NORTH DAKOTA PUBLIC SERVICE COMMISSION

APPLICATION OF

ENBRIDGE PIPELINES (NORTH DAKOTA) LLC

for

CERTIFICATE OF CORRIDOR COMPATIBILITY

BERTHOLD STATION EXPANSION PROJECT
December 2011

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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[1] (EPND) currently owns and operates a 968-mile underground petroleum gathering and mainline pipeline system that extends from eastern Montana through the state of North Dakota to Clearbrook, Minnesota. This system also extends northward to the US-Canadian International Boundary where EPND's transmission line (Line 26) ties to its Canadian counterpart's pipeline system near the town of Lignite, Burke County, North Dakota (*see* Exhibit A.1 EPND System Map).

By way of this application, EPND proposes to upgrade and expand its existing Berthold Station and Terminal Facility for connectivity to a new rail transfer facility all being located west of the City of Berthold in Ward County, North Dakota. The "Berthold Station Expansion Project" (Project) is designed to offer an additional 80,000 barrels per day (bpd) of export capacity. The Project involves the acquisition of new land (Berthold-West) and (Berthold-South), and the installation of new station facilities, pumping units, tankage and associated station piping, including all valves and appurtenances, as more fully described in Section A.3 of this Application. See Aerial and Topographical Project Overview Map enclosed herewith as Exhibit A.2.

The new rail transfer facility is non-jurisdictional to the North Dakota Public Service Commission (ND-PSC) and is not part of this Application. Constructing the rail transfer facility includes a double-loop, unit-train facility capable of housing three unit-trains, crude oil tankage and other terminal facilities. The rail facility will be located on the Berthold South property as shown on the map enclosed as Exhibit B.1. The rail facility will be owned by a new wholly owned subsidiary of Enbridge Energy, Limited Partnership, but a third-party will be contracted to operate such facility under a long-term operating agreement. The new rail export service will be placed into service in two phases. Phase 1 is expected to go into service in July 2012 with the first 10,000 bpd of Bakken crude being transferred directly from truck-to-rail.

[1] 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*).

Phase 2 of the rail export service will be placed into service upon the completion of the Project. EPND plans to place the full 80,000 bpd of pipeline-to-rail export capacity in-service as early as 2013. From EPND's North Dakota Pipeline System at Berthold, Bakken shippers have access to numerous markets and refineries through the vast network of the Burlington Northern Santa Fe (BNSF) Railroad System as described in more detail in Section C of this Application.

A.1.b Purpose of Proposed Facilities

EPND has designed this Project to meet the transportation requirements of the Bakken producers and shippers by providing an alternative transportation solution to move an incremental 80,000 bpd of high-quality Bakken crude by rail to new markets across the United States. Since EPND's existing 210,000 bpd pipeline system is full and experiencing apportionment, this Project provides Bakken producers the export capacity needed to further develop their current and future production profiles as future pipeline capacity requirements are determined with its shippers and new pipeline capacity is built. This Project utilizes near term "stranded" pipeline capacity in the heart of the Bakken and Three Forks production areas and provides 80,000 bpd of new rail export capacity from the EPND System.

The Berthold Station Expansion Project is in the public interest as it provides shippers with an economical, flexible and safe transportation option for moving their current and future Bakken and Three Forks production volumes to market, as detailed in Section C of this Application.

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:

US High Sweet Crude (UHC)

Source

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

Final Destination

These supply volumes will have the ability to reach a wide number of out-of-state refineries and marketing hubs through the BNSF Railroad system and other connected rail carriers which presently have 1000 miles of rail lines in the Bakken Region and a 32,000 mile nationwide rail network.

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

All construction work activities will be located within the existing and newly expanded station yard of the Berthold Station and Terminal Facility. (*See* Project Overview Map enclosed herewith as Exhibit B.1.) EPND plans to acquire new parcels of land in fee, and has secured option agreements for two of the three parcels. EPND is presently working to finalize the option agreement for the remaining parcel of land.

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

All above ground facilities associated with the Berthold Station Expansion Project will be located within the existing and newly expanded Berthold Station yard as shown on the maps enclosed as Exhibits B.1 through B.4.

A.3.b.(3) Pipe Size and Length

EPND plans to install the following station piping at its existing and expanded Berthold Station and Terminal Facility. The pipeline will have the following pipe characteristics as shown on Table 1.

Table 1 Pipe Size and Characteristics	
~5,400 feet of 20-inch outside diameter	~2,400 feet of 16-inch outside diameter
0.375-inch wall thickness	0.375-inch wall thickness
API 5L Grade B Steel Pipe	API 5L Grade B Steel Pipe

A.3.b.(4) Maximum Design Operating Pressure and Temperature

The design pressure for the pipeline is 285 psig; normal operating pressures are anticipated to be less than 100 psig. Operating temperatures will range from 40° F to 65° F.

A.3.b.(5) Maximum Design Flow Rate

The maximum design flow rates for the 16-inch and 20-inch station piping are as follows. *See* Table 2 below.

Table 2	
Maximum Design Flow Rate Per Hour	
16-inch Station Pipeline	**20-inch Station Pipeline**
4,688 barrels per hour	12,800 barrels per hour

EPND has designed the station facilities to align with the maximum flow rate of the rail transfer facility, which are non-jurisdictional facilities being constructed in conjunction with this Project. Each rail loading arm will have a maximum design rate of 914 barrels per hour[2].

[2] Calculation: 14 rail loading arms **x** a maximum flow rate of 914 barrels per hour **=** the maximum design flow rate of 12,800 barrels per hour).

A.3.b.(6) The General Location of the Berthold Station Expansion Project

The Berthold Station Expansion Project will consist of the following: (*See* Exhibits B.1 – B.4 for detailed mapping).

Existing Berthold Station

Location

8501 296th NW
Berthold, North Dakota 58718

Legal Description

The existing Berthold Station lies on 106.11 acres of land owned by EPND. It is located in the E ½ of NE ¼ of Section 20 and the W ½ of NW ¼, Section 21, Township-156-North, Range-86 West, Less the Railroad Right-of-Way and Less Outlot 9, Ward County, North Dakota.

Facilities

- Expand Tank Suction Manifold including three (3) 16" Valves
- Two (2) 125 HP Transfer Pumps and Motors
- New Control Building containing Flow Computer, Switchgear and MCC
- New Custody Transfer Metering
- New Quality Sampling Building
- Connection to 18-inch Prover
- Connectivity to 16-inch Transfer Line
- Expand Tank Fill Manifold including three (3) 16" Valves

Other work at the Existing Berthold Station

All civil work required to construct these facilities.

New Berthold West Property

Location

86th Avenue Northwest, between 296th Street NW and 310th Street NW
Berthold, North Dakota 58718

Legal Description

The new Berthold West property consists of approximately 92 acres located in NE ¼ of Section 20, Township 156 North, Range 86 West, Less Outlots 1 and 3, Less portion described in Book "192 of Deeds", page 308 and Less portion described in Book "161 of Deeds", page 629, Ward County, North Dakota.

Facilities

- Connectivity to 16" Transfer Line
- Connectivity to 20" Transfer Line
- Tank Fill Manifold
- Suction Manifold for Transfer Pumps
- Five (5) 250 HP Transfer Pumps and Motors
- Custody Transfer Metering
- Sample Building
- Meter Prover
- Control Building containing Flow Computer, Switchgear, and MCC
- 4000 Gallon Sump Tank
- Control Valve
- Fire Suppression System
- Two (2) 150 Horse Power Transfer Pumps and Motors

Tankage

Two (2) 150,000 barrel tanks

Other Work at the Site

All civil work required to construct these facilities

New Berthold South Property

Location

North of 72nd Ave NW, South of BNSF Right-of-Way, between County Highway 9 and 310th Street NW, Berthold, North Dakota

Legal Description

The new Berthold South property consists of approximately 319 acres located in SW ¼ and SE ¼ of Section 20, Township 156 North, Range 86 West and that portion of the W ½ of the SW ¼ not platted of Section 21, Township 156 North, Range 86 West, Ward County, North Dakota

Facilities

As shown on the Berthold South Plot Plan, no station facilities other than station piping will be installed for connectivity to the rail transfer facility. See Exhibit B.4 for details.

Other Non-Jurisdictional Facilities Being Installed on Berthold South Property

- Phase 1 construction includes installation of the Y-shaped portion of the track[3], fourteen (14) metered rail car loading arms and associated equipment which will transport oil directly from truck to rail.
- Operations Building with maintenance shop
- 900' metal building with AFFF fire suppression system and warming huts
- Sump and vapour combustion systems

Aerial, Topographic and Plot Plan Maps of Berthold Station Expansion Project

Maps are enclosed herewith as:

- Exhibit A.2 Overview Topographic and Aerial Maps
- Exhibit B.1 Overview Plot Plan
- Exhibit B.2 Existing Berthold Station Plot Plan
- Exhibit B.3 Berthold West Plot Plan
- Exhibit B.4 Berthold South Plot Plan

[3] Double track loop with interconnecting switches and eastbound and westbound connections to BNSF mainline.

A.4 TIME SCHEDULE

A.4.a Certificate of Corridor Compatibility

EPND respectfully requests the North Dakota Public Service Commission to approve its certificate by April, 2012.

A.4.b Route Application

A route application was submitted in December 2011 as part of this Consolidated Application for a Certificate of Corridor Compatibility and Route Permit.

A.4.c Route Permit

EPND respectfully requests the North Dakota Public Service Commission to approve its route permit by April, 2012.

A.4.d Construction Start Date

Construction will commence immediately upon receipt of appropriate approvals. EPND's expects to start construction in April, 2012.

A.4.e Construction Complete

EPND's estimated construction completion date is January, 2013.

A.4.f In-Service Date

Estimated in-service date is on or before January, 2013.

APPLICATION FOR CORRIDOR CERTIFICATE
SECTION B
STUDIES

EPND initiated environmental field studies related to the Project in May 2011. Surveys at that time consisted of an approximately 92 acre parcel (Berthold West) immediately west of the existing Berthold Station (in Section 20, Township 156 North, Range 86 West), and a 116 acre parcel north of US Highway 2 in Section 17, Township 156 North, Range 86 West. Since these initial surveys were conducted, EPND has modified its project design and is no longer considering the 116-acre parcel in Section 17. Due to project scope modifications, in September and October 2011, additional surveys were conducted on two parcels of land consisting of approximately 341 acres of land located southwest of the existing station site (south of the BNSF railroad) in Sections 20 and 21. Of this total 341 acres, approximately 319 acres have been included in this filing and are described herein as the "Berthold South" property.

Separate reports (and subsequent agency consultations) were completed for both survey efforts and are included in this filing. Specific data summarized in the following sections is specific to the current project area, and does not include a discussion of features in lands surveyed outside of the Berthold West and Berthold South properties.

B.1 CULTURAL RESOURCE INVESTIGATIONS

Metcalf Archaeological Consultants, Inc. (MAC) of Bismarck, North Dakota conducted a literature review and an intensive pedestrian Class III cultural resources inventory of the Project area in two mobilizations: MAC surveyed the portion of the project area north of the BNSF railroad (Berthold West) in May of 2011, and the portion south of the BNSF railroad (Berthold South) in September of 2011. The literature reviews revealed seven previously recorded sites within one mile of the Project area, but none within the project area itself.

None of the previously recorded sites will be impacted by the Project. One historic site was recorded during the September 2011 mobilization of the Berthold South property. A standing, but non-functional, windmill was identified in the southeast quadrant of the surveyed area. In their survey report, MAC recommended the windmill site as not eligible for listing on the National Register of Historic Places, and further recommended that the Project would not affect any historic properties. Technical reports for the two Class III inventories are included as Exhibit C.1.

On November 29, 2011, EPND requested North Dakota State Historic Preservation Office (ND-SHPO) concurrence with the findings of the literature review and Revised Class III cultural resources inventory conducted on the Berthold West property during the first mobilization. The ND-SHPO concurred with the recommendations on November 29, 2011 providing "No Historic Properties Affected" and "No Significant Sites Affected" determinations for that portion of the Project location. (*See* Exhibit C.2 for a copy of this correspondence.)

On November 8 2011, EPND requested ND-SHPO concurrence with the findings of the literature review and Class III cultural resources inventory conducted south of the railroad during the second mobilization (Berthold South). The ND-SHPO concurred with the recommendations on November 15, 2011, providing "No Historic Properties Affected" and "No Significant Sites Affected" determinations for the portion of the project south of the BNSF railroad. (*See* Exhibit C.2 for a copy of this correspondence.)

B.2 WETLAND AND WATERBODY ASSESSMENT

As noted above, Carlson McCain, Inc. (Carlson McCain)[i] of Bismarck, North Dakota completed a wetland delineation of the Project in two phases. As part of a May 2011 mobilization, four wetlands totalling 0.90 acre were delineated within the Berthold West property. An additional mobilization related to the Berthold West property was conducted in November 2011 to survey a small area (roughly 4 acres) not captured in the original mobilization. No additional wetlands were delineated during this evaluation. A copy of the delineation report, including map sets showing the location of delineated wetlands and waterbodies, is included as Exhibit D.1.

On June 16, 2011, on behalf of EPND, Merjent, Inc. (Merjent) of Minneapolis, Minnesota, submitted a formal request for Jurisdictional Determination of these delineated features to the North Dakota Regulatory Office of the U.S. Army Corps of Engineers (COE) - Omaha District. In a September 9, 2011 response, the COE concluded that none of the delineated features fall within their jurisdiction. A copy of the COE jurisdictional determination is included as Exhibit D.2.

The Berthold South property was surveyed in September and October 2011, and 52 wetlands totalling 32.22 acres were delineated within the survey area. Carlson McCain concluded that 47 of the 52 delineated features are isolated depression basins, two are connected depressions, and three are connected drainage ways.

On October 28, 2011, on behalf of EPND, Merjent submitted a request for Jurisdictional Determination to the COE for the delineated features in the Berthold South property described above. At the time of this filing, a response to this request has not been received.

EPND will implement mitigation measures to minimize impacts to wetlands as described in EPND's Environmental Mitigation Plan (EMP) (see Exhibit E).

B.3 HABITAT ASSESSMENT AND RAPTOR SURVEY

In conjunction with the wetland delineations described above in Section B.2, EPND commissioned Carlson McCain to complete a species of concern habitat assessment and raptor nest survey of the Berthold South property. Habitats were assessed within the Berthold South property and generally on surrounding lands within one-half mile of the Berthold South surveyed area (which includes the Berthold West property).

Agricultural fields, the city of Berthold, and industrial developments comprise the majority of the habitat within and around the survey area. The assessment did not reveal threatened and endangered species or critical habitat areas of concern. No raptors or raptor nests were observed during the on-site evaluation. Potential nesting habitat for raptors is limited to sporadic tree patches and a planted shelterbelt and trees around the city of Berthold. The species of concern habitat assessment and raptor nest survey is included in Exhibit D.1. Further details are provided in Section B.2.j of the Application for a Route Permit.

EPND will implement mitigation measures to minimize impacts as described in EPND's EMP (see Exhibit E).

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

With oil production volumes[4] and drilling activity[5] continuing to increase above previously set records, the demand for crude oil transportation on EPND's pipeline system has risen above its currently available pipeline capacity despite the completion of the latest expansion projects in 2010[6] and other transportation efficiencies[7] that EPND has implemented. To meet this demand, EPND has developed its Berthold Station Expansion Project, a transportation solution that links pipeline-to-rail service from its North Dakota Pipeline System and provides the additional export capacity needed by its shippers in the prolific producing regions of the Bakken and Three Forks Formation as described in more details below.

Oil producers in the Williston Basin of North Dakota continue to demand additional export capacity to transport the increasing Bakken crude oil production from the prolific producing western counties of North Dakota. These areas are currently experiencing historical levels of drilling activity resulting in greatly increased production of crude oil. With the EPND capacity of 210,000 bpd into Clearbrook in full apportionment and with the Line 26 Reversal export capacity initially limited to 25,000 bpd[8], additional capacity is

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[4] Based on the 2011 Edition of the North Dakota Oil & Gas Industry's "Facts & Figures" publication, the annual oil production in the Bakken and Three Forks Formation has risen from 79.7 million barrels in 2009 to 113 million barrels in 2010. Current production levels in North Dakota were approaching 500,000 bpd in 4th quarter, 2011.

[5] Additionally, the drilling rig count, which is the barometer for measuring oil and gas activity, averaged 126 rigs per day in 2010 which broke the 1981 record of 119 rigs. Current drilling rig estimates exceed 200 rigs.

[6] As approved by this Commission in the following docketed proceedings:
- 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 were fully placed in-service on January 2008.
- In Docket No. PU-07-791, EPND's Phase 6 was approved by the ND-PSC in July, 2008 and was fully placed in service in January 2010.
- In Docket Nos. PU-10-612 & PU-10-613, EPND's Bakken Expansion Program was approved by the ND-PSC in May 2011, and is currently under construction.

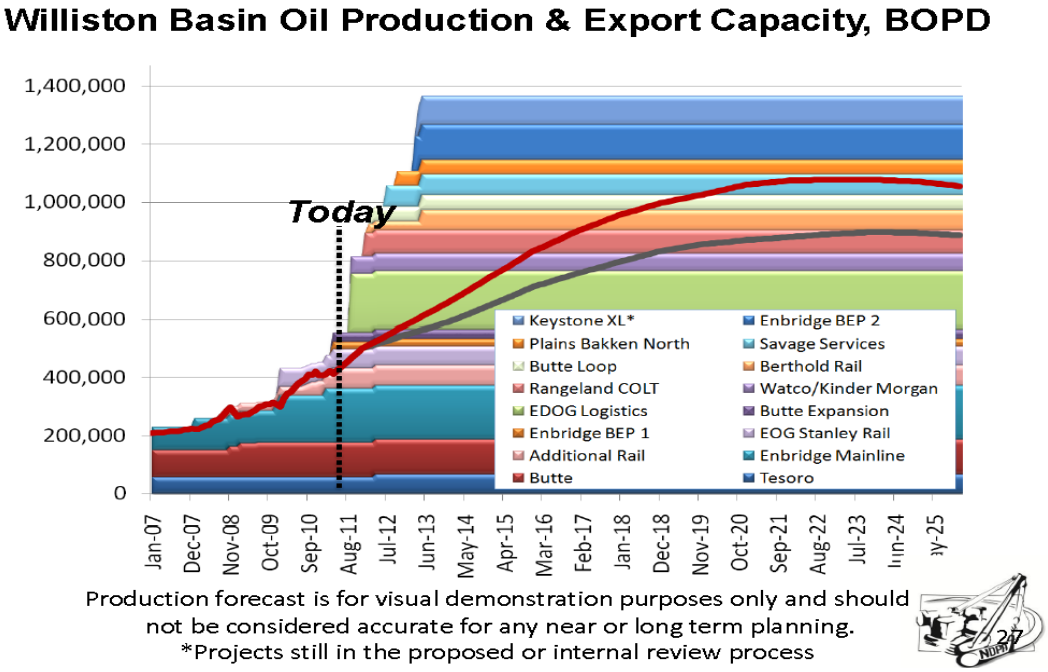
[7] FERC Tariff modifications to transport sweet crude only

[8] On August 16, 2010 in Docket No. PU10-564, EPND filed a "Certification Letter" stating its plans to make certain station upgrades and modifications to its existing Berthold Station in order to reactivate and reverse the flow of Line 26, thus adding an incremental 25,000 barrels per day of export capacity to EPND's North Dakota Pipeline system.

needed beyond Enbridge's Bakken Expansion Program capacity of 145,000 bpd in first quarter of 2013. This lack of export pipeline capacity has caused EPND to explore other options to meet its shippers' transportation requirements to market.

As shown on Figure 1 below, the current take-away capacity in North Dakota along with planned expansion projects (if built) are not expected to meet the forecasted production growth rate until early 2013, leaving incremental volumes stranded to find alternative transportation methods to move such production to market according to the North Dakota Pipeline Authority.

Figure 1



For the reason stated above, EPND is responding to the market needs of its Bakken producers and shippers with the development of its Berthold Station Expansion Project. The planned use and purpose of this Project is to provide a transportation solution to meet the shipper needs for additional export capacity and provide transport options for moving Bakken and Three Forks production to market. Thus, EPND plans to upgrade and expand its existing Berthold Station and Terminal Facility for connectivity to a new rail transfer facility, which will then move such incremental Bakken volumes to market by rail. Upon completion of this Project, EPND will be able to provide its Bakken shippers with 80,000 bpd of incremental export capacity to the new rail transfer facility. From the rail facility, Bakken shippers will have access to numerous marketing and refinery hubs connected to BNSF Railroad System.

EPND has secured a number of contractual commitments from its shippers for this Project and is working to finalize other contractual commitments over the next few months. EPND also plans to offer other services for its pipeline-to-rail project, which will provide a long-term solution for shippers needing access to other transportation options to move their production volumes to market, while future pipeline expansion projects develop. This optionality provides shippers with the flexibility necessary to meet their transportation requirements and the ability to further develop their production profile with the assurance that export capacity will be available from ENPD's North Dakota Pipeline System via the Project described herein .

Thus, EPND believes that the Berthold Station Expansion Project is in the public interest as it provides Bakken producers and shippers with an economical, flexible and safe transportation option to move production to new markets across the U.S. from its expanding North Dakota Pipeline System. The modifications and the addition of new facilities at Berthold as described herein will allow EPND to connect to a new rail transfer facility being constructed on the new Berthold South property. The rail facility will have the ability to load both unit-train and manifest shipments of crude oil that can be delivered to markets throughout North America, including oil-receiving terminals at Cushing and along the Gulf Coast.

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 need for 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.

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 Expansion Project.

C.2.a No Action Alternative:

In light of the overall increase in Williston Basin production, the 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 80,000 barrels. 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 Clearbrook Station and Terminal which is the nearest market outside the Williston Basin, some 376 miles from Minot, North Dakota. The potential in-service date of additional trucking, load and off-loading capacity is not known, but would likely take one to two years at costs greater than the proposed project. 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 80,000 bpd of crude oil proposed by the Project, a fleet of trucks would be required as detailed on Table 3 below:

Computation of Trucking Requirements

Table 3 Computation of Trucking Requirement to Transport 80,000 bpd (80,000 / 200 = 400)	
Explanation	**From Berthold To Clearbrook Station**
Number of trucks required per day	400 x 1 = 400
Number of trucks in transit per day	400 x 1 = 400
Number of trucks returning empty per day	400 x 1 = 400
20% of the in-transit trucks loading and unloading	400 x .20 = 80
Total truck requirements (ignoring scheduled / unscheduled down time)	400+400+80 = 880 trucks
Number of drivers required for 1 day round-trip including loading/unloading	880 drivers
Number of drivers required for 2 day round trip including loading/unloading	1,760 drivers

In order to facilitate this operation, significant truck loading and offloading terminal facilities would have to be constructed at the Clearbrook Station. In addition, it is likely that substantial upgrades and on-going 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 Clearbrook Station to be constructed on the same timeline as the Berthold Station Expansion Project or the required timeline 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, or 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 80,000 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 2011 rates to move those same barrels would range from $6.72 to $11.21 per barrel. Therefore, the estimated transportation costs to truck 80,000 bpd would range between approximately $196 million and $327 million dollars per year (ignoring the cost of new vehicles and infrastructure facilities necessary).

- **its economic life**

With mileage that the trucks would accrue 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 Expansion Project, as truck traffic is affected by weather conditions, mechanical failure, manpower (driver shortages), road maintenance or closures.

C.2.c Pipeline Alternative

Currently, there is insufficient available pipeline capacity to transport the incremental 80,000 bpd to Clearbrook. The pipeline alternative would require the construction (by EPND or its shippers) of a pipeline capable of transporting 80,000 bpd. The potential in-service date of additional pipeline capacity would likely be 2014. This in-service date does not meet the current need for take away capacity from the Bakken.

C.2.d Alternative EPND Pipeline Route

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

- The in-service date for the Berthold Station Expansion Project is on or before January, 2013.
- The Berthold Station Expansion Project operations will be operationally integrated with the existing EPND System.
- The cost of the Berthold Station Expansion Project is approximately $145 million. In this Application, EPND has also included the installation of a new tank which will cost an additional $22 million and will be used to facilitate the efficient storage operations of the Berthold Station and Terminal Facility.
- The economic life of the Berthold Station Expansion Project for this purpose is based on a 25-year depreciation period; however, the functional life of the proposed facilities should be considerably longer 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. The rail operations at Berthold will have the same round-the-clock reliability.

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:

- Move production that cannot be served by current pipeline capacity
- Access new markets not presently served by EPND.
- 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.

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 and Gulf Coast 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 G. At the time of filing this annual report, EPND did not anticipate the need for the Project as disclosed in Schedules H.

APPLICATION FOR CORRIDOR CERTIFICATE
SECTION D
LOCATION

D.1 STUDY AREA

EPND has defined its study area as a one-half mile buffer around the perimeter of the project area described below and as shown on the map enclosed herewith as Exhibit I.1.

EPND has defined its project survey area to include the existing Berthold Station[9] property and the new parcels of land referenced as the Berthold West property and the Berthold South property as described below and shown on the Berthold .Station Site Plan enclosed herein as Exhibit A.2.

- The existing Berthold Station property, consisting of approximately 106 acres, is located south of Highway 2 and east of the BNSF railroad in Sections 20 and 21, Township 156 North, Range 86 West in Ward County;
- The new Berthold West property includes one new parcel of land consisting of approximately 92 acres and is located immediately west of the existing Berthold Station and north of the BNSF railroad in Section 20, Township 156 North, Range 86 West in Ward County; and
- The new Berthold South property includes two new parcels of land consisting of approximately 319 acres and is located southwest of the existing station and south of the BNSF railroad in Sections 20 and 21, Township 156 North, Range 86 West in Ward County.

EPND plans to acquire new parcels of land in fee, and has secured option agreements for two of the three parcels. EPND is presently working to finalize the option agreement for the remaining parcel of land.

As described in Section B, all areas within the project area were surveyed for cultural resources, wetlands, and biological resources.

[9] The existing Berthold Station property was original sited and permitted in PU-10-130 and approved by this Commission on August 4, 2010.

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 Project. Detailed discussions of these criteria, including descriptions, potential impacts, and mitigation measures where appropriate are provided below.

D.2.a Exclusion and Avoidance Areas

In accordance with the North Dakota Rules Chapter 69-06-08-02.1 and 69-06-08-02.2, EPND is required to identify certain sensitive or otherwise important environmental features that must be considered during the selection of siting a transmission facility. These features have been classified as "Exclusion Areas" and "Avoidance Areas". As defined, Exclusion Areas are areas that are to be excluded from consideration for energy conversion sites and transmission facility sites. 'Avoidance Areas" are areas not to be considered in the siting of a transmission facility unless it is shown that, under the circumstances, there are no reasonable alternatives. In 1978, the ND-PSC published the Inventory of Exclusion and Avoidance areas for the Siting of Energy Conversion and Transmission Facilities, which lists these areas for each county in North Dakota (*See* Table 4 below).

Exhibit I.1 contains a map depicting Exclusion and Avoidance Areas within the study area. No Exclusion or Avoidance Areas were identified within the Project survey area as described on Table 4 below.

TABLE 4

North Dakota Public Service Commission Exclusion and Avoidance Areas

Avoidance and Exclusion Area	Category	Within Study Area	Within Project Survey Area	Administering Agency
National Memorial Parks	Exclusion	No	No	National Park Service (NPS)
National Historic Sites and Landmarks	Exclusion	No	No	NPS
National Natural Landmarks	Exclusion	No	No	NPS
National Wilderness Areas	Exclusion	No	No	NPS and U.S. Forest Service (USFS)
National Parks	Exclusion	No	No	NPS
National Monuments	Exclusion	No	No	NPS and State Historical Society
State Parks	Exclusion	No	No	State Park Service
State Historic Sites	Exclusion	No	No	State Historical Board
State Historical Markers	Exclusion	No	No	State Historical Board
State Archaeological Sites	Exclusion	No	No	State Historical Board

TABLE 4

North Dakota Public Service Commission Exclusion and Avoidance Areas

Avoidance and Exclusion Area	Category	Within Study Area	Within Project Survey Area	Administering Agency
State Monuments	Exclusion	No	No	State Historical Society
State Nature Preserves	Exclusion	No	No	State Park Service
Areas Critical to the Life Stages of Threatened or Endangered Animal or Plant Species	Exclusion	No	No	U.S. Fish and Wildlife Service (USFWS)
Areas Where Animal or Plant Species Unique or Rare in the State Would be Irreversibly Damaged	Exclusion	No	No	Various
County Parks and Recreation Areas, Municipal Parks, and Parks under other Governmental Jurisdiction	Exclusion	Yes	No	Various
National Wildlife Areas	Avoidance	No	No	USFWS
National Wildlife Refuges	Avoidance	No	No	USFWS
National Grasslands	Avoidance	No	No	USFS
National Historic Districts	Avoidance	No	No	State Historic Society
National Wild, Scenic or Recreational Rivers	Avoidance	No	No	Heritage Conservation Recreation Service, State Outdoor Recreation Agency
State Wild, Scenic or Recreational Rivers	Avoidance	No	No	State of North Dakota Legislative Assembly
State Game Refuges	Avoidance	No	No	North Dakota Game and Fish Department (NDGF)
State Game Management and Management Areas	Avoidance	No	No	NDGF
State Forests	Avoidance	No	No	State Forest Service
State Forest Management Lands	Avoidance	No	No	State Forest Service
State Grasslands	Avoidance	No	No	State Park Service
Irrigated Land	Avoidance	No	No	State Water Commission
Areas of Historic, Archaeological or Paleontological Significance not specifically designated as Exclusion or Avoidance Areas	Avoidance	No	No	State and County Historical Society
Areas of Recreational Significance	Avoidance	No	No	Various
Reservoirs	Avoidance	No	No	U.S. Army Corps of Engineers and State Water Resource Commission
Municipal Water Supplies	Avoidance	No	No	State Water Resource Commission
Water Sources for Organized Rural Water Districts	Avoidance	No	No	State Water Commission
Areas which are Geologically Unstable	Avoidance	No	No	State Geologist Geological Survey
Within 500 Feet of a Residence, School, or Place of Business	Avoidance	No	No	Landowner

D.2.a.(1) County Parks and Recreation Areas, Municipal Parks, and Parks under other Governmental Jurisdiction

A small park encompassing one city block (Walther Park) is located in the northeastern portion of the city of Berthold, approximately ½ mile from the eastern edge of the Berthold South property. This park is not located within the Project survey area. However, a small portion of this park is located within the study area as shown on Exhibit I.1.

The Berthold Golf Club is located on the southern edge of the city of Berthold and falls within the one-half mile study area, but not within the project survey area. The golf club is located approximately ½ mile southeast from the eastern edge of the Berthold South property. This golf club is not located within the Project survey area. However, it located on the eastern edge of the study area as shown on Exhibit I.1.

In conclusion, the park and golf club are located a sufficient distance from the Project survey area, and will not experience any impacts as a result of the Project.

D.2.b Selection Criteria

State of North Dakota Rules specify several selection criteria to be considered, including whether adverse effects from the location, construction, and maintenance of the facility, as they relate to these criteria, will be at an acceptable minimum, and whether these effects will be managed and maintained at an acceptable minimum. Table 5 below identifies the selection criteria that were considered for the Project. Potential impacts, as they relate to each of the selection criteria, are discussed below. EPND will implement several measures to minimize these impacts, which are noted below and discussed in greater detail below.

TABLE 5
Selection Criteria Considered

Selection Criteria Considered	Impacts Resulting from Project
Agricultural Production	Minimal
Family Farms and Ranches	No
Land Suitable for Irrigation	No
Surface and Groundwater Flow Patterns	No

TABLE 5 Selection Criteria Considered	
Selection Criteria Considered	**Impacts Resulting from Project**
Noise Sensitive Areas	No
Visual Effects	Minimal
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.b.(1) Agricultural Production

Based on the U.S. Geological Survey (USGS) National Land Cover Data Set (2006), the majority of the project and study area is comprised of an agricultural land use (*See* Exhibit I.2). Additionally, the wetland delineations performed by Carlson McCain (*See* Exhibit D.1) in 2011 noted the Berthold West property was comprised of cultivated fields planted with canola and wheat in 2010. The Berthold South property is also comprised of cultivated fields; however, it was noted that these fields were not planted in 2011 due to wet conditions.

Detailed soil characteristics were identified and assessed using the Soil Survey Geographic database (SSURGO; U.S. Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS), 2008). Approximately 5% of the project area consists of prime farmland, and an additional 5% is classified as "prime farmland if drained." The majority of the project area (87%) consists of "farmland of state-wide importance", with approximately 3% of the land classified as "not prime farmland."

Potential temporary effects on soil resources include the loss of soil productivity due to erosion, soil mixing, or soil compaction. Soil disturbances associated with clearing, grading and trenching will expose soils to water and wind, increasing the potential for erosion. During construction, the effects of erosion will be mitigated by use of silt fence and other erosion control measures as described in EPND's EMP (*See* Exhibit E).

All construction will take place within the Berthold West and Berthold South properties (totalling 411 acres), which Enbridge plans to owns in fee. Less than 10 acres of farmland will be permanently taken out of production as result of project activities. The amount of farmland to be taken out of production as a result of the Project is considered to be negligible compared to estimated 1.07 million acres of farmed land in Ward County, North Dakota (USDA 2007 Census of Agriculture). In areas where aboveground features are not present, Enbridge may lease portions of the Berthold West and South properties to local farmers.

D.2.b.(2) Visual Effects

No designated scenic outlooks or viewing areas were identified within the study area. The study area and general landscape consists primarily of agricultural fields where the line of sight is broken by rolling hills and the occasional wooded draw or shelterbelt. Additionally, a portion of the Project would be adjacent to EPND's existing Berthold Station, a BNSF railroad, and US Highway 2.

Temporary visual effects would exist during active construction during which time heavy equipment, trenches/grading, and spoil piles will change the colors and textures of the landscape. The duration of visual impacts will be relatively short-term as the re-establishment of vegetation will occur relatively quickly. The only permanent impacts on visual resources will be additional structures built in association with the aboveground tanks, manifolds, and miscellaneous aboveground piping. The Project will be located in rural agricultural area where the additional structures would have a negligible visual effect on adjacent areas.

D.2.b.(3) Wetlands

As identified in Section B.2, 56 wetlands (totalling 33.1 acres) were field delineated within the project area. No permanent wetland impacts will occur as a result of constructing the transmission facilities described in Section A.3 of this Application. Minor temporary impacts to wetlands may occur during construction activities.

EPND will implement mitigation measures to minimize impacts to wetlands as described in EPND's EMP (*See* Exhibit E).

D.2.b.(4) 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 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.b.(5) Plant Life

As stated above, minor temporary impacts to wetlands may occur during construction activities; however, no permanent wetland impacts will occur as a result of PSC-regulated project activities. As noted above, less than 10 acres of farmland will be permanently taken out of production as result of project activities. Significant change in plant life is not anticipated by the Project.

D.2.c 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.c.(1) Location and Design

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

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

The number of construction workers that may be hired locally during construction will 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 communities around the Berthold-Minot area.

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.c.(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 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 may 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).

It is anticipated that the direct operation of the rail transfer facility will require up to 30 employees working full time by the third-party operator.

The current North Dakota State property tax revenue for EPND is approximately $2.1 million. The total assessed value resulting from the Project will increase the estimated state taxes by approximately $1.834 million.

D.2.c.(4) <u>A Commitment of a Portion of the Transmitted Product for Use in this State</u>

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 shippers 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.c.(5) The Coordination of Facilities

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

D.2.c.(6) Monitoring of Impacts

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

D.2.c.(6)(i) Environmental Training

To communicate the environmental requirements of the Project to Project personnel, EPND will 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.c.(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, EPND 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 biological resources),

as described in Section B of this application. Additional information regarding agency consultations is provided in Section B of the Application for a Route Permit. EPND will continue to work with appropriate regulatory agencies and will continue to gather comprehensive information during the permitting process.

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

As previously mentioned, EPND has designed the 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 Project involves the expansion of EPND's existing Berthold Station in Berthold, Ward County, North Dakota. 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 Project are identified throughout this document. In addition, EPND has developed an EMP for this Project (*See* Exhibit E). The EMP provides a more detailed discussion of the guidelines and mitigation measures that EPND will 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 H). The EMP and SPCCP are comprehensive, controlling documents that will be included in contract specifications.

D.6 QUALIFICATIONS OF PERSONS CONTRIBUTING TO THE STUDY

D.6.a Sara Ploetz

Environmental Analyst II

Degree: BA Environmental Studies, University of Minnesota Duluth

Experience: 5 years of experience in environmental and regulatory permitting

Other Training and Licenses: NA

D.6.b Paul Hartzheim

Senior Analyst, Merjent, Inc.

Degree: BS, Environmental Science (Hydrology emphasis), University of Minnesota, Twin Cities

MS, Water Resources Science (pending), University of Minnesota, Twin Cities

Experience: 7 years of experience in environmental and regulatory compliance

Other Training and Licenses: Design of Construction Stormwater Pollution Prevention Plans, Construction Installer – University of Minnesota Erosion and Stormwater Management Certification Program

D.6.c 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: 17 years of experience in environmental and regulatory permitting and construction oversight 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 – B.4, plot plans showing the location of the piping and related structures as described in Section A. Also enclosed as Exhibit A.2 are aerial and topographical maps showing the overview site plan.

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.

[i] Note: Formerly "McCain and Associates, Inc."