastes must occur at State of Michigan approved facilities

### 12.0 UPDATE OF EXISTING DOCUMENTS

## 13.0 PROJECT SCHEDULE

- Provide overall project schedule in GANTT format (or equivalent) which includes all major work activities in a critical path analysis
- Provide detailed schedule showing planned dredging timelines for each individual dredge area, including estimated dates for permit applications, permit issuance

### 14.0 REFERENCES

### **FIGURES**

Figure 1 Organizational Structure

Figure 2 Proposed Dredge Areas (Sheets 1 through 5)

Figure 3 Poling Field Observation Flowchart

Figure 4 Spring 2013 Poling Focus Areas and Transects (Sheets 1 through X)

Figure 5 Walling Suspended Sediment Trap Locations (Sheets 1 through 6)

## **ATTACHMENTS**

Attachment A All Applicable SOPs Attachment B 2012 Morrow Lake and Morrow Lake Delta Monitoring and Management Plan

Attachment C Response to Observations of Oil Sheen Flowchart

Attachment D Project Schedules