



**NORTH DAKOTA PUBLIC SERVICE COMMISSION**

**APPLICATION OF  
ENBRIDGE PIPELINES (NORTH DAKOTA) LLC  
for  
CERTIFICATE OF CORRIDOR COMPATIBILITY**

**BERTHOLD STATION UPGRADE PROJECT  
MAY 2010**

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## TABLE OF CONTENTS

<b>SECTION A</b>	<b><u>DESCRIPTION OF PROPOSED FACILITY</u></b>	<b><u>PAGE</u></b>
A.1	DESCRIBE THE TYPE OF FACILITY AND ITS PURPOSE	1
A.2	DESCRIBE THE TYPE, SOURCE AND FINAL DESTINATION OF THE PRODUCT	2
A.3	SIZE AND DESIGN	3
A.4	TIME SCHEDULE	6
<b>SECTION B</b>	<b><u>STUDIES</u></b>	
B.1	CULTURAL RESOURCES INVESTIGATIONS	8
B.2	WETLAND ASSESSMENT	8
B.3	BIOLOGICAL RESOURCES	9
<b>SECTION C</b>	<b><u>NEED FOR THE FACILITY</u></b>	
C.1	AN ANALYSIS OF THE NEED FOR THE PROPOSED FACILITY BASED ON PRESENT AND PROJECTED DEMAND FOR THE PRODUCT TRANSMITTED BY THE FACILITY, INCLUDING THE MOST RECENT SYSTEM STUDIES SUPPORTING THE ANALYSIS OF THE NEED	10
C.2	ALTERNATIVES TO THE PROPOSED FACILITY	11
C.3	STATEMENT CONCERNING DEVIATION FROM MOST RECENT 10-YEAR PLAN	18

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## TABLE OF CONTENTS

<b>SECTION D</b>	<b><u>LOCATION</u></b>	<b><u>PAGE</u></b>
D.1	STUDY AREA	19
D.2	EVALUATION CRITERIA LEADING TO SITE SELECTION	19
D.3	RELATIVE VALUE OF EVALUATION CRITERION	27
D.4	CRITERIA TO BE EVALUATED	27
D.5	GENERAL MITGATIVE MEASURES TO BE TAKEN	27
D.6	QUALIFICATIONS OF PERSONS CONTRIBUTING TO THE STUDY	28
D.7	MAPS	28

<b><u>LIST OF TABLES</u></b>		<b><u>PAGE</u></b>
TABLE 1	EXCLUSION AREAS CONSIDERED	19
TABLE 2	AVOIDANCE AREAS CONSIDERED	21
TABLE 3	SELECTION CRITERIA CONSIDERED	22

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## TABLE OF CONTENTS

### LIST OF EXHIBITS

EXHIBIT A	ENBRIDGE PIPELINES (NORTH DAKOTA) LLC SYSTEM MAP
EXHIBIT B	MAPS
EXHIBIT B.1	BERTHOLD STATION PLOT PLAN MAP
EXHIBIT B.2	BERTHOLD STATION TOPO MAP
EXHIBIT B.3	BERTHOLD STATION AERIAL MAP
EXHIBIT C	CULTURAL RESOURCE INVESTIGATIONS
EXHIBIT C.1	METCALF ARCHAEOLOGICAL CONSULTANTS CLASS III SURVEY REPORT
EXHIBIT C.2	STATE HISTORICAL SOCIETY OF NORTH DAKOTA STUDY DATED APRIL 1, 2010
EXHIBIT D	WETLAND DELINEATION AND RARE PLANT SURVEY
EXHIBIT E	NATIONAL WETLANDS INVENTORY & SSURGO SOILS DATA
EXHIBIT F	ENVIRONMENTAL MITIGATION PLAN
EXHIBIT G	NORTH DAKOTA GAME AND FISH DEPARTMENT CORRESPONDENCE
EXHIBIT H	ENBRIDGE PIPELINES (NORTH DAKOTA) LLC 10-YEAR PLAN
EXHIBIT I	SPILL PREVENTION, CONTAINMENT, AND CONTROL PLAN
EXHIBIT J	LETTER DATED DECEMBER 12, 2009 FROM US CORP OF ENGINEERS, NORTH DAKOTA REGULATORY OFFICE



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**APPLICATION FOR CORRIDOR CERTIFICATE**

**SECTION A**

**DESCRIPTION OF PROPOSED FACILITY**

**A.1 DESCRIBE THE TYPE OF FACILITY ADDRESSED IN THIS APPLICATION. THE DESCRIPTION SHALL INCLUDE THE PURPOSE OF THE FACILITY AND THE TECHNOLOGY TO BE EMPLOYED**

**A.1.a Type of Facility**

Enbridge Pipelines (North Dakota) LLC (“EPND”)<sup>1</sup> owns and operates a 968-mile existing underground petroleum gathering and mainline pipeline system that extends from eastern Montana through North Dakota to Clearbrook, Minnesota. (See Exhibit A for a copy of EPND’s System Map). Part of the system, known as the 8-inch Beaver Lodge/Alexander segment in Williams and McKenzie Counties, was placed in service in the mid-1980s by Portal Pipeline Company under the North Dakota Public Service Commission’s (“ND-PSC”) Order in Case No. 10,472. EPND acquired this pipeline from Portal Pipeline Company in 1996.

In this application, EPND is proposing to expand and upgrade its existing Berthold Station through the construction of approximately 600 feet of 4-inch station piping and approximately 1,800 feet of new 10-inch station piping, and the installation of two refurbished pumping units, metering facilities and other related appurtenances. EPND also plans to reactivate an existing 80,000 barrel tank for the receipt of such new supply volumes and acquire approximately 80 acres of land located directly east of its existing station site to accommodate the new truck unloading facility. This upgrade referred to hereinafter as the (“Berthold Station Upgrade Project” or “Project”), will enable EPND to receive new supply volumes from a new shipper owned and operated truck unloading facility that will be located on land leased from EPND. This Project also enables EPND to increase the injection capacity into its interstate mainline system by November 2010, as described in more detail in Section A.3 below. EPND is not proposing to increase the pipeline capacity of its mainline system in this Project.

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<sup>1</sup> EPND is a wholly owned subsidiary of Enbridge Energy Partners, L.P. (Enbridge Partners), which is a Delaware master limited partnership headquartered at 1100 Louisiana, Suite 3300, Houston, Texas 77002 (ph. 713-821-2000; [www.enbridgepartners.com](http://www.enbridgepartners.com)).



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**A.1.b Purpose of Proposed Facilities**

The purpose of the Berthold Station Upgrade Project is to accommodate the increasing demand for mainline receipt and storage capabilities at EPND's Berthold Station. The proposed upgrades will enable EPND to timely receive supply volumes at its Berthold Station and increase its injection capacity to deliver an incremental 15,000 barrels per day (bpd) of crude petroleum into its mainline system.

As proposed, the Berthold Station Upgrade Project is the most reliable, efficient, and cost effective alternative to respond to the current demand for additional pipeline capacity from the Williston Basin region of North Dakota and Montana.

**A.2 DESCRIBE THE TYPE, SOURCE AND FINAL DESTINATION OF THE PRODUCT TO BE TRANSMITTED BY THE PROPOSED FACILITY**

**Type**

As defined in its FERC Tariff on Rules and Regulations, EPND currently transports the following commodities within its multi-pipeline system:

Mixed Blend Sweet Crude (SW)  
Mixed Blend Sour Crude (SO)

**Source**

The primary source of supply for the EPND System is production from the Williston Basin spanning Montana, North Dakota, South Dakota and Wyoming. The primary geographical sources for SO and SW production are those regions of Montana and North Dakota that comprise the western and central portions of the Williston Basin.



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**Final Destination**

These supply volumes will have the ability to reach a wide number of out-of-state refineries and marketing hubs through interconnections with EPND affiliates and third-party pipelines at Clearbrook, MN, as described in more detail in Section C.1.

**A.3 SIZE AND DESIGN**

**A.3.a Electric Facility**

Not Applicable.

**A.3.b Provide a description of the size and design of the PIPELINE facility including, but not limited to, the following:**

**A.3.b.(1) Width of the Right of Way**

Not Applicable.

**A.3.b.(2) Estimated Distances Between Surface Structures**

Above ground facilities associated with the Berthold Station Upgrade Project will be located approximately 10 feet to 20 feet apart.

**A.3.b.(3) Pipe Size**

The station piping will have the following characteristics:

4.5-inch outside diameter (4-inch nominal pipe size)	10.75-inch outside diameter (10-inch nominal pipe size)
0.337-inch wall thickness	0.365-inch wall thickness
API 5L Grade B	API 5L Grade B
Steel Pipe	Steel Pipe



**A.3.b.(4) Approximate Length of Facility**

EPND proposes to install approximately 600 feet of 4-inch station piping and approximately 1,800 feet of new 10-inch station piping.

**A.3.b.(5) Maximum Design Operating Pressure and Temperature**

The design pressure for the station piping is 285 psig; normal operating pressures are anticipated to be less than 100 psig. Operating temperatures will range from -40° F to 120° F.

**A.3.b.(6) Maximum Design Flow Rate**

The maximum design flow rate for the 4-inch and 10-inch station piping is 3,600 barrels per hour. EPND has designed the facilities to align with the maximum flow rate of the 8 shipper-owned pumping units of the truck unloading facility. Each pumping unit has a maximum design rate of 450 barrels per hour. (Calculation: 8 shipper-owned pumping units x a maximum flow rate of 450 barrels per hour = the maximum design flow rate of 3,600 barrels per hour).

**A.3.b.(7) The General Location of the Berthold Station Upgrade Project**

The Berthold Station Upgrade Project will consist of the following: (See Exhibits B.1 – B.3 for detailed mapping).

**Location, Size and Design of Proposed Station Upgrade Project**

**Location**

8501 296<sup>th</sup> NW  
Berthold, North Dakota 58718

**Legal Description**

The existing Berthold Station lies on 26.11 acres of land owned by EPND. It is located in the NE ¼ of Section 20, Township-156-North, Range-86-West, Ward County, North Dakota.





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### **Station Upgrades**

- Installation of approximately 600 feet of 4-inch station piping and approximately 1,800 feet of 10-inch station piping<sup>2</sup>
- Installation of two refurbished injection pumping units, each with 125 HP motors
- Installation of a new booster pump with 50 HP motor
- Installation of two 200 HP variable frequency drives (VFDs)
- Installation of a new injection pump header
- Installation of a new metering facility, including all necessary valves and appurtenances
- Installation of other necessary interconnecting station piping
- SCADA upgrades
- Civil work including foundations, secondary containment as necessary, and site grading
- Electrical upgrades, including 1 new 12.47 kV / 480V transformer (to be installed and owned by electric utility company)

### **Reactivate Existing Berthold Tank 9800**

- Repair and paint existing Tank 9800
- Civil work including foundation grading, increasing spill containment capacity, and repairing the tank dike area clay liner

### **Land Requirements**

EPND has acquired an option to purchase approximately 80 acres of land in fee. The property is located directly east of the existing Berthold Station in the West ½ of NW ¼, Section 21, Township-156-North, Range-86-West, Ward County, North Dakota.

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<sup>2</sup> The proposed station piping will be used to transport the new supply volumes from the new shipper owned and operated truck unloading facilities to EPND's existing tank.



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**Aerial, Topo and Plot Plan Maps of Proposed Berthold Station Upgrade**

Maps are enclosed herewith as:

- Exhibit B.1 (Plot Plan Map)
- Exhibit B.2 (Topo Map)
- Exhibit B.3 (Aerial Map)

**Other Construction at Site by Others**

As previously stated, EPND is planning to expand its existing Berthold Station by acquiring approximately 80 acres of land located directly east of its existing station site. EPND will acquire this land and then initially lease 22 acres of this property to third-party shippers, who plan to construct, own and operate eight (8) truck unloading facilities. Each shipper truck unloading site will be equipped with a Leased Automatic Custody Transfer (LACT) unit and an associated storage tank.

**A.4 TIME SCHEDULE**

**A.4.a Certificate of Corridor Compatibility**

Expected on or before July 28, 2010.

**A.4.b Route Application**

Route Application was submitted in May 2010 as part of this Consolidated Application for a Certificate of Corridor Compatibility and Route Permit.

**A.4.c Route Permit**

Expected on or before July 28, 2010.

**A.4.d Construction Start Date**

Proposed commencement of construction is early August 2010, subject to receipt of all appropriate approvals.



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**A.4.e Construction Complete**

Estimated construction completion date is on or before October 31, 2010.

**A.4.f In-Service Date**

Estimated in-service date is November 1, 2010.

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## APPLICATION FOR CORRIDOR CERTIFICATE

### SECTION B

#### STUDIES

##### **B.1 CULTURAL RESOURCE INVESTIGATIONS**

Metcalf Archaeological Consultants (Metcalf) conducted a Class I Literature Review for the existing 26-acre tract and new 80-acre tract. This literature review did not identify any previously recorded cultural resources within the Project area. Metcalf conducted a Class III archaeological survey of the existing 26-acre tract and new 80-acre tract on April 6, 2010. The cultural resources survey did not discover any historic properties that would be affected by the proposed expansion Project. A report of the survey's methods, findings, and recommendations is included as Exhibit C.1.

On April 12, 2010, EPND requested North Dakota State Historic Preservation Office (ND-SHPO) concurrence with the findings of the literature review and archaeological survey and Project clearance for the existing 26-acre tract and new 80-acre tract. The ND-SHPO responded with Project concurrence on April 12, 2010, stating "No Historic Properties Affected" and "No Significant Sites Affected" determinations provided the Project is of the nature stated, it takes place in the plotted location, and it adheres to the recommendation regarding retaining the tree belt as a buffer. (See Exhibit C.2 for a copy of this correspondence.)

##### **B.2 WETLAND ASSESSMENT**

Barr Engineering Company (Barr) completed a wetland delineation and rare plant survey (Barr Survey) of the existing Berthold Station fenced property (14 acres within the 26-acre tract) in September 2009. Barr identified three wetlands within the fenced Berthold Station (see Exhibit D).

Merjent, Inc. completed a desktop review of the entire new 80-acre tract (located directly east of the existing Berthold Station site) and Enbridge's fee property surrounding the fenced Berthold Station using aerial photographs, USGS 7.5 minute topographic maps, soil survey data, National Wetlands Inventory (NWI) data, and recent site photographs. The NWI data identified three potential wetlands outside the existing fence line and within the new tract (see Exhibit E). According to the Barr Survey Report, there is also a farmed wetland (see Exhibit D) in the northwest corner of the new tract. Merjent will be completing a wetland delineation of the

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entire new 80-acre tract and Enbridge's fee property surrounding the fenced Berthold Station.

The only wetland or potential wetland that would be impacted by the proposed Project is the wetland along the existing eastern Berthold Station fence line. Berm improvements would impact approximately 0.014 acres within the fence line and road improvements to 296<sup>th</sup> Street would impact approximately 0.2 acres of this isolated, shallow marsh wetland (*i.e.*, approximately 0.1 acre on each side of 296<sup>th</sup> Street). Since this wetland is under the jurisdiction of the COE and the contributing drainage area is greater than 80 acres, a permit to construct within and permanently impact this wetland is required from the State Water Commission and the COE. EPND will implement mitigation measures to minimize these impacts as described in Enbridge's Environmental Mitigation Plan (EMP) (see Exhibit F).

### **B.3 BIOLOGICAL RESOURCES**

On January 14, 2010, a letter was submitted to the North Dakota Game and Fish Department (ND-GFD) requesting review of the study area for concerns related to unique or rare wildlife species. This review covered the entire existing 26-acre tract and the new 80-acre tract. A response from the ND-GFD was received on February 9, 2010, stating that the Project would not result in significant adverse impacts on wildlife or wildlife habitats, including endangered species. A copy of the ND-GFD response is enclosed as Exhibit G.



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## APPLICATION FOR CORRIDOR CERTIFICATE

### SECTION C

#### NEED FOR FACILITY

#### **C.1 AN ANALYSIS OF THE NEED FOR THE PROPOSED FACILITY BASED ON PRESENT AND PROJECTED DEMAND FOR THE PRODUCT TRANSMITTED BY THE FACILITY, INCLUDING THE MOST RECENT SYSTEM STUDIES SUPPORTING THE ANALYSIS OF THE NEED**

##### **C.1.a Planned Use and Purpose**

As demand for the crude oil production from the Williston Basin of North Dakota continues to increase, so does the demand for additional pipeline capacity for crude oil transportation on the EPND System. The basis for the Berthold Station Upgrade Project is the continued and forecasted increase in drilling activities and produced crude volumes, coupled with the opportunity to provide an outlet to refineries and marketing hubs for this production. The Project continues to build upon the numerous EPND expansion projects<sup>3</sup> this Commission has approved in various docketed proceedings since 2005. Enbridge is not proposing to increase the pipeline capacity of its mainline system in this Project, only its ability to receive and inject additional crude oil volumes through the proposed upgrades at the Berthold Station.

The primary producing areas that would support the Berthold Station Upgrade Project are Northern Mountrail County and Burke County in North Dakota. Using the Enbridge Conservative Base Case, for the forecast horizon 2010 through 2025, the average production from those two areas are estimated to be at least 50,000 bpd with significant upside potential, and is considered more than sufficient to supply the 15,000 bpd design capacity of the Berthold Station Upgrade Project.

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<sup>3</sup> In Docket No. PU-05-274, EPND's Phase 1 and 2 Expansion Projects were approved by the North Dakota Public Service Commission (ND-PSC) and placed in-service in 2005 and April 2007 respectively. In Docket Nos. PU- 06-317; PU-06-330; and PU-06-349, EPND's Phase 3, 4 and 5 Expansion Projects were approved by the ND-PSC and was fully placed in-service on January 2008. In Docket No. PU-07-791, EPND's Phase 6 approved by the ND-PSC in July, 2008 and was fully placed in-service in January 2010.



### **C.1.b Future North Dakota System Expansion(s)**

EPND continually works closely with its shippers to develop a long term plan that best serves the shippers' increasing pipeline capacity requirements.

With the increasing drilling activity in the Williston Basin production area, EPND continues to receive requests for additional pipeline capacity on the western segment of its North Dakota pipeline system. EPND is responding to those requests with a number of potential future projects that are (subject to approvals) designed to meet the shippers' needs and provide access to the Enbridge mainline system at Clearbrook, MN, where shippers will have numerous refinery and marketing options via Enbridge's mainline system or through other third-party pipelines. EPND plans to hold a binding open season in May 2010 to determine the level of shipper support for these proposed projects. Based on a successful commercial outcome and Enbridge Board approval, EPND will file the appropriate regulatory application for these separate expansion projects with the ND-PSC at a later date.

## **C.2 ALTERNATIVES TO THE PROPOSED FACILITY**

EPND has performed a reasonable and defensible alternative analysis that involves consideration of environmental, engineering and economic factors in a multi-disciplinary and iterative fashion. This analysis resulted in the following alternatives to the Berthold Station Upgrade Project.

### **C.2.a No Action Alternative:**

In light of the overall increase in Williston Basin production, the shippers' requirements for increased pipeline capacity and the current apportionment that is being experienced on the EPND System, a "no action" alternative is unacceptable to EPND and its shippers.

### **C.2.b Trucking Alternative**

Currently, there is insufficient tanker trailer truck capacity to transport the incremental 15,000 barrels of crude oil per day to refinery hubs. Moreover, the trucking alternative significantly overburdens current public road capacity, especially considering that trucks would require round-trip routing. Additionally, should the truck capacity issue be resolved, EPND or its shippers would need to expand truck loading/unloading facilities at suitable locations to allow receipt into the Enbridge Clearbrook Tank Farm and Terminal Facility. While trucks are a vital part of the crude gathering and distribution network, pipelines are a safer and more economical alternative for



transporting this volume of crude oil for these distances. The potential in-service date of additional trucking, road and off-loading capacity is not known. The reliability of this alternative in northern climates is compromised by periodic restrictions in truck traffic due to winter storms and spring road restrictions or other weather related or capacity availability restrictions.

- **a discussion of the design and the geographical area affected**

In order to transport the incremental 15,000 bpd of crude oil proposed by the Project, a fleet of trucks would be required as detailed below:

**Computation of Trucking Requirements**

Crude oil volumes = 15,000 bpd  
Per truck capacity = 200 barrels per truck  
Number of trucks required =  $15,000 / 200 = 75$  trucks per day  
Assume each truck requires loading, in-transit full (1 day), in-transit empty (1 day) and unloading time  
Number of trucks in transit =  $75 \times 1 \text{ day} = 75$  trucks  
Number of trucks returning empty =  $75 \times 1 \text{ day} = 75$  trucks  
20% of the in-transit trucks loading and unloading = 30 trucks  
Total truck requirements =  $75+75+30 = 180$  trucks  
(ignoring scheduled/unscheduled down time)  
Number of drivers required for 2-day round-trip including loading/unloading =  $180 \times 1 \text{ driver/truck} = 180$  drivers  
Number of drivers required for 1-day round-trip including loading/unloading =  $180 \times 2 \text{ driver/truck} = 360$  drivers

In order to facilitate this operation, significant truck loading and offloading terminal facilities would have to be constructed at the Berthold and Clearbrook Stations. In addition, it is likely that substantial upgrades and ongoing maintenance would be required (at public expense) to the connecting roadways along the entire route.





- **an estimate of the in-service date**

EPND believes that it is impossible for the required terminal facilities at both the Berthold and Clearbrook Stations to be constructed on the same timeline as the Berthold Station Upgrade Project or the timeline required to meet the production increases. Additionally, EPND does not have an estimate of the time required to acquire the trucking fleet described above, how long it would take to attract and train the associated drivers, nor how extensive the roadway upgrade program would be.

- **a discussion of the method of operation**

This operation would be highly labor intensive, with a significant workforce required at both terminal locations, to allow for the constant loading and offloading requirements. This option would require a significant driver pool to maintain the constant movement of the entire truck fleet.

- **its costs**

Based on the North Dakota Petroleum Council's "Williston Basin Crude Oil Transportation Bottleneck White Paper" dated March, 2006, the approximate transportation costs to move 15,000 bpd by truck would range from \$6.00 to \$10.00 per barrel. Using the United States Department of Labor's Consumer Products Index Inflation Calculator (<http://www.bls.gov/data/inflationcalculator.htm>), the 2010 rates to move those same barrels would range from \$6.48 to \$10.80 per barrel. Therefore, the estimated transportation costs to truck 15,000 bpd would range between approximately \$35.5 and \$59.1 million dollars per year (ignoring the cost of new vehicles and infrastructure facilities necessary).

- **its economic life**

With mileage that the trucks would incur in steady service, EPND estimates that the economic life of a truck would not exceed 4 to 5 years. The truck loading and offloading terminals would have an estimated economic life of 25 years. EPND does not have an assessment of the impact that this amount of incremental truck traffic would have on the various roadways.



- **its reliability**

This operation would be inherently much less reliable than the Berthold Station Upgrade Project, as truck traffic is affected by weather conditions, mechanical failure, manpower (driver shortages), road maintenance or closures. Furthermore, according to the National Transportation Safety Board trucks have a significantly higher rate of accidents affecting driver and public safety than compared to pipelines.

Trucking cannot compete with pipelines for volumes over long distances given the physical limitations of trucks and unloading facilities that are required to sustain operations of this nature. Therefore, this alternative was not further considered.

### **C.2.c Rail Alternative**

Currently, there is insufficient rail tanker car capacity to transport the incremental 15,000 bpd to Clearbrook. The rail tanker car alternative would require the construction (by EPND or its shippers) of rail car loading and off-loading facilities. Also, the construction of a new lateral above ground rail service poses additional risk and impact to landowners and the public. While rail tanker cars are a vital part of the short-haul distribution network for crude oil, pipelines are a safer and more economic transportation alternative. The potential in-service date of additional truck-to-rail, rail tanker car, rail line, and off-loading capacity is not known. The reliability of this alternative in northern climates is compromised by periodic restriction in truck traffic to deliver to rail due to winter storms and spring road restrictions or other weather-related or capacity availability restrictions.



- **a discussion of the design and the geographical area affected:**

In order to transport 15,000 bpd of heavy oil, a fleet of rail cars would be required as detailed below:

#### **Computation of Rail Car Requirements**

Crude oil volumes = 15,000 bpd  
Rail car capacity = 600 barrels per rail car  
Tank cars required =  $15,000/600 = 25$  rail cars per day  
Estimated time to move each rail car from Berthold Station to Clearbrook (various carriers and through various rail assembly yards) = 2-3 days  
Number of cars in transit =  $25 \times 3$  days = 75 cars  
Number of cars returning empty =  $25 \times 3$  days = 75 cars  
20% of the in-transit cars loading and unloading = 30 cars  
Total tank car requirements =  $75+75+30 = 180$  cars  
(ignoring scheduled/unscheduled down time)

Approximately 180 rail cars would have to be in route each day, making the round trip between those two locations in approximately 6 days. In order to facilitate this operation, significant spur lines, rail sidings, and terminal facilities would have to be constructed at Berthold and Clearbrook Stations. In addition, substantial upgrades and ongoing maintenance would be required to the connecting railways.

- **an estimate of the in-service date**

EPND believes that it is impossible for terminal facilities at both Berthold and Clearbrook Stations to be constructed on the same timeline as the Berthold Station Upgrade Project or the timeline required to meet the production increases. Additionally, EPND does not know if the number of rail cars required is available or the time that would be required to manufacture them. Moreover, EPND does not have an estimate of the time required to construct the necessary upgrades associated with the railway infrastructure.



- **a discussion of the method of operation**

This operation would be highly labor intensive, with a significant workforce required at both terminal locations to allow for the constant loading and offloading requirements and rail car operation.

- **its costs**

Based on the North Dakota Petroleum Council's "Williston Basin Crude Oil Transportation Bottleneck White Paper" dated March, 2006, the approximate transportation costs to move 15,000 bpd by rail would range from \$6.00 to \$10.00 per barrel. Using the United States Department of Labor's Consumer Products Index Inflation Calculator, (<http://www.bls.gov/data/inflationcalculator.htm>), the 2010 rates to move those same barrels would range from \$6.48 to \$10.80 per barrel. Therefore, the estimated transportation costs would range between approximately \$35.5 and \$59.1 million dollars per year (ignoring the cost of new rail cars and infrastructure facilities necessary).

- **its economic life**

With mileage that the cars would incur in steady service, the applicant estimates that the economic life of a rail car would not exceed 10 to 15 years. The rail loading and offloading terminals would have an estimated economic life of 25 years.

- **its reliability**

This operation would be inherently much less reliable than the Berthold Station Upgrade Project. The entire operation would be subject to weather related delays, delays caused by scheduling conflicting rail traffic, and a significant mechanical/maintenance requirement exposure based on the number of rail cars involved in this operation.



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#### **C.2.d Alternative EPND Pipeline Route**

Since EPND does not propose to install a new transportation pipeline as part of the Berthold Station Upgrade Project, no alternative EPND Pipeline route was considered.

- The in-service date for the Berthold Station Upgrade Project is on or before December 1, 2010.
- The Berthold Station Upgrade Project operations will be operationally integrated with the existing EPND System.
- The cost of the Berthold Station Upgrade Project is approximately \$8.9 million.
- The economic life of the Berthold Station Upgrade Project for this purpose is based on a 25-year depreciation period; however, the functional life of the proposed facilities is indefinite following normal maintenance and inspection practices of the federal regulated interstate pipeline system.
- The EPND System operates year-round, round-the-clock, with the exception of planned system down-time for inspection, maintenance or repair purposes or unplanned down-time due to interruptions in receipts or refinery outages and/or operational disruptions caused by regional power outages or other reasons.

#### **C.2.e A summary of the conclusions reached with respect to the alternative and the reason for its rejection**

The objective of the Project is to provide a cost effective and efficient method to:

- receive incremental supply volumes from a shipper-owned and operated truck unloading facility;
- increase the injection capacity of the Berthold Station to inject such volumes into EPND's mainline system; and
- help reduce the current reliance on long haul truck deliveries and rail export options.
- reduce the transportation costs borne by Williston Basin producers, allowing their savings to be immediately re-directed toward the development of the oil and gas resources in the State thereby providing additional economic benefits to North Dakota.



As proposed, this Project minimizes environmental and landowner impacts and, when integrated with the existing EPND System, provides the safest, most efficient and cost effective alternative to link the growing demand for crude oil supplies in the Midwest with increased and reliable domestic supplies from North Dakota and Montana. Thus, all other alternatives discussed herein were rejected.

### **C.3 STATEMENT CONCERNING DEVIATION FROM MOST RECENT 10-YEAR PLAN**

EPND's currently filed 10-year plan with the ND-PSC is enclosed herein as Exhibit H. At the time of filing, EPND anticipated the need for the proposed Project as disclosed in Schedules H and I of this plan.



**APPLICATION FOR CORRIDOR CERTIFICATE**

**SECTION D**

**LOCATION**

**D.1 STUDY AREA**

EPND defined its study area as the entire 26.11-acre existing parcel in the NE ¼ of Section 20, Township-156-North, Range-86-West, Ward County, North Dakota and the new 80-acre new tract in the W ½, NW¼ of Section 21, Township-156-North, Range-86-West, Ward County, North Dakota. The combined 106 acre parcel has been evaluated for the purposes of this corridor certificate application.

**D.2 EVALUATION CRITERIA LEADING TO SITE SELECTION**

Evaluation criteria as described in North Dakota Administrative Code (North Dakota Rules) Chapter 69-06-08-02 was used to guide and govern the siting of the proposed Project. Detailed discussions of these criteria, including descriptions, potential impacts, and mitigation measures where appropriate are provided below.

**D.2.a Exclusion Areas**

Exclusion Areas are areas that should be excluded in the consideration of a route for a transmission facility, or in the case of the proposed Project, the expansion of an existing facility. No Exclusion Areas are located within the study areas. Table 1 below identifies exclusion areas that were considered for the Project.

**Table 1**

<b>EXCLUSION AREA</b>	<b>WITHIN STUDY AREA</b>
National Parks	No
National Memorial Parks	No
National Historic Sites	No
National Historic Landmarks	No



EXCLUSION AREA	WITHIN STUDY AREA
National Natural Landmarks	No
National Monuments	No
National Wilderness Areas	No
State Parks	No
State Historic Sites	No
State Monuments	No
State Historical Markers	No
State Archaeological Sites	No
State Nature Preserves	No
County Parks	No
County Recreational Areas	No
Municipal Parks	No
Parks Owned or Administered by Other Governmental Subdivisions	No
Areas Critical to the Life stages of Threatened or Endangered Animal or Plant Species	No
Areas Where Animals or Plant Species that Are Unique or Rare to this State Would be Irreversibly Damaged	No

**D.2.b Avoidance Areas**

Avoidance Areas shall not be considered in the routing of a transmission facility, or in the case of the proposed Project, the expansion of an existing facility, unless there are no reasonable alternatives. No Avoidance Areas are located within the study area. Table 2 below identifies Avoidance Areas that were considered for the Project.





**Table 2**

AVOIDANCE AREA	WITHIN STUDY AREA
National Historic Districts	No
National Wildlife Areas	No
National Wild, Scenic, or Recreational Rivers	No
National Wildlife Refuges	No
National Grasslands	No
State Wild, Scenic, or Recreational Rivers	No
State Game Refuges	No
State Game Management Areas	No
State Management Areas	No
State Forests	No
State Forest Management Lands	No
State Grasslands	No
Historical Resources Which Are Not Specifically Designated as Exclusion or Avoidance Areas	No
Areas Which Are Geologically Unstable	No
Within Five Hundred Feet [152.4 Meters] of a Residence, School, or Place of Business	No
Reservoirs and Municipal Water Supplies	No
Water Sources for Organized Rural Water Districts	No
Irrigated Land	No
Areas of Recreational Significance Which Are Not Designated as Exclusion Areas	No



**D.2.c Selection Criteria**

Selection Criteria are those environmental resources on which the Project must have an acceptable minimum amount of impact, as determined by the Commission. Table 3 below identifies Selection Criteria that were considered for the Project. Where impacts to Selection Criteria are possible, a discussion of potential impacts and mitigation measures that will be implemented is provided.

**Table 3**

<b>SELECTION CRITERIA</b>	<b>POTENTIAL IMPACT WITHIN STUDY AREA</b>
Agricultural Production	Minimal
Family Farms and Ranches	No
Land Suitable for Irrigation	No
Surface and Groundwater Flow Patterns	No
Noise Sensitive Areas	No
Visual Effects	No
Extractive and Storage Resources	No
Wetlands	Minimal
Woodlands	No
Communication or Electric Control Facilities	No
Human Health and Safety	Potential
Animal Health and Safety	No
Plant Life	Minimal

**D.2.c.(1) Wetlands**

As identified in Section B.2, the only wetland or potential wetland that would be impacted by the proposed Project is the easterly continuation 0.014 acre wetland along the existing eastern Berthold Station fence line and the 0.2 acres along 296<sup>th</sup> Street. Due to the size of this isolated wetland, impacts to wetlands are considered to be minimal.

### **D.2.c.(2) Human Health and Safety**

Despite its excellent safety record, the transportation of crude oil involves some risk to the public. Perhaps the most obvious risk to human health is the potential for fire in the event of an accident and subsequent release. Toxic exposure from crude oil through skin contact, ingestion, or vapor inhalation can also be a risk from exposure to significant quantities or in confined spaces.

EPND will design, construct, test, operate, and maintain the proposed Project in accordance with all applicable laws and standards. The U.S. Department of Transportation's pipeline standards are published in Parts 194 and 195 of Title 49 of the Code of Federal Regulations. The regulations are intended to ensure adequate protection of the public and to prevent accidents and failures. Part 195 specifically addresses petroleum pipeline safety issues. It specifies material selection and qualification; minimum design requirements; and protection from internal, external, and atmospheric corrosion. Part 194 prescribes emergency planning to prepare for prompt shutdown, containment and cleanup to minimize the effects of a pipeline release, should one occur.

### **D.2.c.(3) Plant Life**

As stated above, about 0.214 acres of wetlands would be permanently impacted by Project activities and about 11.2 acres of agricultural land would be converted to industrial land or temporarily disturbed by the Project. According to the Barr Survey Report, the existing fenced property is highly altered from pre-settlement conditions. Uplands and the upper edges of wetlands were likely tilled and cultivated prior to construction of the facility. Native plant species were observed in the wetlands; however, exotic species were also observed. No species of concern or threatened and endangered plant species known to occur in Ward County were observed during the survey (see Exhibit D).



### **D.2.d Policy Criteria**

Policy criteria are those factors which are positively affected by the Project that may lead the Commission to give preference to an applicant. These factors are discussed below.

#### **D.2.d.(1) Location and Design**

EPND has designed the proposed Project to maximize the use of the existing Berthold Station facilities.

#### **D.2.d.(2) Training and Utilization of Available Labor in this State for the General and Specialized Skills Required**

The number of construction workers that would be hired locally during construction would vary depending on the qualified contractor selected for the Project. Pipeline and station construction is a specialized market and it is unlikely that there are qualified local pipeline contractors in the immediate vicinity capable of completing the Project. If a non-local contractor is awarded this Project, it is likely that up to 75 percent of the workers would be non-local. The remaining 25 percent would be hired from the local population currently residing in nearby areas of North Dakota.

EPND does not anticipate hiring additional permanent employees to operate the Berthold Station. Operation of this facility will be managed by EPND's existing workforce located at Berthold and nearby work locations.

#### **D.2.d.(3) Economies of Construction and Operation**

Crude oil and natural gas are North Dakota's leading mineral products, and North Dakota is the fifth largest producer of crude oil in the country. The proposed Project would boost the State's economy and allow the State to capitalize on tax revenue gathered from increased production and extraction taxes.

The State and local economies would also benefit during construction from the temporary hiring of local construction workers, and from a relatively large-scale, temporary influx of non-local construction workers. Unemployment in the area would see a temporary drop, and payroll taxes would temporarily rise.



Local businesses would benefit from the demand for goods and services generated by the temporary workforce's need for food and lodging. In addition, EPND would purchase some of the materials necessary for construction of the Project locally. EPND estimates that local purchases made for construction of the Project would primarily include consumables, fuel, equipment rental, and miscellaneous construction-related materials (e.g., office supplies).

The current North Dakota State property tax revenue for EPND is approximately \$1.450 million. The total assessed value resulting from the proposed Project will increase the estimated state taxes by approximately \$70,000.

**D.2.d.(4) A Commitment of a Portion of the Transmitted Product for Use in this State**

EPND does not own any of the crude oil in its system, and, as a common carrier pipeline, does not determine the destinations for the products transported by its system. EPND's business is to provide transportation service to its customers as a common carrier, and to receive a fee for that service pursuant to tariffs authorized by the Federal Energy Regulatory Commission (FERC) pursuant to the Interstate Commerce Act.

**D.2.d.(5) The Coordination of Facilities**

As previously mentioned, EPND has designed the proposed expansion Project to maximize use of the existing Berthold Station facilities and site to minimize environmental impacts to the greatest extent possible.

**D.2.d.(6) Monitoring of Impacts**

EPND is committed to protecting the environment and complying with all applicable environmental laws, regulations, and standards. EPND is proposing to implement environmental training and environmental inspection throughout the course of the Project.



**D.2.d.(6)(i) Environmental Training**

To communicate the environmental requirements of the Project to Project personnel, EPND would require environmental training of all Project personnel prior to construction. EPND would:

- require environmental training of all personnel (both contractor and EPND) visiting or working at the job site;
- require everyone who attends training to sign an acknowledgement form and be issued, as a proof-of-training, a hardhat sticker; and
- require all personnel to display a hardhat sticker when on a job site or dismiss personnel from the job site until it is obtained through completion of training.

**D.2.d.(6)(ii) Environmental Monitoring**

Environmental monitoring, in the form of ongoing site inspection, will be conducted during and following construction. Contract specifications will incorporate environmental protection and mitigation measures required by regulation, Enbridge specifications or environmental permits, and contractors will be expected to implement these measures in the field. Contractor training and project orientation will also be provided by EPND.

Environmental data has been assessed, (specifically cultural resources, wetlands and protected species), as described in Section B of the Application for Certificate for Corridor Compatibility. EPND will continue to work with appropriate regulatory agencies and will continue to gather comprehensive information during the permitting process.

**D.2.d.(7) Utilization of Existing and Proposed Rights-of-Way and Corridors**

As previously mentioned, EPND has designed the proposed Project to maximize use of the existing Berthold Station facilities and property to minimize environmental impacts to the greatest extent possible.

### **D.3 RELATIVE VALUE OF EVALUATION CRITERION**

The proposed Project involves the expansion of EPND's existing Berthold Station. The criteria evaluated in Section D.4 were considered in the design of the proposed expansion facilities.

### **D.4 CRITERIA TO BE EVALUATED**

- Exclusion Areas
- Avoidance Areas
- Selection Criteria
- Policy Criteria
- Design and Construction Limitations
- Economic Considerations

Complete descriptions, potential impacts, and mitigation measures relevant to the six criteria cited above are provided in section D.2.

### **D.5 GENERAL MITIGATIVE MEASURES TO BE TAKEN**

Mitigation measures to minimize adverse impacts of the proposed Project are identified throughout this document. In addition, EPND has developed an Environmental Mitigation Plan (EMP) for this Project (see Exhibit F). The EMP provides a more detailed discussion of the guidelines and mitigation measures that EPND would implement during this Project. It was developed based on EPND's corporate experience implementing best management practices during construction of pipelines and associated station facilities.

In addition, EPND has developed a Spill Prevention, Containment and Control Plan (SPCCP) that describes planning, prevention and control measures to minimize impacts of Project-related spills. (See Exhibit I). The EMP and SPCCP are comprehensive, controlling documents that will be included in contract specifications.

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**D.6 QUALIFICATIONS OF PERSONS CONTRIBUTING TO THE STUDY**

**D.6.a Paul Meneghini**

Supervisor, Enbridge Major Projects (US)

Degree: BS, Civil Engineering, Michigan Technological University, Houghton, Michigan

MBA, Environmental Management, University of St. Thomas, St. Paul, Minnesota

Experience: 16 years experience in environmental and regulatory permitting and construction oversight compliance

Other Training and Licenses: Professional Engineer-Minnesota

**D.6.b Angela Ronayne**

Senior Analyst, Merjent, Inc.

Degree: BS, Civil Engineering, University of Minnesota, Twin Cities

Experience: 12 years experience in environmental and regulatory compliance

Other Training and Licenses: Professional Engineer - Minnesota

**D.7 MAPS**

**D.7.a Map of Evaluation Criteria within Study Area**

EPND is enclosing herewith as Exhibit B.1, a station plot plan showing the location of the proposed station piping and related pumping and metering facilities within the Berthold Station yard as described in Section A. Also, EPND encloses herein as Exhibits B.2 and B.3, a topographic map and aerial map showing location of proposed Project.

**D.7.b Mylar Maps of Study Area**

Mylar maps have not been included with this application because this map producing process is no longer in use.