Horizontal Directional Drill Contingency Plan

DAKOTA ACCESS, LLC
An ENERGY TRANSFER Company

HORIZONTAL DIRECTIONAL DRILL CONTINGENCY PLAN

Dakota Access, LLC
Dakota Access Pipeline Project (DAPL)

1.0 INTRODUCTION

Portions of the proposed DAPL Project will be installed using horizontal directional drilling (HDD) technology. This baseline directional drill contingency plan provides specific procedures and steps to detect and respond to any inadvertent release of drilling fluids for the above-described canal crossings. A site specific HDD contingency plan may be provided by the contractor selected to perform the HDD, that plan would meet or exceed the standards established in this document.

Elements of this plan include:

- Preparation;
- Monitoring Procedures;
- Notification Procedures;
- Corrective Action and Cleanup; and
- Abandonment.

2.0 PREPARATION

An Environmental Inspector will be employed throughout construction and restoration of this Project. All work will be performed in compliance with environmental permits, laws, and regulations. The Pipeline Construction Contractor – supervisory personnel will be provided environmental training prior to commencing work, and the Contractors will be provided a Project specific Environmental Clearance Package including copies of all environmental permits secured for the Project in advance of commencing activities.

Best management practices employed during this Project include the use of erosion control devices and turbidity control measures to protect sensitive resources (e.g. wetlands and waterbodies). Furthermore, containment equipment including earth-moving equipment, portable pumps, hand tools, sand, hay bales, silt fencing, turbidity screens, and/or lumber will be readily available at the project site in the event of a frac-out and vacuum truck will be employed as necessary.

3.0 MONITORING PROCEDURES

The Drilling Contractor personnel will monitor operations during drilling activities. Monitoring will include:

- Inspection along the drill path, including surface waters along the path for evidence of a release.
- Continuous examination of drilling fluid pressures and return flows.
- The Drilling Contractor will provide information regarding drilling conditions to the company representative and the Pipeline Construction Contractor during the course of drilling activities.
- Monitoring will be documented by the Pipeline Construction Contractor.

4.0 NOTIFICATION PROCEDURES

If an inadvertent release is discovered, steps will be taken by Drilling Contractor to contain the release as described below in the Corrective Action and Cleanup Section below (Section 5.0).

If monitoring indicates an in-stream or wetland release has occurred, the Drilling Contractor will immediately notify DAPL's construction management and environmental management personnel. The Drilling Contractor's crew will take immediate corrective action to contain the release and to prevent or minimize impacts. DAPL will notify the U.S. Army Corps of Engineers (USACE), and County Environmental Department as soon as possible (within 24 hours), and provide details of the nature of the release and corrective actions being taken, completed, and/or planned. DAPL will work with the respective agencies regarding additional measures that may be warranted. If it is determined that the release cannot be remedied without causing additional negative environmental impacts, DAPL will request that drilling operations continue.

5.0 CORRECTIVE ACTION AND CLEANUP

By monitoring drilling operations continuously, DAPL intends to correct problems before they occur. However, if a release does occur, the following measures will be implemented to stop or minimize the release and to clean it up:

- The Drilling Contractor will decide what modifications to make to the drilling technique or composition of drilling fluid (i.e., thickening of fluid by increasing bentonite content) to reduce or stop minor losses of drilling fluid.
- If a minor bore path void is encountered during drilling, making a slight change in the direction of the bore path may avoid loss of circulation.
- If the borehead becomes lodged resulting in loss of drilling pressure, the borehole may be sized by moving the borehead back and forth to dislodge the stuck materials.
- If public health and safety are threatened, drilling fluid circulation pumps will be turned off. This measure will be taken as a last resort because of the potential for drill-hole collapse resulting from loss of down-hole pressure.

Land Release:

- If a land release is detected, the drilling crew will take immediate corrective action to contain the release and to prevent or minimize migration off site.
- Steps will be taken (such as installing berms, silt fence and/or hay bales) to prevent silt-laden water from flowing into protected resources.
- The contractor will construct pits and/or berms around the frac-out point to contain inadvertent releases onto the ground.
- Vacuum trucks may be called in as necessary to assist in the removal of released material.
- If the amount of an on-land release does not allow practical collection, the affected area will be diluted with fresh water and allowed to dry.
- If hand tools cannot contain a small on-land release, small collection sumps (less than 5 cubic yards) may be constructed to pump the release material into the mud-processing system.

- Once the release is contained and materials are removed, it will be disposed of properly.

Wetland or Waterbody Release:

- If a release occurs within a waterbody, USACE will be contacted as soon as possible (within 24 hours) by DAPL. DAPL will inform USACE about any threat to public health and safety and explain whether or not the release can be corrected without incurring additional environment impact. If necessary, drilling operations will be reduced or suspended to assess the extent of the release and to implement corrective actions.
    - Temporary dams (e.g. sand bags) may be installed to isolate the fluid from a frac-within a protected feature.
    - Vacuum trucks will be called in as necessary to assist in timely, effective removal of released drilling mud.
    - Once the release is contained and materials are removed, it will be properly disposed of.

6.0 ABANDONMENT

If corrective actions do not prevent or control releases from occurring into a protected feature, DAPL may opt to re-drill the hole along a different alignment within their easement rights or suspend the installation altogether. Other issues may require abandoning the hole, such as refusal or misalignment. In any case, the following procedures will be implemented to abandon the drill hole:

- The method for sealing the abandoned drill hole is to pump thickened drilling fluid into the hole as the drill assembly is extracted and using cement grout to make a cap.
- Closer to the surface (within approximately 10 feet of the surface), a soil cap will be installed by filling with soil extracted during construction of the pit and berms.
- The borehole entry location will be graded and seeded by the contractor to its original grade and condition after the drill hole has been abandoned.