



Growth, Enterprise and Trade

Petroleum Branch

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June 3, 2016

Mr. Sam Stephenson

Vice-President, Engineering and Construction

Tundra Energy and Marketing Limited

3100, 715 – 5th Avenue S.W.

Calgary AB T2P 2X6

Re: Approval to Modify Pipeline Operation Licence No. 2015-03

The Branch has received your application dated January 26, 2016 to construct pipelines as follows:

FACILITY Length	TEML LINE NUMBER	CONSTRUCTION TYPE	FROM	TO
Pipeline 1-1900m		Trench/Directional Drill	12-04-10-28WPM	16-04-10-28WPM
Pipeline 1-2750m	DY-04 Inactive	Stuff	16-04-10-28WPM	15-02-10-28WPM
Pipeline 1-200m		Trench/Directional Drill	15-02-10-28WPM	02-11-10-28WPM
Pipeline 2 – 200m		Trench/Directional Drill	02-11-10-28WPM	15-02-10-28WPM
Pipeline 2-1500m	DY-04 Inactive	Stuff	15-02-10-28WPM	15-01-10-28WPM
LACT		Proposed	02-11-10-28WPM	
LACT		Proposed	12-04-10-28WPM	
Valve Site		Proposed	15-01-10-28WPM	

The application has been processed as a modification to Operating Licence 2015-03 and is hereby approved. The Minister's authority under Subsection 150(1) of the Act, pipeline modification, is delegated to the Director pursuant to Order in Council 384/2001.

Construction may start in accordance to the application and the conditions of this letter as follows:

1) **Method of Construction: Directional Drilling:**

Adhere to national standards on directional drilling. An Emergency Contingency Plan shall be created to address spills and creation of inadvertent returns, (frac-out) emergency procedures. Any fisheries concerns associated with the crossings should be addressed. All disturbed areas must be restored to pre-construction conditions. A 15m buffer zone shall be observed from the construction site to the edge of the riparian area. Prior to release, the site shall be inspected by the Petroleum Branch staff to determine if the rehabilitation work is deemed acceptable.

Directional drilling is required under Gopher Creek and any Class IV or V wetlands.

Compliance with the Mitigation measures as outlined in the Pre-Development Assessment authored by Matrix Solutions Inc. as commissioned by TEML shall be followed. Specifically, the following shall be observed:

- Directional drilling the WL3 wetland and CD1 creek crossing;
- Avoidance of the WL1, WL4 and WL5 wetlands and the CD2 creek; and
- Relocation of TWS10 to cultivated land (If it cannot be relocated, the area must be seeded with native grasses appropriate for the area. Weed control, re-seeding, and monitoring must be conducted for at least 3 growing seasons to ensure successful reclamation.)

2) **Method of Construction: Open-Cut Construction:**

If directional drilling will not be used as a construction method, immediately contact Bruno Bruederlin at 1-204-724-4416, Regional Wildlife and Fisheries Branch, Laureen Janusz at 1-204-793-1154, Wildlife and Fisheries office and the Petroleum Branch. The following conditions apply to open-cut construction:

- a) No in stream work will be permitted between April 1st and June 30th of any year. All other work undertaken must be in dry conditions and cease during high precipitation events.
 - b) Entry and exit holes are to be located outside of the 15m Riparian area. All affected areas must be rehabilitated including parking areas. The bed and bank must be contoured to resemble pre-construction dimensions.
 - c) Post construction monitoring is to be completed as well as in the spring following construction and after all major precipitation events until the crossings are stabilized and a report on their findings is accepted by Wildlife and Fisheries.
 - d) A Live Fish Handling Permit to salvage any fish or mussels within the project area prior to construction must be obtained.
 - e) Adhere to the Aquatic Invasive Species Regulation under The Water Protection Act. with respect to requirements for cleaning water related equipment and conveyances.
- 3) Compliance with the Endangered Species Act is required. As such a survey of the site by a biologist is required seven (7) days in advance of construction to ensure species at risk are not present prior to construction. A report of this sweep shall be submitted to the petroleum Branch and to the Environment Approvals Branch. Construction shall cease if a sighting occurs and this information shall be included the report submitted and sent immediately.
 - 4) Topsoil and subsoil shall be segregated during excavation and stockpiled separately. Soil contours will be re-established to pre-disturbance conditions. All disturbed portions of native grassland along the ROW, new or existing, shall be re-vegetated with native plant species.
 - 5) The licensee shall design and construct the pipeline modifications in accordance with the most recent version of CSA Standards Z662 – Oil and Gas Pipeline Systems, Z245.1 – Steel Line Pipe and other applicable standards and specifications, drawings, information and data set forth in the application.
 - 6) The licensee shall obtain the approval of the owner and any occupant in accordance with Subsection 151 (2) of the Oil and Gas Act, prior to entering on any land for the purpose of the modification.

- 7) The licensee shall carry out all excavations in accordance to the Manitoba Labour and Immigration Guidelines for Excavation work. An excavation permit shall be obtained from the Virden District office.
- 8) The licensee shall develop and implement an Emergency Response Plan for the modification work. A copy of this plan shall be presented to the Virden District Office prior to the start of construction.
- 9) The licensee may require authorization under the Water Rights Act for the withdrawal of water for hydrostatic testing and for discharge of hydrostatic test water.
- 10) The licensee shall notify the Virden office Petroleum Branch:
 - no less than 7 days prior to commencing construction,
 - immediately in the event of an accident; and
 - 48 hours prior to line fill.
- 11) The maximum operating pressure (MOP) shall be the lesser of 7,000 KPa or the hydrostatic test pressure at line fill. The hydrostatic test pressure test charts shall be submitted to an Inspector of the Petroleum Branch following testing and prior to operation of the line to obtain approval and verification of MOP.

The Petroleum Branch provides a 24 hour on call service. If an off hour emergency arises, please call 1-204-748-4260. If you have any questions, please contact Stacy McBride, Acting Chief Petroleum Engineer.

Sincerely,



Keith Lowdon
Director

SM/jg

c. Inspection
Petroleum Branch (Winnipeg Office)