

**BEFORE THE PUBLIC SERVICE COMMISSION  
OF THE STATE OF NORTH DAKOTA**

**IN RE: NORTH DAKOTA PIPELINE )  
COMPANY LLC ) Case No. PU-13-848  
)  
)  
Pursuant to North Dakota Century )  
Code Chapter 49-22, Consolidated )  
Application for a Certificate of )  
Corridor Compatibility and Route )  
Permit for the Sandpiper Pipeline )  
Project in Mountrail, Ward, )  
McHenry, Pierce, Towner, Ramsey, )  
Nelson, Grand Forks and Williams )  
Counties, North Dakota hereinafter )  
referred to as the Consolidated )  
Application )**

**Pre-Filed Testimony  
of  
Barry Simonson**

**February 14, 2014**

1 **Q. Please state your name and business address.**

2 A. My name is Barry Simonson. I am employed by Enbridge Employee Services, Inc. at 1409  
3 Hammond Avenue, Superior, Wisconsin 54880.

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6 **Q. What is your position with Enbridge?**

7 A. I am the Manager of Engineering and Construction for Sandpiper Mainline Execution, Major  
8 Projects.

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11 **Q. Please briefly describe your background and duties with Enbridge.**

12 A. I have a BS in Mechanical Engineering from the University of Minnesota - Twin Cities. I have  
13 12 years of experience in oil/gas pipeline engineering and construction management. My  
14 current duties include managing all aspects of mainline execution related to planning,  
15 forecasting, strategic contractor management and ultimate execution of mainline  
16 construction projects.

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18 Since 2007, I have worked in various leading roles to develop the engineering design and  
19 construction on a number of the Enbridge Mainline expansion projects, which were filed and  
20 approved by the North Dakota Public Service Commission. These projects include LSr,  
21 Alberta Clipper, as well as, the Bakken Expansion Program.

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24 **Q. What is the purpose of your testimony?**

25 A. The purpose of my testimony is to support the design and construction of the Sandpiper  
26 Pipeline Project as presented in the Consolidated Application filed by North Dakota Pipeline  
27 Company LLC, which I shall refer to as NDPL in my written testimony. I will also sponsor  
28 certain exhibits in support of the Consolidated Application, which are related to the design  
29 and construction activities of this Project.

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32 **Q. Please identify which sections of the Consolidated Application you are sponsoring**  
33 **for the record.**

1 A. I am offering testimony in support of Sections A.3, A.4 and D.6 including all related tables,  
2 figures and exhibits of the application for a Certificate of Corridor Compatibility  
3 (“Application”) and Sections A.3, A.4 and B.8 including all related tables, figures, and  
4 exhibits of the Application for a Route Permit. I am also co-supporting, along with Mr. Mark  
5 Curwin, Ms. Sara Ploetz, and Mr. Art Haskins, Sections B.2, B.4 and B.9 including all related  
6 tables, figures, and exhibits of the application for a Route Permit, which relates directly to  
7 the right-of-way requirements, construction techniques and construction footprint of this  
8 Project.

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11 **Q. Describe your familiarity with the project.**

12 A. I have been involved in the planning and development phases for the Sandpiper Pipeline  
13 Project for the past eighteen months and serve as Manager of Engineering and Construction  
14 within the Project Execution Team. In that capacity, I am thoroughly familiar with the  
15 engineering design and construction techniques that will be used to install the new pipeline  
16 and facility components as proposed in the Consolidated Application.

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19 **Q. Please describe the length and size of pipe that will be installed for the Sandpiper  
20 Project in North Dakota and the related pipe specifications.**

21 A. As described in the Application, Sandpiper consists of approximately 616 miles of new 24-  
22 inch and 30-inch diameter pipeline, traversing the states of North Dakota, Minnesota to  
23 terminate at the existing Superior Station and Terminal Facility near Superior, Wisconsin. In  
24 the state of North Dakota, Sandpiper consists of approximately 300 miles of new 24-inch  
25 diameter pipeline, beginning at the existing Beaver Lodge Station and Terminal Facility near  
26 Tioga, North Dakota and extending in an easterly direction to cross the North  
27 Dakota/Minnesota state line near Grand Forks, North Dakota as it continues to the new  
28 Clearbrook, Minnesota Terminal. The new 24-inch outer diameter pipe will have a wall  
29 thickness of .375 inches for cross-country pipe and a wall thickness of .438 - .500 inches for  
30 crossing public roads and railroads. The pipe will be manufactured according to American  
31 Petroleum Institute Specifications 5L PS2 ERW. The pipe will be grade X-70 high strength  
32 steel.

1 **Q. Please briefly describe the methodology that was used in selecting the pipeline route**  
2 **for the Sandpiper Project.**

3 A. Choosing the appropriate initial route for Sandpiper included many variables, such as  
4 geographical construction knowledge, co-location with existing utilities, specific land use  
5 types, waterbodies and or impairments, and population centers. Once the initial route was  
6 identified, extensive civil and environmental surveys were conducted based on landowner  
7 approval(s) which assisted in the refinement of the proposed route for the Sandpiper  
8 pipeline.

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11 **Q. What are the criteria NDPL uses in determining the locations of mainline valves along**  
12 **the Sandpiper route?**

13 A. NDPL uses a computerized model to determine the potential amount of oil released in the  
14 event of a pipeline release at all locations along the entire pipeline route. This model uses  
15 the elevation profile of the proposed route and accounts for high consequence areas on and  
16 near the centerline of the pipeline. High consequence areas are defined as high population  
17 areas, well head and drinking water areas, commercially navigable waterways, as well as  
18 ecologically sensitive areas. Once this evaluation is completed, valve locations are selected  
19 based on that criteria, which will minimize impact to these high consequence areas and in  
20 locations where the elevation change could result in a large release. Additionally, NDPL  
21 complies with the valve location requirements specified by the Department of  
22 Transportation, Office of Pipeline Safety, Pipeline and Hazardous Material Safety  
23 Administration, hereinafter referred to as PHMSA.

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26 **Q. Please provide a brief summary of the right-of-way requirements and construction**  
27 **footprint for the Sandpiper Pipeline in North Dakota?**

28 A. As described in more detail in Section A.3 of the Consolidated Application, which my written  
29 testimony supports, NDPL plans to install the new 24-inch diameter pipeline parallel to existing  
30 pipelines and utility corridors to the extent practicable. The new pipeline route will also include  
31 greenfield areas and minor route deviations to avoid encroachments near the existing pipeline,  
32 densely populated areas, or special land and/or environmental features identified thus far in  
33 the routing process, and as shown in revised Exhibit D, which was filed in the Feb 7, 2014  
34 Supplemental Filing.

1 Based on the location of the new 24-inch diameter pipeline, the typical construction workspace  
2 will be 120 feet in upland areas and 95 feet in wetland areas. To the extent practicable, NDPL  
3 plans to co-locate its new 24-inch diameter pipeline with the existing pipeline right-of-way of its  
4 North Dakota Pipeline System. Between Beaver Lodge Station and Grand Forks, North  
5 Dakota, sections of the new pipeline will follow third-party pipelines and small utility corridors  
6 while other sections of the new pipeline will have greenfield segments. Between Tioga and  
7 Berthold, North Dakota, no new permanent right-of-way will be needed. However, new  
8 permanent right-of-way will be required for all other areas along the new pipeline route where  
9 Sandpiper parallels third-party pipelines, utility corridors or has greenfield pipeline segments or  
10 route deviations.

11  
12 NDPL plans to acquire a 50-foot wide new permanent right-of-way, which will provide a 25-  
13 foot buffer or offset zone on either side of the newly installed pipe. This buffer or offset zone  
14 allows the safe construction, inspection, maintenance and operation of the new pipeline, and  
15 protects it from future encroachments. I am also sponsoring Exhibits B.1 through B.6, which  
16 show typical configuration drawings of the land requirements described in my written  
17 testimony.

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20 **Q. How does NDPL plan to manage road closures during construction work activities? Is**  
21 **there a plan by which NDPL will notify the public of route alternatives during**  
22 **construction?**

23 A. NDPL plans to use the boring method to cross most roads in North Dakota, thus eliminating  
24 most impacts to local communities which may otherwise arise from temporary road closures.  
25 Currently, our right-of-way agents and internal staff are working diligently with the  
26 appropriate road authority to appropriately permit each crossing, and to create construction  
27 plans that ensure compliance with the conditions set forth in the permit(s). In the event  
28 specific roads are open cut and road closures are necessary, NDPL and our selected  
29 contractors will coordinate the timing, construction, and alternative traffic routes with local  
30 permitting agencies while ensuring that appropriate signage and safety implements are in  
31 place.

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34 **Q. How will NDPL manage dust control during construction work activities?**

1 A. During construction, residences in close proximity to construction activities will be exposed  
2 to short-term increases in construction-related noise and dust. Some minor dust production  
3 is unavoidable in any construction project; however, if excessive, the construction right-of-  
4 way and access roads near residential areas will be watered down to control dust during  
5 construction. After construction is complete, measures to stabilize and revegetate the right-  
6 of-way will prevent further dust production.

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9 **Q. How deep will the pipeline be buried? Under roads? Under other pipelines?**

10 A. Typically, 48-inches, but under roads, ditches, and undeveloped section lines the minimum  
11 cover will be 72-inches. In addition, our minimum separation from existing, owned and  
12 foreign, pipelines and utilities, when crossed, will be 12-inches, unless otherwise specified in  
13 any crossing agreements.

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16 **Q. How does NDPL insure the integrity of the pipe?**

17 A. Each year Enbridge purchases thousands of tons of pipe from plants in Saskatchewan,  
18 Alberta, Oregon and Florida, with over 93 percent produced at a mill complex in Regina  
19 owned by Evraz North America. Here, recycled metal is converted into liquid steel in electric  
20 arc furnaces, cast into large slabs, then rolled and welded to produce the high-tensile pipe  
21 needed for new projects and relied on to carry oil at high pressures and large  
22 volumes. Producing the pipe involves meeting exacting requirements for quality and  
23 integrity. A comprehensive inspection system helps Enbridge to achieve this quality – step  
24 by step and with precision. Expert inspectors examine the formed pipe for possible defects.  
25 They monitor ultrasonic and x-ray tests that examine the integrity of each weld. Using  
26 calipers and micrometers, they assess each section for exact tolerances on diameter,  
27 roundness and straightness. A protective fusion-bond epoxy coating is then applied to each  
28 joint of pipe under close inspection.

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31 **Q. Would you please talk about the construction safety measures deployed by NDPL to**  
32 **insure the safe and reliable operation and maintenance of the Sandpiper Pipeline?**

33 A. Yes, I would be glad to explain how NDPL constructs, operates and maintains the integrity of  
34 its pipeline system. First, it is important to note that safety, integrity, and operational

1 reliability are paramount to NDPL. Our project execution team utilizes very rigorous  
2 construction standards, specifications and procedures to ensure proper construction  
3 installation methods are deployed, and to ensure integrity and operational reliability for our  
4 operations group as well as for the environment and associated landowners. The pipe and  
5 associated materials are sourced from preferred vendors that follow our rigorous material  
6 specifications. During construction, our qualified inspection staff members visually inspect  
7 every weld, as well; we hire professional non-destructive inspection firms which perform  
8 100% x-ray on the weld, which exceeds PHMSA's requirement to conduct testing on 10% of  
9 each welders daily production. Each joint is then covered with a protective coating  
10 compatible with rest of the pipe joint(s), ensuring quality and integrity. Once the pipe is  
11 lowered into the excavated ditch, and backfilled with appropriate material, the pipe sections  
12 are pressure tested with water to ensure integrity and to establish the maximum allowable  
13 operating pressure. Then, each tested section, is inspected by utilizing a geometry, or inline  
14 inspection tool, which insures no dents, buckles, or geometric non-conformities are present.  
15 Finally, cathodic protection is installed on the pipeline to prohibit corrosion.

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17 Lastly, sectionalized valves are placed along the pipeline based on detailed engineering,  
18 including intelligent valve placement studies that take into account oil volume, in and out in  
19 the event of a release, topography, navigable waterbodies, logistics in terms of electrical  
20 power and communication sources, as well as high consequence areas. Each valve has a  
21 power source to it, as well as communications and pressure-sensing devices, which allows  
22 the operational control center the ability to monitor the locations in real-time, and the control  
23 to shut the valves remotely if an issue arises.

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26 **Q. Can you describe the method NDPL uses to select their contractors and how you**  
27 **insure that these contractors are committed to safety?**

28 A. Contractors chosen by NDPL are first selected to bid on the work based on specific criteria  
29 geared toward their past and present safety record, quality control, as well as competent  
30 and attainable workforce, and proper capabilities. Contractors that are selected to bid on  
31 the work are evaluated not only based on commercial aspects, but also from a technical  
32 perspective, which includes, but is not limited to: Quality Plan, Project Safety,  
33 Environmental, and Execution Plan. We select our contractors through a review of each  
34 contractor's history with Enbridge and through a third-party evaluation of the contractor's

1 safety system by the ISNET World verification agency, which I will refer to as ISNET in my  
2 testimony. Contractors submit safety, insurance, quality and regulatory information to ISNET  
3 hereinafter referred to in my testimony as ISNET. ISNET streamlines processes and  
4 conducts standardized reviews in order to post safety and performance evaluations based  
5 on previous project performance. NDPL is able to evaluate a contractor's performance in  
6 areas like past OSHA 300 logs, EMR rates and contractor safety programs.

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8 All safety and quality obligations and expectations are specified in the Enbridge contract and  
9 laid out in further detail within the Enbridge Contractor Safety Program which I will refer to as  
10 CSP in my testimony CSP. All contractors are required to fully comply with the CSP.

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13 **Q. How do you hold your contractors accountable for safety?**

14 A. A *Project Safety Plan* dictates specific safety expectations for the Enbridge project team  
15 that's accountable for managing the contractor and its work. Our Major Projects team uses a  
16 Project Scorecard to itemize safety performance and activities for each reporting period.  
17 This data is reviewed with the contractor. We also engage monthly with the contractor's  
18 leadership team on safety issues. This is bolstered by having daily safety tailgate meetings  
19 between the inspection and contractor staff and Enbridge construction management. Finally,  
20 Enbridge also uses daily safe work permits, and safety stand downs when appropriate.

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23 **Q. Will NDPL be hiring locally and utilizing local resources?**

24 A. Based on the need for hundreds of workers, we'd expect various labor jobs to be sourced  
25 locally. The contractors working on the Sandpiper Pipeline Project will inevitably be sourcing  
26 various materials from local vendors. For example, gravel and washed rock will be needed  
27 for bag weights used for buoyancy control and since these materials are prevalent in North  
28 Dakota, we expect our contractors to source them locally. In addition, the local economy will  
29 be impacted through the use of housing and services by the workforce

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32 **Q. Would you please describe the project schedule for Sandpiper Project?**

33 A. As described in more detail in Sections A.4. of the Consolidated Application which my written  
34 testimony supports, NDPL is respectfully requesting the North Dakota Public Service

1 Commission's approval of its Consolidated Application for the Sandpiper Pipeline Project by  
2 the end of March 2014.

3  
4 If NDPL obtains approval by that date NDPL, will be able to start construction on schedule.  
5 As an illustration, NDPL has successfully acquired approximately 70% of its right-of-way  
6 easement rights and is working diligently to acquire the remaining tracts in order to commence  
7 construction upon receipt of appropriate approvals. Civil work activities are scheduled to  
8 commence in May 2014 for those station facilities which have the longest lead time to  
9 complete. Such work will begin at existing station sites for the construction of new tanks and  
10 pumping stations.

11  
12 NDPL plans to commence its construction of the new pipeline and its related facilities on or  
13 before September/October 2014. It is estimated that construction must be completed by  
14 January 2016 in order to complete testing and commission of the new pipeline and associated  
15 facilities, and placed Sandpiper Pipeline in-service date on March 31, 2016.

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18 **Q. Will NDPL comply with legal and other requirements governing the design,**  
19 **construction, installation, operation and maintenance of the Sandpiper Pipeline and**  
20 **associated facilities?**

21 A. Yes. NDPL will comply with all applicable federal, state and local regulatory and permitting  
22 requirements that govern the design, construction, installation, operation and maintenance  
23 of the Sandpiper Pipeline under the federal pipeline safety regulations, specified in 49  
24 Code of Federal Regulations Part 194 and 195 and any applicable national technical  
25 standards.

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28 **Q. In your opinion, if the proposed Sandpiper Pipeline and associated facilities are**  
29 **designed and constructed as set forth in this Consolidated Application, as presented**  
30 **in your written testimony and discussed during the public hearings, will this pipeline**  
31 **be capable of being safely operated?**

32 A. Yes.  
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1 Q. Does this conclude your testimony?

2 A. Yes, it does.