0680

Approved

Enbridge Line 6B MP 608
Marshall, MI Pipeline Release

Overbank Oil Recovery Standard Operating Procedures

**Prepared for United States Environmental Protection Agency /
Michigan Department of Environmental Quality**

Enbridge Energy, Limited Partnership

Submitted: May 27, 2011

Approved: June 8, 2011

624525

Approved

Approved

LIST OF ACRONYMS

Enbridge	Enbridge Energy, Limited Partnership
GPS	global positioning system
Line 6B	The pipeline owned by Enbridge Energy, Limited Partnership that runs just south of Marshall, Michigan
MDEQ	Michigan Department of Environmental Quality
SCAT	Shoreline Cleanup Assessment Technique.
SOP	Standard Operating Procedure
U.S. EPA	United States Environmental Protection Agency
WTTD	Waste Treatment, Transportation and Disposal Plan

Approved

1.0 INTRODUCTION

The purpose of this Overbank Oil Recovery Standard Operating Procedure (SOP) is to provide general guidance to the ongoing recovery operations of overbank oil resulting from the July 2010 Enbridge Line 6B MP 608 pipeline release in Marshall, Michigan. This SOP addresses overbank oil recovery operations for the sites identified as requiring response activities by Enbridge Energy, Limited Partnership (Enbridge), the United States Environmental Protection Agency (U.S. EPA) and the Michigan Department of Environmental Quality (MDEQ).

This SOP expands upon the approved National Oceanic and Atmospheric Administration (NOAA) Shoreline Cleanup and Assessment Technique (SCAT) Cleanup Recommendations as presented in the September 14, 2010 Kalamazoo River/Enbridge Spill – Cleanup Recommendation Methods. The purpose of this SOP is to remove and recover free oil and oil that is likely to mobilize to the river. Additional investigation and remediation efforts will be conducted at sites identified for oil recovery at a later date and will follow the requirements of the MDEQ consent order.

2.0 SITE SELECTION

The selection of sites for overbank oil recovery using the outlined techniques will be jointly determined by Enbridge, the U.S. EPA, and the MDEQ based on current observed site conditions and the results of the reassessment process. Specific application of one or more of the presented oil recovery procedures will depend upon a number of factors including:

- Site access and logistics;
- Type(s) of remaining oil;
- Ecological setting/sensitivity, and
- Physical setting of the area (wetlands, wood, vegetative cover, etc.).

Overbank locations will be delineated and flagged prior to recovery operations. Areas of concern (i.e. sensitive areas, priority areas, hotspots) will be clearly marked. All boundaries (pre and post removal) will be documented using global positioning survey (GPS) equipment capable of sub-meter accuracy. This information, along with photographs and field notes,

will be recorded. Concurrence of the agencies with the locations delineated will be obtained prior to commencement of operations.

All response activities will be communicated to and coordinated with the U.S. EPA and the MDEQ prior to mobilization. Oil recovery activities will be conducted in a manner that is safe, and that minimizes the potential to contaminate adjacent areas included the migration of contaminants deeper into the soil. Appropriate personal protective equipment (PPE) will be worn and appropriate measures, including decontamination will be developed and implemented to protect un-impacted areas. All generated waste will be safely handled, containerized, transported, and disposed of pursuant to the approved Waste Treatment, Transportation and Disposal Plan (WTTD).

3.0 OVERBANK OIL RECOVERY PROCEDURES

The following approved oil recovery methods are described in the September 14, 2010 Kalamazoo River/Enbridge Spill – Cleanup Recommendation Methods:

- Manual removal (raking, shoveling, hand);
- Vegetation removal;
- Low pressure cold water flushing, and
- Sorbent material (booms, snares).

In addition to the above approved methods, the following techniques are proposed. These may be used as standalone options or in combination:

- Mechanical soil removal;
- Vacuum removal, and
- Organic sorbents.

3.1 Mechanical Soil Removal

The use of small excavators may be employed at sites where the area of a maximum of oil recovery makes manual recovery inefficient. The maximum depth of excavation will not exceed 6 inches. Small excavators will be used to scrap soil and vegetation to remove oil and oil saturated media. Consideration will be given to minimize impact to the site by the excavator during both access and oil recovery. Excavators will avoid wetlands and sensitive

areas. Mats will be used as applicable to minimize disturbance to the soil. Care will be taken to minimize the impact to woody vegetation.

The oily material will be containerized and transport to Frac Tank City for proper characterization and disposal pursuant to the approved WTTD.

3.2 Vacuum Removal

The use of vacuum devices to remove oil and oil saturated media may be employed at sites. Vegetation will be cleared from the area to be vacuumed and oil and oily soil will be collected using a portable vacuum or other suction device. Areas accessible by land may utilize truck mounted vacuum units.

All oiled soil and debris will be double bagged or drummed and transport to Frac Tank City for proper characterization and disposal pursuant to the approved WTTD.

3.3 Organic Sorbent Application

The use of organic oil sorbent material (peat) may be employed at sites to remove free oil. Vegetation will be cleared from around identified location and the selected sorbent will be by applied by hand and gently raked into the oiled areas. The applied sorbent will remain for a minimum of 24 hours for absorption. Following 24 hours, the area will be examined to determine if additional treatment is needed.

All used sorbent will be removed using rakes and/or vacuum and will be double bagged or drummed and transport to Frac Tank City for proper characterization and disposal pursuant to the approved WTTD.