APPENDIX I

HORIZONTAL DIRECTIONAL DRILL CONTINGENCY PLAN
FOR THE HUBLINE/EAST TO WEST PROJECT

Algonquin Gas Transmission, LLC

Horizontal Directional Drill Contingency Plan for the HubLine/East to West Project

Prepared for:

Algonquin Gas Transmission, LLC
890 Winter Street
Suite 300
Waltham, MA 02451

Prepared by:

TRC Environmental
650 Suffolk Street
Lowell, MA 01854

May 2008

1. INTRODUCTION

Algonquin Gas Transmission, LLC ("Algonquin") is proposing to utilize the horizontal directional drilling ("HDD") technique to install a 36-inch natural gas pipeline across the Weymouth Fore River in Massachusetts and a 12-inch natural gas pipeline across the Shetucket River in Connecticut for the proposed HubLine/East to West Project ("E2W Project" or "Project"). HDD is a widely used trench-less construction method which accomplishes the installation of pipelines with minimal environmental impact. HDD is commonly used to install pipelines and cables for sewer lines, water lines, natural gas and oil lines, fiber optics and telecommunication lines, and electric cables.

This plan describes the construction measures to be taken in the event that significant problems arise during the directional drill process. The goal of this contingency plan is to:

A. Minimize the potential for the release of drilling mud into a water body; and

B. Provide a secondary procedure in case the original HDD profile cannot be completed.

For the purpose of this contingency plan, HDD constitutes a trenchless method for traversing a water body, utilizing pre-bent bottom hole drilling assemblies ("BHAs") which operate via pressurized mud systems. The HDD method accomplishes installation with minimum environmental impacts compared to traditional construction methods.

The HDD method is preferable to open cut methods because the pipeline is drilled underneath the watercourse with very little disturbance to its bed or banks. HDD is more preferable than an open-cut shoreline approach because it minimizes the potential to impact fish, fish habitat, and wildlife nesting areas near the water bodies and eliminates near shore impacts in general.

The design of the drill path to an appropriate depth below the watercourse minimizes the risk of a frac-out and prevents the pipeline from becoming exposed due to natural erosion of the river bed. Algonquin will design the crossings to ensure that the drill entry and exit points are far enough from the river banks to avoid disturbance to riparian areas, reduce the risk of frac-outs into the water body, and enable proper containment of drilling fluids, thereby containing all fluids outside of the river channel.

In the event that the borehole annulus collapses or a major formation fracture is encountered, or soils are extremely porous, then the Contractor needs to stand prepared to implement their frac-out contingency plan. The extent of a frac-out can be limited by careful monitoring and having appropriate equipment ready in the event that one occurs. The following are some options and recommendations in case a frac-out occurs:

II. FRAC-OUT CONTINGENCY PLAN

1. The most effective way to minimize the environmental impact associated with the release of HDD drilling fluids is to maintain fluid circulation to the extent practical. Maintenance of fluid circulation will be the responsibility of the HDD Contractor who is selected. Sediment barriers will be installed as necessary at the edge of the right-of-way, and between the drill pit and the water body being crossed. Additionally, bales of hay, silt fence, and sand bags will be on-site as a back up in case a frac-out occurs at any point along the drill path in the upland areas.

2. If a frac-out occurs in an accessible area, a containment structure made up of hay bales and silt fence will be erected around the inadvertent return area. This initial containment attempt will be

accomplished utilizing laborers without assistance from small mobile equipment. If the hand-constructed pit cannot handle the fluid volumes that are encountered, then a small sump pit (8 foot long x 6 foot wide x 6 foot deep) will be excavated using a small rubber tire backhoe (415 Caterpillar or equivalent) in the area of the frac-out. Sand bags may be used to stabilize the pit walls.

3. Drilling operations will continue, utilizing lower mud pressure and decreased mud volume, while still accomplishing penetration of the ground formation. Fluid from the inadvertent return pit will be pumped to the entry point pit via a sump pump if returns continue to reach the inadvertent return pit.

4. The HDD contractor will post a representative at the site of the frac-out during drilling operations to ensure there is no migration of the drilling fluid along the surface of the ground outside of the inadvertent return pit area.

5. The HDD contractor will clean up the inadvertent spill at the affected area utilizing a small rubber tire backhoe and/or a wagon pulled by a small ATV. In the event that equipment cannot access the affected area, laborers will remove the material via wheel barrows or buckets and the affected area will be leveled to its original contour.

6. If a frac-out occurs within either of the rivers, the recovery method would utilize a barge outfitted with a vacuum truck or portable vacuum unit and, if necessary, divers. Tidal variations would be utilized to perform the clean-up at the lowest possible tide level that still allows access by the barge in order to increase visibility and the effectiveness of the clean-up. As the HDD operation continues, mud pressure and/or volume would be diminished to minimize the release. The clean-up operation would be performed upon completion of the pullback of the prefabricated product line.

III. SECONDARY PROCEDURE IF A BORE HOLE CAN NOT BE COMPLETED

Several possible scenarios and/or conditions exist that could prevent the successful completion of a pilot hole, reaming or pipeline pullback operation. Examples of these possible scenarios and/or conditions are as follows:

1. Inability to maintain mud circulation during pilot drilling due to uncontrolled fluid loss into subterranean voids or fissures.

2. Inability to steer the down hole pilot assembly on the prescribed drill profile due to deflection that could occur when geological obstructions such as boulders and cobble are encountered.

3. Inability to steer the down hole pilot assembly on the prescribed drill profile due to deflection that could occur in areas where sugar-like sand formation is encountered that will not provide adequate resistance to support the weight of the down hole pilot assembly.

4. Inability to complete reaming due to geological obstructions such as boulders or cobble that could migrate into the path that has already been piloted or reamed.

5. Inability to retrieve drilling or reaming equipment components and/or drill pipe that could be left down hole due mechanical failure.

6. Inability to pull the entire product pipeline section through the bore hole due to the collapse of the completed bore hole.

In the unlikely event that a HDD bore hole profile must be abandoned, Algonquin will notify the appropriate regulatory agencies as outlined in Section V, and will implement one the following alternate installation procedures:

1. The pilot hole will be offset and drilled on a different profile from the same location; or

2. Algonquin will relocate the HDD to another location on the existing permanent easement; or

3. Algonquin will acquire additional permanent easement to perform the HDD in an alternate location. The necessary clearance and permit amendments will be obtained prior to the initiation this option.

4. While Algonquin is confident, based upon its review of the HDD's alignments that the HDDs will be successful, a situation could occur that precludes the viability of an HDD. Should this occur, Algonquin will meet with the appropriate permitting agencies to discuss next steps and potential need to commence with the permitting of an open cut crossing of the river.

In the event that a bore hole must be abandoned, the following remedial steps will be implemented:

1. The HDD contractor will fill the abandoned hole with a drilling mud/grout mixture. Once this is accomplished, Algonquin would offset to another location and resume the HDD process as specified in steps 1-3 above.

2. Drilling mud from the pit at the abandoned location will be pumped into a tank for reuse or disposal and the pit will be backfilled.

IV. DISPOSAL OF DRILLING MUD

Drilling mud will be disposed of in one of the following ways:

1. Spreading over farm fields to improve agricultural soil under specific conditions; or

2. Transportation to an authorized disposal site. The Contractor will supply the names of all disposal sites being considered to Algonquin for its inspection and approval.

V. AGENCY NOTIFICATIONS

In the event that there is an inadvertent release of drilling mud, Algonquin will contact representatives from the following agencies within 8 hours of the event. Specific contact names and numbers of the agency personnel will be added during the permitting process.

Federal Agencies

- Federal Energy Regulatory Commission
- U.S. Army Corps of Engineers
- U.S. Environmental Protection Agency

- U.S. Coast Guard (Weymouth Fore River only)

Massachusetts Agencies/Stakeholders

- Department of Environmental Protection
- Office of Coastal Zone Management
- Weymouth Conservation Commission
- Braintree Conservation Commission
- Local Harbor Masters

Connecticut Agencies/Stakeholders

- Department of Environmental Protection
- Preston Inland Wetlands Commission
- Norwich Inland Wetlands Commission