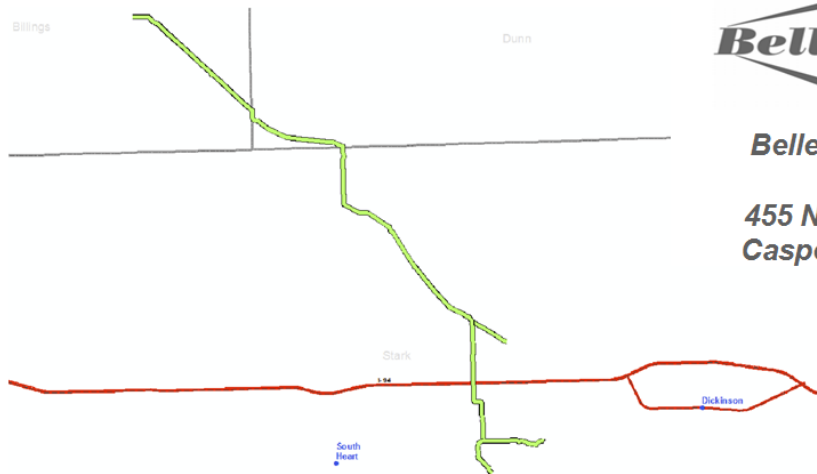


**10-inch Crude Oil Loop Pipeline
Billings, Dunn, and Stark Counties**

Pipeline Corridor Application



**Belle Fourche Pipeline
Company
455 North Poplar Street
Casper, Wyoming 82602**



March 2014

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SECTION A DESCRIPTION OF PROPOSED FACILITY

A.1 Describe the type of transmission facility addressed in this application. The description shall include the purpose of the facility and the technology to be employed:

Belle Fourche Pipeline Company (Belle Fourche) proposes to construct and operate a new 20-mile-long, 10-inch liquid petroleum pipeline (Project) that will interconnect with Belle Fourche facilities at Skunk Hills Station and Dickinson Station to supply Bakken Oil Express (BOE) Rail Facility and the Dakota Prairie Refining facility, all in North Dakota. This system is currently connected to Bridger Pipeline's 12-inch Four Bears crude pipeline. The new section of pipeline parallels an existing Belle Fourche 6-inch line from Skunk Hill Station to Dickinson Station and will be operationally integrated into the existing operations of Belle Fourche.

New right-of-way (ROW) has been acquired from landowners adjacent to the west and south sides of the existing Belle Fourche ROW for its existing 6-inch pipeline. The pipeline will be buried underground. No new pumping facilities will be needed at this time within North Dakota. No new surface facilities will be installed in the State of North Dakota, other than pipeline markers, rectifiers, and block valves. Some small fenced-in enclosures to house associated power and control systems may be installed to allow some valves to be operated remotely.

The estimated cost of the Project is approximately \$7.9 million.

A.2 Describe the type, source, and final destination of the product to be transmitted by the proposed facility:

The new pipeline capacity will provide needed capacity to transport increased production of petroleum from Western North Dakota where oil production has more than tripled in the last three years.¹ This additional pipeline will increase the capacity of the system by 100,000 barrels per day on an annual average. This product will subsequently be delivered to the Dakota Prairie Refining facility or transported via rail at BOE Rail Facility for ultimate delivery to crude markets on the East and West Coast.

Due to the increased volume of crude oil being transported through the existing pipeline, it is necessary for Belle Fourche to install a parallel pipeline to increase the system capacity.

Although Belle Fourche does not explicitly specify the type of crude it will transport; historically it is a sweet common stream system and will continue to accept sweet crude oil into its common stream. Belle Fourche does not have any plans to accept any other crude other than sweet crude.

Generally, liquid pipelines are designed at a specified capacity for a known liquid. Most liquid pipelines transport a variety of different liquids. The change in fluid characteristics (density, viscosity, etc.) of the transported liquids will affect the capacity of the pipeline. Liquids are also batched in a pipeline generally in a repeatable sequence. Both fluid characteristics and batch sequence will affect the capacity of the pipeline.

¹ ND Department of Mineral Resources. "ND Historical Barrels of Oil Produced by County". Available at <https://www.dmr.nd.gov/oilgas/stats/countymot.pdf> Accessed December 13, 2013.

A.3 PIPELINE SIZE AND DESIGN: provide a description of the size and design of the PIPELINE facility including, but not limited to, the following:

- a. Width of ROW;
- b. Estimated distance between surface structures such as manholes or block valves;
- c. Pipe size;
- d. Approximate length of facility;
- e. Maximum design operating pressure and temperature;
- f. Maximum design flow rate; and
- g. The number and general location of compressor or pumping stations

A.3 (a) Width of the Right of Way

Construction work space will be approximately 75 feet wide to allow adequate room for topsoil separation, work equipment and pipe stringing. Additional temporary work space may be necessary during construction in areas such as steep slopes and staging areas for streams, wetlands, and road crossings, for safety reasons, to provide an area for prefabrication of a section of pipeline, or for storage of top soil and subsoil material. Belle Fourche also has access to the adjacent 50 feet of ROW to the east from its existing line ROW along the majority of the route.

In most cases, the Dickinson Line Loop Pipeline will be installed 25 feet west or south of the existing pipeline. The distance has been established based on the following criteria:

- Provision of adequate space and line separation for future line maintenance, and
- Allowance of adequate space to facilitate construction of the 10-inch pipeline while minimizing potential damage to the existing lines.

A.3 (b) Estimated Distances Between Surface Structures

Surface structures will be limited to pipeline markers and rectifier sites, which are part of the cathodic protection system.

A.3 (c) Pipe Size

The pipe to be installed will have a 10-inch outside diameter, 0.188in wall, X52, and be FBE coated pipe. The maximum allowable operating pressure will be 1440 psig.

The valves to be installed will be 10-inch 600# ANSI, flanged end, full port ball valves. These valves will be manufactured in accordance with API Standard 6D "API Specification for Steel, Gate, Plug, Ball and Check Valves for Pipeline Service". The maximum allowable operating pressure of the valve will be 1440 pounds of pressure per square inch gauge ("psig").

A.3 (d) Approximate Length of Facility

The Project is expected to install approximately 20 miles of pipe.

A.3 (e) Maximum Design Operating Pressure and Temperature

The initial Annual Capacity of the Project will be 100,000 barrels per day (bpd). The maximum allowable operating pressure of this pipe will be 1440 psig. The maximum temperature of the petroleum will be 80° F.

A.3 (f) Maximum Design Flow Rate

The design flow rate of the Project is 100,000 bpd.

A.3 (g) The Number and General Location of Pumping Stations

Electric Pumping units will be installed within Belle Fourche's existing Skunk Hills Crude Station. No new mid-route stations will be necessary for this pipeline.

A.4 TIME SCHEDULE

Belle Fourche proposes to develop the Project on the following time schedule:

A.4 (a) Certificate of Corridor Compatibility

The Certificate of Corridor Compatibility Application is being submitted in February 2014 as part of this consolidated Certificate of Corridor Compatibility and Route Application. Approval is expected on or before April 30, 2014.

A.4. (b) Route Application

The Route Permit Application is being submitted in February 2014 as part of this consolidated Certificate of Corridor Compatibility and Route Application. Approval is expected on or before April 30, 2014.

A.4 (c) Route Permit

Expected on or before April 30, 2014.

A.4 (d). Construction Start Date

Proposed commencement date for construction is May 1, 2014.

A.4 (e) Construction Complete

Estimated construction completion date is on or before August 31, 2014.

A.4 (f) In Service Date

Estimated in service date is on or before September 1, 2014.

SECTION B STUDIES

Contacts have been made with the North Dakota Game and Fish Department (NDGFD), the U.S. Fish and Wildlife Service (FWS), and the North Dakota Parks and Recreation Department's North Dakota Natural Heritage Inventory System to identify species and ecologically significant habitats within the ROW and the Project corridor. Possible areas of concern discussed were federally listed endangered, threatened, candidate, sensitive, or watch species, state-listed protected species, and critical habitat that is located on or within the pipeline route.

The NDGFD was provided with the proposed route and is currently under review. Areas that will be analyzed by the department will be state-listed protected species or unique biological areas with the proposed route.

The FWS was provided with the proposed route and is currently under review. Areas that are analyzed by the FWS include federally listed endangered, threatened, candidate species, and designated critical habitat in North Dakota.

Belle Fourche engaged Keitu Engineers & Consultants, Inc. and Metcalf Archaeological Consultants, Inc. (Metcalf) to perform the environmental and cultural resource siting studies for the Project.

A field survey was conducted in September 2012 using a 500-foot-wide corridor for botany and a 1-mile wide corridor for wildlife, in accordance with FWS field study protocols. A second field survey was conducted in November 2013 for a portion of the pipeline route that was relocated due to a subsequently initiated project by the ND Department of Transportation to install an additional interchange on Interstate Highway 94 (I-94) in 2013.

No sensitive wildlife or botany issues were identified within the corridor. The results of this field study are presented in Tab 3 Section B.4.i in the route permit application submitted as part of this consolidated permit application.

The North Dakota Natural Heritage Inventory System listed Species of Concern in the state that have been identified within the Project area (see Tab 3 Section B.4.i). The field study concluded that the Project area is within safe distance from the species listed and will not have an effect on the species or their habitat.

Metcalf performed a Class I archeological file search in August 2012 using a 2-mile-wide study corridor on the 20 miles of the pipeline route. A Class III field survey was performed in September 2012 and November 2013. The cultural resource location details are not presented here in a publicly available document per request of the North Dakota State Historic Society. Metcalf has provided a redacted version of the report to be submitted as part of this application located in Tab 4.

Additional details of these sites will be provided to the North Dakota Public Service Commission staff upon request.

SECTION C NEED FOR FACILITY

C.1 Describe the need for the facility based on current and projected demand for the product transmitted for the facility including the most recent system studies supporting the analysis of the need.

a. Planned Use and Purpose

Application of horizontal drilling technology and steady and relatively historically high crude oil prices have resulted in a resurgence of oil drilling activity in North Dakota. Unprecedented success has occurred in the Bakken oil formation, resulting in more than doubling of oil production in North Dakota in the last three years. A summary of annual crude oil production in the state is presented in Table 1.1, below.

Year	Total Crude Oil Production, Barrels	% Gain over 2008
2008	62.8 million	---
2009	79.7 million	26.9 %
2010	113.1 million	80.1 %
2011	153.0 million	143.6 %
2012	242.5 million	286.1 %
2013	313.4 million	499.0 %

Oil production in North Dakota is expected to continue to grow until 2025. The purpose of the Project is to provide “midstream” transportation alternatives for the expanding volumes of crude oil produced in North Dakota. The pipeline will also supply the Dakota Prairie Refining facility. Dakota Prairie Refinery, when complete, will be the first Greenfield refinery built in the U.S. since 1976. It is a joint project with MDU Resources and Calumet Specialty Products Partners, L.P. to develop, build and operate a 20,000-barrel-per-day diesel topping plant in southwestern North Dakota.³

Rail transportation of crude oil from the Bakken has surged in recent years. Rail transportation to east and west coast crude oil markets allows for producers in North Dakota to get a better price on their crude oil.

² U.S. Department of Energy, EIA webpage statistics, crude oil production by state, available at http://www.eia.gov/dnav/pet/pet_crd_crpdn_adc_mbbbl_a.htm (accessed March 13, 2014).

³ Calumet Specialty Products Partners, LP, Dakota Prairie Refinery Project, available at <http://www.calumetspecialty.com/dakota-prairie-refinery-project> (accessed December 23, 2013).

b. Pipeline Capacity Constrained in Western North Dakota

Crude oil in North Dakota is shipped to one of three pipeline sale outlets or demand points: (1) Tesoro's Mandan, North Dakota refinery; (2) the Guernsey, Wyoming interconnection hub; and/or (3) the Clearbrook, Minnesota interconnection hub.

Rail transportation of crude oil increased more than tenfold during the period from April 2011 to April 2013 from approximately 60,000 bbls/day to over 650,000 bbls/day. Shipments are made to East Coast, West Coast and Gulf Coast destinations. Over 70% of all crude oil produced in North Dakota leaves the state by rail.⁴

c. Applicant's project increases capacity in western North Dakota:

The Project will deliver approximately 20,000 bbls/day on average to Dakota Prairie Refining and approximately an additional 80,000 bbls/day average to BOE Crude Oil Rail Facility. These numbers are estimates and will vary from month to month.

d. Other Expansions on the Belle Fourche System:

No additional Belle Fourche expansions are planned at this time. However market forces may open the economics of other alternatives considered. As predominately a gathering and transfer system, much of the Belle Fourche transportation flexibility is subject to changes by larger pipeline transportation companies. As the pipeline and rail transportation systems expand, more opportunities may present themselves.

e. Recent System Studies Supporting the Analysis of the Need

Due in large part to production from the Bakken and Three Forks formations, the State of North Dakota is currently the second largest producer of crude oil in the United States. The state produced an all-time high of 941,637 bbls/day in October 2013. Bakken and Three Forks formations accounted for 93% of this record production.⁵

One challenge North Dakota faces is moving crude oil intrastate. The Project is located in Billings, Dunn, and Stark Counties in North Dakota. In Billings County, 57% of the production is currently being moved by truck from the wellhead. In Dunn County, 61% of the production is currently being moved by truck from the wellhead. In Stark County, 45% of the production is currently being moved by truck from the wellhead.⁶ Gathering system pipelines are being encouraged throughout the state to limit truck transportation and provide a safer, more efficient solution.

Key slides from the May 23, 2013 presentation of North Dakota Pipeline Authority to the North Dakota Oil & Gas Research Council are presented in Tab 2 as Appendix 2.A. The

⁴ N.D. Pipeline Authority, North Dakota Oil and Gas Research Council Presentation, Justin J. Kringstad, May 23, 2013.

⁵ NDIC, "Director's Cut," available at: <https://www.dmr.nd.gov/oilgas/directorscut/directorscut-2013-12-13.pdf> (accessed January 7, 2014).

⁶ N.D. Pipeline Authority, North Dakota Oil and Gas Research Council Presentation, Justin J. Kringstad, May 23, 2013.

December 2013 Director's Cut by Lynn Helms of the NDIC Department of Mineral Resources is presented in Tab 2 as Appendix 2.B.

C.2 Alternatives to the Proposed Facility

Three alternatives to the proposed Project were considered.

a. No Action Alternative:

The status quo could be allowed to continue, supported by trucking crude oil to the Dakota Prairie Refining facility or BOE Rail Facility. Finding qualified cargo tank operators, already a critical issue, will continue to be difficult. Further, there will be additional wear and tear to county and state roads due to high truck traffic. Pipeline transportation (1) reduces truck traffic on the area's road network; (2) provides access to a wider range of markets; and (3) is a more efficient and safer mode of transportation, reducing both costs and the potential for accidents. A "no action" alternative is unacceptable to Belle Fourche and its customers.

b. Alternative Belle Fourche Pipeline Route:

A full route alternative analysis was completed by Belle Fourche. Belle Fourche identified and evaluated several options for routing its Project. These studies were designed to define a preferred route that achieves Project objectives, technologically and economically feasible to construct, and minimizes impacts on landowners and the environment. Based on this assessment Belle Fourche focused the examination of routing alternatives to a route generally within or adjacent to existing Belle Fourche ROW. This approach allowed the Applicant the benefit of utilizing existing pumping station and equipment at existing Belle Fourche fee-owned pump station sites to further reduce the Project's environmental and public impact.

Belle Fourche next evaluated this existing pipeline route for the optimum configuration. It was determined that to generally locate the Project on the southwest edge of its existing ROW would require the least amount of additional new permanent ROW. One route deviation was required from the existing ROW. Belle Fourche was informed of the North Dakota Department of Transportation (DOT)'s intent to construct an on- and off-ramps on I-94 near the existing pipeline location. The Project route was modified slightly to avoid any further conflicts with the DOT project.

c. Alternative Pipeline Design/Size:

Based on the crude petroleum forecast and discussions with shippers and producers, the Applicant determined that an annual capacity of 100,000 bbls/day would be required and sufficient to meet the transportation requirements of its shippers. The alternatives examined with respect to sizing the Project to efficiently and cost effectively provide 100,000 bpd of crude petroleum annual capacity included 8-inch and 10-inch diameters. The 10-inch design provides the most efficient and cost effective combination of capital cost and pumping horsepower requirements for the required capacity.

- The in-service date for the 10-inch Crude Oil Pipeline Loop Project expected to be on or before September 1, 2014.
- The 10-inch Crude Oil Pipeline Loop Project operations will be operationally integrated with the Belle Fourche Pipeline transportation and gathering system located in North Dakota, Wyoming and Montana.
- The cost of the 10-inch Crude Oil Pipeline Loop Project is \$7.9 million.
- The economic life of the 10-inch Crude Oil Pipeline Loop Project for this purpose is based on 25-year depreciation; however, the functional life of this pipeline is indefinite following normal maintenance and inspection practices of a federally regulated interstate pipeline system.
- The 10-inch Crude Oil Pipeline Loop Project will reliably operate 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.

d. Statement concerning Deviations from most recent 10-year Plan:

Belle Fourche's Ten Year Plan for 2013-2023 was filed with the Commission on July 5, 2013.

No specific Transmission Facilities are planned for the next five years. Belle Fourche Pipeline intends to reverse the Bicentennial segment for transportation southbound to Baker, MT in 2014. This modification would involve construction within an existing station only.

No specific Transmission Facilities are planned for the next ten years. However, given the intense drilling and production activity in our service area of Western North Dakota and the demand for crude oil transportation by pipeline, major new pipeline projects by Belle Fourche are likely.

SECTION D LOCATION

D.1 Study Area:

The study area and corridor selected comprise the existing ROW in which the Belle Fourche's existing Skunk Hill to Dickinson to Dakota Prairie Refining and BOE Rail Facility line is located. As stated above, this ROW exists mostly of blanket easements. Belle Fourche has historically maintained the existing easements in North Dakota by clearing brush and trees for approximately a 50-foot width. Since the pipeline is proposed to be installed in new 50-foot ROW adjacent to the existing 50-foot ROW.

D.2 Map of Proposed Corridor:

Since this application is a consolidated application for a corridor certificate and a route permit, maps showing the location of exclusion and avoidance areas in area of the corridor are attached as Tab 4 Appendix B of the route permit portion of the application. The original corridor and route of Belle Fourche's existing Skunk Hill to Dickinson to Dakota Prairie Refining and BOE Rail Facility line were selected prior to the adoption of the North Dakota Siting Act but are wholly compatible with the criteria established in the Act.

D.3 Relative Value of Each of the Criteria:

Since this application is a consolidated application for a corridor certificate and a route permit, these matters are discussed in Sections B.4, B.5 and B.6 of the route permit portion of the application (See Tab 3).

D.4 Criteria to be Evaluated:

Since this application is a consolidated application for a corridor certificate and a route permit, these matters are discussed in Sections B.4, B.5 and B.6 of the route permit portion of the application. (See Tab 3)

D.5 General Mitigative Measures to be Taken:

Since this application is a consolidated application for a corridor certificate and a route permit, these matters are discussed in Sections B.4, B.5 and B.6 of the route permit portion of the application. (See Tab 3)

D.6 Qualifications of Persons Contributing to the Study:

The qualifications of the personnel who contributed to the corridor location study are as follows:

(1) Tad True, Vice President – Belle Fourche Pipeline Company

Degree: Bachelor of Business Administration, University of Notre Dame

Experience: 10 years' experience in petroleum transportation field

(2) Robert Stamp, Commercial/Engineering Supervisor – Belle Fourche Pipeline Company

Degree: Bachelor of Mechanical Engineering, Valparaiso University

Experience: 25 years' experience in petroleum transportation field as well as regulatory affairs and compliance.

Professional License

Registered Professional Engineer: Wyoming

(3) Ken Dockweiler, Director – Land, Government, and Compliance - Belle Fourche Pipeline Company

Experience: 23 years' experience in petroleum transportation field.

(4) Kathleen Spilman, Managing Director – Keitu Engineers & Consultants, Inc.

Degree: Bachelor of Science - Chemical Engineering, University of North Dakota
Masters in Management, University of Mary

Experience: 32 years' experience in petroleum refining and fuels transportation field as well as regulatory affairs and compliance.

Professional License

Registered Professional Engineer: North Dakota, South Dakota, Montana

(5) Trenton Hieb, Specialist/ Biology & GIS - Keitu Engineers & Consultants, Inc.

Degree: Bachelor of Science - Fisheries and Wildlife Biology, University of North Dakota

Experience: 4 years' experience in regulatory affairs and compliance.

Other Training: US Army Corps of Engineers Wetland Delineation Training

(6) Heather Patch, Staff Engineer/Chemical – Keitu Engineers & Consultants, Inc.

Degree: Bachelor of Science - Chemical Engineering, University of North Dakota

Experience: 2 years experience in regulatory affairs and compliance.

D.7 Maps:

a. Map of Criteria Within Study Area:

Since a consolidated application for a corridor certificate and a route permit is being submitted, the copy of the Project map including U.S.G.S. Quad and Aerial Maps of the Project can be found in Appendix B of the route application presented in Tab 4. Maps of the North Dakota Public Service Commission Exclusion and Avoidance Areas with the route of the Project are also attached as Tab 4 Appendix B of the route permit portion of the application.

b. Maps of study area:

The GIS software in current use by the North Dakota Public Service Commission staff is ESRI's ArcGIS and companion software packages. A CD-ROM containing electronic copies of ArcGIS shapefiles resulting from the field survey has been included with this application. (See Tab 7)