

**BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF SOUTH DAKOTA**

In the Matter of the Transmission Permit for the
Big Stone South to Ellendale Project

EL13-028

**DIRECT TESTIMONY OF HENRY
FORD**

1 **DIRECT TESTIMONY OF HENRY FORD**

2 **INTRODUCTION OF WITNESS**

3 **Q. Please state your name, business address, and current employment position.**

4 A. My name is Henry Ford. I am the Director of Electric Transmission Development for
5 Montana-Dakota Utilities Co. (“MDU”). My business address is 400 N. St., Bismarck, ND
6 58501.

7 **Q. How long have you held the position of Director of Electronic Transmission**
8 **Development for MDU?**

9 A. I have worked in this position since January 3, 2014.

10 **Q. Describe your duties and responsibilities in that position for the Commission.**

11 A. In this position I am the lead representative of MDU and co-owner Otter Tail Power
12 Company (“OTP”) on the Big Stone South to Ellendale Project (“the Project”). I currently
13 dedicate 100% of my time to oversight of the Project.

14 **Q. What was your prior position with MDU?**

15 A. Before moving into my current position, I worked as the Director of Transmission
16 Engineering for MDU. In that position, I was responsible for the oversight of all transmission
17 line and substation projects and maintenance for MDU.

18 **Q. Please describe your educational background to the Commission.**

19 A. I received a Bachelor of Science Degree in Engineering Physics from North Dakota
20 State University in 1977.

21 **Q. When did you start working for MDU?**

22 A. I have worked for MDU since September of 1978.

1 **Q. What is the arrangement between the Owners as to developing, constructing**
2 **and operating the proposed electric transmission line?**

3 A. Each owner will have an undivided ownership interest in this Project of
4 approximately 50%. MDU and OTP thus have been developing the Project as equal partners and
5 will continue in this relationship through the construction and operation of the project.

6 **Q. Please provide the Commission some background about MDU.**

7 A. MDU is a utility company headquartered in Bismarck, North Dakota. It provides
8 natural gas and/or electric service to parts of Montana, North Dakota, South Dakota, and
9 Wyoming. Its service area covers about 168,000 square miles and includes approximately
10 312,000 customers.

11 **Q. How long has MDU been in business?**

12 A. Since 1924.

13 **Q. Can you provide some background about OTP?**

14 A. OTP is also a utility company. It is headquartered in Fergus Falls, Minnesota. OTP
15 provides electric service to parts of Minnesota, North Dakota, and South Dakota. Its service area
16 covers about 70,000 square miles and includes approximately 129,400 customers in 422
17 communities.

18 **Q. How long has OTP been in business?**

19 A. Since 1907.

20 **Q. What is the origin of the Project?**

21 A. This project was approved by the Midcontinent Independent System Operator
22 (“MISO”) board of directors on December 8, 2011 as one of seventeen Multi-Value Projects
23 (“MVP”). As indicated in Section 4.0 of the Application, the purpose of the MVPs, including

1 the Project, is to reduce the wholesale cost of energy delivery for consumers across the MISO
2 region by enabling the delivery of low-cost generation to load, reducing congestion costs, and
3 increasing system reliability.

4 **Q. What is MISO?**

5 A. MISO is a regional transmission organization that provides an essential link in the
6 safe, cost-effective delivery of electric power across all or parts of 15 U.S. states in the Midwest
7 region of the United States and the Canadian province of Manitoba. As a regional transmission
8 organization, MISO assures consumers of unbiased regional grid management and open access
9 to the transmission facilities under MISO's functional supervision. MISO membership consists
10 of 47 transmission owning utilities.

11 **Q. Is another witness going to address the need and demand for the Project?**

12 A. Yes.

13 **Q. Who?**

14 A. Jason Weiers of OTP.

15 **Q. When did the owners begin to work on developing the Project?**

16 A. Shortly after MISO approved the Project.

17 **Q. Have consultants been retained to help study, design, construct and operate the**

18 **Project?**

19 A. Yes.

20 **Q. Who are the consultants and what are their roles?**

21 A. HDR has been actively involved in the route selection and public outreach activities
22 for the project and will be performing the environmental, cultural resource, and archeological

1 surveys for the Project. They also assisted in the development of the permit applications for
2 North and South Dakota.

3 KLJ is another consultant. KLJ has been actively involved in the route selection process
4 and is performing the right-of-way acquisition and route survey requirements for the Project.

5 The last consultant is POWER who has also been actively involved in the route selection
6 process and is performing the preliminary engineering activities for Project. They are also
7 serving as the project coordinator for the Owners by coordinating the activities of all the
8 consultants and the Owners on the Project.

9 **Q. Will witnesses be testifying from any of those consultants?**

10 A. Yes.

11 **Q. Who?**

12 A. Angela Piner from HDR, and Danny Frederick and Jon Leman from Power.

13 APPLICATION FOR PERMIT

14 **Q. Have the owners filed an application to construct a transmission facility with**
15 **the Commission?**

16 A. Yes.

17 **Q. When was the application filed?**

18 A. August 14, 2013.

19 **Q. Is Exhibit 1 the Application?**

20 A. Yes.

21 **Q. Is this a true and accurate copy of the Application filed with the Commission?**

22 A. Yes.

23 **Q. How was the Application prepared?**

1 A. The Application was prepared as a result of a collaborative effort by the Owners and
2 the consultants on the Project to satisfy the requirements necessary for issuance of the facility
3 permit.

4 **Q. Was the Application amended after it was filed?**

5 A. Yes.

6 **Q. What is Exhibit 1A?**

7 A. This is the filing with the Commission containing the amendment to the application.

8 **Q. What part of the application was amended by Exhibit 1A?**

9 A. Section 14.3 of the Application addresses noise. Table 17 in Section 14.3 was
10 amended to clarify the headings in the table and the definition of the applicable condition for the
11 table. Section 23.4.3 addressing Electric and Magnetic Fields was amended to correct the values
12 contained in Tables 22 & 24 and the definition of the applicable condition used to calculate those
13 values.

14 **Q. Are there any further amendments to the Application?**

15 A. Yes, route changes.

16 **Q. Will you be discussing these route changes in your testimony?**

17 A. Yes.

18 **Q. Following the application, did the Commission Staff issue any data requests to**
19 **the Project?**

20 A. Yes, the Commission Staff issued two sets of data requests, the responses to which
21 are Exhibits 2 and 3.

22 **Q. Did the Owners answer these data requests under oath?**

23 A. Yes.

1 **Q. Describe the process for responding to these data requests.**

2 A. Upon receipt of the data requests, the information needed to answer the data requests
3 was gathered from the Owners and the consultants on the Project. Based on this information, the
4 answers were drafted, reviewed by the Owners, and verified under oath.

5 **Q. Are the answers to the Staff's data requests still accurate?**

6 A. To the best of my knowledge, yes.

7 **Q. How about intervenor Gerald Pesall, did he submit any discovery requests to the**
8 **Owners?**

9 A. Yes, Mr. Pesall submitted Gerald Pesall's First Set of Discovery Requests to
10 Applicants and Gerald Pesall's Second Set of Discovery Requests to Applicants, the responses to
11 which are Exhibits 4 and 5.

12 **Q. Did the Owners respond to these discovery requests?**

13 A. Yes.

14 **Q. Are the Owners' answers under oath?**

15 A. Yes.

16 **Q. What process did the Owners use to answer Mr. Pesall's discovery requests?**

17 A. The same process used to answer the Commission Staff's data requests was also used
18 to answer Gerald Pesall's discovery requests.

19 **Q. Are the Owners' answers to Gerald Pesall's discovery requests still accurate?**

20 A. To the best of my knowledge, yes.

21 DESCRIPTION OF THE PROJECT

22 **Q. Generally, describe the project.**

1 A. The Project will consist of a single-circuit 345-kilovolt (kV) transmission line
2 constructed using steel monopole structures and a new 345-kV substation located near Ellendale,
3 North Dakota. The Project connects the new Ellendale 345-kV Substation in North Dakota and
4 the Big Stone South Substation near Big Stone City, South Dakota.

5 **Q. The Project includes how many miles of transmission line?**

6 A. 160 to 170 miles for the total Project with 150 to 160 miles of the Project in South
7 Dakota.

8 **Q. What is the estimated cost of the Project?**

9 A. At this time, the South Dakota facility is anticipated to cost approximately \$250 to
10 \$320 million in 2013 dollars. The total Project is expected to cost approximately \$293 to \$370
11 million in 2013 dollars.

12 **Q. Has there been a final design cost estimated at this time?**

13 A. No.

14 **Q. When will such an estimate be known?**

15 A. Project estimates are dynamic. A revised cost estimate will be developed once the
16 final route is determined.

17 **Q. Who is designing the Project?**

18 A. POWER has completed the preliminary design. POWER also has completed the
19 structure spotting (or placement of poles) for the Project. A detailed description of the design
20 and construction of the Project can be found in Sections 22 and 23 of the Application.

21 **Q. Is there going to be witness to testify about the design and construction of the**
22 **transmission line?**

23 A. Yes, Danny Frederick with POWER.

1 **Q. When is construction anticipated to begin on the Project?**

2 A. As indicated in Section 18.0 of the Application, the Project anticipates commencing
3 construction in 2016.

4 **Q. When does the Project expect the transmission line to go inservice?**

5 A. The Project's preliminary estimate of the in service date is 2019.

6 **BENEFITS OF THE PROJECT**

7 **Q. Are there any benefits of the project to South Dakota?**

8 A. Yes.

9 **Q. Is someone else going to discuss the benefits to electrical generation system of
10 building the Project?**

11 A. Yes, Jason Weiers of OTP will testify about that topic.

12 **Q. Are there any other economic benefits to South Dakota of building the Project?**

13 A. Yes.

14 **Q. What are the benefits?**

15 A. Long term benefits to South Dakota of the Project include increasing system capacity,
16 and increasing the property tax base. By increasing the capability of the transmission system,
17 there will be additional opportunities to transmit energy generated from renewable and other
18 energy resources. It is anticipated that the construction of the South Dakota Facility also will
19 reduce obstacles impeding energy development, which should support additional economic gains
20 to the state and local areas. Additional long-term benefits include the economic development
21 associated with the construction of the Project, which will generate increased sales, use, and
22 construction excise tax revenues.

1 A. The Applicants began their analysis by collecting Geographic Information System
2 (GIS) data from local, state, and federal agencies for much of northeastern South Dakota and
3 southeastern North Dakota. The Applicants used this data, along with data collected during field
4 visits to the South Dakota Facility area, to develop a Project study area. The Applicants then
5 narrowed the study area into study corridors that were used for agency and public outreach to
6 help identify additional opportunities and constraints to be considered during routing. Next, the
7 Applicants developed a series of route segments within the study corridors, which were typically
8 short linear segments in proximity to public roadways, section or quarter section field lines, or
9 existing corridors that a potential transmission line route could be near. It was considered
10 desirable to locate the new transmission line near facilities such as roadways, section lines, and
11 existing corridors in order to minimize impacts to open land areas, avoid impacts to homes,
12 businesses, or wind energy facilities, and allow for easier access to the right of-way (ROW) for
13 construction and maintenance purposes. The feasibility of using these segments was evaluated on
14 an individual basis. Once evaluation of the route segments was completed, the segments were
15 linked together into numerous preliminary transmission line route alternatives. The Applicants
16 evaluated the preliminary routes, measuring them against both the transmission line routing
17 considerations for the State of South Dakota (SDCL 49-41B-22) and input on sensitive and
18 important resources identified by the public.

19 **Q. What criteria were used to select one route over the other options?**

20 A. The transmission line route in South Dakota was selected based on several
21 considerations, including the following:

- 22 • Minimizing total length and construction costs
- 23 • Minimizing impacts to humans and human settlements, including (but not limited
24 to) displacement, noise, aesthetics, cultural values, recreation, and public services

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- Consideration of effects on public health and safety
- Offsetting existing ROW (roadway or other utility ROW) or section lines to minimize impacts to land-based economies, including (but not limited to) agricultural fields and mining facilities
- Minimizing effects on archaeological, cultural properties, and historic resources
- Minimizing impacts to wetlands, surface waters, and rivers
- Minimizing impacts to rare or endangered species and unique natural resources
- Minimizing effects to airports or other land use conflicts

Q. Based on those criteria, did the Project select a preferred route?

A. Yes, this is the route shown in the Application.

Q. Were alternative routes identified as part of the route selection process?

A. Yes, as indicated in Sections 8.1 and 8.2 of the Application, the Project considered multiple alternative routes. As indicated in Section 8.1 of the Application, the Project first identified study corridors to consider during routing. From these study corridors, the Project identified alternative routes, which are shown in blue on the map that is Exhibit 6 (BSSE 9). The preferred route was selected from these alternative routes.

Q. Why were the alternative routes rejected?

A. Section 8.2 of the Application describes the methodology used in selecting the preferred route and rejecting alternative routes. Additionally, the reasons for rejecting the alternative routes are described in the answer to interrogatory number 16 in Gerald Pesall’s First Set of Discovery Responses to Applicants, which is attached as Exhibit 4.

Q. After selecting the route, what steps did the Project undertake to acquire easements for right-of-way access?

1 A. The Project developed a process for communicating with landowners regarding right-
2 of-way access. After determining the route, the Project first performed title research to
3 determine the legal ownership of the properties impacted by the route. Then, according to the
4 Project's right-of-way process, a land agent is assigned to each specific parcel. The land agent
5 calls the landowner of the parcels in an effort to schedule an in-person meeting to discuss the
6 Project at a time and place convenient for the landowner. At the initial meeting, the land agents
7 provide the landowner an overview of the Project, utilizing general Project handouts.
8 Landowners are encouraged to ask questions. As part of the discussion, the land agent
9 transitions to the route. The land agent also presents options for an easement to landowners.
10 The options, if exercised, give the Owners the right to acquire easements for the right-of-way
11 access.

12 **Q. How wide is the easement?**

13 A. 150 feet or typically 75 feet on each side of the centerline.

14 **Q. Why was that width selected?**

15 A. This width was chosen based on the structure types used on the Project. It also
16 provides for the necessary setback of the transmission line from trees and other structures to
17 allow for safe operation and ease of access to the transmission line.

18 **Q. Where will the structures for the transmission line be located within the**
19 **easements?**

20 A. The structures (or poles) will typically be located 75 feet from the edge of the
21 easement. As indicated in Table 21 in Section 23.1 of the Application, the structures will be
22 placed approximately between 700 and 1,200 feet apart.

23 **Q. Have the preliminary locations of the structures been determined?**

1 A. Yes.

2 **Q. Have landowners been furnished with these preliminary structure locations?**

3 A. Yes, if requested, landowners have been shown the preliminary structure locations.

4 **Q. What is the current status of the acquisition of options for the Project route?**

5 A. As of April 22, 2014, the Project has obtained signed options for approximately 57.6
6 percent of the miles of the route. The Project continues to work with landowners in obtaining
7 right of away access and is making progress in obtaining options.

8 **Q. When does the Project plan to start obtaining easements for the right of away?**

9 A. At this time, we plan to start exercising our easement options with landowners in
10 early 2015.

11 ROUTE CHANGES

12 **Q. Since the filing of the Application and based upon discussions with**
13 **landowners has the Project made any route changes?**

14 A. Yes.

15 **Q. Describe the Project's process for reviewing requested route changes.**

16 A. If a landowner requests a change in the route, the landowner is provided a
17 "Landowner Request" form. An example of this form is Exhibit 7. The land agent works with
18 the landowner in filling out the "Landowner Request" form, which must be signed by the
19 landowner confirming their agreement to the requested change. The land agent submits the
20 completed "Landowner Request" form. The Project assigns a route change request number and
21 submits the request consideration by the Project's right-of-way committee, which is composed of
22 representatives of the Owners, KLJ, HDR, Power, and the Project's legal team.

1 **Q. What criteria does the Right-of-Way committee use to evaluate proposed route**
2 **changes?**

3 A. In considering the proposed routes changes, the Project's right-of-way committee
4 considers the criteria identified in response to the Staff's data request 2-25, which is shown on
5 Exhibit 3.

6 **Q. Who decides whether to accept a requested route change?**

7 A. Following the review and analysis by the right-of-way committee, the Owners must
8 both approve any requested route change before the route change is accepted.

9 **Q. How many route changes have been requested?**

10 A. To date, 32 route changes have been formally requested.

11 **Q. Has an exhibit been prepared summarizing the requested route changes and the**
12 **Project's response to the request?**

13 A. Yes, Exhibit 9 is a matrix reflecting all of the requested route changes to date. The
14 matrix also summarizes the decisions made by the Project, and the reasons for the decisions. The
15 Owners request confidential treatment of this document pursuant to ARSD 20:10:01:41.

16 **Q. How many requested route changes have been approved?**

17 A. According to Exhibit 9, as of April 15, 2014, fourteen requested route changes have
18 been approved. Only five of the requested route changes have been denied. The remaining
19 requested route changes are still under consideration.

20 **Q. Have options been acquired for the route changes?**

21 A. The Project has begun acquiring options for route changes. The Project will continue
22 to work with landowners to obtain options for approved route changes.

23 **Q. Did the Project take any steps to notify landowners of the route changes?**

1 A. Yes. Pursuant to SDCL 49-41B-5.2, the Project was required to provide notice of the
2 Application to all landowners located within one-half mile of the proposed route. These
3 landowners all received a certified letter mailed on September 6, 2013, advising them of the
4 project and the public input hearing held on October 17, 2013.

5 The significant route changes approved by the Owners resulted in new landowners being
6 located within the one-half mile corridor of the route. For these significant route changes, the
7 Project provided notice of the Project and the route changes to the landowners located within
8 one-half mile of the route change through a certified letter mailed March 19, 2014.

9 **Q. Did Gerald Pesall request a route change?**

10 A. Yes.

11 **Q. Describe his requested route change.**

12 A. Gerald Pesall first requested a route change, which is shown in red on Exhibit 8. The
13 Owners reviewed this proposed route as well as to other potential route changes affecting Mr.
14 Pesall, which are shown in yellow on Exhibit 8.

15 **Q. Was Gerald Pesall's request analyzed based upon the same criteria as other**
16 **route change requests?**

17 A. Yes.

18 **Q. Did the Owners agree to Mr. Pesall's route change request?**

19 A. No.

20 **Q. Why not?**

21 A. Mr. Pesall's route change was rejected because the Project's communication with
22 other landowners indicated that Mr. Pesall's route change resulted in more landowner resistance
23 and the transmission line being closer to more occupied dwellings than the preferred route.

1 **Q. Based on the preferred route, how many structures (poles) are located on Gerald**
2 **Pesall's land?**

3 A. Based on our analysis at this time, the preferred route only places two structures on
4 Mr. Pesall's land.

5 **Q. Do you anticipate that changes to structure locations may occur after the**
6 **evidentiary and before construction and during construction?**

7 A. Yes

8 **Q. How do you propose the Commission will be notified of changes in structure**
9 **location?**

10 A. The Project proposes providing a map to the Commission showing the final structure
11 locations following the completion of construction.

12 STATE, LOCAL AND FEDERAL AGENCY AND TRIBAL CONTACTS
13 AND PERMITS

14 **Q. Have state, local, federal and tribal entities been consulted about the Project?**

15 A. Yes

16 **Q. Is someone else going to testify about those contacts?**

17 A. Yes, Angela Piner from HDR.

18 **Q. Are permits going to be necessary to construct the line other than the permit**
19 **requested in this proceeding?**

20 A. Yes

21 **Q. Who is going to testify about those other permits?**

22 A. Angela Piner from HDR.

23 **Q. Are you aware of any objections to the Project by any local, state, federal, or**
24 **trial authority?**

1 A. Yes, Farmington Township, Highland Township, and Valley Township submitted
2 communications in opposition to the Project.

3 **Q. What do you understand these objections to be, and how did the Project respond**
4 **to the objections?**

5 A. The objections and the Project's responses to the objections are described in response
6 to Staff's data request 2-16, which is included in Exhibit 3.

7 ENVIRONMENTAL REVIEW OF THE PROJECT

8 **Q. Has the Project undertaken a review of the potential environmental impacts of**
9 **the Project?**

10 A. Yes.

11 **Q. Will a witness be testifying about what the Project has done to determine the**
12 **potential environmental effect of the South Dakota facility?**

13 A. Yes, Angela Piner from HDR.

14 INPUT FROM THE PUBLIC AND LANDOWNERS

15 **Q. What efforts has the Project undertaken to obtain input from the public and**
16 **landowners?**

17 A. The Project engaged in multiple outreach activities to obtain public input.

18 **Q. Is someone going to testify about these public outreach efforts?**

19 A. Yes, Angela Piner from HDR.

20 **Q. Are these efforts in addition the public input hearings held by the Commission**
21 **in Aberdeen and Milbank?**

22 A. Yes.

23 **Q. Have any landowners raised any objections about the Project?**

1 A. Yes.

2 **Q. Were some of these issues raised at the public input hearings in Aberdeen and**
3 **Milbank?**

4 A. Yes.

5 **Q. Were some of the issues addressed by you at the public hearings?**

6 A. Yes.

7 **Q. What landowner issues remained after the public input hearings?**

8 A. The landowner's concerns regarding the Project, including those remaining after the
9 public input hearing, are described in response to Staff's data requests 2-9 and 2-29, which are
10 included in Exhibit 3. The Project has worked with landowners to try to address these concerns
11 and will continue to do so.

12 **Q. How will landowner complaints be addressed during construction and operation**
13 **of the line?**

14 A. As indicated in response to data request 2-9 from the Staff, which is included in
15 Exhibit 3, once construction commences, the Project anticipates developing a process for the
16 landowners affected by the construction to submit comments or concerns.

17 REQUEST FOR PERMIT

18 **Q. Based on your experience and training regarding transmission lines, and the**
19 **work performed by the Owners and the consultants on the Project, the studies and**
20 **resources cited in the Application, and the input of the public, do you have an opinion**
21 **regarding whether the Project complies with the requirements of SDCL 49-41B-22 for**
22 **issuance of the facility permit?**

23 A. Yes, I have an opinion.

1 **Q. What is that opinion?**

2 A. The Project does comply with SDCL 49-41B-22.

3 **Q. In forming this opinion, did you consider the Application, including the studies**
4 **and research cited?**

5 A. Yes, I considered all the Application.

6 **Q. Is this the type of information you would typically rely on in making decisions**
7 **regarding constructing, maintaining, and operating of a transmission line?**

8 A. Yes, it is.

9 **Q. Do you have an opinion regarding whether the proposed facility complies with**
10 **all applicable laws and rules known to exist?**

11 A. Yes, I have an opinion.

12 **Q. What is that opinion?**

13 A. Yes, it complies with all applicable laws and rules.

14 **Q. Do you have an opinion regarding whether the proposed facility will pose a**
15 **serious injury to the environment and economic conditions of the people residing in the**
16 **area of the Project or the people expected to reside in the Project area?**

17 A. Yes, I have an opinion.

18 **Q. What is that opinion?**

19 A. In my opinion, and as further discussed in Sections 10 through 19 of the Application,
20 the Project will not have a serious injury to either the environment or the economic conditions of
21 the people in the Project area.

22 **Q. Do you have an opinion regarding whether the facility will substantially impair**
23 **the health, safety, and welfare of the people in the Project area?**

1 A. Yes, I have an opinion.

2 **Q. What is that opinion?**

3 A. As indicated in Section 23.4.2 of the Application, the South Dakota Facility will not
4 impair the health, safety, or welfare of people in the Project area.

5 **Q. Do you have an opinion regarding whether the South Dakota facility will unduly**
6 **interfere with the orderly development of the region with due consideration given to the**
7 **views of the governing bodies and affected units of local government?**

8 A. Yes, I have an opinion.

9 **Q. What is that opinion?**

10 A. Based on the work of the Project and communication with local governing bodies, the
11 South Dakota facility will not unduly interfere with the orderly development of the region.

12 **Q. To your knowledge, does the Application, as amended, provide all information**
13 **necessary for the Commission to grant the requested permit and satisfy the form and**
14 **content requirement?**

15 A. Yes.

16 **Q. On behalf of the Project, what are you asking of the Commission?**

17 A. Issuance of the permit requested in the Application subject to the acquisition of all
18 local, state, and federal permits.

19 **Q. Does this complete your direct testimony?**

20 A. Yes, it does.

21