

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

2 A. My name is Mark Curwin. I am employed by Enbridge Employee Services, Inc., which I
3 shall refer to as Enbridge in my written testimony. My place of employment is 1409
4 Hammond Avenue, Superior, Wisconsin 54880.

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

8 A. I am the Senior Director, Strategic Coordination, for U.S. Major Projects Execution, including
9 the Sandpiper Pipeline Project. My responsibilities include providing critical strategic advice
10 and guidance for the U.S. Major Projects Execution business unit.

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13 **Q. Briefly describe your educational and professional background and your current
14 duties.**

15 A. I have a Bachelors of Arts in Organizational Management from Concordia College in St.
16 Paul, Minnesota and a Juris Doctorate from William Mitchell College of Law in St. Paul,
17 Minnesota. I have over 14 years of experience in the areas of government regulation,
18 regulatory and environmental compliance, commercial and business development, long-
19 range planning, emergency response and risk management for pipeline facilities.

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21

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

23 A. The purpose of my testimony is to:

- 24 • describe the overall Project;
- 25 • explain why this Project is needed and reaffirm the public need and benefits of the
26 Project;
- 27 • sponsor certain exhibits that are related to such activities in this Application before the
28 Commission.

29

1 **Q. Please identify which sections of the Application you are sponsoring for the record.**

2 A. I am offering testimony in support of Sections A.1, A.2 and C including all related tables,
3 figures and exhibits of the Application for a Certificate of Corridor Compatibility and Sections
4 A.1 and A.2 including all related tables, figures, and exhibits of the Application for a Route
5 Permit. I am also co-supporting, along with Ms. Sara Ploetz, Mr. Barry Simonson, and Mr.
6 Art Haskins, Section B.9 including all related tables, figures, and exhibits of the Application
7 for a Route Permit, which relates to the construction, operation and benefits of this Project.
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9

10 **Q. Please briefly describe the North Dakota pipeline system, which is owned, operated
11 and maintained by North Dakota Pipeline Company LLC, formerly known as Enbridge
12 Pipelines (North Dakota) LLC.**

13 A. What is now the North Dakota pipeline system was originally known as Portal Pipe Line and
14 constructed in the 1960s. The original pipeline ran from oilfields north of Minot to Grand
15 Forks and into Clearbrook, Minnesota. Substantial pipeline additions and upgrades were
16 made by Enbridge Pipelines (North Dakota) LLC, after it acquired Portal in 1996.
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19 **Q. Can you explain why there has been a name change for Enbridge Pipelines (North
20 Dakota) LLC to North Dakota Pipeline Company LLC?**

21 A. Marathon, as an anchor shipper on the Sandpiper Project has agreed to pay 37.5 percent of
22 the cost to construct Sandpiper in exchange for a 27 percent interest in Enbridge's North
23 Dakota system. With Marathon as part owner, the name was changed to North Dakota
24 Pipeline Company LLC, which I shall refer to as NDPL in my written testimony.
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27 **Q. Please briefly describe how the North Dakota pipeline system has been expanded
28 since 2005.**

29 A. As a result of the boom in oil production in the Bakken region, demand for space on the
30 North Dakota system has consistently outstripped the capacity available since 2005. To
31 address that growing demand, NDPL has to-date invested approximately \$1 billion in
32 expanding pipeline capacity for Bakken crude producers and shippers. In fact, during the
33 period from 2006 through 2012, North Dakota Pipeline more than quadrupled its capacity to
34 export crude oil from the Bakken region. For example, Exhibit A illustrates the various

1 projects and resulting capacity increases which have been undertaken by NDPL since 2006.
2 In January 2010, NDPL completed a 51,600 barrel per day expansion which increased the
3 capacity of its North Dakota pipeline system to 161,600 barrels per day, effectively doubling
4 its pipeline capacity into the Clearbrook Terminal in less than a 24-month period.

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6 Since then, NDPL has made additional system enhancements to increase the capacity to
7 210,000 barrels per day into Clearbrook. With the completion of the Bakken Expansion
8 Program in the fourth quarter of 2013, NDPL increased its pipeline takeaway capacity to up
9 to 355,000 barrels per day between Beaver Lodge and Berthold, North Dakota. In addition
10 to the 355,000 barrels per day pipeline capacity, Enbridge has the ability to move 120,000
11 barrels per day by rail, for a total system export capacity of 475,000 barrels per day from
12 Berthold, North Dakota and Clearbrook, Minnesota.

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15 **Q. What is driving the need for system expansions in North Dakota?**

16 A. With the increasing production volumes in the Bakken and Three Forks Formations¹ of the
17 Williston Basin region, NDPL continues to experience increasing demand for additional
18 pipeline export capacity on its North Dakota system. Significantly the demand for additional
19 pipeline capacity is also being largely driven by refinery demand for access to secure and
20 reliable crude oil supplies produced in the Bakken and Three Forks regions by refineries
21 located in the Midwest, upper Great Lakes region and along the East Coast which are
22 served by Enbridge's mainline system.

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25 **Q. Are further system expansions required in North Dakota?**

26 A. Despite the additional capacity, the North Dakota Pipeline System has remained in
27 persistent apportionment. As a result, NDPL has filed several changes to its apportionment
28 policies in response to continuing shipper proliferation and over-nominations. In approving
29 the most recent change, the Federal Energy Regulatory Commission itself recognized the
30 effects of "increased regional crude production coupled with a lack of pipeline and other
31 transportation infrastructure in the area" as creating the apportionment issue.

32
33 **Q. How does NDPL intend to address the continuing demand for pipeline capacity?**

¹ All located within the Williston Basin

1 A. NDPL is responding to the rising market demand for additional pipeline export capacity
2 through the development of its newest expansion project referred to as the Sandpiper
3 Pipeline Project, which I shall refer to as "Sandpiper" or "Project" in my written testimony.
4 NDPL plans to construct, own and operate a new interstate common carrier crude oil
5 pipeline, commercially known as the Sandpiper Pipeline. This new pipeline will be operated
6 as an integral part of NDPL's existing pipeline system.

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8
9 **Q. What area will be served by the Sandpiper Pipeline Project?**

10 A. This Project expands the export capacity of NDPL's existing North Dakota pipeline system
11 between the existing Beaver Lodge Station and a new terminal facility near Clearbrook,
12 Minnesota, and extends NDPL's pipeline system to Superior, Wisconsin. As designed,
13 Sandpiper links shippers to premium refinery markets located in the U.S. Midwest, upper
14 Great Lakes region and along the East Coast via the Enbridge Mainline System and other
15 interconnecting third-party pipelines, as more fully described in this application.

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18 **Q. What is the purpose of the proposed facilities?**

19 A. The purpose of the proposed facilities is to address the growing demand for pipeline export
20 capacity out of the gathering hubs within the Bakken and Three Forks production areas, as
21 well as to provide the foundation for timely future expansions to meet the transportation
22 needs of this region. As previously stated, Sandpiper will provide additional pipeline export
23 capacity necessary to move growing Bakken and Three Forks production volumes from
24 Beaver Lodge Station near Tioga, North Dakota to Minnesota Pipeline Company at
25 Clearbrook, Minnesota and to NDPL's affiliated Superior Terminal Facility in Superior,
26 Wisconsin. From Superior, NDPL's shippers will have access to refinery markets via
27 NDPL's affiliated Enbridge Mainline System and other interconnecting third party pipelines.

28
29 The Sandpiper Pipeline Project provides a reliable, efficient, and cost effective solution to
30 meet long-term demand and transportation requirements of NDPL's Bakken and Three
31 Forks shippers. It links the prolific producing regions of the Bakken and Three Forks
32 Formation to a variety of premium market hubs in the Midwest, upper Great Lakes region
33 and the East Coast.

1 Significantly, Sandpiper is geographically located within the “Big Five” counties, which is the
2 largest producing area of the Williston Basin region. This gives shippers serving U.S.
3 refineries a competitive advantage through access to abundant, safe, and long-term stable
4 sources of crude oil supplies to meet their feedstock requirements, further enabling them to
5 meet the demands of the petroleum consuming public for refined products. Having access
6 to secure and reliable sources of crude oil supplies helps to reduce reliance on crude oil
7 imports from countries that are often unstable or unfriendly to U.S. interests, and, thus,
8 helps to move North America towards energy security and independence. Additionally,
9 refineries are able to purchase crude oil from production regions proximate to their
10 respective locations, thereby reducing transit time and the cost of shipping crude oil supplies
11 north from the Gulf of Mexico. According to the most recent statistics available from the EIA,
12 the petroleum-using public in the Midwest consumes over 4.42 million barrels per day of
13 refined petroleum products in 2012, which includes gasoline, diesel, jet fuel, asphalt, heating
14 fuel and petrochemical products.² As discussed above, the abundance of refined products is
15 dependent upon refineries in the Midwest having access to abundant and reliable sources of
16 crude oil proximate to their locations.

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19 **Q. What is the estimated cost of the Sandpiper Pipeline Project?**

20 A. The total estimated cost of the proposed Sandpiper Pipeline Project is approximately \$2.6
21 billion. The estimated cost for the North Dakota portion of the Project is \$1.3 billion.

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24 **Q. What are the public interest and Shipper/Producer Benefits of Sandpiper?**

25 A. The principal benefit of the Sandpiper Project will be increased capacity for all shippers on
26 the North Dakota Pipeline system to reach downstream markets for their crude. That
27 increased capacity, in turn, has major benefits to the producers and marketers of Bakken
28 crude by permitting production from the region to reach premium markets that provide the
29 highest netbacks to producers in North Dakota and Montana.

30
31 Enabling producers and shippers access to sufficient pipeline capacity to access premium
32 markets also translates into a direct economic benefit of \$5 billion potential pre-tax
33 economic benefit. Constrained pipeline capacity has substantially depressed crude oil

1 prices in the Bakken producing regions resulting in differentials between Bakken and West
2 Texas Intermediate (“WTI”) prices rising as high as \$27.50 per barrel in 2012. Adequate
3 pipeline capacity out of the Williston Basin is the key to attain higher netbacks in premium
4 markets. The Sandpiper project accomplishes that task, with the lowest transportation cost,
5 by providing substantial capacity to market hubs in the U.S.

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7 An additional benefit is that the increased revenue realized by the producers and shippers
8 provides them with the ability to continue to drill wells which results in a corresponding
9 increase in tax revenues paid by the various oil and gas producers. Further, additional
10 drilling increases the supply of domestically produced crude oil available to U.S. refiners.
11 Finally, the increase in economic activity in the State leads to greater job creation and
12 multiplier effects on the economies of the entire region.

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15 **Q. What is the economic benefit the State of North Dakota can anticipate as a result of**
16 **the Sandpiper Pipeline Project itself?**

17 A. Based on the anticipated cost of the Project in North Dakota and current tax schedules,
18 NDPL estimates it could pay as much as approximately \$8.5 million in additional annual
19 property taxes in North Dakota beginning in 2016 (maximum estimated taxes are \$12.3
20 million occurring in 2026), subject to assessments by local government units.

21
22 Operations are expected to begin in 2016, with the Project yielding another \$350 million in
23 economic impact. Typical operations from 2017 to 2025 are estimated to create an
24 additional \$550 million per year of economic benefit to the State.

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27 **Q. Are there other non-economic benefits of the Project to the State?**

28 A. Yes. As described more fully in Section C of the Certificate of Corridor Compatibility
29 application, Enbridge has provided evidence that transportation by pipeline is the safest
30 mode of transportation. Specifically Table 14, which I am including as Exhibit B to my
31 evidence for your convenience, clearly demonstrates that pipeline incidents per billion ton-
32 miles between 2005 and 2009 were 0.58 as compared to number of incidents on Trucks of
33 19.95 and Rail of 2.08. Further the impact of such pipeline incidents on people and the
34 environment is also significantly less. Therefore, the Project enables the benefits noted

1 above to be realized with significantly less potential harm to the environment or the people
2 of North Dakota.

3
4 In addition to less risk of incidents, transportation by pipeline also reduces the amount of
5 either truck or rail traffic that would be seen in the State. For example, approximately 4,354
6 trucks would be required to transport the same volumes as this Project. Of that total, NDPL
7 assumes that 3,628 trucks would be making round trips on the state highways each day, while
8 the remaining 726 trucks would be stationary at designated locations for loading and
9 unloading of the crude oil volumes. Under that same assumption, NDPL calculates that this
10 Project will reduce the burden on state highways between Beaver Lodge Station near Tioga,
11 North Dakota and Superior, Wisconsin by 3,444,488 truck-miles per day. In North Dakota, the
12 burden on its state highways is reduced by 1,668,068 truck-miles per day.

13
14 Approximately 2,052 rail cars would be required to transport the same volumes as this Project.
15 Of that total, 1701 rail cars have to be in route each day, making the roundtrip between
16 Beaver Lodge, North Dakota and Berthold, North Dakota (84 rail cars); Beaver Lodge to
17 Superior, Wisconsin (1126 rail cars); and Clearbrook, Minnesota and Superior, Wisconsin
18 (500 rail cars). The remaining 342 rail cars represent the total number of rail cars that NDPL
19 assumes would be stationary at the rail facilities while loading/off-loading of the crude oil
20 volumes. In order to facilitate this operation, significant spur lines, rail sidings, and terminal
21 facilities would have to be constructed at Beaver Lodge Station near Tioga, North Dakota,
22 Berthold Station at Berthold, North Dakota, new station and terminal facility at Clearbrook,
23 Minnesota and at existing Superior terminal at Superior, Wisconsin. In North Dakota alone,
24 NDPL assumes that approximately 500 acres of agricultural land would be converted to
25 industrial use in order to build a new rail terminal facility at Beaver Lodge Station, and expand
26 the existing rail facility at Berthold. In addition, substantial upgrades and on-going
27 maintenance would be required to the connecting railways.

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30 **Q. Please discuss Enbridge's commitment to safe operations.**

31 A. Enbridge's utmost priority is to maintain a safe and reliable transportation system. Safety is
32 the cornerstone of Enbridge's values along with respect and integrity. As with any
33 transportation service provider, Enbridge's goal and purpose is to deliver 100% of the
34 product placed into its care. Enbridge is constantly improving its system to reduce and

1 eliminate the likelihood of a release. Our objective is to have zero releases. Over the past
2 10 years, Enbridge has delivered almost 13 billion barrels of crude oil with a safety record of
3 99.9 percent. In 2012 and 2013 alone, Enbridge invested approximately \$2 billion and \$2.4
4 billion respectively in programs and initiatives to maintain and further enhance our pipelines
5 and associated facilities to operate our systems safely and reliably. We are committed to
6 achieving zero releases in our operations and ensuring that all employees and contractors
7 return home safely at the end of every day.

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9 Safety and operational reliability is a process of continuous improvement for Enbridge. As
10 an example, our Major Projects unit, the group responsible for construction of the Sandpiper
11 facilities is driving safety improvements, is driving safety improvements by establishing a
12 United States and Canadian Pipeline Construction Roundtable that includes construction
13 contractors and pipeline owners who gather to discuss challenges and improvements to
14 raise safety performance.

15
16 In partnership with other industry leaders, Enbridge is continuously researching new and
17 improved methods of leak detection. A special, highly technical research facility in Canada
18 is currently testing various new leak detection technologies such as fiber optics.

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21 **Q. Please briefly describe federal oversight of pipeline safety operations.**

22 A. As an operator of interstate common carrier pipelines, Enbridge's operations are subject to
23 exclusive federal oversight by PHMSA. 49 CFR Parts 194 and 195 provide the regulatory
24 framework for Enbridge's pipeline operations, including standards for maintaining pipeline
25 integrity, leak detection capabilities, and emergency response preparedness. Part 194
26 provides standards and guidelines for preparing emergency response plans, including the
27 listing of resources and capabilities of responding to a potential incident. These plans are
28 submitted to and approved by PHMSA.

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31 **Q. What happens if there is a release?**

32 A. We consider all incidents to be equally significant and respond quickly to contain them,
33 minimize their impact, and clean them up. Enbridge has a thorough and effective
34 emergency response program that ensures that we are first, prepared for and second,

1 responsive to any releases that may occur. Enbridge has invested significant time and
2 money in developing a state of the art emergency response program which will be fully
3 described by my colleague Art.
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6 **Q. What is the anticipated in-service date for the Sandpiper Pipeline Project?**

7 A. It is anticipated the in-service date is on or before March 31, 2016.
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10 **Q. Is Enbridge requesting that the North Dakota Public Service Commission approve the**
11 **Sandpiper Pipeline Project and issue a corridor certificate and route permit for the**
12 **project?**

13 A. Yes.
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16 **Q. Is Enbridge requesting that the Commission issue a corridor certificate and route**
17 **permit in an expedited manner so that construction may commence as soon as**
18 **possible?**

19 A. Yes.
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22 **Q. Does this conclude your testimony?**

23 A. Yes it does.

