ROVER PIPELINE
An ENERGY TRANSFER Company

ROVER PIPELINE LLC

Rover Pipeline Project

HORIZONTAL DIRECTIONAL DRILL CONTINGENCY PLAN

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1.0 INTRODUCTION

This Horizontal Directional Drill (HDD) Contingency Plan provides procedures and steps to address inadvertent release of drilling mud during horizontal directional drilling beneath wetlands and waterbodies. Drilling mud consists primarily of fresh water, with high yield bentonite added to achieve the necessary properties, such as viscosity. Bentonite is composed of clay minerals mined primarily in Wyoming reserves and is not considered a hazardous material by the U.S. Environmental Protection Agency. Therefore, in the event of a release into a wetland or waterbody, there will be no adverse environmental impact other than a temporary increase in turbidity from the bentonite and the efforts to contain and collect the release. While drilling parameters will be established to maximize circulation and minimize risk of these inadvertent releases, the possibility of lost circulation and releases cannot be eliminated. This plan has been prepared to address containment procedures in the event of an inadvertent release. It also includes measures that would be implemented in the event that the HDD cannot be successfully completed. Unless otherwise specified, Rover Pipeline LLC (Rover) will implement the following plan in consultation with the Contractor, Construction Inspector, and Environmental Inspector.

Elements of this plan include:

- Monitoring Procedures
- Notification Procedures
- Corrective Action
- Contingency Plan

Rover will require its HDD contractor(s) to specifically address the general elements of this plan before commencing any HDD operations.

2.0 PLANNED HDD CROSSINGS

The pipeline alignment drawings show the entry and exit locations and staging areas for the HDD crossings. The staging areas have been limited to the minimum needed to construct the crossing. Additionally, the entry and exit locations have been sited with maximum design depth clearance to provide the greatest buffer between the sensitive resource and the drilling activity/installed pipe. Further, these layouts have been designed to minimize the potential for impacts to waterbodies and wetlands by providing no less than 50 foot buffers to the sensitive resource, except where the 50-foot buffer cannot be maintained due to topographic or site-specific conditions. Locations where less than a 50-foot buffer is required and the justification for the reduced buffer area will be provided in January 2015. The combination of the buffer and the depth of the pipe beneath the sensitive resource is expected to minimize and avoid any adverse impacts.

An access path up to 20 feet wide within the permanent right-of-way between the HDD entry and exit points may be needed for access to a water source or as a travel lane. Disturbance will be limited to surface impacts only. This access path will be used to set up pumps for obtaining water for the drilling process and/or for hydrostatic testing of the pipeline on the banks of the waterbody and to lay the water pipe from the waterbody to the drilling operation or the pipe. Disturbance of these areas will be limited to foot traffic and the occasional truck, all-terrain vehicle, or backhoe to move pumps and water piping in and out.

A global positioning satellite drill head is sometimes used, which transmits the location of the drill head back through the stem to the operator to maintain the hole along the prescribed path. Other technology uses electric-grid guide wires (or Tru-Tracker wires) that are hand-laid across the land surface and along

the pipeline centerline to help guide the drill bit along the predetermined HDD path. The Tru-Tracker wires must be located parallel to the centerline, but are offset, and must typically be placed outside of the permanent right-of-way in order to triangulate the location of the drill head. In thickly vegetated areas, some vegetation may be trimmed using hand tools to allow placement of these electric-grid guide wires. Ground and vegetation disturbance will be minimal and no trees over 3 inches diameter at breast height will be cut for guide wire installation.

Please refer to Resource Report 1, Appendix 1A, Table 1A-6 for the proposed HDD locations for the Project.

3.0 MONITORING PROCEDURES

HDD activities will be closely and continually monitored by the Contractor, the Construction Inspector, and the Environmental Inspector, or any combination of the three. Monitoring and sampling procedures will include:

- Visual and pedestrian field inspection along the drill path, to the extent allowable by the terrain, including monitoring the wetlands and waterbodies for evidence of release,
- Continuous monitoring of drilling mud, drilling mud pressures, and returns flows by the Contractor, and
- Periodic recording of drill status information regarding drill conditions, pressures, returns, and progress during the course of drilling activities.

4.0 NOTIFICATION PROCEDURES

For all inadvertent releases of drilling mud, the Construction Inspector or Environmental Inspector will immediately notify Rover's Construction Manager and Environmental Project Manager. Coordination will immediately be initiated with the Federal Energy Regulatory Commission (FERC) Project Manager and the Third Party FERC Monitor.

Upon detection of an inadvertent mud release to ground surface or wetlands/waterbodies, Rover will contain the release as described below (see Section 4.0 - Corrective Action).

Rover's Environmental Project Manager will notify the appropriate agencies immediately upon discovery by telephone, e-mail, and/or facsimile of any inadvertent release to a wetland or waterbody. These agencies may include the:

- U.S. Army Corps of Engineers (Pittsburgh, Huntington, Buffalo, and Detroit Districts)
- West Virginia Department of Environmental Protection
- West Virginia Division of Natural Resources
- Pennsylvania Department of Environmental Protection
- Washington County Conservation District
- Ohio Environmental Protection Agency
- Michigan Department of Environmental Quality

Rover will provide details regarding the location and nature of the release, corrective actions being taken, and whether the release poses any threat to public health and safety.

5.0 CORRECTIVE ACTION

At the first sign of release of drilling fluids (frac-out), the Contractor will take immediate actions to control the release. Depending on the location and the amount of fluid being released, corrective actions may include:

- If public health and safety are threatened by an inadvertent release, drilling operations will be shut down until the threat is eliminated.
- Evaluating the release to determine if containment structures are warranted and can effectively contain the release. When making this determination, Rover will also consider if placement of containment structures will cause additional adverse environmental impact.
- Placing containment structures at the affected area to prevent migration of the release.
- If the amount of the release is large enough to allow collection, collecting the drilling mud released into containment structures and returning it to either the drilling operations or an approved disposal site by hose or tanker.
- If the amount of the release is not large enough to allow collection, diluting the affected area with fresh water and allowing it to dry. Steps will be taken to prevent silt-laden water from flowing into a wetland or waterbody.
- If a wetland or waterbody release occurs, initiating an inspection to determine the potential movement of released drilling mud within the wetland or waterbody.
- If a wetland or waterbody release occurs, collecting drilling mud returns at the drill entry location for future analysis, as required.
- If a wetland or waterbody release occurs, monitoring of the release will be documented by the Environmental Inspector. Rover will keep photographs of release events on record.
- Upon completion of the drilling operations, consulting with applicable regulatory agencies to determine any final clean-up requirements for the inadvertent release.

The following measures will be implemented to minimize or prevent further release, contain the release, and clean up the affected area:

- The Contractor will determine and implement any modifications to the drilling technique or composition of drilling fluid (e.g., viscosity of mud by increasing mineral content) to minimize or prevent further releases of drilling mud.
- If a release occurs within a wetland or waterbody, reasonable measures, within the limitation of directional drilling technology and the Contractor's capability, will be taken to reestablish drilling mud circulation.

6.0 CONTINGENCY PLAN

If the corrective actions described above do not correct the problem, Rover may opt to abandon the drill hole and consider alternate measures. An HDD attempt will be considered failed if:

- circulation is insufficient to maintain the integrity of the borehole,
- circulation losses present an imminent risk to human health or the environment, or
- the borehole location cannot be maintained within the required limits.

In the event of borehole failure, the borehole will be properly abandoned as described in Section 6.1 below, and a decision will be made regarding whether to re-attempt the HDD crossing, or use another crossing method, as described in Section 6.2 below.

6.1 ABANDONMENT

In the event the drill hole is to be abandoned the following procedures will be implemented to seal the abandoned drill hole:

- grout will be pumped into the hole to completely seal and fill the upper 30 feet of hole entirely with grout;
- compacted soil will be placed in the top 5 feet of the hole; and
- the location will be graded to the original contour.

The above abandonment procedures will be discussed with the appropriate permitting and regulatory agencies prior to implementation.

6.2 ALTERNATE CROSSING LOCATIONS

If the HDD cannot be completed at the proposed location, the HDD will be re-attempted at an alternate location. Before a determination is made on an alternate crossing location, an effort will be made to identify and assess the reason for the drill failure. This may be critical for the selection of the alternate crossing.

Considerations of alternative locations include, but are not limited to, the following:

- horizontal relocation of the drill hole,
- changing of the drill profile (depth of hole),
- changing drill procedures (mud viscosity/pressure/flow velocity, bit rotation/velocity, etc), and/or
- additional soil borings and geo tech evaluation.

If the entry and exit points need to be relocated, consideration will be given to:

- Stream bank type, flow width, depth, velocity and flow volume,
- Surrounding topography,
- Condition of riparian areas,
- Condition and extent of wetlands, if any, on each side of the alternate crossing,
- Aquatic biota,
- Downstream water uses, and/or
- Entry and exit angles for the HDD path.

These and other factors will be considered and discussed with the appropriate regulatory agencies to secure the appropriate approvals. Final selection of the alternate crossing location will be submitted to FERC, along with the required supporting data.