

1 STATE OF NORTH DAKOTA
2 PUBLIC SERVICE COMMISSION

3 Minnkota Power Coop, Inc. Case No. PU-09-670
4 345 kV Transmission Line - Center to Grand Forks
5 Siting Application
6 - - - - -

7 TRANSCRIPT OF PROCEEDINGS

8 10:05 o'clock a.m.

9 June 16, 2011

10
11 Taken Before: Al Wahl, Administrative Law Judge
12 Office of Administrative Hearings
13 1707 North Ninth Street
14 Bismarck, North Dakota

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18 Taken At: Northwood High School
19 300 35th Street Northeast
20 Northwood, North Dakota

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22
23
24 Taken By: Joy Filipski, Court Reporter
25

1 A p p e a r a n c e s :

2

3 North Dakota Public Service Commission:

4 Kevin Cramer, Commissioner
5 Brian P. Kalk, Commissioner

6

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14

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16

17 Also Present: Gerad C. Paul, Attorney at Law
18 Jerry Lein
 Stephan Mellert
 Public

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3

4 MR. WAHL: Let's be in order,
5 please.

6 Good morning. I am Al Wahl, the
7 Administrative Law Judge, pursuant to Temporary
8 Appointment, designated by the Office of
9 Administrative Hearings, upon the request of
10 the North Dakota Public Service Commission, to
11 serve as the hearing officer for this hearing.

12 This is a hearing of the
13 application of Minnkota Power Cooperative for a
14 Certificate of Site Compatibility for a
15 transmission facility corridor for
16 approximately 260 miles of 345 kilovolt
17 transmission line and associated facilities to
18 be constructed from the Center substation near
19 Center, North Dakota, to the Prairie substation
20 near Grand Forks, North Dakota.

21 This is North Dakota Public Service
22 Commission Case No. PU-09-670.

23 There will be three hearings for
24 Minnkota's application. The first today, the
25 second tomorrow at Carrington and the third,

1 June 24, at Washburn.

2 These hearings were initially
3 scheduled to be held on May 3 at Grand Forks,
4 May 4 at Carrington and May 13 at Washburn and
5 were rescheduled upon the request of persons
6 wishing to testify at a later date after spring
7 fieldwork was expected to be completed.

8 Before proceeding with the hearing,
9 I will ask the Commissioners to -- for their
10 comments and any directions for the hearing.

11 Commission Chairman Tony Clark is
12 unavoidably absent for this hearing.

13 Commissioner Kevin Cramer.

14 MR. CRAMER: Thank you, your Honor.

15 And right up front, let me express
16 my regrets on Tony's behalf. He was -- he is
17 unavoidably detained, thanks to traveling by
18 air. He is -- he spent the night in the
19 Minneapolis airport in trying to get to us,
20 but, but, as we know, sometimes that's less
21 convenient than it, than it ought to be.

22 But I can assure you that Tony,
23 Tony will be with us tomorrow and he'll be with
24 us in Washburn and he, also, of course, will be
25 reviewing the record when he, when he returns.

1 We have the advantage both of audio
2 recording and a court reporter, so there'll be
3 plenty to review for all of us, so, when this
4 is said and done.

5 But let me also just say right up
6 front, thank you to the school and the school
7 personnel for hosting this and allowing us to
8 utilize this fantastic facility and your
9 hospitality is, is most appreciated.

10 And welcome to those of you,
11 especially citizens and landowners, that would
12 be affected by this proposed 345 kV
13 transmission line.

14 We live in a remarkable place, in a
15 remarkable time. A state that is, by any
16 measure, blessed. Blessed to be rich in so
17 many natural resources.

18 And we're a state that's pretty
19 good at adding value to those natural resources
20 and feeding a hungry world with our food and a
21 hungry nation with our vast energy resources.

22 We are a busy Public Service
23 Commission these days. And we're grateful for
24 that.

25 We're bullish on North Dakota's

1 energy development. Here we are, a state that
2 is sixth in the nation in export of
3 electricity. We are number one in the nation
4 in the production of lignite coal. We are
5 number four in the nation in production of, of
6 oil. And we, we produce as much natural gas as
7 we do oil.

8 And we -- our challenge is, is to
9 not only produce it and add value to it, but to
10 get it to the marketplace.

11 But we are also a state that uses a
12 lot of energy, aren't we.

13 And so we view energy development a
14 little bit differently perhaps than some other
15 places do.

16 The charge of the Public Service
17 Commission in, in siting energy conversion
18 facilities and transmission facilities, be they
19 pipelines or wind farms or transmission lines
20 or coal mines or, or power plants, is to not
21 just simply advocate for it, but to ensure that
22 it is done in a responsible manner.

23 And that's what makes coming to
24 Northwood so special. We're fortunate that
25 these three hearings the judge just talked to

1 you about will be held in three communities
2 that are most closely affected and that present
3 some geographic opportunity for maximizing the
4 potential of participation by affected
5 individuals.

6 We do our jobs best when the public
7 is engaged. And so we, we are here in
8 Northwood in hopes that those of you who would
9 have something to say would be sure to say it
10 to us today.

11 Our job is to not only advocate for
12 energy development, but to ensure that it is
13 done in a way that has minimal adverse impacts
14 on the cultural and natural resources of our
15 state and on, on the welfare of our citizens.
16 That's a pretty high calling.

17 It's also our job to ensure that it
18 is done in a way that enhances the reliability
19 of, of these energy resources and the
20 infrastructure that delivers them.

21 We like our work a lot. We take it
22 very seriously.

23 I want to just make one strong
24 admonition, and then you'll hear it from, from
25 others as well today, and that is, whatever you

1 do today, do not leave this place wishing you
2 had said something you did not.

3 This is your opportunity to go on
4 the record. This is a, a legal proceeding.
5 It, it sometimes will seem quite formal to you.
6 It is not like a school board meeting or, or a
7 legislative committee hearing or a county
8 commission meeting.

9 This record that is developed is
10 what we have to make our decision.

11 And with whatever's not in the
12 record, cannot be considered in making our
13 decision.

14 So don't be intimidated by anything
15 you might hear or say -- see here today, but,
16 rather, step up, and, and if you have any
17 thoughts, concerns, advocacy, challenges,
18 things that you think would -- should be done
19 differently, please make sure that you seize
20 the opportunity when it's presented to step up
21 to the witness stand and to share your
22 thoughts.

23 With that, again, thank you for
24 being here. This -- your time, we know, is
25 irrevocable.

1 We had no idea when we rescheduled
2 the May hearings to June that spring planting
3 still would not be over, but, but we're doing
4 our best to try and accommodate as many people
5 as we can.

6 Thank you.

7 MR. WAHL: Commissioner Brian Kalk.

8 MR. KALK: Kevin always does a
9 really good job of laying it all out, I just
10 want to throw a couple of points out there,
11 that the, you know, Kevin kind of laid it out
12 there, that the most important thing that we,
13 that we gain out of this is we come here to, to
14 listen to you.

15 I mean, we could have the, the
16 attorneys and all this sit -- take place right
17 in the Public Service Commission meeting, we
18 could review the record, we could look at all
19 the notes, but that's not the way, the way it's
20 done the best.

21 The way it's done the best is we
22 come out here, we listen to the information and
23 we hear what your thoughts and your concerns
24 are.

25 Because for me, it's really

1 important that we understand that, that balance
2 between, North Dakota's a farming, a ranching
3 state, we're also becoming a very, very big
4 energy-producing state, so we've got to find
5 that right balance.

6 And so the way we find that balance
7 is we make sure we listen to the people that
8 are most affected.

9 When this transmission line is
10 built, you're the ones that will be most
11 affected by it, positive and negative, perhaps.

12 So that's what we need to do, is
13 get all the information out there, on the
14 record, and then we go back and look at all the
15 information and make a decision.

16 Because the process of the PSC is,
17 we go to the communities that are most
18 affected, we have a hearing, whether it's a
19 transmission line or a wind farm or a pipeline,
20 and we look at all the information.

21 And then we go back and we'll have
22 work sessions on it, there'll be lots of
23 questions that go back and forth. And at the
24 end, we'll be a decision.

25 And we hope that decision we make

1 inclu -- includes all the information so we can
2 make the best decision.

3 The -- I guess for me spec --
4 personally, I've got an uncle that lives down
5 in Finley, so I stayed at his place last night.

6 And I was -- when I worked at NDSU,
7 I did a lot of work up here, so I know this
8 area very well.

9 And there's a history of
10 transmission lines going here, there's a --
11 histories of lots of things that, that we need
12 to be concerned about.

13 But there's also a need to make
14 sure we get our energy that's reliable and
15 affordable.

16 We just had some major power
17 outages in the southeastern part of the state
18 from the big storms, so the more transmission
19 lines we can have, that helps with re --
20 redundancies.

21 So I look forward to the hearing.
22 But just the big thing is, that we're here
23 today to, to listen to your comments. And
24 that's the most important part.

25 After this is all done, the formal

1 part of it, if you have something to say,
2 please step forward and say it.

3 Because if you grab me in the
4 hallway, it's not part of the record.

5 Being part of the record just takes
6 place right in the middle of the, of the
7 hearing, so --

8 And I also see our local
9 representative, I saw Jerry out there
10 somewhere. Where are you at? In the back
11 there.

12 So thank you very much for coming.

13 MR. WAHL: Thank you,
14 Commissioners.

15 The record will show that it is a
16 little after 10:00 o'clock a.m., June 16, 2011,
17 the time and date set by the Notice of
18 Rescheduled Hearings issued by the North Dakota
19 Public Service Commission, April 20, 2011, in
20 Case No. PU-09-670 for a hearing of the
21 application of Minnkota Power Cooperative for a
22 Certificate of Site Compatibility for a
23 transmission facility corridor for
24 approximately 260 miles of 345 kilovolt
25 transmission line and associated facilities to

1 be constructed from the Center substation near
2 Center, North Dakota, to the Prairie substation
3 near Grand Forks, North Dakota.

4 All as I have previously recited
5 and as is set forth in both the initial Notice
6 of Filing and Notice of Hearings and the Notice
7 of Rescheduled Hearings and as shown by the map
8 which is part of each Notice. All of which
9 have been duly published in accordance with the
10 requirements of statute and rule.

11 The Commission's Notice of
12 Rescheduled Hearings for this com -- this
13 hearing, specified the following issues to be
14 considered and determined upon this hearing.

15 First, will the location,
16 construction and operation of the proposed
17 facilities produce minimal adverse effects on
18 the environment and upon the welfare of the
19 citizens of North Dakota?

20 Second, are the proposed facilities
21 compatible with the environmental preservation
22 and the efficient use of resources?

23 Third, will the proposed facility
24 locations minimize adverse human and
25 environmental impact while ensuring continuing

1 system reliability and integrity and ensuring
2 that energy needs are met and fulfilled in an
3 orderly and timely fashion?

4 And, fourth, is it appropriate for
5 the Commission to approve a 1,000-foot-wide
6 corridor as requested in the application?

7 Ms. Smith, will you please state
8 your appearance for the record and the
9 appearance of your co-counsel?

10 MS. SMITH: Yes, your Honor.

11 I am Mollie Smith, I am here on
12 behalf of Minnkota Power Cooperative. With me
13 is Gerad Paul, also, he is with Minnkota Power
14 Cooperative. I'm with Fredrikson & Byron.

15 MR. WAHL: Mr. Sagsveen, please
16 state your appearance for the record and the
17 appearance of Commission Staff who will
18 participate for the hearing.

19 MR. SAGSVEEN: Thank you.

20 My name is Matthew Sagsveen and I'm
21 an Assistant Attorney General here on behalf of
22 the North Dakota Public Service Commission and
23 Commission of Staff, sitting to my left, would
24 be Jerry Lein.

25 MR. WAHL: Before we proceed, may I

1 have a show of hands, please, of people who
2 plan to testify or who may testify?

3 Good. Thank you.

4 Let me just say, first, to echo the
5 comments of the Commissioners, to encourage you
6 to participate in this hearing, to tell the
7 Commissioners what you think they should know.

8 And while I appreciate the
9 formality of these proceedings, they're a
10 little bit more like a court proceeding than a,
11 than a county commission meeting and, in a
12 sense that's unfortunate, but it should not
13 deter you from coming forward.

14 And I am here not only to conduct
15 this hearing, but to help you, to whatever
16 extent I can, to present your testimony, what
17 you have to say to the Commission.

18 If you have photographs or a map or
19 other documents which you think the
20 Commissioners should see, I will mark them for
21 you as Exhibits. I will tell you how you can
22 handle those so that they can be made part of
23 the record. And I will help you offer them and
24 make them a part of the record.

25 If you have questions about what

1 you can say or how you can say it, I'll be glad
2 to answer those questions.

3 I, I can't answer any questions, of
4 course, about Minnkota's application. I can't
5 advise you what to say. But I can help you say
6 what you would like to say. And I'll be very
7 happy to do that.

8 I will take, at the conclusion of
9 Minnkota's presentation, I will take a recess
10 and I will be glad to meet with any of you
11 then. If you have documents you want marked,
12 we'll do that then. If you want to -- if you
13 have some questions, I'll be glad to answer
14 them then.

15 Now, we will also, I expect, be
16 taking some recesses, some breaks during
17 Minnkota's presentation. And I'll stay here
18 at, at my desk and I'll be glad to see you
19 then, too.

20 That is, any time that we're not
21 conducting the hearing, that we're not doing
22 the hearing, I will be available to you to help
23 you say what you want to say to the Commission,
24 to help you inform the Commission about what
25 you think they should know.

1 Ms. Smith, you may proceed.

2 MS. SMITH: Thank you, your Honor.

3 I'd just give a brief review of the
4 proceedings that have taken place so far in
5 this matter.

6 On October 5, 2009, Minnkota
7 fired -- filed a Letter of Intent intending to
8 file a combined Certificate of Corridor
9 Compatibility and Route Permit application.

10 On October 28, 2009, the Commission
11 acknowledged that Letter of Intent.

12 On February 5, 2010, Minnkota
13 submitted a letter to the Public Service
14 Commission requesting routing guidance.

15 Specifically, Minnkota was seeking
16 input regarding the potential for a designation
17 of an up to 1,000-foot-wide route and a
18 combined process for the application.

19 On May 13, 2010, Commission Staff
20 responded with a letter indicating that they,
21 the Commission preferred that the proceedings
22 be separated, Certificate of Corridor
23 Compatibility application, a, a separate
24 proceeding from the Route Permit application
25 proceeding.

1 And that they preferred that -- a,
2 a preferable approach for Minnkota would be to
3 submit a 1,000-foot-wide corridor in its
4 Corridor application as opposed to a
5 1,000-foot-wide route.

6 On July 16, 2010, Minnkota
7 submitted an application for Waiver of the
8 Corridor with Requirement.

9 On August 19, 2010, Minnkota
10 submitted a letter requesting that that
11 particular waiver be considered with the
12 Corridor application.

13 On February 18, 2010, that -- or
14 2011, excuse me, the Corridor application was
15 filed with the Commission.

16 On March 18, 2011, Minnkota
17 submitted a letter with one slight change to
18 the corridor and that was in Painted Woods
19 Township.

20 And on April 20, that application
21 was accepted and the Notice of Rescheduled
22 Hearing. There was the initial Notice that was
23 issued on May 24 and then the Rescheduled
24 Hearings were issued on April 20.

25 And then on June 9, Minnkota

1 submitted a modified project corridor with some
2 updated figures for the Corridor application.

3 There was a slight change in Wells
4 County and a slight change again in Painted
5 Woods Township. And those changes will be
6 discussed during the hearings.

7 A couple initial matters to
8 address. The first is the Corridor Waiver.
9 Corridor with Waiver application.

10 It's our understanding that
11 Commission Staff has determined that that
12 waiver is not necessary because the Commission
13 already has the author -- authorization under
14 Section 69-06-04-02(1)(b) of the Administrative
15 Code to designate a different-sized corridor
16 than is provided in the rules.

17 So we would simply ask that that
18 application be used as support for or accept as
19 support for the 1,000-foot-wide corridor.

20 The second issue is in a letter
21 that was submitted to the Commission after the
22 request to change the corridor -- or the
23 corridor hearing dates and locations.

24 There was a reference to lay-down
25 areas and that Minnkota may need to seek

1 approval of lay-down areas as part of this
2 proceeding.

3 Minnkota determined that it does
4 not need to do that. That it is going to
5 utilize existing Minnkota-owned properties that
6 are used for other property -- or other
7 operations and that it will waive to use the
8 additional lay-down areas until the Route
9 Permit proceeding.

10 I just want to give a brief
11 overview of the witnesses that we will have
12 here today.

13 Minnkota has a total of eight
14 witnesses.

15 The first witness is Al Tschepen.
16 Mr. Tschepen is the vice president of planning
17 and system operations for Minnkota.

18 Mr. Tschepen will provide testimony
19 regarding Minnkota itself, the background of
20 Minnkota, development of the proposed project,
21 the need for project, the project to ensure an
22 adequate base load generation serve load in
23 Minnkota's service territory.

24 The second witness is Tim Bartel.
25 Mr. Bit -- Bartel is systems engineering

1 manager for Minnkota.

2 And we will provide a brief
3 overview of the need for the proposed project
4 from a grid reliability standpoint.

5 The third witness is Mike Hennes.
6 Mr. Hennes is a system project manager for
7 Minnkota and he is also the project manager for
8 this particular transmission line project.

9 He will provide an overview of the
10 project and the intensive corridor selection
11 process that resulted in the proposed project
12 corridor.

13 He will discuss the factors that
14 played a role in selection of the proposed
15 corridor and the approach to right of way
16 acquisition, as well as the project benefits.

17 The fourth witness is Duane
18 Phillips. Mr. Phillips is with Stanley
19 Consultants and he is the manager for the
20 project engineering team.

21 Mr. Phillips will provide testimony
22 regarding engineer -- engineering and
23 operational design for the proposed project,
24 right of way design, the associated facilities
25 and project components and development of the

1 proposed project corridor, including factors
2 considered in selection of the specific project
3 corridor location.

4 And Mr. Phillips' testimony will
5 focus on, he will give a broad overview of the
6 corridor, but then he will focus on areas that
7 are specific to each hearing, hearing location.

8 The fifth witness is J. Michael
9 Silva. Mr. Silva is president of ENERTECH
10 Consultants.

11 And he will provide expert
12 testimony regarding the Global Positioning
13 System, also known as GPS, and its use in
14 agricultural operations, as well as his
15 research regarding use of GPS near transmission
16 lines.

17 The sixth witness is Terry
18 Fasteen. Mr. Fasteen is with Kadrmas, Lee &
19 Jackson and he is the project right of way task
20 leader.

21 And he will discuss right of way
22 acquisition for the proposed project.

23 The seventh witness is Brian
24 Hunker. Mr. Hunker is with HDR Engineering and
25 he is the environmental consulting project

1 manager.

2 He will testify regarding the
3 environmental studies that were performed and
4 then any environmental analysis conducted with
5 respect to the proposed project.

6 And he will also provide a
7 discussion of the National Environmental Policy
8 Act, or NEPA, review process, the, that the
9 project is also under -- undergoing at this
10 time, as well as the various agency
11 consultations that are required as part of that
12 process.

13 And the final witness is Dr. Peter
14 Valberg. Dr. Valberg is principal for
15 Environmental Health with Gradient.

16 And he will provide expert
17 testimony regarding power line electric and
18 magnetic fields, that are also known as
19 EMF.

20 And he will discuss the scientific
21 research regarding possible health effects of
22 power line EMF on humans and animals. And he
23 will also discuss, discuss EMF standards and
24 guidelines.

25 And I should note that Mr. Silva

1 will be presenting testimony today only at
2 Northwood. And Dr. Valberg will be only at the
3 final hearing in Washburn.

4 And the final thought that we have
5 is just that the testimony that will be
6 presented by Minnkota's witnesses throughout
7 these hearings will be focused on the corridor
8 and the corridor selection process. And
9 testimony regarding the route and those
10 specific issues will be saved for the Route
11 Permit hearings.

12 MR. WAHL: Mr. Sagsveen, I assume
13 you will not make an opening statement.

14 MR. SAGSVEEN: That's correct, your
15 Honor.

16 MR. WAHL: I should have asked you,
17 I'm sorry.

18 All right, Ms. Smith.

19 MS. SMITH: I'd call my first
20 witness, which is Al Tschepen.

21 MR. WAHL: Please be seated, Mr.
22 Tschepen.

23 Mr. Tschepen, as you are no doubt
24 aware, your testimony is required to be under
25 oath. And I'm required by law to advise you

1 regarding perjury before administering the
2 oath.

3 Perjury is a false statement of
4 material fact which you do not believe to be
5 true.

6 In North Dakota, perjury's a class
7 C felony, punishable by a fine up to \$5,000,
8 imprisonment for a period of up to five years
9 or both.

10 Will you raise your right hand,
11 please?

12 Being advised regarding perjury,
13 Mr. Tschepen, do you swear that the testimony
14 which you're about to give in this matter shall
15 be the truth, the whole truth and nothing but
16 the truth?

17 THE WITNESS: Yes, I do.

18
19 A L T S C H E P E N,
20 called as a witness, being first duly sworn,
21 was examined and testified on his oath as
22 follows:

23

24 MR. WAHL: Ms. Smith.

25

1 DIRECT EXAMINATION

2 BY MS. SMITH:

3 Q. Would you please state your full
4 name for the Commission?

5 A. Al Tschepen.

6 Q. And by whom are you employed?

7 A. Minnkota Power Cooperative.

8 Q. And what is your business address?

9 A. 1822 Mill Road; Grand Forks, North
10 Dakota.

11 Q. And what is your posi -- position
12 with Minnkota?

13 A. I am vice president of planning and
14 system operations.

15 Q. Could you just briefly discuss your
16 education and your work history?

17 A. Sure.

18 I have a bachelor of science degree
19 from North Dakota State University in
20 electrical engineering.

21 I've been employed at Minnkota for
22 34 years, and the last 23 years of that in
23 senior management.

24 Q. And what is your role with respect
25 to the proposed project?

1 A. I worked extensively on electric
2 load forecasting, which projects the electric
3 needs of the customers, as well as developing
4 resource options to meet that growing electric
5 load in a least cost manner.

6 Q. And having worked for Minnkota for
7 34 years, with 23 of those years in senior
8 management, are you familiar with Minnkota's
9 purpose, service obligations and operations?

10 A. Yes, I am.

11 Q. And what is Minnkota and what is
12 its purpose?

13 A. Minnkota's a generation and
14 transmission cooperative. We're headquartered
15 in, in Grand Forks, North Dakota.

16 And our, our purpose is to generate
17 and transmit wholesale electric power to our
18 eleven-member owners, which are located in
19 eastern North Dakota and, and northwestern
20 Minnesota.

21 And we have with them contracts
22 called all-requirements contracts, that it's
23 our, our purpose to generate and transmit
24 electric power to them, to meet all their
25 needs.

1 And they, in turn, provide retail
2 se -- electricity service to customers at the
3 end of the line.

4 Q. And what obligations does Minnkota
5 have to its member-owner distribution
6 cooperatives with respect to providing service?

7 A. Minnkota's a, a not-for-profit
8 organization and, as such, we are to provide
9 service at, at least cost.

10 And that we have a contract to
11 provide that over a period out to 2055.

12 So we have a, a long-term
13 obligation to provide them all their wholesale
14 power requirements.

15 Q. And what areas do Minnkota's
16 distribution cooperatives serve?

17 A. They serve roughly a 35,000
18 geographic area, square mile area. It's
19 comprised mainly in eastern one-third of North
20 Dakota, the northwestern corner of, of, of
21 Minnesota.

22 And within that service territory,
23 they serve primarily the ru -- the rural
24 customers. And there is a, roughly about
25 120,000 meters that they serve, supporting

1 about 300,000 people.

2 Q. And who controls Minnkota?

3 A. Minnkota and its member systems
4 are, are owned by the customers at the, at the
5 end of the line.

6 And the distribution cooperatives
7 of Minnkota each have one delegate or one
8 member on the Minnkota board.

9 So we have a board of, of eleven
10 folks from the distribution cooperatives and
11 that Board controls Minnkota.

12 Q. And what are the business
13 principles on which Minnkota operates?

14 A. Like most cooperatives, Minnkota
15 operates on a, on a basis of, of setting rates
16 equal to our cost of service, plus a margin.

17 And then that margin is returned to
18 the customers when deemed appropriate by the
19 Board.

20 Q. And I believe you testified earlier
21 that your work with respect to the project has
22 focused on load forecasting and identifying
23 least cost resource options to meet identified
24 needs. Is that right?

25 A. Yes, that is correct.

1 Q. Based on your load forecasting and
2 resource option assessment, why does Minnkota
3 need to construct the proposed project?

4 A. We have a, a growing electrical
5 need for power. The customers' needs are, are
6 increasing over time.

7 And to, to meet those new needs,
8 Minnkota has to engage in acquiring more base
9 load generation capacity.

10 And the, the project, meaning, the
11 Center to Grand Forks 345 kV line, will deliver
12 those base load needs to our service territory
13 in eastern North Dakota and northwestern
14 Minnesota.

15 Q. And you used the term base load
16 generation. Could you explain what that means?

17 A. Yes.

18 Base load generation is that which
19 is available generally 24 hours a day, seven,
20 seven days a week, a -- ar -- around the clock.

21 It generally has a higher fixed
22 cost, but it has a lower operating cost.

23 Q. And why does Minnkota need
24 additional base load generation?

25 A. The Minnkota members use the

1 greatest amount of electricity in the
2 wintertime. You can think of a, a cold winter
3 day, when folks are using a lot of electric
4 heat, they have their cars plugged in, a lot of
5 lights are on and, and things like that.

6 And the electric load is roughly
7 about a thousand megawatts during that time
8 frame.

9 We ask and, and participate in
10 routine load forecast studies that we do every
11 two years. So we take a fresh look at the
12 future. Our distribution cooperatives go out
13 and talk to their large customers.

14 We do very sophisticated
15 forecasting of, of electric needs, looking at,
16 like proposed salaries in the area, the price
17 of competing fuels and things like that.

18 And, and the latest forecast
19 indicates a need increasing roughly 1.9 percent
20 per year over the next 25 years.

21 That information is also provided
22 through the state of North Dakota in our, our
23 Ten Year Plan filing.

24 And so this increase in electric
25 needs is -- has to be supported by increased

1 generation.

2 And we've identified that we need
3 increased generation, base load generation by
4 2013, so that -- to satisfy those needs.

5 Q. And the project is designed to do
6 that?

7 A. Yes, it is.

8 Q. And if you would turn in the
9 Exhibit book that's in front of you to what's
10 been previously marked as Exhibit 1.

11 And it is also shown on the board
12 that is on the easel to the side of the room.

13 Could you identify that document?

14 A. Yes. That's a load growth chart.

15 Q. And was this Exhibit prepared under
16 your supervision and control?

17 A. Yes, it was.

18 Q. And will it assist you with your
19 testimony?

20 A. Yes, it will.

21 MS. SMITH: I would offer Exhibit
22 1.

23 MR. WAHL: Mr. Sagsveen?

24 MR. SAGSVEEN: No objections.

25 MR. WAHL: Exhibit 1 is received.

1 Q. (By Ms. Smith) Could you please
2 explain what is depicted in Exhibit 1?

3 A. Yes.

4 On the left most part of the chart
5 is the historical needs or usage of the, the
6 members of electricity from 1988 through 2008.

7 And then on the right portion of
8 the chart is the projected future needs,
9 indicating and supporting the 1.9 percent per
10 year growth through the year 2033.

11 Q. And how far in advance does
12 Minnkota have to plan in order to address
13 forecasted base load generation needs?

14 A. A long time.

15 Because if -- base load can come
16 from a cou -- a few sources. If we think about
17 developing a new coal-fired power plant, which
18 would be considered a base load resource, it
19 takes roughly seven to eight years. Nuclear
20 would take con -- considerably more.

21 And the reason it takes a, a lot of
22 time, because a lot of factors have to be
23 considered, such as, is there a, a stable and
24 adequate fuel supply available for maybe 40 or
25 50 years; are there environmental issues that

1 have to be considered; is there work force in
2 the area to support such a plan; is there water
3 that -- that's available to support a plant
4 operation.

5 And probably most importantly, what
6 is the total cost, because that really drives
7 our, our ultimate decision in a lot of
8 situations.

9 Q. In your role with respect to the
10 project, did you study various alternatives to
11 addressing Minnkota's forecasted base load
12 generation needs?

13 A. Yes, we did.

14 Q. And what alternatives did you
15 study?

16 A. We studied several, going back
17 probably about ten years.

18 We had been talking with Otter
19 Tail, who was the, the lead project manager in
20 the Big Stone 2 project, which is located --
21 was going to be located in, in northeastern
22 South Dakota.

23 There's an existing coal plant
24 there now, called Big Stone 1. They were
25 proposing to add a second unit. We looked at

1 that as an, as an alternative.

2 We visited with our neighbors to
3 the north, Manitoba Hydro. We received
4 proposals for them for providing base load
5 hydropower for us.

6 We also were part of a committee
7 that was comprised of other generation and
8 transmission cooperatives like Minnkota and
9 municipal systems.

10 We looked at, at nuclear power,
11 developing nuclear power in the, in the upper
12 Midwest to satisfy our base load needs.

13 We looked at adding a combustion
14 turbine, maybe in combination with market
15 purchases, could we make a, a base load
16 scenario work there.

17 And then most recently, we looked
18 at adding potentially a third unit at the Young
19 station. There are two existing coal units
20 there now, Young 1, Young 2. We looked at
21 adding a third coal unit there called Young 3.

22 And, incidentally, if, if that
23 option would have been selected, the project
24 line we're talking about today would have also
25 probably had to be constructed.

1 Q. And what led then to the
2 development of the proposed project, rather
3 than one of those other alternatives that you
4 studied?

5 A. Well, out of our -- a, a --
6 business relationships, and, and we have many,
7 we are partners with Minnesota Power in what we
8 call the Young 2 unit in, in -- at Center,
9 North Dakota.

10 Young 2 is owned by Square Butte
11 Electric, which is owned by the same
12 cooperatives that own Minnkota.

13 Square Butte owns that generator
14 as, as well as it used to own the DC line which
15 would transmit the energy from that generator
16 from Center, North Dakota, to Duluth,
17 Minnesota.

18 And you -- the Square Butte
19 Cooperative sold all the output of that plant
20 to -- Minnesota Power received half of the
21 output, Minnkota received the other half.

22 And through our business
23 relationships with Minnesota Power, especially,
24 they were partners with us on looking at a
25 third unit at the Young station, Young 3, we

1 became aware of, of their needs in Minnesota,
2 because during that time frame, and we're
3 studying the Young 3 option, Minnesota adopted
4 a renewable energy standard which required
5 power suppliers in Minnesota to have a 25
6 percent renewable part of their power supply by
7 the year 2025.

8 Minnesota Power had indicated that
9 their wind resources are not very good in, in
10 northern Minnesota, in the Duluth area, the,
11 the taconite area, but they were very familiar
12 with the rich res -- wind resources that exist
13 in, in western North Dakota.

14 And they also were aware of
15 Minnkota's need and desire to develop base load
16 generation.

17 And, and through this business
18 relationship, the i -- idea evolved where
19 Minnesota Power could develop additional wind
20 in North Dakota. And they would transmit it to
21 their load center in Duluth, via the DC line,
22 which Square Butte was willing to sell.

23 So Minnesota Power could develop
24 low-cost wind in North Dakota, transmitted over
25 the DC line, which they have now purchased from

1 Square Butte.

2 In exchange for that, Minnkota then
3 had the opportunity to acquire additional base
4 load from existing Young 2 station that
5 Minnesota Power had.

6 So as part of this arrangement,
7 Minnesota Power will turn over their 50 percent
8 share of the Young 2 station, existing since
9 1977, a base load capacity, to Minnkota, over a
10 time frame from 2013 to 2026, it kind of phases
11 in.

12 As our load growth increases, we
13 get more and more of that power from, from
14 Minnesota Power.

15 And as a result of that, since
16 Minnesota Power will be using the DC line to
17 transmit wind power from Center to Duluth,
18 Minnkota, as part of the business arrangement,
19 is obligated to build a new 345 line to deliver
20 the Young 2 power to its service territory in
21 eastern North Dakota and northwestern
22 Minnesota.

23 In addition to that, though, the,
24 the project also makes possible the reliability
25 issues that exist in eastern North Dakota, from

1 a transmission point of view, it will address
2 one of those key issues.

3 And the next witness, Tim Bartel,
4 from Minnkota, will address their reliability
5 need.

6 But in the bottom line, Minnesota
7 Power got the, the ability to develop their
8 wind generation in North Dakota. Minnkota also
9 had access to wind pow -- or to additional base
10 load from the existing power plant.

11 Q. And does the project provide a
12 long-term means of addressing Minnkota's need
13 for additional base load generation?

14 A. Yes, it does.

15 The base load generation is already
16 built. That's one good thing. It will come
17 from the existing power plant.

18 The project, meaning, the Center to
19 Grand Forks 345 kV line, will transport that
20 energy in the least cost manner to our, to our
21 load center.

22 And we anticipate that these new
23 base load additions that will come to Minnkota,
24 will satisfy our load growth projections until
25 about 2030.

1 MS. SMITH: Thank you, I have no
2 further questions.

3 MR. WAHL: Mr. Sagsveen?

4 MR. SAGSVEEN: Thank you.

5

6 CROSS-EXAMINATION

7 BY MR. SAGSVEEN:

8 Q. Mr., is it, Tschepen?

9 A. Tschepen.

10 Q. In your direct examination, there
11 was a brief description of kind of the
12 socioeconomic factors that led into the
13 projected growth and increased need for power
14 transmission.

15 Is, is that -- do you have a list
16 of factors that you go through that you came to
17 1.9 percent, where you could -- could you more
18 accurately describe how you developed that,
19 that figure?

20 A. Yeah. What is -- what happens is,
21 we consult that out. It's a very rigorous
22 process that is gone through to look at the,
23 the history of your load.

24 And then to project the future
25 load, they do what they call econometric

1 modeling, where a, a lot of data is
2 accumulated, like on, like how mu -- how --
3 what is the population in each of the counties
4 of our service territory, what's expected
5 there.

6 We go to look at what is the price
7 of fuel oil, for example, going to be in the
8 area.

9 What's the projected increase in
10 salaries in the area.

11 What's the projected usage of
12 electricity in people's homes.

13 We do end-use surveys about every
14 five years, where we actually send out surveys
15 to individual customers at the end of the line.
16 They respond with, like how many VCRs they
17 have, DVDs, plasma TVs, water heaters, do they
18 use electric heat or not.

19 So all that is, is assembled.

20 And, like I say, it's a, it's a
21 pretty rigorous effort. And it's gone through
22 every two years. Because we have an
23 opportunity to go out and refresh those
24 numbers.

25 If it looks like the trends are

1 changing and so forth, we're able to kind of
2 stay on top of that.

3 But I think the, the chart kind of
4 indicates that we, we -- you know, there's
5 quite a, a, a good connection. We think the
6 future will continue to expand the use of
7 electricity, much like we've, we've seen in the
8 past.

9 We serve primarily, like I said,
10 the rural areas. Agriculture is doing quite
11 well in the, in the Red River Valley and so
12 forth.

13 We have some high growth areas yet
14 in the, in the rural areas, around the towns of
15 Grand Forks, Fargo, Bemidji, Minnesota, that
16 will support, I think, the, the increase that
17 we're con -- seeing.

18 Q. Has your 2011 biannual forecast
19 study been completed?

20 A. I -- it's in process right now. It
21 will not be completed until year-end.

22 Q. Okay. And I -- just one more
23 question on your graph.

24 I noticed that your forecasted
25 projected growth doesn't -- the lines don't

1 match up.

2 Could you describe your forecast,
3 the, the difference between your forecast in
4 growth and why you might be -- there might be a
5 dip --

6 A. Right.

7 Q. -- of the forecast?

8 A. We -- we've had some -- in, like,
9 for example, in 2010, our, our sales are off
10 about 2.8 percent from the prior year.

11 You know, a, a part of that is due
12 to weather.

13 We have -- roughly 30 percent of
14 our load is, is tied to electric heating, so if
15 the temperatures are off during the wintertime,
16 our, our electric usage is, is off.

17 Plus, the economy was struggling,
18 quite frankly, there a, a little bit.

19 But, however, offset that, year to
20 date, in 2011, we're up 8 percent over last
21 year.

22 Q. Okay.

23 A. So we see it as a temp -- temporary
24 blip.

25 We have potential new loads on the

1 horizon.

2 In fact, we are constructing
3 facilities right now to serve a biodiesel plant
4 in Hallock, Minnesota, that's not in these
5 forecasts here. That's roughly a 5 megawatt
6 load.

7 State Water Commission from North
8 Dakota's contacting Nodak, and we're a supplier
9 for Nodak, for the Devils Lake east outlet
10 project. That's another 5 megawatts that's not
11 in there.

12 And, you know, we, we see that
13 there's increasing, you know, demand for
14 electricity at the sites of, of our, our rural
15 customers as well.

16 MR. SAGSVEEN: I don't have any
17 further questions.

18 MR. WAHL: Mr. Lein?

19 MR. LEIN: No questions.

20 MR. WAHL: Questions from the
21 Commission?

22 Commissioner Cramer.

23 MR. CRAMER: Thank you, your Honor.

24 Thank you, Mr. Tschepen. I just --
25 just a couple.

1 First of all, with regard to your
2 economic analysis, and it's, it's quite steady,
3 and, and the, the application is, is pretty
4 clear.

5 The anomalies, the, you know, dip
6 in the economy and, and other things are, I
7 guess, just sort of to be expected, but as the
8 economy does come back, especially in
9 Minnesota, I mean, do you, do you have any
10 concerns that this is enough?

11 In, in other words, we all, you
12 know, spr -- hope spring's eternal, that things
13 will turn around in other parts of the country,
14 besides North Dakota.

15 Do you feel like you're -- you have
16 adequate supply in, in transmission?

17 THE WITNESS: I think we feel quite
18 comfortable with the numbers.

19 One thing, our, our consultant,
20 he's a -- an economist, and spends his life
21 analyzing things. He's -- always cautions us
22 about the, the, the severe dips and the real
23 upside.

24 He said, you've got to look at
25 these things. There's things that will occur

1 in the future. Even things may go gang-busters
2 for a few years, but there's always corrections
3 out there.

4 And, and, you know, if you look
5 back, even way back to our beginning in 1940,
6 up through the present-day, load growth has
7 been quite steady.

8 Commissioner, you're indeed
9 correct, there are certain time frames, maybe
10 two, three years, we might have very robust
11 growth.

12 The other thing is we have a very
13 aggressive load management plan. And we are
14 able to, to shave a significant amount of
15 winter load, as well as summer load, should the
16 need arise. And, you know, the marketplace is
17 always there for us, so --

18 You know, could, could things go
19 beyond what we expect; sure. However, we, we
20 think we have alternatives. We could always
21 put a combustion turbine in and things like
22 that to --

23 MR. CRAMER: Uh-huh.

24 THE WITNESS: -- address that,
25 Commissioner.

1 MR. CRAMER: Well, there's no
2 question, you know, the sudden supply, abundant
3 supply of natural gas has changed some of that
4 planning, hasn't it.

5 I, I, I hesitate probably to get
6 into some of this, but --

7 Well, first of all, with regard to
8 your North Da -- Dakota load, I mean, Grand
9 Forks -- Nodak and Cass County, of course,
10 are -- it's, it's almost, for those of us that
11 se -- follow RECs, it's almost hard anymore to,
12 to consider that, some of that REC.

13 But certainly a lot of your North
14 Dakota growth is there.

15 But do you see -- do you have
16 similar loads in Minnesota that are that
17 dynamic?

18 THE WITNESS: We do in a different
19 way. It's generally associated with the Lakes
20 area. Once you get about a hundred miles east,
21 into Minnesota, the Lakes area, that has been
22 quite robust for us.

23 Wild Rice Electric, out of
24 Mahnomen, Minnesota's a -- one of our higher
25 growth co-ops.

1 Beltrami Electric, around the
2 Bemidji area's also very, very high growth.

3 We have municipals like Roseau
4 Municipal, in, in Minnesota's associated with
5 our, our system. Polaris is continuing to
6 expand. It's one of the more successful plants
7 that they have.

8 And Digi-Key, in Thief River Falls,
9 you know.

10 So there are some, some examples
11 of, of high growth in certain pockets.

12 A little bit different, though,
13 than the nature of Cass and Nodak.

14 MR. CRAMER: You -- you've said
15 something that, that sparked something in my
16 mind here a little bit ago about load
17 management.

18 And, and you're correct, and we've
19 acknowledged and appreciate how progressive
20 your company has been in, in shaving those
21 peaks.

22 There are -- but there're also some
23 federal policies in, in the horizon that are
24 somewhat concerning about that.

25 And, and how, how are you

1 monitoring that? How do you consider that? Is
2 it -- do you just sort of plow ahead?

3 And, specifically, I'm thinking
4 about, of course, the limited use of, of
5 generators in, in -- you know, to, to shave
6 some of that load, to release, if you will,
7 some of the, the, the power to other places.

8 Could you just give us a little bit
9 of an update, perhaps, on how all of that's
10 shaping up and how that factors into the
11 planning?

12 THE WITNESS: Sure, Commissioner
13 Cramer, you're, you're indeed correct.

14 We, we are concerned about that.
15 The EPA has released regulations that could
16 potentially restrict the usage of, of some of
17 the generators at customer sites that are used
18 for load management.

19 For example, in, in, in Fargo, at
20 the big Scheels store there in Fargo, they have
21 a large generator, reciprocal engine and EPA
22 has proposed regulations that would probably
23 limit the number of hours that they would be
24 able to operate that.

25 We totally disagree with their

1 approach on that.

2 Our national organization of
3 cooperatives are working hard to overturn that
4 or have it modified, such that they don't have
5 the impact on restriction of usage of, of
6 generators.

7 Most of our load control, though,
8 comes from dual-heating systems in people's
9 homes. And that, as we understand, will not be
10 impacted.

11 That's where electricity is backed
12 up by a propane or fuel-oil furnace.

13 And that's where the majority of
14 our load control magnitude rests.

15 MR. CRAMER: Sure.

16 THE WITNESS: Yes, we are, we are
17 concerned about what you've --

18 MR. CRAMER: Well, my, my concern
19 is ma -- mainly at this point is for the -- to
20 en -- to ensure the reliability, which is one
21 of the, of course, standards for this
22 particular hearing.

23 And that, want to make sure that,
24 that if, if there would be some, some
25 prohibition, if you will, or some limiting of

1 those, you know, those tools that allow you to
2 shed some of that load, and, again, that, that
3 we're planning appropriate, but -- it, it
4 certainly seems to me that you are.

5 Beyond -- then getting more to
6 the -- to this particular point of the -- of
7 today's hearing and perhaps, and, and with so
8 many witnesses, perhaps there's always a better
9 one to answer the next question. And if that's
10 the case, certainly feel free to say -- you
11 know, to tell us that somebody else will.

12 But with regard to the NEPA
13 process. And, and Mollie described, you, you
14 know, in general, the, the, the determination
15 to go to a 1,000-foot corridor versus, you
16 know, the more traditional 1 to 6-mile
17 corridor.

18 The, the rigors of that process, as
19 I understand it, are part of what justify and
20 give you a comfort level that a thousand-foot
21 corridor is adequate.

22 And perhaps you could just
23 elaborate a little bit on that, and maybe even
24 for the benefit of the, of the audience,
25 describe, you know, what the corridor is and

1 what that means and how -- as we prepare, then,
2 ultimately for the permit stage, you know,
3 what, what that corridor does for you.

4 THE WITNESS: Sure.

5 That's a good question, however, I
6 will defer to the witnesses that will follow
7 that can answer that much more thoroughly than,
8 than I can.

9 MR. CRAMER: That -- and, and
10 that's fair and that's fine, I appreciate that.

11 THE WITNESS: Please hold that
12 question, though, we will get that, --

13 MR. CRAMER: I, I --

14 THE WITNESS: -- Commissioner.

15 MR. CRAMER: -- suspect or it, it
16 might even be addressed in direct.

17 But, anyway, we'll get to that.

18 All right, thank you.

19 Your Honor, I have nothing else.

20 Other than, you know, I, I almost
21 hesitate to start doing this, because I know
22 I'll miss somebody. Since we began, Senator
23 Connie Triplett has also entered the room.

24 And thank you, Connie, for being
25 here.

1 And Senator Triplett is someone
2 who's always had great curiosity and interest
3 and input in energy matters.

4 So we appreciate your, your being
5 here today. Thank you.

6 I have nothing else.

7 MR. WAHL: Commissioner Kalk.

8 MR. KALK: Mo -- most of my
9 questions, I think, were already answered. I
10 had a lot about the load forecasting.

11 But just a -- one question on the
12 load forecasting. Like when the, the Keystone
13 Pipelines went through Nodak, how far ahead do
14 you know something like that's coming through?

15 THE WITNESS: That we knew probably
16 three to four years ahead of time.

17 MR. KALK: Okay.

18 THE WITNESS: And we were able to
19 factor that into these forecasts. And, of
20 course, we have to plan then to serve those
21 loads, which come in in large chunks.

22 We ended up --

23 MR. KALK: Yeah.

24 THE WITNESS: -- with about three,
25 four years of normal load growth in just that

1 one load itself.

2 But we, we have added, as you're
3 probably aware, a significant amount of wind
4 into our, our portfolio.

5 And we, you know, we have to take
6 that into account. From hereon, those loads,
7 we anticipate will be, you know, a part of our
8 obligations going into the future.

9 MR. KALK: Okay. And then just,
10 the last question is, walk me through again the
11 life cycle of this proposed new line as it ties
12 into the life cycle of the Young stations. How
13 do they mesh together?

14 THE WITNESS: Well, we, we hope to
15 continue to operate the, the Young station for
16 a long period of time.

17 Those are --

18 MR. KALK: What is a long period of
19 time?

20 THE WITNESS: At least until
21 2042, --

22 MR. KALK: Okay.

23 THE WITNESS: -- 2050.

24 MR. KALK: So this transmission
25 line, how long do you think would be --

1 THE WITNESS: Indefinite.

2 MR. KALK: Okay.

3 THE WITNESS: Because there's also,
4 which you'll hear from a following witness, a
5 reliability need in the Red River Valley.

6 MR. KALK: Yep.

7 THE WITNESS: So even if the, the
8 Young station would happen to disappear, for
9 whatever, for whatever reason, or we'd tan --
10 change the technology, it -- there is a --
11 another good basic need for the line, and
12 that's reliability.

13 MR. KALK: Okay, thank you.

14 MR. WAHL: Follow-up, Ms. Smith?

15 MS. SMITH: No, your Honor.

16 MR. WAHL: Follow-up, Mr. Sagsveen?

17 MR. SAGSVEEN: No, your Honor.

18 MR. WAHL: Anything, Mr. Lein?

19 MR. LEIN: Nothing.

20 MR. WAHL: Thank you very much, Mr.

21 Tschepen.

22 THE WITNESS: Thank you.

23 (Whereupon, the witness was
24 excused.)

25 MS. SMITH: I would call Tim

1 Bartel.

2 MR. WAHL: Mr. Bartel, as you know,
3 your testimony is required to be under oath.
4 And I'm required by law to advise you regarding
5 perjury before administering the oath.

6 Perjury is a false statement of
7 material fact which you do not believe to be
8 true.

9 In North Dakota, perjury's a class
10 C felony, punishable by a fine up to \$5,000,
11 imprisonment for a period of up to five years
12 or both.

13 Would you raise your right hand,
14 please?

15 Being advised regarding perjury,
16 Mr. Bartel, do you swear that the testimony
17 which you're about to give in this matter shall
18 be the truth, the whole truth and nothing but
19 the truth?

20 THE WITNESS: Yes, I do.

21

22 T I M B A R T E L,
23 called as a witness, being first duly sworn,
24 was examined and testified on his oath as
25 follows:

1 MR. WAHL: Ms. Smith.

2

3 DIRECT EXAMINATION

4 BY MS. SMITH:

5 Q. Could you please state your full
6 name?

7 A. Timothy Bartel.

8 Q. And by whom are you employed?

9 A. Minnkota Power Cooperative.

10 Q. And so I assume you are also at the
11 same address as Mr. Tschepen?

12 A. Yes.

13 Q. What is your position with
14 Minnkota?

15 A. I'm systems engineering manager.

16 Q. And what does your position as
17 systems engineering manager entail?

18 A. Among other things, I assess
19 reliability risks on the high voltage
20 transmission grid and look for proper design
21 alternatives to improve the grid as needed.

22 Q. And could you please just briefly
23 discuss your education and your work
24 history?

25 A. I have a bachelor's in electrical

1 engineering from NDSU.

2 And I've been at Minnkota Power for
3 25 years doing system studies. And for the
4 past three years, I've been systems engineering
5 manager.

6 Q. And what is your role with respect
7 to the proposed project?

8 A. I supervised the studies that
9 selected the best transmission alternative for
10 delivery of Young 2 power to Minnkota's system
11 load.

12 Q. And Mr. Tschepen indicated in his
13 testimony that part of the need for the
14 proposed project is to assess grid reliability
15 issues.

16 Could you please then discuss those
17 grid relia -- grid reliability needs that would
18 be addressed by the proposed project?

19 A. Yes.

20 It can be stated, really, in, in
21 two points.

22 The first and foremost is, we need
23 delivery of a large amount of power from the
24 Young 2 station, into the Minnkota load serving
25 region.

1 We need to do this with strong
2 connection points and major substations to
3 accommodate that large amount of power
4 delivery.

5 And then secondly, we need to
6 address reliability issues in the eastern North
7 Dakota, northwest Minnesota region.

8 Q. And what are the risks of not
9 meeting the identified needs?

10 A. Well, getting back to the first two
11 points that I made.

12 As far as the first point, if we
13 don't provide an adequate, adequate connection
14 between the Young 2 station and our system
15 load, we will be causing substantial overloads
16 on the existing underlying transmission system
17 as it is today.

18 And to the second point, related to
19 reliability, we presently experience and are at
20 increasing risk of voltage instability in
21 eastern North Dakota and northwest Minnesota.

22 And voltage instability means that
23 we would not be able to deliver power into this
24 region from any direction. Not only Young 2,
25 but not from any generator.

1 Voltage instability is caused when
2 the transmission lines in the grid are
3 overloaded to the point that we cannot maintain
4 appropriate and -- operating voltage on the
5 system within the constrained region.

6 If we find ourselves in a voltage
7 constrained situation, we are at risk of
8 brownouts on the system due to voltage below
9 criteria, which is often the cause of
10 widespread damage to motors, especially large
11 ones.

12 And, ultimately, one of the
13 solutions to this problem is rotating blackouts
14 instituted by the power companies.

15 We certainly work hard to avoid
16 ever being in such a situation where we would
17 have to use rotating blackouts.

18 We work closely with the Midwest
19 ISO, which is our reliability coordinator.
20 They oversee the system operations in the
21 region, including oversight of our control
22 center and our system operators.

23 We work together with them to
24 prepare the system in advance so that we would
25 not be in a situation where we would have to do

1 emergency load shedding or rotating blackouts.

2 And the process that we would use
3 there would be, there would be public appeals
4 for customers to remove their electrical
5 appliances or machines from the grid.

6 Ultimately, the Midwest ISO may
7 impose load serving peaks, we cannot exceed a
8 certain limit. And at that point, we would
9 have to use rotating blackouts to maintain
10 flows within the limits of the system.

11 Another risk that we have of not
12 meeting the need is reduced margin on the
13 system.

14 We found we are very slim on margin
15 in eastern North Dakota and northwest
16 Minnesota.

17 And margin is especially called in
18 to need when we have an emergency outage of one
19 transmission line and we're at risk of more
20 transmission lines being damaged.

21 Events such as weather-related
22 events, storms, ice storms, high winds, that
23 can cause significant damage to the grid.

24 Q. You mentioned that if the proposed
25 project is not constructed, the load within

1 Minnkota service territory may be unable to be
2 served by any source due to voltage instability
3 risks. What indicates that that is a risk?

4 A. I would like to just summarize a
5 couple of major events we've had in North
6 Dakota in the last eleven years.

7 And specifically eleven years back,
8 we had a very notable event, a 230 kV line west
9 of Devils Lake was damaged by high
10 straight-line winds.

11 In that case, 10 miles of 230 kV
12 line structures were blown down.

13 And it was anticipated early on, it
14 would take about a year to repair those 10
15 miles of transmission due to a lake that had to
16 be worked around and so forth.

17 The regional power companies got
18 together, including Minnkota, did system
19 studies to try to assess what risks we would
20 face trying to serve our load through that
21 winter with that line out of service.

22 And we found that we could be
23 facing loads at a level that we could not
24 serve.

25 And so we instituted a load serving

1 limit that we would have to adhere to.

2 And as the companies looked at that
3 limit and the severity of the possible
4 situation, we decided to get together and get
5 that line back in service quickly with a
6 temporary set of structures to avert that
7 possible eventuality.

8 Then in 2005, I would just mention,
9 we had a storm that definitely had a
10 significant impact on the grid in North Dakota,
11 Minnesota, South Dakota. We had 35 high
12 voltage lines out of service at once.

13 So we can't always study for these
14 types of scenarios, but they do happen and it
15 did in 2005.

16 And then just last year, for two
17 months, we had a 230 kV line out of service for
18 two months due to flooding.

19 Q. And do the events that you've just
20 described, indicate the need for system
21 improvements, including the project that's
22 proposed to serve this particular area?

23 A. Yes.

24 Q. How urgent, then, is the need for
25 system improvements?

1 A. Well, I've alluded in some ways to
2 this already, but I'd like to talk briefly
3 about the way that we do planning studies and
4 the way that we assess the grid in real-time.

5 We use a term called N or N-1 or
6 N-2, where N is the sum total of the high
7 voltage facilities on the grid.

8 And N-1 means one of them isn't
9 available for use. N-2 means two of them are
10 out of service.

11 So when we do planning studies, we
12 seek out the most critical high voltage
13 facilities on the grid and plan, attempt to
14 plan the system so that we could have that
15 facility locked for use, out of service, due to
16 unforeseen events, and we would still be able
17 to operate the system within the normal
18 parameters.

19 So we do that in the study world.

20 In the real-time operations world,
21 we try to be prepared for the next contingency,
22 whatever the present state of the system.

23 And so if the present state of the
24 system is that we have three major facilities
25 out of service, we will prepare ourselves for

1 N-4, meaning, we're ready for one more
2 contingency on the system.

3 And we do this, perhaps for obvious
4 reasons, but we need to prevent damage to
5 equipment, which can take up to a year to
6 replace due to construction time on large power
7 equipment.

8 We do this, do this to prevent
9 cascading outages, as have been observed at
10 other locations in the United States.

11 This emergency I described in 2000,
12 west of Devils Lake, where we had one line out
13 of service, we found we were unprepared for N-2
14 at that time.

15 And, and that was eleven years ago.
16 And nothing's been built since, so we think
17 it's time.

18 We've done studies for this
19 project, and we see in the 2013 to 2015 time
20 frame, we would be unprepared even for N-1.

21 So our project is due in service in
22 2013, it's very timely for that.

23 Q. If you could look in the Exhibit
24 book as -- what has been previously marked as
25 Exhibit 2. And it's also on the board to the

1 side of you.

2 Do you recognize that document?

3 A. Yes.

4 Q. What is it?

5 A. It's a system map showing project
6 reliability benefits.

7 Q. And was Exhibit 2 prepared under
8 your supervision and control?

9 A. Yes, it was.

10 Q. And will it assist you with your
11 testimony here today?

12 A. Yes.

13 MS. SMITH: I would offer Exhibit
14 2.

15 MR. WAHL: Mr. Sagsveen?

16 MR. SAGSVEEN: No objections.

17 MR. WAHL: Exhibit 2 is received.

18 Q. (By Ms. Smith) Referring to
19 Exhibit 2, could you explain to the Commission
20 how Grand Forks was selected as the eastern
21 terminus for the project?

22 A. Yes.

23 The green area on the Exhibit is
24 Minnkota's service territory.

25 The blue circle on the Exhibit is

1 the benefit region of the project; in other
2 words, the constrained load region that I
3 discussed earlier, that will have benefit from
4 a new line into this region.

5 Studies that were conducted after
6 the 2000 outage west of Devils Lake, really
7 began to identify this geographic region as
8 being deficit in transmission.

9 Obviously, we had just experienced
10 a real event. And then the studies were used
11 to confirm that.

12 Additionally, on those studies, we
13 began to realize that the northern portion of
14 this circle needs special treatment as compared
15 to the southern portion.

16 There are projects that can be of
17 significant help to one portion or another, but
18 may have a lesser value to the portion where
19 the project is not connected.

20 I would like to state that the two
21 major transmission substations in Minnkota's
22 service territory that are good candidates for
23 a project such as we are working on at this
24 time would be -- there's one in the Grand Forks
25 region, one in the Fargo region.

1 And those are obviously in the
2 north and the south portion of this region.

3 Therefore, we needed to make a
4 decision which portion of this region are we
5 most interested in supporting.

6 And through some analysis -- well,
7 by simple logic, if you take a count on the
8 high voltage lines entering the northern versus
9 the southern portion of this region, there are
10 four high voltage lines entering the northern
11 portion of this region, one of which was out of
12 service in 2000.

13 In the southern portion of this
14 region, there are presently ten high voltage
15 lines.

16 So there is a great disparity in
17 the number of lines entering the region.

18 By comparison, the load is not very
19 different. There is about 45 percent of the
20 load at the time that we did some of those
21 studies in the mid2000s. 45 percent of that
22 load was in the northern portion of this
23 region; in other words, almost half of it.
24 And, yet, a great disparity in the number of
25 transmission lines that are there to support

1 that region.

2 So that made it obvious to us that
3 it would be a good choice to build new
4 transmission into the northern portion of the
5 region.

6 Then we did some technical analysis
7 to put benefit numbers to this logic.

8 And we found that if we build to
9 Grand Forks, we can benefit the region by
10 adding about 25 percent to the load serving
11 capability. We can, we can serve 25 percent
12 additional load.

13 If we build to the Fargo area, we
14 saw a much more marginal benefit, around 6
15 percent.

16 And, additionally, I would like to
17 make a brief comment about benefits of route
18 diversity.

19 As I mentioned, in 2005, one ice
20 storm took out 35 circuits. Now that happens
21 in North Dakota. And so it's good to have
22 diversity of the routing of these transmission
23 lines.

24 Presently, of those ten circuits
25 entering the Fargo area, three of them follow a

1 route similar to what ours would, if we built
2 to Fargo.

3 By contrast, none of those circuits
4 follow a route from the coal fields to Grand
5 Forks, similar, in a similar manner to the way
6 that our proposed project does.

7 Q. When developing the proposed
8 project, did Minnkota consider the, the ability
9 of the project to accommodate renewable
10 generation?

11 A. Yes. We took a look at our
12 generation interconnection queue at the time
13 and selected those projects that could benefit
14 from a project like ours.

15 And approached those particular
16 requesters and described our project, asked
17 them if they had an interest, if some
18 modification to our project, to enhance their
19 capability to deliver into the grid, into the
20 market.

21 And at the time, they were -- they
22 felt there was too much uncertainty and they
23 were not interested in supporting our projects
24 explicitly with any sort of additional
25 investment.

1 Just to take a good look at it
2 ourselves, we conducted a feasibility study.

3 We wanted to make sure that we
4 weren't designing any immediate bottlenecks
5 into our choice of a project.

6 And so we looked at possible
7 enhancements. We found that we were not
8 designing any significant bottlenecks in,
9 mainly, our selection of conductor. The
10 thermal capability of that conductor would be a
11 big player in that.

12 We found that we weren't designing
13 any thermal restrictions in -- that would
14 prevent these projects from going forward.

15 They would require some additions
16 to our project, such as another connection to
17 exist -- existing lines in the system or
18 potentially new transmission lines that would
19 connect elsewhere in the grid.

20 So we identified a few of those
21 options as to ways that those strategic
22 connections could be made as well.

23 And I would like to note that none
24 of those projects would require any rebuild of
25 our existing project as proposed. We wouldn't

1 need to revisit the existing design, as far as
2 something like replacing the structures or a
3 double circuit or anything like that.

4 These additions to the existing
5 project would simply be interconnections at
6 some point along the route, with additional
7 connections elsewhere in the grid.

8 Q. And did --

9 A. We --

10 Q. -- Minn --

11 Oh, I'm sorry, go ahead.

12 A. We posted that feasibility study on
13 our website.

14 Q. And did you -- did Minnkota also
15 take into consideration the other major
16 transmission line projects in the region when
17 designing this particular project?

18 A. Yes, we did.

19 There are two significant projects
20 that I would like to mention.

21 And one of those is the
22 Bemidji-Grand Rapids 230 kV project. It
23 extends from the Bemidji location on the
24 eastern portion of this constrained region, out
25 of the region, to the east, towards the Boswell

1 generation in the Grand Rapids area.

2 Minnkota's a part of that project
3 as well.

4 And we're working together with a
5 group of utilities called the CapX2020 group,
6 and -- on construction of that project. It's
7 anticipated to be in service in 2012.

8 That project primarily benefits the
9 large load growth that we're observing in the
10 Bemidji area, but it has secondary benefits
11 throughout this larger circle as well.

12 We are also watching and
13 participating in studies for the Fargo-St.
14 Cloud 345 kV project. This is a CapX2020
15 project which will extend from the Fargo
16 location, down towards the Twin Cities.

17 And, therefore, provides another
18 connection into this constrained region from
19 the east.

20 And as, I could point out that
21 Fargo, as I mentioned earlier, is in the
22 southern portion of this region. It provides a
23 lot of support, especially to the southern
24 portion of this region.

25 The Bemidji-Grand Rapids project is

1 a little closer connection to the northern
2 portion of this region, so it provides
3 additional benefit to the northern portion as
4 well.

5 So when we come in with our
6 project, connecting to the North Dakota
7 generation center now from the west, it works
8 very nicely together with these two projects,
9 which tie into generation sources from the
10 east, makes a very robust connection into this
11 constrained region.

12 And we believe that as far as load
13 serving needs within this region, we should not
14 be looking for another transmission line into
15 this region for at least 30 years.

16 Q. And did you also conduct some
17 studies in coordination with those other
18 utilities?

19 A. That's right. We have coordinated
20 study processes.

21 I personally, as well as others in
22 my company at Minnkota Power, participate in
23 the studies for these CapX projects.

24 As I said, we are even a
25 participant in the Bemidji-Grand Rapids line.

1 And they also participate in
2 discussions on our studies and our modeling on
3 a routine basis, including representatives of
4 the Midwest ISO, our reliability coordinator.

5 MS. SMITH: I have no further
6 questions.

7 MR. WAHL: Mr. Sagsveen?

8 MR. SAGSVEEN: Thank you.

9

10 CROSS-EXAMINATION

11 BY MR. SAGSVEEN:

12 Q. Mr. Bar -- Bartel, one of the
13 issues that you brought up was the fact that
14 the southern section is served by ten lines and
15 the northern is served by four?

16 A. Uh-huh.

17 Q. Is there a big difference in margin
18 between the two, also? Are those -- and by
19 margin, I mean -- I think as you've described,
20 the ability to handle a -- additional load when
21 needed. Or -- and maybe you have a different
22 definition for margin that you could also
23 provide?

24 A. Well, one view of margin is purely
25 a logical one. If you have one line out of

1 service, you have only four, and that means if
2 you're prepared for the next contingency,
3 you're prepared to be operating with only half
4 of your capability.

5 When you have ten lines, by the
6 math, if you're prepared to -- if you have one
7 out of service, and you're prepared to operate
8 with one more out of service, you still have a
9 majority of your transmission system in
10 service.

11 So when we look at contingency
12 analysis, the margin is easily measurable or
13 observable. I don't -- I can't put numbers to
14 that.

15 As I stated, at the time that we
16 did the analysis that began formulating this
17 circle of benefit, 45 percent of the load that
18 we were observing in our study models was in
19 the northern portion, 55 percent in the
20 southern portion.

21 So nearly half of the load was in
22 the northern portion.

23 Q. So are the four lines that are
24 going into the northern portion, are they
25 considerably bigger than the other -- than the

1 ten lines, maybe, in the southern portion?

2 Just --

3 A. The four lines are 230 kV.

4 In the southern portion, there's
5 one 345 kV line, line and nine 230 kV lines.

6 MR. SAGSVEEN: I don't think I have
7 any further questions.

8 MR. WAHL: Mr. Lein?

9 MR. LEIN: Yeah.

10 Mr. Bartel, I just had a couple
11 curiosity questions.

12 What, do you know what the current
13 capable of -- or what the power capability
14 transfer is on this line between the -- Center
15 and Grand Forks? How much power can it
16 transmit in the, in the --

17 THE WITNESS: That can --

18 MR. LEIN: -- configuration --

19 THE WITNESS: -- be answered in two
20 ways.

21 MR. LEIN: Yeah.

22 THE WITNESS: One is, its thermal
23 capability, meaning, that the conductor would
24 not overheat.

25 MR. LEIN: Both ways.

1 THE WITNESS: I'm sorry?

2 MR. LEIN: Can you answer it in, in
3 both -- and that one -- and in the idea --

4 THE WITNESS: Sure.

5 MR. LEIN: -- of the stability of
6 the system.

7 THE WITNESS: I will.

8 As far as the conductor
9 overheating, the capacity is approximately 1200
10 MVA.

11 MR. LEIN: Okay.

12 THE WITNESS: As far as voltage
13 performance of the line, there's a limit on how
14 much power you can transfer on a power line,
15 especially a long one. And 250 miles is a long
16 one.

17 The limit is somewhere in the 600
18 MVA range, unless we modify the circuit in some
19 way with other taps, series compensation.
20 There are ways to improve the transfer
21 capability.

22 MR. LEIN: Okay. And, and one
23 other related question.

24 Has there been any kind of a
25 modeling or an effort that maybe you can tell

1 me, anticipated effect on the North Dakota
2 export limits?

3 THE WITNESS: The line is not
4 designed to be an exporting line.

5 As you can tell, we went straight
6 into the heart of, of our load serving region,
7 rather than attempting to cross the North
8 Dakota export boundary.

9 North Dakota export boundary to the
10 south and east is approximately along the same
11 lines as that blue circle.

12 So if our line had crossed that
13 blue circle to the east or south, it would have
14 been definitely an exporting line.

15 The Fargo to St. Cloud line is a
16 very strong exporting line, crossing straight
17 from Fargo, across that boundary, to the Twin
18 Cities area.

19 We have not put a number to the
20 exporting capability that our line will
21 provide.

22 We're presently working through a
23 technical team to analyze the joint performance
24 of our line with the Bemidji-Grand Rapids line
25 especially, because that is also a project

1 Minnkota's participating in.

2 We believe that the joint
3 performance of those two lines, if you follow
4 the path from the North Dakota generation
5 center, follow the path to Grand Forks and
6 continue it on through the existing grid,
7 through Bemidji and out to the east, you can
8 see that the new projects are forming, in a
9 sense, a, a path out of North Dakota. And we
10 believe that will provide some exporting
11 capability.

12 Generally, these lines were
13 designed to support the load within the grid,
14 more than they were designed to support export.

15 So we believe that benefit to the
16 North Dakota export capability will be only a
17 moderate amount compared to the Fargo to St.
18 Cloud line.

19 However, one of the additions that
20 we identified to our project that could be
21 strategic, would be if we tap it approximately
22 here and run a tap to Fargo, which would tie
23 into an export line, that's very robust.

24 MR. LEIN: Okay. That's, that's
25 all my questions.

1 THE WITNESS: There's dialogue on
2 that in the feasibility study on our website.

3 MR. WAHL: Commissioner Cramer.

4 MR. CRAMER: Well, now you've
5 really peaked my interests.

6 Because the, the, the Fargo to St.
7 Cloud line, as -- you know, we have a siting
8 hearing on that corridor next week in, in West
9 Fargo I guess.

10 I mean, they're talking about
11 double circuiting a 345 kV line. And, and
12 I realize that a lot of it's for reliability, I
13 mean, and I want to talk about reliability in a
14 little bit, but --

15 The, the opening of that
16 constraint, has to be almost irresistible if,
17 if -- you know, to a, to a line like this.

18 I mean, 345 kV lines are, as you've
19 just noted, fairly unusual. And we have -- I
20 don't know that we've ever seen one since I've
21 been on the Commission.

22 I'm intrigued by that, first of
23 all. But I also, just for some clarification,
24 with regard to the juxtaposition of this line,
25 not, not geographic jux -- juxtaposition,

1 but -- to the DC line.

2 When we talk about export
3 capacities, was your D -- Minnkota's part of
4 the DC line all Minnesota-used energy?

5 In other words, the -- that DC
6 line, realizing the limitations, engi --
7 engineering limitations to a DC line, was that
8 all, was that all Minnesota-used energy, even
9 when it was Minnkota having half of it?

10 THE WITNESS: From the technical
11 perspective, we speak of Minne -- Minnesota in
12 two ways.

13 One is load outside of the North
14 Dakota export region, which some of the
15 Minnesota load is inside of the North Dakota
16 export region, including all of the Bemidji
17 load.

18 MR. CRAMER: Okay.

19 THE WITNESS: Minnkota's serve load
20 in the International Falls, Minnesota area,
21 Mar -- Warroad and Littlefork, and so forth,
22 that load is outside of the North Dakota export
23 boundary, and in Minnesota.

24 We have approximately a
25 100-megawatts load there, outside of the North

1 Dakota export boundary. That is, that is our
2 primary interest and capability to export from
3 the North Dakota export boundary.

4 The remainder of our load in
5 Minnesota's inside the North Dakota export
6 boundary.

7 Our share of the DC line, if we
8 just consider our half of the Young 2 generator
9 as it is today, is about 225 megawatts.

10 That means with our hundred
11 megawatts of load that's outside of the North
12 Dakota export boundary, we can ship back into
13 North Dakota export boundary, 125 megawatts
14 during peak loads. And serve loads.

15 Now I'm not sure, with all of that,
16 if I answered your question.

17 MR. CRAMER: Well, that was an
18 important distinction I wasn't aware of.

19 THE WITNESS: Okay.

20 MR. CRAMER: So, so the, the
21 boundary doesn't simply end at the Red River,
22 it's --

23 THE WITNESS: No, it's not --

24 MR. CRAMER: -- probably not as
25 simple as that.

1 And, and my, my only point being,
2 that, that by virtue of this swap, I often
3 refer to it as the Minnkota-Minnesota swap, I
4 mean, there have been some capacity that's
5 opened up, albeit not this line itself, but by
6 virtue of this line being built. It, it frees
7 up some other capacity. I mean, is that a fair
8 statement or is that too simplistic?

9 THE WITNESS: It definitely adds
10 options for people wishing to develop export
11 capability from central and western North
12 Dakota.

13 MR. CRAMER: Now with regard to --
14 back to now geographic context of the two
15 lines. The two lines being the DC line and
16 the -- and this proposed corridor.

17 How closely do they follow each
18 other or are there place -- I assu -- assume
19 there are places where they're closer than,
20 than other places?

21 Or was I -- was, was there --

22 THE WITNESS: The --

23 MR. CRAMER: -- this thought of a
24 corridor even being considered? A joint --

25 THE WITNESS: I'm sorry.

1 The, the DC line and this line?

2 MR. CRAMER: Yeah.

3 THE WITNESS: The DC line goes
4 fairly directly from the, the coal fields to
5 Duluth, Minnesota.

6 Which is east and south of here.

7 Our line is obviously angling from
8 the coal fields east and north.

9 So there's very little, if any,
10 common right of way between the new AC line
11 that we're proposing and the existing DC line.

12 So -- the existing DC line --

13 MR. CRAMER: Uh-huh.

14 THE WITNESS: -- generally heads
15 here.

16 So, again, --

17 MR. CRAMER: Sure.

18 THE WITNESS: -- almost no route
19 commonality.

20 MR. CRAMER: So then, explain for
21 us just a little bit, if you would, the balance
22 between -- you -- you've spoken today of
23 redundancy -- diversity and the value of, of
24 that diversity versus the efficiency of
25 corridors, for example. With regard to

1 reliability.

2 I mean, I think that -- we, we
3 often times think, well, why don't we have big
4 wide corridors, with s -- with multiple
5 transmission lines in them and have minimal,
6 even more minimal adverse impact on landowners
7 especially.

8 THE WITNESS: Uh-huh.

9 MR. CRAMER: Could you just
10 describe that a little bit for us. What goes
11 into that?

12 THE WITNESS: Well, it's -- other
13 than route separation, so that we avoid common
14 weather events affecting the same facility.

15 The standards that we design by,
16 would require that we consider and design for
17 common outage of all elements within a certain
18 corridor.

19 So if you run six lines immediately
20 adjacent, you have to study the outage of all
21 those six lines at once and be able to
22 withstand that event.

23 So those are in the transmission
24 planning standards that are put forward by NERC
25 and FERC.

1 A, a double circuit project, such
2 as you mentioned, Fargo to St. Cloud, will
3 be -- has a special place in the standards and
4 has to be e -- evaluated as a -- an outage of a
5 common tower to both circuits. And you have to
6 be prepared for that.

7 So I'm not sure if I answered --

8 MR. CRAMER: No, that --

9 THE WITNESS: -- your question.

10 MR. CRAMER: You answered it
11 perfectly. I just think it's important to --
12 for us to understand why we see so many lines
13 going somewhat in the same direction, but not
14 very close together, but --

15 THE WITNESS: Uh-huh.

16 MR. CRAMER: -- to really simplify
17 it.

18 The -- my only other question
19 and -- question that is -- is if you could just
20 elaborate a little bit on the margin issue?

21 You've talked about margins, you've
22 talked about MISO has the reliability standards
23 set and everything and they monitor.

24 What is the requirement and what
25 are the current margins both for Minnkota and

1 perhaps a little more generally in the Midwest?

2 And why they're important to provide those.

3 THE WITNESS: Generally, we think
4 of -- it -- with margin, I would think about
5 load serving reliability, because we do not
6 have the option not to serve the load.

7 In terms of export capability, we
8 do have the option not to export.

9 So we have a 2,000 megawatt limit
10 approximately on North Dakota exports, that
11 is -- flows outside of that indexed region, as
12 I briefly described.

13 We have only rarely hit that limit
14 to date. However, we have about 1400 megawatts
15 of wind generation online in the state at this
16 time.

17 Wind generation does not follow the
18 load curve. It generates when the wind is
19 blowing, which may or not may be when we have
20 high loads.

21 That has driven us --
22 predominantly, previously, our exports were
23 driven by commerce interests, when it's
24 commercially viable for the North Dakota
25 entities to be selling into the pool.

1 Now, North Dakota export is
2 increasingly driven by the wind patterns, which
3 have no relation to the commerce.

4 So we are seeing the North Dakota
5 export limit approaching, the actual flows
6 approaching the limit more often now with 1400
7 megawatts of the wind online, and the, several
8 times that in the design stage or the proposal
9 stage.

10 So I don't know how that, how far
11 that goes to address your question of margin on
12 North Dakota export.

13 As far as margin on what matters
14 more directly to us as a load-serving entity,
15 which is the way we're registered with NERC, is
16 our commitment to serve our loads.

17 And those are the things that we've
18 attempted to speak most directly about here
19 today.

20 And that is the, the limit that I
21 said we are presently on deck to hit in about
22 2013 to 2015.

23 MR. CRAMER: Is there a sta -- a
24 standard, a fundamental or basic standard that,
25 that you consider in terms of margins

1 specifically?

2 THE WITNESS: I'm not aware of one.

3 The standards for me in the study
4 world are, what types of events on the system
5 we have to be prepared for and still be able to
6 operate the system within the flow and voltage
7 constraints that are -- exist.

8 MR. CRAMER: Very good, thank you.

9 I have nothing further, thank you.

10 MR. WAHL: Commissioner Kalk.

11 MR. KALK: Thank you, your Honor.

12 Thanks for your testimony, Tim.

13 You, you must be an electrical engineer, too?

14 THE WITNESS: That I am.

15 MR. KALK: When you and Jerry were
16 talking I was getting a -- nervous, because
17 when two electrical engineers talk, I don't
18 know if I can follow all of it, but the --

19 I do have a, a, just -- a, a kind
20 of walk me through this.

21 When you talk about constrained
22 region, are you talking about just the
23 customers you serve?

24 And the reason I'm asking is
25 because MISO, the MISO world, I mean, it's all

1 power sharing between you and Xcel and everyone
2 else.

3 When you say: constrained, are you
4 talking about anybody that uses power in this
5 region or just those that you serve?

6 THE WITNESS: Getting back to the
7 Exhibit. The green area is the geographic
8 extent of the parties we serve.

9 MR. KALK: Okay.

10 THE WITNESS: The blue circle is
11 the region of benefit. And we used a circle
12 because then it becomes obvious that there's
13 some estimating on exactly precisely where
14 these boundaries fall.

15 But the blue circle approximates
16 the region of load that will benefit from the
17 project.

18 As you can see, they're not
19 entirely one and the same.

20 MR. KALK: I guess what I'm trying
21 to get to, though, is when you say you're
22 constrained, that -- I get that that's your
23 customers.

24 But in the MSO world, MSO also
25 serves Xcel.

1 So does this mean that since you
2 participate with MSO, that Xcel customers are
3 also in a constrained world?

4 THE WITNESS: Yes.

5 And that's what I meant by the blue
6 circle. The blue circle is the constraint.

7 MR. KALK: No matter who serves --

8 THE WITNESS: That's the region of
9 the constraint.

10 MR. KALK: No matter who serves in
11 that area?

12 THE WITNESS: That is correct.

13 It's --

14 MR. KALK: So --

15 THE WITNESS: -- strictly -- forget
16 who's serving the load, let's just look at the
17 load within that circle. And that is the load
18 that's at risk.

19 MR. KALK: Okay. So then -- and do
20 the follow-up. And this is not so much for
21 this hearing, but just general knowledge.

22 That if this is such a constrained
23 world, why wouldn't other companies be, also be
24 trying to, to build some power lines to serve
25 their customers?

1 How -- I mean, I'm really glad that
2 you folks stepped forward, but the cost-sharing
3 mechanism, how does that all -- if you're going
4 to solve their benefit -- or their challenges,
5 how do, how do you fit -- how do you get some
6 of -- something from them out of this?

7 THE WITNESS: Well, as I mentioned,
8 there are two other projects in the region.

9 MR. KALK: Right.

10 THE WITNESS: We have -- X2020
11 group has -- from their view in the -- from the
12 Minnesota side, perhaps, but all of those
13 companies that are involved in CapX2020, and
14 I'm not sure exactly which all states they
15 serve load in, but they do serve load in the
16 Fargo area and the Grand Forks area.

17 And those parties have worked
18 jointly with us on studies.

19 I was the tech lead, actually, for
20 the Bemidji-Grand Rapids line.

21 MR. KALK: Sure.

22 So that's all part of the MISO part
23 of this, too, right?

24 THE WITNESS: MISO's involved in
25 various ways.

1 For Minnkota, MISO is our
2 reliability coordinator, but we are not a MISO
3 member.

4 So --

5 MR. KALK: Okay.

6 THE WITNESS: -- we do not
7 participate in the MISO world in the same way.

8 We, we conduct our own planning
9 process for transmission.

10 MISO is the transmission planner
11 for the other parties, especially those parties
12 in the CapX2020 group.

13 So we work directly with MISO as a
14 neighbor, in a sense, them representing all of
15 the other utilities. Obviously, they're much
16 larger than we are.

17 But there is a sense in which we
18 are operating on an equal playing field as far
19 as our registration with NERC as a transmission
20 planning and load-serving entity.

21 MR. KALK: Okay. The -- I guess I
22 just have one last question.

23 I, I believe you said it, but I
24 want to make sure I understand it.

25 So what I heard you talk about was

1 that if, basically in a nutshell, if we don't
2 build this line, the chances of rolling
3 blackouts is increased highly?

4 THE WITNESS: Yes.

5 MR. KALK: That's all I have, thank
6 you.

7 MR. WAHL: Follow-up, Ms. Smith?

8 MS. SMITH: No, your Honor.

9 MR. WAHL: Mr. Sagsveen?

10 MR. SAGSVEEN: No, your Honor.

11 MR. WAHL: Mr. Lein?

12 MR. LEIN: No, your Honor.

13 (Whereupon, the witness was
14 excused.)

15 MR. WAHL: All right. Let's take a
16 recess for ten minutes. Let's resume at 11:40.

17 Ten minutes, stretch your legs.

18 (Whereupon, a fifteen-minute recess
19 was taken.)

20 MR. WAHL: Let's be in order,
21 please.

22 Where is the Commission's
23 lawyer?

24 Aah, he's coming.

25 I was worried you were looking for

1 your watch.

2 Ms. Smith, you may proceed.

3 MS. SMITH: I would call Mike
4 Hennes.

5 MR. WAHL: Mr. Hennes, as you heard
6 me advise previous witnesses, your testimony is
7 required to be under oath. And I'm required by
8 law to advise you regarding perjury before
9 administering the oath.

10 Perjury is a false statement of
11 material fact which you do not believe to be
12 true.

13 In North Dakota, perjury's a class
14 C felony, punishable by a fine up to \$5,000,
15 imprisonment for a period of up to five years
16 or both.

17 Will you raise your right hand,
18 please?

19 Being advised regarding perjury,
20 Mr. Hennes, do you swear that the testimony
21 which you are about to give in this matter
22 shall be the truth, the whole truth and nothing
23 but the truth?

24 THE WITNESS: I do.

25

1 M I K E H E N N E S ,
2 called as a witness, being first duly sworn,
3 was examined and testified on his oath as
4 follows:

5
6 MR. WAHL: Ms. Smith.

7
8 DIRECT EXAMINATION

9 BY MS. SMITH:

10 Q. Could you please state your full
11 name?

12 A. Michael Hennes.

13 Q. And by whom are you employed?

14 A. Minnkota Power Cooperative.

15 Q. And so you are also at the same
16 address as Mr. Tschepen?

17 A. Yes, that's correct.

18 Q. And what is your position with
19 Minnkota?

20 A. I'm the systems project manager.

21 Q. And could you briefly discuss your
22 education and work history?

23 A. Yes.

24 I have a bachelor of science degree
25 in electrical engineering and engineering

1 management from the University of North Dakota.

2 I began my career with Basin
3 Electric in 1975.

4 I spent ten years with the
5 University of North Dakota, involved in
6 atmospheric science research efforts.

7 And then I rejoined the power
8 industry, with Minnkota Power, in 1994, as an
9 electrical engineer. And I also served as a
10 project engineer and an engineering manager.

11 Q. And what is your role with respect
12 to the project?

13 A. I am -- been assigned the overall
14 project manager for the Center to Grand Forks
15 project.

16 Q. And what are your responsibilities
17 as project manager?

18 A. Well, I have the responsibility for
19 budgeting, scheduling, coordination of the
20 permitting, of the design, right of way
21 acquisition and also the construction of the
22 proposed project.

23 Q. And could you please tell the
24 Commission about the various people or groups
25 of people that are assisting with the project?

1 A. Certainly.

2 Minnkota has assigned team leads in
3 various areas.

4 And we've assigned team leads in
5 engineering, environmental/permitting, right of
6 way/legal, procurement, communications and
7 public relations. And also in construction
8 management.

9 And for this project, we also
10 have -- working with outside consultants. And
11 we've assigned Stanley Consultants as the prime
12 consultant responsible for project design and
13 construction. And construction management.

14 And also Kadrmas, Lee & Jackson and
15 KBM, two local consulting firms, who are
16 responsible for the survey and right of way
17 acquisition line.

18 We've also retained the services of
19 HDR Engineers. And they are responsible for
20 the overall environmental and permitting for
21 this project.

22 Q. And why is it that Minnkota is
23 using outside personnel to assist with the
24 project?

25 A. Well, this is normal practice for a

1 project of this size.

2 It's kind of impractical for a
3 company of our size to staff up for this large
4 a project.

5 Our typical construction budget is
6 in the order of 5 to 10 million, million
7 dollars per year.

8 And this one project is certainly a
9 \$300-million project.

10 Q. If you could turn in the Exhibit
11 book to what's been previously marked as
12 Exhibit 3.

13 Actually, sorry, it's the big
14 binder.

15 Do you recognize that --

16 A. Yes.

17 Q. -- document.

18 Could you tell us what it is?

19 A. It's a copy of the Minnkota
20 Certificate of Corridor application for this
21 project that was filed with the Commission on
22 February 18 of 2011.

23 We have submitted supplemental
24 information that was filed as late as June 9 of
25 2011. And that's included in this Exhibit.

1 Q. And was this application prepared
2 under your supervision and control?

3 A. Yes, that is correct.

4 MS. SMITH: I would offer Exhibit
5 3.

6 MR. WAHL: Mr. Sagsveen?

7 MR. SAGSVEEN: No objections.

8 MR. WAHL: Exhibit 3 is received.

9 Q. (By Ms. Smith) Could you please
10 provide the Commission with a basic description
11 of the project?

12 A. Yes.

13 This project is approximately 250
14 miles long. It is a three hundred and forty
15 k -- five kV transmission line that originates
16 in Center, North Dakota, and terminates in
17 Grand Forks, North Dakota.

18 The overall project will also
19 require modifications of existing substations
20 at Center and at Square Butte, which is near
21 the Center substation, and also at Prairie
22 substation, which is on the western edge of
23 Grand Forks.

24 We will also require fiber optic
25 regeneration stations along the route.

1 Approximately four of these stations will be
2 required.

3 And we also will include
4 construction of a new 230 kV tie line between
5 Square Butte and Center, to handle additional
6 output of Young 2 into the 345 kV system.

7 We'll also be relocating existing
8 transmission line structures at the Center 345
9 kV and Prairie substations.

10 And the total project cost estimate
11 for this project is \$312 million.

12 Q. And will the project be owned and
13 operated by Minnkota Power Cooperative, Inc.?

14 A. Yes.

15 Q. What is Minnkota's anticipated
16 schedule for the project?

17 A. Well, this project was started back
18 in 2009, on a four-year timeline.

19 We are seeing some delays in, in
20 the permitting process, both the federal and
21 the state, so we're now projecting a, a
22 five-year schedule.

23 With anticipated PSC approval of
24 the corridor, and the route permit, yet this
25 fall of 2011, that would allow us a limited

1 start of construction to begin the fall of
2 2011.

3 And that would put us with an
4 in-service date of, third quarter, 2013.

5 Q. And can you explain to the
6 Commission why you are allowing approximately
7 two years for construction of the project?

8 A. With construction progress
9 estimated at approximately 8 miles a week, or,
10 or about 40 foundations, or 40 towers to
11 install, this schedule does allow for downtime
12 in the heart of winter and also when road
13 restrictions are in place in the spring. So
14 this will help us minimize road damage and soil
15 compaction during construction.

16 Q. You testified that as project
17 manager you are involved in the permitting and
18 design of the proposed project. Is that
19 correct?

20 A. Yes.

21 Q. So as part of that permitting and
22 design work, have you also been involved in the
23 siting process for the project, including the
24 selection of the proposed project corridor?

25 A. Yes, I've been involved in all

1 aspects of the siting process as well.

2 Q. Could you provide the Commission
3 with an overview of the siting process for the
4 project?

5 A. Well, the siting process with --
6 for this project involves a four-step approach.

7 And step one and two are part of a
8 federal review process.

9 And steps three and four are part
10 of the state permitting process that we're
11 beginning here today.

12 I will use Exhibits to explain
13 these steps in more detail in just a few
14 minutes.

15 Q. And why is the project undergoing a
16 federal review?

17 A. Well, Minnkota's requesting project
18 funding from the U.S. Department of
19 Agricultural (sic), or Rural Utilities Service,
20 or, or I'll refer to it as the RUS, to
21 construct this project. A federal review
22 process is required for loan approval.

23 This process includes complying
24 with the National Environmental Policy Act, or,
25 or NEPA.

1 Q. And if you'll look, then, in the
2 Exhibit book at Exhibits 4 through 8.

3 And Exhibits 4 through 8 are also
4 on the board to the side of you.

5 Do you recognize those Exhibits?

6 A. Yes, I do.

7 Q. Could you tell us what they are?

8 A. Exhibit 4 shows the preliminary
9 study corridors that we used at the beginning
10 of the process.

11 Exhibit 5 is the refinement to the
12 Macro-Corridors.

13 And Exhibit 6 is the route segments
14 that were ultimately analyzed within that
15 overall corridor.

16 And Route (sic) 7 shows
17 alternatives that were reviewed in the
18 environmental analysis, Environmental
19 Assessment and scoping process.

20 And Exhibit 8 shows the proposed
21 corridor, which is the subject of today's
22 hearing.

23 Q. And were Exhibits 4 through 8
24 prepared under your supervision and control?

25 A. Yes.

1 Q. And will Exhibits 4 through 8
2 assist you with your testimony regarding the
3 siting process?

4 A. Yes.

5 MS. SMITH: I would offer Exhibits
6 4 through 8.

7 MR. WAHL: Mr. Sagsveen?

8 MR. SAGSVEEN: No objections.

9 MR. WAHL: Exhibits 4 through 8,
10 inclusive, are each received.

11 Q. (By Ms. Smith) Before we discuss
12 the corridor selection process, could you
13 explain how the terms corridor and route are
14 used in Exhibits 4 through 8?

15 A. Generally, the term corridor
16 implies a wider study area. While the term
17 route, implies one or more narrow paths
18 considered within that, for the proposed
19 transmission line.

20 Als -- for example, on the Center
21 to Grand Forks project, in the federal process,
22 Minnkota first identified a 6-mile-wide study
23 corridor and then selected three
24 1,000-foot-wide routes within that corridor for
25 detailed analysis.

1 For the state process, Minnkota
2 started with the identified preferred route
3 from the federal process and renamed it the
4 project corridor.

5 The project corridor will then be
6 further analyzed in order to select the
7 ultimate 150-foot-wide right of way that will
8 be the basis for the project's Route Permit
9 application.

10 So, again, the corridor is a wider
11 study area and a route is a narrower study area
12 within that corridor.

13 Q. And how has the federal review
14 process played a role in developing the
15 corridor that is the subject of today's
16 hearing?

17 A. Well, Exhibits 4 through 8 help
18 demonstrate the methodical and narrowing
19 process that took the project from a
20 6-mile-wide study corridor, to the
21 thousand-foot-wide corridor we have today.

22 This corresponds with the four-step
23 approach to the siting mentioned earlier.

24 Now steps one and two, which are
25 part of the federal review process, are shown

1 in Exhibits 4 through 7.

2 Q. And could you describe for the
3 Commission step one of the siting process?

4 A. Yes. Step one was to prepare the
5 alternative evaluation study, which was the
6 basis for earlier testimony by Mr. Tschepen and
7 Mr. Bartel.

8 This study identified the need for
9 the project and reviewed the alternatives that
10 were considered.

11 The Macro-Corridor Study was also
12 prepared at this time, that identified the
13 high-level environmental considerations in that
14 6-mile-wide corridor that would be common to
15 any of the proposed routes required, required
16 to build this project.

17 If we look at Exhibit 4. It
18 does --

19 Q. You might have to just pull it
20 towards you.

21 A. Yep. See if this works here.

22 If we look at Exhibit 4. If I can
23 find my red dot here.

24 There we go.

25 We, we do see those transmission

1 corridors along the I-94 corridor that Mr.
2 Bartel recognized.

3 And it also identifies one northern
4 transmission along the route.

5 And one other transmission in the
6 northern Valley is, is through that diagonal
7 corridor.

8 So this -- it does help us
9 understand the logic of looking for the maximum
10 geographic separation from this route, with the
11 others, to provide that maximum reliability
12 benefit for siting this new transmission line.

13 The other thing I'd like to point
14 out is the constraints and challenges that were
15 in this area.

16 We see a large amount of wetlands
17 and potholes and, and, and, and challenges,
18 both engineering and/or environmental for that
19 southern corridor, so that was taken into
20 consideration.

21 But you can also see the large
22 amount of what we call a -- avoidance areas or
23 wildlife protection areas, as the route also
24 had to navigate.

25 So this Exhibit tells us where our

1 starting point was in the process, to a defined
2 Macro-Corridor for further review.

3 Q. And what is depicted then in
4 Exhibit 5?

5 A. Exhibit 5 shows this refinement.
6 And it does also show --

7 It shows that we did eliminate two
8 corridors for further study.

9 This was based on public input,
10 looking at the more northern Missouri River
11 crossing.

12 And we did get quite a bit of
13 agency and public input, concerns about
14 crossing near the Cross Ranch recreation and,
15 and nature preserved area in that area.

16 And also the, the public had
17 concerns about creating another transmission
18 corridor for the transmission line.

19 So they encouraged us to look at a
20 more southern crossing that was in vicinity of
21 two existing transmission lines crossing the
22 Missouri River.

23 So ultimately we eliminated that
24 northern crossing and chose the more southern
25 crossing that was in between two existing

1 transmission lines.

2 And again, that southern corridor
3 that showed in gray out there, was eliminated
4 because of the high impact of the number of
5 wetlands in that area.

6 Q. And what was step two of the siting
7 process?

8 A. Step two of the siting process was
9 prep -- to prepare the Environmental Assessment
10 with scoping report.

11 The purpose of the Environmental
12 Assessment is to identify the routing
13 alternatives within the study corridor and to
14 -- and evaluate those alternatives, to identify
15 the route with the least overall impact, the
16 entire 250-mile project.

17 Exhibit 6 then shows the
18 approximately 191 routing segments that were
19 reviewed within that Macro-Corridor Study area.

20 These routing segments were
21 analyzed for impact. And statistics were
22 taken, including the percentage of cropland
23 versus prairie land, the amount of woodlands
24 impacted, you know, in proximity to airports,
25 proximity to homes and farms.

1 So those segments were then
2 screened down to three proposed routes, which
3 is shown in Exhibit 7.

4 Q. How did Minnkota select the
5 1,000-foot-wide corridor that is the subject of
6 today's hearing?

7 A. Well, step three of this four-step
8 process was to identify a corridor in which a
9 transmission line route that will meet the
10 North Dakota PSC siting criteria and can be
11 located.

12 The preferred 1,000-foot route
13 identified in the Environmental Assessment
14 process, most fully meets this criteria.

15 This route that has now been
16 further refined with additional landowner input
17 between the Environmental Assessment comment
18 period and our filing.

19 And this re -- new result, then, is
20 a thousand-foot-wide corridor presented in our
21 Corridor application and shown in Exhibit 8.

22 Q. And what will step four of the
23 process be?

24 A. Step four of this process will be
25 to identify the final alignment for the

1 150-foot-wide right of way within this
2 thousand-foot corridor. And that will be
3 submitted in our Route Permit application.

4 Q. And if you would turn to Exhibit 9
5 in the Exhibit book. And that will also be
6 placed on a board as well. So we'll just take
7 a second to put that up.

8 Do you recognize Exhibit 9?

9 A. Yes.

10 Q. And could you identify it for us?

11 A. Exhibit 9 provides an overview of
12 the state and federal permitting processes,
13 with the public involvement opportunities also
14 identified.

15 Q. And was Exhibit 9 prepared under
16 your supervision and control?

17 A. Yes.

18 Q. And will it assist you with your
19 testimony here regarding the corridor siting
20 process?

21 A. Yes.

22 MS. SMITH: I would offer Exhibit
23 9.

24 MR. WAHL: Mr. Sagsveen?

25 MR. SAGSVEEN: No objections.

1 MR. WAHL: Exhibit 9 is received.

2 Q. (By Ms. Smith) Referring to
3 Exhibit 9, could you describe for the
4 Commission the public involvement opportunities
5 that have been or will be provided during the
6 siting process for this project?

7 A. Yes.

8 The public involvement and input
9 has been a key priority for Minnkota from the
10 very beginning of the project. We hope to use
11 this process to ensure an open and accessible
12 corridor development and a route siting.

13 The Exhibit 9 is a very, you know,
14 busy schedule. And I'll walk through some of
15 the detail. But it's basically a timeline of
16 opportunities for public input and also
17 identifies the key milestones for both the
18 federal and state process.

19 So the timeline runs from the top
20 of the graph to the bottom of the graph here,
21 chronologically.

22 So Exhibit 9 provides this
23 overview. In yellow, indicates Minnkota's
24 sponsored-outreach, outreach efforts. Our
25 early efforts to identify to the public, with

1 the public the route and our route criteria
2 used and to gather public input for helping us
3 identify additional input for the map that
4 wasn't originally on our maps. This may
5 include private cemeteries and, and airports
6 and those types of things.

7 Blue indicates the public input
8 opportunities during the federal review
9 process. And those would be RUS-sponsored
10 public input opportunities.

11 And the green indicates the public
12 opportunities that ha -- have occurred or will
13 occur during the state process.

14 Now Minnkota, through these
15 outgoing on-reach (sic) efforts, efforts, have
16 had nearly 20 public meetings since early 2009.
17 And over 850 people have attended these
18 meetings. And we have received well over 300
19 comments. And which were addressed throughout
20 these processes.

21 Most recently, numerous local
22 public meetings were also held for the
23 Conditional Use Permits required for the
24 project and they're being held at the township
25 and county levels.

1 As a result of these efforts, a
2 substantial public and stakeholder input has
3 been collected and considered in developing the
4 corridor.

5 Other key outreach tools that we've
6 used on the project, include a project website,
7 a toll-free number, the quarterly newsletters
8 that we're mailing to landowners along the
9 project corridor, fact sheets, frequently-asked
10 questions and the stakeholder database to track
11 all the questions that do come into the
12 project.

13 We have a commitment to ongoing
14 communications and outreach and this will
15 continue through our construction process.

16 Q. And how do the public involvement
17 opportunities that are depicted in Exhibit 9
18 correspond with the corridor selection process
19 that you previously described?

20 A. Well, the preliminary study
21 corridors shown in Exhibit 4 were first
22 introduced to the public at Minnkota-sponsored
23 meetings in the spring of 2009.

24 And the refined Macro-Corridors
25 shown in Exhibit 5 was then introduced at the

1 RUS scoping meetings in the fall of 2009.

2 And the route segments and route
3 segment alternatives, which were analyzed in
4 the Environmental Assessment, is -- are shown
5 in Exhibit 6 and 7. And these were first
6 presented at Minnkota-sponsored public
7 open-house meetings in the spring of 2010.

8 The proposed corridor, as shown in
9 Exhibit 8, was then introduced during the
10 winter of 2010 and 2011 as the preferred route
11 identified in the Environmental Assessment.

12 It was then publicized in the
13 project newsletters, on the website and in the
14 Corridor application.

15 Mr. Phillips will give later
16 testimony and will discuss this proposed
17 corridor in detail in his testimony.

18 Q. And why is Minnkota requesting an
19 approval of a 1,000-foot-wide corridor for the
20 project?

21 A. By selecting the preferred route
22 from the Environmental Assessment as the
23 corridor for the Corridor application, we can
24 demonstrate that the proposed corridor has the
25 least overall impact within the wider study

1 area.

2 A selection of a thousand-foot-wide
3 project corridor is the result of an extensive
4 pre-application routing process and it provides
5 the best opportunity for more detailed analysis
6 during this state review.

7 The Macro-Corridor to, study to
8 Environmental Assessment process, involved
9 in-depth environmental analysis and multiple
10 opportunities for agency, tribal and
11 governmental review and public input.

12 The 1,000-foot-wide project
13 corridor is the same width utilized in the
14 EA -- Environmental Analysis Study.

15 So using a 6-mile-wide corridor for
16 the state process at this time, in my opinion,
17 would be a step backwards.

18 And it would not address the most
19 asked question that we heard in our early
20 public meetings, was where exactly are you
21 proposing to put this line.

22 As such, the narrower corridor
23 provides an opportunity for more meaningful
24 public input.

25 A narrower corridor also minimizes

1 the possibility of the corridor being utilized
2 for other projects after this project's
3 approval.

4 And it also is consistent with the
5 recommend -- recommendations of the Commission
6 in its letter response to Minnkota when we
7 requested routing guidance.

8 Q. And what were some of the factors
9 that Minnkota took into account in developing
10 the proposed project?

11 A. The two primary factors that we
12 considered were the location of our project to
13 occupied residences and farmsteads. And we
14 also strove to minimize impact of tillable
15 croplands.

16 Q. And are there other factors as well
17 that were studied?

18 A. The other factors that we evaluated
19 in the corridor selection process include,
20 avoiding irrigated cropland, rural airports and
21 airstrips, avoiding identified recreational,
22 historical, archeological and culturally
23 significant areas whenever possible.

24 We also strive to avoid a potential
25 disturbance to rare and endangered species of

1 plants and animals.

2 The project also chose the -- the
3 selection process included minimizing impacts
4 to shelterbelts, wooded areas and other areas
5 of conservation and ecological importance.

6 Strove to minimize effects on the
7 designated waterfowl production areas, the game
8 management areas and wildlife refuges.

9 We also strove to minimize
10 interference with extraction of economic
11 minerals and engineering and construction and
12 maintenance hazards.

13 Other considerations were
14 coordinating planning with existing wind
15 easements, following existing rights of way,
16 survey lines and natural division lines and
17 agricultural field boundaries when feasible.

18 Also enhancing a grid reliability
19 was the major concern.

20 And also adhering to North Dakota
21 Public Service Commission exclusionary and
22 avoidance areas.

23 Q. Earlier, I believe you testified
24 that, as project manager, you oversee right of
25 way acquisition. Is that right?

1 A. Yes.

2 Q. And what steps is Minnkota taking
3 to acquire right of way for the proposed
4 project?

5 A. Minnkota's currently seeking right
6 of way options with landowners.

7 Q. And you mentioned an, an option
8 then. What is the difference between an option
9 and an easement?

10 A. The, the option is an agreement
11 with the landowner for the future right to
12 acquire an easement. The right to acquire the
13 easement must be exercised within a specified
14 time.

15 An easement is the right granted by
16 the landowner to use a specific piece of
17 property for a specific use for the specified
18 length of time.

19 Q. And why is Minnkota acquiring
20 easement options rather than easements?

21 A. Acquiring options at this time
22 allows Minnkota to begin the right of way
23 acquisition process at the same time it
24 receives the required permit.

25 But this also limits Minnkota's

1 financial investment in case the permitting
2 process necessitates the change in the right of
3 way location.

4 The 500-foot-wide option that we've
5 been requiring, gives the landowner and the
6 right of way agent some flexibility in working
7 with the design team for the final location of
8 the 150-foot-wide permanent easement.

9 Q. And are the easements that will be
10 obtained for the project limited to a specific
11 purpose?

12 A. Yes. The easements allow Minnkota
13 Power Cooperative, only install and maintain a
14 single transmission system and no other purpose
15 are included or allowed within that easement.

16 Q. And how are easement payments
17 determined?

18 A. The project did some analysis and
19 came up with a land basis value for each
20 county.

21 Now this was calculated by
22 compiling and comparing from recent sales
23 records for each county and also reviewing the
24 USDA National Agricultural Statistics Service
25 Data compiled by County as well.

1 In this, we considered the impacts
2 from similar projects within the area.

3 And compensation then is provided
4 to the landowner in a combination of this land
5 basis value payment for the overall area of the
6 overhead easement. And we're also considering
7 a per structure payment.

8 This compensation takes into
9 account the current land usage, the local
10 market value of the land and the calculated
11 acreage required for the right of way.

12 The per pole payments, we're also
13 making, take into consideration the effects on
14 farming practices.

15 Q. And why aren't annual payments,
16 such as those that are provided for wind
17 turbines, being offered to landowners as part
18 of this project?

19 A. We feel these situations are quite
20 different. In the case of wind farms, the
21 developers and landowners are harvesting a
22 natural resource, and in this case, wind, that
23 does produce a profit-generating revenue
24 stream. This is not the case with the
25 transmission easement.

1 As a rural electric cooperative,
2 our rates are based on the actual costs to
3 deliver the electricity. We are not a
4 profit-driven enterprise.

5 While we take very seriously our
6 obligation to provide fair compensation to
7 landowners for easements, we also have an
8 obligation to rate payers to keep electricity
9 rights affordable. This means keeping our
10 project development costs as reasonable as
11 possible.

12 It's important to note that no
13 other transmission utility provider in the
14 region make long-term yearly payments for, for
15 transmission easements.

16 And, also, we'd like to note that
17 having a transmission easement, that can
18 co-exist very well within easements, we just
19 require that there be a safe setback from the
20 wind turbine from the transmission line.

21 Q. And what activities will be
22 restricted along the easement?

23 A. We restrict placing permanent
24 structures under the power lines, planting of
25 large-growing trees, stockpiling materials

1 under the line or any activity that creates a
2 safety hazard op -- for the operation of the
3 line.

4 Q. And what impact on the land use
5 will the new transmission line have?

6 A. Well, we do recognize that a, a
7 utility pole creates inconvenience when placed
8 on tillable ground. However, Minnkota's
9 selection of the steel monopole helps minimize
10 this impact by allowing installation of the
11 poles without any guy wires, which helps
12 minimize the overall footprint for the project.

13 In addition, the steel-mounted pole
14 supports a 1,000-foot spacing between poles,
15 which helps eliminate this impact as well.

16 And farm equipment will need to
17 maneuver around the physical structures for
18 seeding or harvest, but, again, with the
19 thousand-foot spacing, this approximates about
20 five structures per mile, also helping to
21 minimize that impact.

22 We also recognize that the new line
23 may create some issues with aerial applicators,
24 but we feel that they can still use the aerial
25 application, they just may need to modify the

1 approach or fly parallel with the line while
2 spraying the field.

3 Q. What compensation will landowners
4 receive for disruption of land use during
5 construction?

6 A. Well, besides the permanent
7 easement, the -- Minnkota also arranges for a
8 temporary construction easement if it's
9 required, if access along the right of way
10 isn't a -- available, we may need to widen our,
11 our construction area. And we would re --
12 obtain a temporary construction easement for
13 that.

14 We also make crop payments, if
15 there's any crop damage during the
16 construction. These payments are based on the
17 first year's crop loss. And then we pay
18 subsequent pay -- payments for the next two
19 or -- to three years after the project.

20 We also pay land damage payments if
21 we do rutting or some compaction on prairie
22 land or noncropland, that we will restore that
23 land and also pay land damages as well for
24 that.

25 And we also pay for reconstruction

1 of fencing that may need to be temporarily
2 constructed or gates installed in -- during the
3 construction phase.

4 Q. And what are some of the benefits
5 of the project?

6 A. The primary benefits are a --
7 access to increase -- increased base load
8 generation to accommodate our future demand and
9 load growth needs.

10 And, also, the additional grid
11 reliability that this line provides, that Mr.
12 Bartel testified to.

13 There's also some long-term state
14 and local tax payments that help to fund
15 community needs. And these payments go to
16 school districts and fire districts.

17 And we also have short jobs in
18 construction during the construction phase. We
19 anticipate approximately 200 to 250 specialized
20 construction personnel for the foundation
21 construction and line construction and various
22 other activities.

23 And approximately 40 to 60 of these
24 positions should be local-hire positions with
25 opportunity that includes local concrete supply

1 and batch plant work, civil work for road
2 construction and maintenance, the tree-clearing
3 crews, you know, the fence construction and
4 gate installation.

5 And also local labor may be used
6 for, specialized for traffic control and the
7 land restoration after construction.

8 So our construction stimulus to the
9 local economy include expenditures for product
10 and services, including hotels and restaurant
11 trade.

12 Q. And based on the studies and
13 analyses conducted, and on the testimony that
14 you've presented today, what are some of the
15 conclusions that Minnkota has reached with
16 respect to the proposed project?

17 A. We feel that this project is the
18 best possible solution for delivering
19 additional base load generation to Minnkota's
20 service territory and also improving the
21 reliability of the region's electrical network
22 by solving a known voltage stability issue in
23 the northern Red River Valley.

24 Through the required federal review
25 process, which did include an in-depth

1 environmental review and numerous opportunities
2 for stakeholder and public input, Minnkota has
3 developed a viable 1,000-foot-wide corridor.

4 We believe this proposed corridor
5 meets all of North Dakota's siting requirements
6 and will result in the least overall impact of
7 the alternatives considered.

8 In addition to providing this
9 additional base load generation and grid
10 reliability, the project will bring long-term
11 economic benefits through state and local tax
12 payments and short-term stimulus through the
13 construction jobs and related expenditures.

14 MS. SMITH: I have no further
15 questions.

16 MR. WAHL: Mr. Sagsveen?

17

18 CROSS-EXAMINATION

19 BY MR. SAGSVEEN:

20 Q. In your Permit application, is
21 there a, a FONSI, or was there a FONSI issued,
22 a finding of no specific impact, or has that
23 conclusion been reached yet?

24 A. Well, that process is still
25 ongoing.

1 The Environmental Assessment with
2 scoping is complete.

3 There's two other parallel paths
4 that are also being worked on, that need to
5 come to completion before the FONSI will be
6 issued.

7 The first path that's being looked
8 at is the -- with the U.S. Fish and Wildlife
9 Service, the Section 7 consideration,
10 Endangered Species Act.

11 We're still ongoing discussions
12 with the U.S. Fish and Wildlife Service on the
13 whooping crane marking of the new line and the
14 requirement for marking equivalent on the
15 existing line. So that's an ongoing
16 discussion.

17 The other parallel path for the
18 FONSI is the consideration for the Section 106,
19 the cultural and historical.

20 We're working through the details
21 of our Programmatic Agreement. And that should
22 be -- come to conclusion within the 60 to 90
23 days as well.

24 So our FONSI is about 60 to 90 days
25 out from being completed.

1 MR. WAHL: Mr. Sagsveen, I suspect
2 there's some members of the public who have no
3 idea what a FONSI is.

4 MR. SAGSVEEN: Thank you, Judge, I
5 was going to elaborate a little bit.

6 A FONSI is, in, in, I guess,
7 federal terminology, a finding of no
8 significant impact.

9 And it's part of the National
10 Environmental Protection Act -- for -- forgive
11 me.

12 MS. SMITH: Policy Act.

13 MR. SAGSVEEN: Policy Act, I'm
14 sorry.

15 MS. SMITH: Yep.

16 MR. SAGSVEEN: It's a federal
17 program to protect the environment that's been
18 in place, I think, since 1976. For quite
19 awhile.

20 And, and there'll be a process
21 where a federal agency will take a preliminary
22 review of a project.

23 And if they determine that there is
24 no significant impact, they'll issue a FONSI.

25 And if there is a significant

1 impact, they will do, I believe, an EIS to
2 conduct a further environmental impact on, on
3 the project.

4 Q. (By Mr. Sagsveen) And so to follow
5 up on my question.

6 MR. SAGSVEEN: Thank you, Judge.

7 Q. (By Mr. Sagsveen) The proposed
8 route in 7 and 8, are, are you telling me that
9 it -- it's possible that those might change
10 or -- and when I say 7 and 8, I mean Exhibits 7
11 and 8, through the EA process or maybe after an
12 EIS?

13 A. No. What we're saying is the
14 preliminary review from the RUS, which is the
15 federal agency overseeing the NEPA process, is
16 that they agree with the concurrence of the
17 Environmental Assessment, that, that the route
18 shown in Exhibit 8, which is identified as
19 Route A in the Environmental Assessment, is the
20 preferred route for the project.

21 Q. Okay. So even though the
22 Environmental Assessment hasn't been finished,
23 everyone's agreed that that's the preferred
24 route to work on?

25 A. That's correct.

1 Q. And, and that being the red, I
2 don't know, in 7, it's, I think, Route A, and
3 in Exhibit 8, the red, it's also red, and it's
4 also Route A?

5 A. It's just identified as the
6 proposed corridor in Exhibit 8.

7 It transitions from a, a route in
8 the Environmental Analysis as one of the
9 considered routes to the proposed corridor for
10 the state process, that's where we're doing
11 that crossover between the federal process and
12 state process.

13 Q. Okay. So that's my next question.

14 In Exhibit 8, you used the word
15 route and in Exhibit -- I'm sorry, Exhibit 7,
16 the word route is used. Exhibit 8, the word
17 corridor is used.

18 So for the purposes of the federal
19 review, are they reviewing the thousand-foot
20 corridor or the hundred-foot-wide route?

21 A. The federal review reviews the
22 thousand-foot-wide route, in their terminology,
23 so --

24 Q. Okay. So their route is our
25 corridor?

1 A. That is correct.

2 Q. Okay.

3 A. It's confusing, I know. We, as a
4 project team, we intermix route and corridor.

5 But I think the, the correct way to
6 think of it is, is the corridor's always the
7 wider.

8 And in the state process, we're
9 proposing the thousand-foot corridor for a
10 Corridor Compatibility application. And the
11 Route Permit will be the narrower,
12 150-foot-wide right of way, will actually be,
13 be submitted in that application.

14 MR. SAGSVEEN: I don't think I have
15 any further questions.

16 MR. WAHL: Mr. Lein?

17 MR. LEIN: Yeah.

18 Mike, I missed -- did you say --
19 did you give us like a percentage of what kind
20 of options you've got issued? So is it like 80
21 percent issued or -- for the easements or --

22 THE WITNESS: Currently, we have 57
23 percent of the easements -- or the landowners
24 have signed options for easements along this
25 corridor.

1 MR. LEIN: Okay.

2 And then you were talking a little
3 bit about a payment being a, a one-time,
4 up-front payment. And they do get an option if
5 they want to, to take that payment on annual
6 installments, right?

7 THE WITNESS: That's correct.

8 MR. LEIN: Okay.

9 THE WITNESS: We can pay annual
10 installments over five years with the one-time
11 payment.

12 MR. LEIN: Okay.

13 Okay, thanks, --

14 THE WITNESS: I would --

15 MR. LEIN: -- Mike.

16 THE WITNESS: -- like to make one
17 correction.

18 I said 57 percent of the
19 landowners, that's 50 percent of the mil -- 57
20 percent of the miles of the line are under
21 option, not landowners.

22 MR. LEIN: Okay.

23 Okay, no further questions, thank
24 you.

25 MR. WAHL: Follow-up, Mr. Sagsveen?

1 MR. SAGSVEEN: Thank you, your
2 Honor, I just had one further question.

3

4 RECROSS-EXAMINATION

5 BY MR. SAGSVEEN:

6 Q. Is the Permit application that
7 Minnko -- Minnkota has provided, complete and
8 can the Public Service Commission base its
9 decision on, on the Corridor application
10 without any additional supplementation or do
11 you envision that you will be supplementing the
12 record to include additional materials?

13 A. It is complete to my knowledge.
14 You can -- your decision can be based on our
15 submittals to date.

16 MR. SAGSVEEN: No further
17 questions.

18 MR. WAHL: Commissioner Cramer.

19 MR. CRAMER: Thank you.

20 Michael, you've, you've outlined a,
21 in your application, a pretty aggressive
22 timeline, given that you're at 57 percent of
23 the miles as options.

24 How do you see landowner
25 easement-option relations to this point? In

1 other words, how optimistic are you that the
2 other 43 percent can be done rather quickly,
3 which it would -- would be required in order to
4 meet your timeline?

5 THE WITNESS: Yes, this is a, this
6 is a challenge and we break them up into, you
7 know, categories of options signed, options
8 actively being negotiated and options denied.

9 MR. CRAMER: Sure.

10 THE WITNESS: So, you know, right
11 now, we're sitting at roughly, you know, 16 to
12 17 percent that are denied.

13 So we still have a large out there
14 that, you know, are, are waiting for the
15 outcome of this hearing to, you know, help them
16 make a decision as to, you know, the acceptance
17 of our offer.

18 So, you know, our goal is to, you
19 know, have 80 percent of the options by the
20 Route Permit hearing. And then secure the rest
21 prior to construction.

22 MR. CRAMER: Okay, thank you.

23 Just a little bit on the, the
24 question that -- in direct and then Jerry's
25 clarification, I guess, about the one-time

1 payment being paid out over five years, if
2 you'd like.

3 And you referred to no other
4 transmission project in the region.

5 Are there transmission projects in
6 other parts of the country that do, in fact,
7 have annual landowner payments?

8 And, and, and I think in direct,
9 it, it was alluded to the fact that could --
10 wind, wind turbine easements have certainly
11 changed the perspective of a lot of people
12 and --

13 And so if you could just let --
14 first of all, I mean, are there other parts of
15 the country where it's more common or at
16 least --

17 THE WITNESS: Not to my knowledge.

18 MR. CRAMER: Okay.

19 THE WITNESS: Yep.

20 We do -- just one clarification --

21 MR. CRAMER: Sure.

22 THE WITNESS: -- here, but we do
23 make a distinction between transmission lines
24 associated with wind farms and generally being
25 a generation outlet line.

1 We do know that one utility in
2 recent history offered annual payments, but
3 none of the landowners accepted the annual
4 payment for, for that project.

5 MR. SAGSVEEN: Uh-huh.

6 MR. CRAMER: Yeah, okay, I
7 understand.

8 If, if you have annual payments,
9 tax payments, as you referred, I mean, would it
10 be out of the realm of possibility, do you
11 think, and, and I -- even this project aside,
12 into the future, because this is a discussion
13 that's taking place in a lot of organizations
14 right now.

15 Can you see it like a tax, ever
16 getting to that point, where it would be an
17 annual payment?

18 And what would the impact of that
19 be on, perhaps, to the bottom line, electricity
20 prices that we, in North Dakota, enjoy to this
21 point? Some low ones.

22 THE WITNESS: We can only see that
23 adding, you know, cost to the overall, you
24 know, delivery of electricity to, you know, to
25 manage, you know, that payment structure.

1 MR. CRAMER: All right. One, one
2 other question. Specifically about the Grand
3 Forks airport.

4 THE WITNESS: Okay.

5 MR. CRAMER: We've talked about
6 aerial applicators and the impacts on that and
7 it's minimal and it still can be done with
8 greater care, no doubt, with all the
9 appropriate markings.

10 But, but is there a sp -- is there
11 a specific or special interest given that the
12 Grand Forks airport is a -- an extremely busy
13 airport and that it is also a, a laboratory, if
14 you will, for student pilots? Does that --
15 have special concerns been raised about that?

16 THE WITNESS: Yes, they have.

17 We're, we're, we're definitely
18 working with the FAA on our proposed corridor.
19 You know, does -- the path to the south of the
20 -- Grand Forks, a, a major approach way.

21 There is existing transmission
22 lines there that kind of set the threshold.
23 And our design challenge is to meet that height
24 restriction across the -- that corridor, to, to
25 not, if impact the glide slope, you know,

1 because of the heavy use of that airport, so --

2 So that is definitely a design
3 challenge for us to, to cross east and west
4 across that southern flight path.

5 MR. CRAMER: Very good.

6 Thank you, I have nothing further,
7 your Honor.

8 MR. WAHL: Commissioner Kalk.

9 MR. KALK: Thank you, your Honor.

10 Thanks for your testimony, Mike.

11 I actually have a lot of questions,
12 if you could just bear with me for a while.

13 THE WITNESS: Sure.

14 MR. KALK: Going back to, I, I
15 guess, Exhibit, Exhibit 4. We kind of started
16 with the beginning methodology.

17 It looks like the, basically
18 because of the, quote, unquote, environmental
19 concerns, that southern route was basically
20 just dropped pretty quickly. Is that right?

21 THE WITNESS: That is correct.

22 The high percentage of wetlands and
23 the larger wetlands. You know, our span is a
24 thousand-foot, so challenges for, you know,
25 crossing a larger wetland, body of water,

1 presented an engineering's challenge as well.

2 MR. KALK: Okay. Well, let me go
3 back to, I guess, I guess, some of my biases.

4 That -- you know, I, I did 20 years
5 in the Marine Corps, and there was a couple
6 years in there, I worked with the NEPA
7 projects, with the project that we would build.

8 And I often found that the -- NEPA
9 would guide our decision away from where we
10 thought was the best place to go, because they
11 would make it -- there would be threats, if you
12 will, of: well, you can't build here because
13 of this, this and this.

14 But, later, I found that you can
15 mitigate anything.

16 So how did you, you, you balance
17 that of, okay, you could have built it there or
18 proposed it, but there probably would have been
19 a whole bunch of mitigation? Did you, did you
20 walk that through at all?

21 THE WITNESS: That was considered,
22 you know, as, as the factors in an
23 environmental review and in, and in the study
24 corridor selection process.

25 And, yes, the impact is there. You

1 know, you have to use matting during
2 construction. You know, so the cost during
3 construction.

4 And, again, the number of poles,
5 the, the, you know, the, the spanning of the
6 larger -- you know, requires a taller pole.

7 You know, because of the large
8 number of migratory bird, you know, production,
9 you know, habitat area in that area, you know,
10 having, having additional, you know, taller
11 structures and spanning the wetlands, so --

12 So that's -- you know, we, we do
13 have wetlands across the whole, you know,
14 project.

15 So it's just one alternative to
16 help, you know, minimize the wetland impact to
17 the project was to, you know, select areas
18 that -- being we have to deal with the whole
19 project, to, to select a corridor that, that
20 wouldn't be the primary, you know, concern for
21 that whole corridor selection.

22 MR. KALK: Okay. So then maybe
23 kind of a follow-up to that is that -- let's
24 see here.

25 Exhibit 7, which lays out all the

1 different proposed routes, if you will,
2 correct? So the --

3 THE WITNESS: That is correct.

4 MR. KALK: Okay. Is there
5 somewhere in the filings that you've given us,
6 that kind of gives almost like a matrix of, of
7 why Routes B and C were, were, were dropped
8 from moving them forward?

9 So you could easily look at it and
10 say: okay, Route B, as you went down the line,
11 this, this and this were reasons that no longer
12 made that viable?

13 And the same thing for Route C?
14 Somewhere easily to look at? Not so much for
15 me today, but as we go back and review this?

16 THE WITNESS: Right. That is
17 included in -- the Environmental Analysis is
18 included as an Exhibit to the Corridor
19 application.

20 And specifically I direct, direct
21 your attention to Table 4.0.1, within that,
22 that does summarize that route analysis.

23 The, the text goes through each in
24 detail, but this Table does summarize and help,
25 you know, clarify our decision process for

1 selecting Route A.

2 MR. KALK: Okay. Let's see here,
3 what else did I have?

4 The -- you talked about the
5 construction schedule. And I think Kevin hit
6 on this a little bit.

7 But, you know, we are in a wet
8 cycle and that's all there is to it.

9 And so have you -- how much have
10 you adjusted that construction schedule based
11 on the last two years, which I would anticipate
12 the next two years not to be much drier than
13 the last two?

14 THE WITNESS: Well, we are
15 anticipating having to do some construction in
16 the winter to meet some of the environmental
17 concerns for crossing the Missouri River.

18 Some of the species there that --
19 we're, we're asked to avoid construction during
20 the, you know, the nesting season there. So
21 that puts us into winter construction, so --

22 And some of the wetland mitigation
23 would, would also be -- require winter
24 construction.

25 So we're not --

1 MR. KALK: Okay.

2 THE WITNESS: -- planning such a
3 tight construction schedule, that we're forced
4 to work in that time frame. But we certainly
5 recognize that we, we have to work in that time
6 frame.

7 So we may need winter construction
8 to, to minimize the impact because of the wet
9 cycle that we're in.

10 So, again, that gets back to that
11 question of, why are you allowing two years,
12 you know, to complete this line. And that's to
13 give that flexibility.

14 MR. KALK: Okay. And I guess I
15 won't say the last, but maybe the next
16 question.

17 Is Exhibit 9 laid out a very good
18 matrix of, you know, the public participation
19 and the regulatory process.

20 And I, I, I think this is a
21 requirement under NEPA, to do these kind of
22 things.

23 Should almost have this as a, as a
24 good cheat sheet to show what you did, but --

25 I'm not saying that your proposed

1 route is not a good idea at this point, it's
2 premature, but I do have a concern that you've
3 got a NEPA process that you've worked very
4 aggressively and you've done the things that
5 you need to do. And the NEPA process is all
6 based around what you have right now.

7 Well, what if we to deem this as
8 not right, then what happens to the NEPA
9 process? How far back does that put you? Have
10 you, have you be -- has the Commission been
11 pushed away because of NEPA, without us given a
12 chance to ask these questions today?

13 THE WITNESS: That does put
14 challenges on that process. I mean, we have --
15 you know, the Macro-Corridor Study is part of
16 the NEPA process to fall back on. So as long
17 as we're within that Macro-Corridor Study, then
18 we feel that we would have to file a slight
19 amendment.

20 So if the route changes from the
21 Route A or the corridor in our application
22 dramatically, we would have to amend our
23 application with the RUS and do some additional
24 analysis, yes.

25 MR. KALK: Sure.

1 THE WITNESS: That's correct.

2 MR. KALK: That's why I think I
3 asked the question about, you know, give me
4 the, the matrix, if you will, of why those
5 other routes didn't move forward, because I
6 think that gives us some of the answers to the
7 question I was talking about.

8 Did you ever consider a, a hybrid
9 route, if you will, looking back at Exhibit
10 7, --

11 MR. SAGSVEEN: Uh-huh.

12 MR. KALK: -- to where you maybe
13 jump back and forth between different routes?
14 Or were they all, you know, were they all
15 unique, if you will?

16 THE WITNESS: Well, I think if you
17 look back at Exhibit 6.

18 MR. KALK: Okay.

19 THE WITNESS: We --

20 MR. KALK: Oh, okay, okay.

21 THE WITNESS: Those are all the
22 route segments that we started at.

23 And we took each segment as an
24 individual component and we did the analysis on
25 the impact. Again, amount of wetlands, amount

1 of wooded areas, amount of cropland, the amount
2 of prairie land and, and, and other
3 considerations.

4 MR. KALK: So at this point, you
5 didn't have any particular -- anything you see
6 or anything, you're just -- okay, I understand
7 that.

8 THE WITNESS: All right. So then
9 we took those route segments and assembled them
10 into, to, to routes that we felt would meet the
11 North Dakota PSC criteria.

12 So that was, that was the driver
13 for taking these route segments and, and
14 assembling them into overall routes.

15 MR. KALK: Okay, perfect.

16 And just a -- and I know I can
17 review this, but --

18 In your experience, and what you've
19 gone through, that southern most route, that
20 basically runs -- you know, I think that'd be
21 C. What was the major disqualifying factor for
22 that one, if you will?

23 THE WITNESS: There was three
24 reasons for that southern route being
25 disqualified.

1 I mean, initially we liked the
2 Highway 200 corridor concept.

3 MR. KALK: Yep.

4 THE WITNESS: But if you look at
5 the impact to homeowners along that, the -- you
6 know, homeowners tend to build alongside the
7 highway corridors, so the impact is, you're
8 coming along and then you might have to cross
9 the road to miss one house. And if there's one
10 on that side, then you have to go around the
11 house.

12 So you tend to box in properties by
13 following major highway corridors versus going
14 a mile or 2 off the corridor onto section lines
15 and quarter section lines, you minimize the
16 impact. So that was the primary driver.

17 Also, the amount of irrigated land
18 in that corridor is considerably higher than
19 the northern corridor as well.

20 MR. KALK: Okay. Thank you very
21 much.

22 MR. WAHL: Ms. Smith, follow-up?

23 MS. SMITH: I do. I just have, I
24 think, one question.

25

1 REDIRECT EXAMINATION

2 BY MS. SMITH:

3 Q. When we're talking about the
4 Environmental Assessment, as a clarification,
5 the Environmental Assessment has been
6 finalized. Is that correct?

7 A. The finali -- the Environmental
8 Assessment has been finalized, but the RUS, as
9 the agency, has not issued their FONSI. We're
10 waiting for the Section 7 and the Section 106
11 processes to be complete.

12 So the three components have to
13 come together for them to issue the FONSI.

14 Q. Okay. And so out of the
15 Environmental Assessment, when they selected
16 that preferred route, that is the final
17 selection?

18 A. That is correct.

19 MS. SMITH: I have no further
20 questions.

21 MR. WAHL: Mr. Sagsveen?

22 MR. SAGSVEEN: No further
23 questions.

24 MR. WAHL: Mr. Lein?

25 MR. LEIN: No questions.

1 MR. WAHL: Question -- follow-up
2 from the Commission?

3 (Whereupon, the witness was
4 excused.)

5 MR. WAHL: All right. Let's be in
6 recess for lunch.

7 Now, hopefully -- I understand
8 there's at least one restaurant in the flower
9 shop, I'm not sure what the flower shop is,
10 but, in any event, I would hope we can do lunch
11 in 45, 50 minutes.

12 So let's be back here at 1:15,
13 please, 1:15.

14 Now let me also say, that I do not
15 propose to go to lunch. I'll be glad to talk
16 with anyone who would like to talk to me about
17 their public testimony, if they're considering
18 that, or have specific questions, I'll be glad
19 to do that now or later.

20 And, in the meantime, if there's
21 nobody to talk to me, I have a newspaper to
22 read, so I'm in good shape.

23 And we'll see you all back at 1:15,
24 please.

25 (Whereupon, a lunch recess was

1 taken at 12:44 o'clock p.m. to 1:30 o'clock
2 p.m.)

3 MR. WAHL: Let's be in order.

4 As I said, I've got two
5 commissioners and two lawyers, so let's go to
6 work.

7 MR. KALK: That's two too many.

8 MR. CRAMER: Yeah, it's very
9 difficult.

10 MR. WAHL: Ms. Smith, you're ready?

11 Mr. Sagsveen, you're ready?

12 MR. SAGSVEEN: Yep.

13 MR. WAHL: Mr. Lein is coming, I
14 assume.

15 Commissioners, ready?

16 Ms. Smith?

17 MS. SMITH: I would call Duane
18 Phillips.

19 MR. WAHL: Mr. Phillips, as you
20 have heard me advise previous witnesses, your
21 testimony is required to be under oath. And
22 I'm required by law to advise you regarding
23 perjury before administering the oath.

24 THE WITNESS: Yes, sir.

25 MR. WAHL: Excuse me. Perjury is a

1 false statement of material fact which you do
2 not believe to be true.

3 In North Dakota, perjury's a class
4 C felony, punishable by a fine up to \$5,000,
5 imprisonment for a period of up to five years
6 or both.

7 Would you raise your right hand,
8 please?

9 Being advised regarding perjury,
10 Mr. Phillips, do you swear that the testimony
11 which you are about to give in this matter
12 shall be the truth, the whole truth and nothing
13 but the truth?

14 THE WITNESS: I do.

15

16 D U A N E P H I L L I P S,
17 called as a witness, being first duly sworn,
18 was examined and testified on his oath as
19 follows:

20

21 MR. WAHL: Ms. Smith.

22

23 DIRECT EXAMINATION

24 BY MS. SMITH:

25 Q. Could you please state your full

1 name?

2 A. Good afternoon, my name is Duane
3 Phillips.

4 Q. And by whom are you employed?

5 A. I am emp -- I am employed by, by
6 Stanley Consultants.

7 Q. And what is your business address?

8 A. My business is 8000 South --
9 Southwest Chester; Centennial, Colorado.

10 Q. And could you please discuss
11 briefly your education and your work history?

12 A. Absolutely.

13 My education background is in, is
14 in electrical engineering and also nuclear
15 engineering.

16 I've been in the electrical utility
17 business for 32 years, that's in generation,
18 transmission, substation, distribution. So
19 pretty much all aspects of that.

20 I've got 24 years' worth of project
21 and construction experience. And that's in the
22 areas of design, the actual physical
23 construction and operating high voltage power
24 delivery systems.

25 I've been a project manager for

1 about a -- for, for 15 high voltage
2 transmission projects, which equates to about
3 750 miles or so.

4 Q. And what is your role with respect
5 to the proposed project?

6 A. My role with, with the project is
7 I'm the project lead for, for what we term the
8 engineering, the, the, the engineering team.

9 For the engineering team that, that
10 includes system study work, some project
11 conceptual work early on, the corridor
12 selection process.

13 We did preliminary design, aerial
14 survey, ground survey work.

15 We de -- we did the detailed
16 electrical analysis and study work. We've done
17 some, some, some of the technical field,
18 fieldwork.

19 And then, and then ultimately
20 construction management and, and construction
21 support.

22 Q. And could you please describe the
23 structures that will be used for this project?

24 A. This project, for the majority of
25 the project, the typical structure will be a

1 single-pole, self-supporting, self-weathering
2 tubular steel structure, which will be a
3 single, single circuit and will be placed on
4 drilled pier foundations.

5 Q. And what will the span be for
6 those?

7 A. They're going to be placed
8 approximately at 1,000 feet apart.

9 Q. And will there be any special
10 transmission line structures required?

11 A. Yes. There are a couple of areas
12 where typical design is, is not going to work.

13 One is the Missouri River, where,
14 where the intention is to span the entire width
15 of the river, so that's about a 2600-foot
16 distance there, so we'll need taller and a
17 different design.

18 And then the other area is south of
19 the Grand Forks airport. It was testified
20 earlier that that's a, that that is a very busy
21 airport in there, with a lot of training. And
22 they have a nonprecision approach, path that
23 comes out of the south end of the airport. So
24 we've been working with the FAA. And we are
25 limiting the height in that area about to, of

1 the height of the other transmission lines in
2 the area, so approximately 62 feet. And those
3 will be H, H-frame type structures.

4 Q. And if you look at what's provided
5 as, as Exhibit 10a and 10b in the Exhibit book,
6 and those are also depicted on the boards
7 beside you, do you recognize those
8 documents?

9 A. Yes, I do.

10 Q. And could you tell us what they
11 are?

12 A. Exhibit 10a is the typical
13 structure drawings and Exhibit 10b are, are of
14 the specialty structures we'll be talking
15 about.

16 Q. And were these Exhibits prepared
17 under your supervision and control?

18 A. Yes, they were.

19 Q. And will they assist you with your
20 testimony?

21 A. Yes, they will.

22 MS. SMITH: I would offer Exhibits
23 a and -- 10a and 10b.

24 MR. WAHL: Mr. Sagsveen?

25 MR. SAGSVEEN: No objections.

1 MR. WAHL: Exhibits 10a and 10b are
2 each received.

3 Q. (By Ms. Smith) And using those
4 Exhibits, could you please explain in more
5 detail what is depicted?

6 A. Yes, I will.

7 In, in Exhibit 10a, on the
8 left-hand side of that Exhibit, is the typical
9 monopole, which is the tangent structures,
10 which will make up the vast majority of the
11 structures along the line.

12 On the right side of that Exhibit
13 is the dead-end monopole.

14 Now these are, these are of the
15 angle structures where the line changes
16 directions. And that's what the typical
17 dead-ends will look like.

18 On Exhibit 10b, on the left-hand
19 side, there is, there's an H-frame that, that
20 we will use. And then a portion that has been
21 identified by the FAA, just south of the Grand
22 Forks airport.

23 And then on the right side, there
24 is a, there is a drawing of the three-pole
25 dead-end structure that we will use on either

1 side of the Missouri River.

2 Q. And what type of conductors or
3 wires will the project use?

4 A. The wires that are, that are going
5 to be attached on there fall in two categories.

6 The first one is phase conductors,
7 which actually, actually carries the, the power
8 of the line across. There will be three sets
9 of phase conductors.

10 Each set will, will consist of two
11 959.6 type of Suwannee trapezoidal ACSR wires,
12 which is an aluminum steel core wire, typically
13 used. And it has an outside diameter of
14 approximately 1.1 inches.

15 And then all the way up to the top
16 of the typical structures are, are shield
17 wires. There's one on either side. And, and
18 those are there, there -- pardon me.

19 Well, the shield wires are there
20 for lightning protection.

21 One of them will be a
22 half-inch-diameter stranded-steel wire and then
23 the other one will be an optical ground wire,
24 which is a fiber optic conductor on the inside
25 and just stranded-steel wrapped around on the

1 outside.

2 And that'll be approximately half
3 inch in diameter as well.

4 Q. And what is the typical right
5 of way width and why was that width
6 selected?

7 A. The right of way width is 150 feet
8 wide. And that 150 feet comes out of an
9 engineering calculation that has to do with,
10 with looking at the configuration of the phase
11 conductors and ensuring that within that 150
12 feet, under any weather condition, that, that
13 the safety of the public will be ensured.

14 Q. And will a different width right of
15 way ever be used?

16 A. Right now, we are looking at a
17 little bit of a larger, a little bit of a wider
18 right of way at the Missouri River where we
19 make the crossings, where we've got the longer
20 spans in that area.

21 But, but for the -- but as, as for
22 the vast majority of the, the line, it will be
23 150 feet.

24 It is worthy, worthy to add in
25 there, though, that sometimes that 150-foot

1 right of way gets, gets placed over more than
2 one parcel, so the entire right of way will
3 only be 150-feet wide, even though that might
4 be shared by more than one landowner.

5 Q. And what factors are considered
6 when designing a transmission line?

7 A. When we looked at the design, I
8 don't know, we looked at a number of different
9 areas.

10 One is the amount of load, the
11 amount of power that has to be transferred from
12 one end to the other.

13 We look at the type of power; in
14 other words, where is that energy coming from.

15 And what kind of system operating
16 parameters we would have on either end of that
17 line where it hooks into the transmission
18 system.

19 We look at the, the corridor
20 impacts, such as ground terrain, the water
21 bodies we have, we have to go across, those
22 types of things.

23 We look at the impact to, impact
24 to -- of the land use.

25 Pardon me, again.

1 So, in other words, we look at, at
2 how much land are we actually going to be
3 impacting with, with -- of the footprint of the
4 structure.

5 We look at environmental impacts,
6 whether those be wildlife, cultural,
7 historical, archeological. We take all of
8 those into consideration as well.

9 We looked at -- we look at
10 constructability of the line. How easy it,
11 will it be to actually get in there and, and,
12 and physically get -- do the construction.

13 And, lastly, you know, we look at
14 long-term operations and maintenance. What
15 kind of considerations we need to take in so
16 that that maintenance of the line over the life
17 can be made.

18 Q. And why is the transmission line
19 not being placed underground?

20 A. Well, when we talk about
21 underground lines, there are no long
22 underground lines of this length, of this high
23 voltage range.

24 It's, it's just not technically
25 possible at this point in time to make a line

1 250 miles long that's 345 kilovolts and have
2 that be able to, to, to interconnect with the
3 rest of the transmission system.

4 From, from a technology standpoint,
5 it just won't work, it won't operate.

6 The other thing is, is putting an
7 underground line in, when we talk about
8 underground transmission systems, with all the
9 equipment that would have to go in, in to even
10 undergrounding a short line, even if it were
11 possible, that would have a much greater impact
12 from a construction standpoint.

13 So, so that would have a lot more
14 impact from an environmental stand --
15 standpoint as well.

16 And it -- and it's just cost
17 prohibitive as well.

18 Q. And besides the transmission line
19 structures, the conductors and the shield
20 wires, what are the other components of the
21 project?

22 A. The other components will be added
23 equipment to the Center 345 substation, the
24 Square Butte 230 kV substation, the Prairie
25 345 substation. And then we've got four

1 fiber optic regeneration repeater stations
2 along the line that'll, that'll need to be
3 added.

4 There's also a number of upgrades
5 that we need to make as well. There is a tie
6 line between the Center substation and the
7 Square Butte substation that will need to be
8 upgraded.

9 We've got five lay-down areas, to
10 place material and equipment, that'll have to
11 be, that'll have to be established along the
12 route.

13 Plus, there's also a potential that
14 once we, we get into the detailed construction,
15 the planning, that we may have to add
16 additional batch plant sites or equi -- or, or
17 equipment staging sites as well.

18 Q. And what are some of the typical
19 questions or concerns raised with respect to
20 transmission lines?

21 A. Well, in the public meetings, we've
22 talked to and our other project experience,
23 there, there are a number of typical questions
24 and concerns that normally come up.

25 One is the impact of construction

1 activities. One is of, the limitations of the
2 land use by landowners after the line is in
3 place.

4 One is EMF and other potential
5 health impacts.

6 One is impacts of the, of, of the
7 operating line to wildlife and livestock.

8 We get asked about stray voltage.
9 We get asked about induced voltage.

10 And, and we've been asked about
11 impacts to GPS in, in, in precision farming
12 activities as well.

13 Q. And what are -- with respect to the
14 impact of construction activities, what are the
15 concerns associated with those activities and
16 what is the project doing to minimize those
17 impacts?

18 A. The impacts that we've heard -- or,
19 or -- pardon me.

20 The questions that we've heard
21 are -- have been -- one is, compaction of the
22 soil. You know, we're going to be bringing
23 heavy equipment through, so people are worried
24 about, about compaction.

25 And we have, we have placed a

1 contractual obligation into the, the
2 construction contractor contact -- contract,
3 that they have to go through as, as part of the
4 restoration and de-compact that soil with
5 deep-soil techniques.

6 Another one is public safety around
7 the excavations. So the drilled pier
8 foundations are going to be large, those holes
9 are going to be deep. And, and, and there's a
10 natural concern about, about livestock, pets or
11 even people falling in those holes.

12 One of the things that we have
13 discussed with the foundation contractor is the
14 preference that when we excavate one of the
15 foundation holes, we will pour it with, with
16 concrete on the exact same day. So we won't be
17 leaving those holes open overnight.

18 Another one is, is that even while,
19 while the excavation is, is, is going on, there
20 will be gates or, or some sort of a fencing
21 placed up that, that would prevent pets or
22 livestock or, or, or individuals from falling
23 in.

24 We get asked questions about the
25 interruption of land-use activities.

1 We have contractually obligated the
2 construction contractors to provide a landowner
3 liaison.

4 And we've got right of way agents,
5 the same ones that are out there now, that will
6 be coordinating with the, the landowners so
7 that they know when the construction activities
8 are going to be coming through. What, what,
9 what methods of construction are going to be
10 going on on their land. And, really, working
11 with the landowner to try to minimize the
12 impact, the impact and the use of their land
13 while that's going on.

14 We also get asked about sensitive
15 areas, the disruption of sensitive areas,
16 whether they be wetlands, archeological areas,
17 culturally-significant sites.

18 So, so as part of the environmental
19 work, those are being identified and those will
20 be clearly marked as part of the construction
21 process so that contractors aren't
22 inadvertently disturbing those areas.

23 We get asked a lot about, about
24 road maintenance and road upkeep. And, again,
25 we have contractually obligated the

1 construction contractors to maintain the roads.

2 We have talked with counties and
3 townships and the road supervisors about going
4 out and doing a, a, a preexisting road
5 condition analysis, if you will, an evaluation
6 of what the existing conditions of the roads
7 are.

8 And then after construction, we
9 will go back out with the, with the township
10 and county road supervisors and, and make sure
11 that we've properly gotten the roads back,
12 back, you know, know, what their original
13 conditions were.

14 And we're -- we will also have
15 construction inspectors out there monitoring
16 that while we've got construction going on.

17 We also plan on putting together
18 road traffic plans in the areas to where we're
19 doing construction and, and publicizing those.

20 Not only giving them to the
21 counties and townships, putting them on the
22 website and making landowners aware of where we
23 plan on having heavy equipment, what weeks they
24 plan on being out there.

25 So really, really keeping the

1 landowners apprised of the construction
2 progress.

3 Q. And I think you mentioned next, the
4 limitations of land use by landowners once the
5 line is complete.

6 Could you tell us a little bit
7 about what landowners can expect in terms of
8 use of their land once the transmission line is
9 operational?

10 A. Yes.

11 Once, once the transmission line is
12 operational, then, really, the only land impact
13 that is, that is there is where the foundations
14 are. Where, where the structures are, are
15 located.

16 And as we mentioned before,
17 there -- there's about a thousand feet in
18 between those.

19 So there really are, really are no,
20 no restrictions on the land use in between
21 there, other than things that might cause a
22 safety hazard with that operation line.

23 So I think we talked about those
24 earlier, about putting buildings up underneath
25 the line, allowing tall trees to grow up in

1 that area.

2 But that's, that's really about the
3 only limitations that will exist.

4 Q. And what are the safety concerns
5 and limitations to landowners once the line is
6 in place?

7 A. The only real safety concern around
8 and operating a, a line is, is, is the safety
9 concern by getting too close or violating the
10 electrically safe clearances that are in there.

11 Reasonable and expected operations,
12 such as driving equipment underneath there, you
13 know, that's not going to violate those, those
14 safe electrical clearances. You would really
15 have to do something out of the ordinary.

16 And that would be the only hazard
17 that would exist.

18 Q. And I believe you also mentioned
19 EMF and, and potential health impacts. Could
20 you explain what EMF is?

21 A. EMF has become a generic term that
22 refers to electrical and magnetic fields.

23 Electrical fields are as a result
24 of the voltage potential or the level of
25 voltage that's on the line and is directly

1 related to what that voltage level is and how
2 far away you are from the line or the distance
3 from the line.

4 Magnetic fields are as a result of
5 the current flow or the amount of power going
6 across the line.

7 And, again, that is directly
8 related to that, that mag -- magnitude or, or
9 the amount of power flowing, as well as how
10 close you are to the line.

11 I think it's important to note
12 that, that many times we have these
13 conversations, some people are, are confusing
14 EMF topics with stray voltage.

15 And, and they're not the same and
16 they're not related to each other. And by its
17 design and operation, a transmission line is
18 not a, is not a cause of stray voltage at all.
19 So it is not a concern relative to operating
20 transmission systems.

21 Q. And if you'd look at what's been
22 previously marked as Exhibit 11 in the, in the
23 binder. Do you recognize that document?

24 A. Yes, I do.

25 Q. And what is it?

1 A. That is the electric and magnetic
2 field estimate report.

3 Q. And who prepared that report?

4 A. That was prepared by Stanley
5 Consultants.

6 Q. And was it prepared under your
7 supervision and control?

8 A. Yes, it was.

9 MS. SMITH: I would offer Exhibit
10 11.

11 MR. WAHL: Mr. Sagsveen?

12 MR. SAGSVEEN: No objections.

13 MR. WAHL: Exhibit 11 is received.

14 Q. (By Ms. Smith) Could you explain
15 why the report on EMF was developed?

16 A. Well, we understand that EMF is a
17 sensitive topic and it's out there and, and is
18 a large concern of landowners.

19 So what we wanted to do in the
20 Electric and Magnetic Field Effect Estimate,
21 was to look at the levels of op -- levels from
22 operation that we would look at in terms of the
23 design.

24 So, so we can go through and take
25 the loading on the line and make engineering

1 calculations to determine what our estimate of
2 how high those values are.

3 And then, and then work our way
4 into the design so that, so that we can make
5 sure that, that those electric and magnetic
6 fields are, are in -- you know, are not too
7 high basically.

8 It also allows us a, a comparison
9 of, of the field letters -- levels to other
10 transmission lines and other information that
11 might be out there in regards to electric and
12 magnetic fields.

13 Q. And could you discuss for us the
14 findings that are set forth in the EMF report?

15 A. Yes.

16 When we went through and did the
17 estimates of the calculated levels for this
18 project, are at or underneath those of typical
19 345 lines and projects.

20 And that really confirms that there
21 is no need to redesign and there -- and there's
22 no need for mitigation.

23 The calculated levels for the areas
24 of greatest concern, which is along the right
25 of way, on the edge of the right of way, it --

1 fall well below any known recommendation for
2 either electric or magnetic field levels.

3 Q. And are there any correlations to
4 negative health impacts to the public from
5 transmission lines related to these fields
6 you've discussed?

7 A. No, there are not.

8 There have been a number of studies
9 that have been performed on both electric and
10 magnetic fields over the last 40 years specific
11 to transmission lines.

12 And the results of those have, have
13 indicated that there is no suggested links to
14 any negative health impacts or any health,
15 health issues.

16 Public health ag -- agencies have
17 not identified this as a health risk concern
18 related to power line, electric fields.

19 And, as was noted earlier, Minnkota
20 plans, at the Washburn hearing, bringing in Dr.
21 Valberg, who will talk extensively on, on the
22 health impact of electric/magnetic fields.

23 Q. And you also mentioned impacts to
24 GPS in precision farming activities. And
25 that'll be addressed by Mr. Silva today. Is

1 that right?

2 A. That is correct.

3 Q. And I think the last one was
4 induced voltage. Could you explain what
5 induced voltage is and how it is a concern?

6 A. Yes.

7 Induced voltage is the, the voltage
8 generated in objects that are in close
9 proximity to an energized system or, or an --
10 energized equipment.

11 And if that small amount of voltage
12 were to be allowed to build up, there would be
13 a potential that, that gets, that gets created
14 in that object.

15 To give you an idea, if, if we then
16 walked up and touched that object, we could, we
17 could get a mild sensation, much like walking
18 across the carpet and then, and then touching
19 something, that kind of a static electric
20 shock.

21 So we will be doing an induced
22 voltage analysis over the entire length of the
23 line, looking for objects in close proximity,
24 such as fences or, or anything else that might
25 be out there.

1 And, and we will make sure that the
2 proper mitigation methods get, get put into
3 place, whether that be adding grounds to the
4 fence or, or, or anything that we need to do.

5 Q. And we heard a little bit earlier
6 about the process of developing the corridor.
7 Could you tell us what was considered from an
8 engineering and design perspective during
9 development of the corridor?

10 A. Really, from the engineering and
11 design perspective of, of when we went through
12 here, we had three levels, if you will, of, of
13 looking at, at, at where we ought to place the
14 corridor.

15 The first one was the endpoints.
16 Obviously, where the transmission line is, is
17 going to be interconnected at eith -- at either
18 end.

19 The other one we looked for, for
20 critical points along the route that, that we
21 knew were going to be areas that had to be
22 identified early on.

23 And, and we identified two critical
24 points, one was at the Missouri and, and the
25 other was at the Sheyenne River crossings.

1 So those were really the two
2 critical points that helped us identify where
3 we had to go across those.

4 And then we took the landowner
5 input that we got. We had a lot of landowner
6 information from, from public meetings and from
7 the other avenues that were talked about
8 earlier and we took, we took that into
9 consideration as well.

10 Q. Based on Mr. Hennes's testimony, I
11 understand that Minnkota considered the
12 exclusion area and avoidance area criteria that
13 is set forth in the Commission's rules. Is
14 that correct?

15 A. That is correct.

16 Q. And were the selection criteria set
17 forth in the Commission's rules considered by
18 Minnkota when selecting the proposed project
19 corridor?

20 A. Yes, they were.

21 Q. And were the policy criteria set
22 forth in the Commission's rules considered and
23 utilized to the extent possible by Minnkota
24 when selecting the proposed project corridor?

25 A. Yes, they were.

1 The project meets a number of the
2 policy criteria preferred by the Public Service
3 Commission and is consistent with the
4 objectives, to be -- to -- compatible with the
5 environmental con -- conservation and the
6 efficient use of resources within North Dakota.

7 Q. And, finally, were the factors set
8 forth in North Dakota Century Code Section
9 49-22-09 considered when selecting the project
10 corridor?

11 A. Yes, they were.

12 Q. Could you please walk us through
13 the project corridor for the Commission?

14 And I, I -- before you do that,
15 could you look at what's been previously marked
16 as Exhibits 12a through 12j? And could you
17 identif -- could you -- first, do you recognize
18 those?

19 A. Yes, I do.

20 Q. And could you identify them for us?

21 A. Yes.

22 Exhibits 12a through j are, are the
23 corridor maps that worked their way west to
24 east.

25 Q. And were these prepared under your

1 supervision and control?

2 A. Yes, they were.

3 Q. And will they assist you with
4 discussing the corridor here today?

5 A. Yes, they will.

6 MS. SMITH: I would offer Exhibits
7 12a through 12j.

8 MR. WAHL: Mr. Sagsveen?

9 MR. SAGSVEEN: No objections.

10 Q. (By Ms. Smith) Uhm.

11 MR. WAHL: Just a minute, please.

12 MS. SMITH: I'm sorry.

13 MR. WAHL: Exhibits 12a through
14 12j, inclusive, are each received.

15 Q. (By Ms. Smith) And the Exhibits
16 have been placed on the boards, at least part
17 of them that are relevant, most relevant to
18 this particular project.

19 Could you, utilizing these
20 Exhibits, walk us through the corridor
21 selection process?

22 A. Yes, I will.

23 I'd like to begin with Exhibit 4,
24 because I think that that, that that helps us
25 understand how we got from the Macro-Corridors

1 that, that we had, that was previously talked
2 about while -- by Mr. Hennes, and then talk
3 about some of the specific areas of concern on
4 the western portion of -- on, on the eastern
5 portion of the line, excuse me.

6 Exhibit 4, when we, when we look in
7 there, again, we had talked about the fact that
8 the endpoints had to be identified. So one
9 endpoint was at the Center 345 substation, the
10 other one was at Prairie. And, and we heard
11 earlier testimony as, as to why those terminus
12 points were chosen.

13 And then -- and from there, we
14 talked about, about the critical points along
15 the Missouri River and along the Sheyenne
16 River.

17 Along the Missouri River, the
18 corridor options that were over there, the, the
19 major considerations there were the
20 environmental impacts associated with, with
21 that area.

22 We talked about the Cross Ranch
23 Park. There's a number of wildlife areas that
24 have been designated over in that area as well.

25 We talked about the agencies

1 earlier having a preference that we be down in
2 the vicinity of, of where the other
3 transmission lines were.

4 There's a number of center-pivot
5 irrigations north, north and a little bit west
6 of Washburn, that really directed us more
7 towards the southern end of, of the corridor.
8 So we evaluated to get across the Missouri
9 River.

10 We also talked about this area to,
11 to the southwest portion, that goes in the Wing
12 and, and Tuttle areas, that corridor that goes
13 through there. Being, being through that
14 Prairie Pothole area with the number of, of
15 wetlands and large wetlands that, that exist in
16 that area as well.

17 So that was, that was both an
18 environmentally and an engineering challenged
19 area.

20 So that kind of drove us to go
21 north and then, and then work our way east
22 towards the Sheyenne River.

23 And along the Sheyenne River, we
24 looked at to try to minimize the environmental
25 impacts in terms of tree cover, in terms of

1 landowner input associated with that of, of
2 going across the Sheyenne River.

3 So once the Missouri River crossing
4 was picked and the Sheyenne River crossing was
5 picked, then, then it was a matter of looking
6 at the corridors that connected those in
7 between, that had the least amount of impact.

8 For the eastern side of the project
9 of the southern route, which Mr. Hennes talked
10 about earlier, as having residents' concerns,
11 was one that was early on ruled as not being
12 optimal.

13 And there's also a diagonal one
14 that runs along a -- an existing transmission
15 line that goes through there.

16 Now that area has a number of
17 wildlife management, wildlife production areas.
18 There -- there's a number of recreation areas
19 in there.

20 So the environmental impact going
21 up that diagonal portion of, of, of the
22 corridor was not optimal.

23 And that's, that's where we ended
24 up, coming across the Sheyenne and then, and
25 then taking that north and then east general

1 route.

2 Moving over to Exhibit 12h, which
3 is Corridor Map 8 of 10, I would like to begin
4 at the Sheyenne River and kind of talk a little
5 bit more specifically about the details of why
6 the corridor is where it is going through this
7 area.

8 The Sheyenne River runs, runs
9 towards the left side of Exhibit 12h. And
10 really, again, the -- that point was driven by
11 the environmental concerns going across.

12 As we came across east, out, out of
13 the Sheyenne River area, we had a number of
14 towns and, and residences that were, that were
15 just on the east side of that, that, that
16 really kind of drove us to make the turn north.

17 We make the turn north and go along
18 one of the North Dakota highways to basically
19 the, the southeast side of Aneta.

20 Again, not wanting to go into Aneta
21 or through Aneta, we were able to find a
22 diagonal path that goes, that goes up to the
23 upper portion of Exhibit 12h.

24 And then it can also be seen on
25 Exhibit 12i.

1 We're able to find a path through
2 an area where there's a number of wetlands in
3 there that, that, that, that had less of an
4 impact on tilled agricultural land and, and
5 basically essentially missed many of those,
6 many of those wetlands that were in that area.

7 We looked at going due north out of
8 the Aneta area, but there's a number of
9 residences up there and there's also a large
10 number of wetlands in that area as well.

11 So that kind of got us just north
12 of, of another North Dakota highway, I believe
13 Highway 18.

14 It's kind of hard to see this far
15 away.

16 UNIDENTIFIED SPEAKER: 15.

17 THE WITNESS: 15. Thank you, sir.

18 A. Highway 15.

19 And really, as we go east, to the
20 north side of Highway 15, the biggest impact
21 through this area was, was residences.

22 As, as we move closer towards the
23 Grand Forks area, residences really is, is
24 what's dictating where the location of the
25 corridor is.

1 You can see we've got a number of
2 slight adjustments and shifts that are in the
3 corridor and those are due to residences in
4 that area.

5 And that basically takes us off
6 Exhibit 12i and takes us on to Exhibit 12j,
7 which is in Grand Forks County.

8 And, again, you can see we have a
9 number of shifts that are in there, that, that
10 are in the corridor to, to try to stay as far
11 away from occupied residences as, as was
12 possible.

13 At that point in time, moving east,
14 we come in the general of the city of, of an
15 existing 230 kV line.

16 That, that line goes diagonally
17 across an area known as the English Coulee
18 retention area, where, where we found that we
19 could parallel that line and take that diagonal
20 path as well. Again, having, having, because
21 of the land use in the area, having a less
22 impact on agricultural land and tilled, tilled
23 farmland in there.

24 And then, and then we, we go north
25 and found a corridor that basically keeps us on

1 the west side of a higher density of occupied
2 residences. And it keeps us on the east side
3 of, of this large water body that was up there.

4 And then from there, it was, it was
5 basically finding a path to move east and, and
6 to get in to the Prairie substation.

7 So that, that kind of gives a, a
8 little bit of an understanding and an -- and,
9 and some of the basic logic associated with the
10 corridor path.

11 MS. SMITH: I have no further
12 questions.

13 MR. WAHL: Mr. Sagsveen?
14

15 CROSS-EXAMINATION

16 BY MR. SAGSVEEN:

17 Q. In your consideration of the
18 Missouri River area, did you or have you looked
19 at your proposed foundation areas to determine
20 whether or not they are in or out of the
21 current flood situation?

22 A. We have looked at that.

23 We will have several foundations
24 that will be, that will be inside the
25 hundred-year-floodplain level at the Missouri

1 River.

2 We have, we have taken that
3 evaluation and, and, and have taken that into
4 consideration with the foundation design that
5 we have.

6 Q. And so far as the route goes -- or
7 the, the corridor that's exhibited in,
8 exhibited in Exhibits 12j, through 12h, are you
9 confident that if you avoid the homes and the,
10 the exclusion and avoidance areas, that you can
11 stay within the hundred -- or the thousand-foot
12 corridor?

13 A. (No verbal response.)

14 Q. I mean, if, if there's a home
15 within -- just -- if you'd just look at a
16 couple of these spots, there are a couple --
17 like 12i, for instance.

18 How do you plan on, I guess,
19 mitigating or, or -- and I -- I'll just use
20 one, I don't want to walk through every
21 single --

22 A. Sure.

23 Q. -- one.

24 But what's the plan to mitigate or
25 to manage that issue within the, the context of

1 the corridor that's been proposed?

2 A. The short answer to that is, is
3 that there are homes that are within that
4 1,000-foot corridor.

5 We understand that, that it is an
6 avoidance criteria to stay 500 feet away from
7 occupied homes.

8 And the corridor that we have,
9 allows us to have a viable route within that
10 thousand-foot-wide corridor that will be at
11 least 500 feet from the homes, if, if, if the
12 homeowner does not grant us a waiver.

13 Q. Are there any new technologies that
14 will be incorporated into the, into the line
15 that might minimize adverse environmental
16 effects?

17 And by: new, I know that's kind of
18 ambiguous. Maybe something that's been
19 developed, let's say, in the last five or ten
20 years?

21 A. I don't know of any new
22 technologies that we're incorporating that
23 would minimize environmental impacts, other
24 than the placement of the structures
25 themselves.

1 Q. And just one last question. At the
2 area around the Grand Forks airport, will the,
3 the analysis that you provided, I don't recall
4 which Exhibit it was, the electrical analysis,
5 change to any respect if the line is at, at a
6 lower height with the H-frame poles, as opposed
7 to the single --

8 A. The --

9 Q. -- equipment?

10 A. -- electrical field levels that are
11 in, that are in that field estimate report for
12 electric/magnetic fields takes into account
13 that portion of the line that is south of Grand
14 Forks airport, at that lower elevations -- or
15 at, at that lower aboveground clearances.

16 So the 62-foot-height structures
17 would, would be the limiting structure in terms
18 of, of electric and magnetic field levels.

19 So, yes, we did take that into
20 consideration with that report.

21 MR. SAGSVEEN: I don't have any
22 further questions.

23 MR. WAHL: Mr. Lein?

24 MR. LEIN: I was curious as to what
25 was that software package you were using for

1 EMF evaluation? Is that, you said, something
2 EPRI does or --

3 THE WITNESS: I believe that that
4 is a reference -- right off the top of my head,
5 I don't remember, but if I look in Exhibit 11,
6 I, I believe that -- I know that EPRI
7 methodology was, was used.

8 Let me look very quickly and see if
9 I can't determine the software that was used
10 for that.

11 Yeah, it's, it's EMF Tools,
12 Software developed at, at Bonneville Power
13 Administration.

14 So I believe PSCAD was the program,
15 but, but I would have to verify that for you,
16 sir.

17 MR. LEIN: Okay.

18 And with the, with the routes, I --
19 or the corridor, I should say, there's, there's
20 some Wildlife Management Areas that are listed
21 in here. Do you know where those are at?

22 THE WITNESS: Exact location --

23 MR. LEIN: Is there --

24 THE WITNESS: -- of the Wildlife
25 Management Areas, I'm --

1 MR. LEIN: I -- is there another
2 witness that would be better to talk about
3 that?

4 THE WITNESS: Yes, Brian Hunker,
5 who will --

6 MR. LEIN: Okay.

7 THE WITNESS: -- be testifying this
8 afternoon, I believe, has that list readily
9 handy, handy with him, so --

10 MR. LEIN: Okay.

11 THE WITNESS: I'm going to defer to
12 Mr. Hunker on that.

13 MR. LEIN: Okay.

14 THE WITNESS: If that's --

15 MR. LEIN: Okay.

16 THE WITNESS: -- all right?

17 MR. LEIN: Yep.

18 No further questions then.

19 MR. WAHL: Commissioner Cramer.

20 MR. CRAMER: Yeah, thank you.

21 Mr. Phillips, the -- if, if, if you
22 can see Exhibit 12j there.

23 In Fairfield Township, where you
24 have that angle you talked about? Do you see
25 where it goes from south --

1 THE WITNESS: Oh.

2 MR. CRAMER: Oh, I'm sorry. Yeah,
3 yeah.

4 Right there.

5 THE WITNESS: Oh, right there?

6 MR. CRAMER: Yeah.

7 THE WITNESS: That --

8 MR. CRAMER: It looks to me like
9 there's a 230 kV line, or something, that that
10 parallels. Do you know who -- what line that
11 is or whose that is?

12 THE WITNESS: Yes, that is Western
13 Area Power Administration --

14 MR. CRAMER: Oh.

15 THE WITNESS: -- 230 kV line that
16 comes out of the Jamestown area --

17 MR. CRAMER: Okay.

18 THE WITNESS: -- and goes up into
19 Grand Forks.

20 MR. CRAMER: What is it about the
21 characteristics of the airport and the
22 characteristics of an H-frame pole structure
23 that make them compatible or is it, is it
24 easier to see or what, what is it that, that
25 makes that --

1 THE WITNESS: The, the reason we're
2 using H-frames south of the Grand Forks
3 airport, are -- which I believe is what you're
4 trying to get to, Mr. --

5 MR. CRAMER: Yep.

6 THE WITNESS: -- Commissioner
7 Cramer. Is, is that with the typical structure
8 design that we had and -- we were not able to
9 maintain safe electrical clearances along the
10 right of way without changing the structure
11 configuration.

12 The, the preference on the project
13 was to use a monopole design, because of its
14 impacts to the, to the land; however, with,
15 with the height restriction of 62 feet, which
16 is where that nonprecision approach path has,
17 has been set by FAA and the Grand Forks
18 airport, we were unable to do that in, in any
19 manner other than using an H-frame type of
20 structure.

21 So there is, there is approximately
22 14 structures through an area that's, that's a
23 little less than a mile wide, where, where
24 we'll have to use that H-frame type.

25 MR. CRAMER: Okay, thank you.

1 With, with regard to agricultural
2 equipment, and we -- you talked a little bit
3 about the impact on GPS in precision
4 agriculture, what about just the massive size
5 of the equipment these days and the, and the
6 clearances and the, the sagging and -- what,
7 what is the, the minimum and what's the range,
8 I guess, for, for clearance? And what's it
9 based on?

10 I mean, are those considerations
11 that you'd think about in, in determining the,
12 the span and things?

13 THE WITNESS: Yes, those are
14 considerations.

15 When we're doing the design and,
16 building the, the design and criteria, or how
17 we're going to design the line, we, we go back
18 to National Electric Safety Code
19 ground-clearance levels.

20 Now, now those ground-clearance
21 levels are updated as, as equipment gets
22 updated, but, but we did go back and look and
23 talk to a number of equipment manufacturers,
24 asked them just how high their equipment was
25 for typical equipment that -- that's being used

1 in farming operations.

2 And, and, and they are well
3 underneath what would be required to maintain
4 safe electrical clearances by the National
5 Electric Safety Code standards.

6 MR. CRAMER: Is it a question that
7 comes up with landowners frequently?

8 Do, do they say: oh, my gosh, you
9 should see the size of my latest, you know,
10 drill or whatever?

11 THE WITNESS: Actually, I think the
12 question in terms of agricultural equipment
13 that comes up much more often, Commissioner,
14 is, is, is the width and where we are placing
15 the structures in, in regards to field edges
16 and stuff.

17 So, so the width, width of the
18 sprayers has gotten -- or the applicators has
19 gotten wider and wider, so we're in the 110,
20 120-foot range in, in many pieces of farm
21 equipment.

22 So that's the question we get asked
23 more than the height of the, height of the
24 equipment itself.

25 MR. CRAMER: Is there any

1 interference with the communication piece, with
2 GPS or precision agriculture and, and the
3 transmission line?

4 THE WITNESS: There is no
5 interference, but, but we are going to have a
6 witness later today, sir, that'll talk
7 specifically on that issue.

8 MR. CRAMER: Oh, great, thank you.
9 I have nothing further.

10 Thank you.

11 MR. WAHL: Commissioner Kalk.

12 MR. KALK: Thank you, your Honor.

13 What's so nice about third, is a
14 lot of your questions may have already been
15 asked.

16 MR. CRAMER: Yeah.

17 MR. KALK: But I do have a few
18 questions for you, Duane. It's not just
19 because you were a Navy veteran and I'm Marine,
20 just so you know.

21 The --

22 THE WITNESS: I understand, sir.

23 MR. KALK: But the, the life cycle,
24 we heard one witness before talk about
25 basically an indefinite life cycle of, of

1 these, of these poles, if you will.

2 I mean, indefinite, that's forever.

3 I mean, there's got to be some planning figure
4 that you looked at with these things?

5 THE WITNESS: You know, there's,
6 there's not really a definitive planning or
7 design life cycle that we design transmission
8 lines for.

9 When you look at the transmission
10 lines that have been built even as old as, as,
11 as eight years ago, there are, there are a
12 number of those that are still in operation and
13 are not having problems with that.

14 So, so we anticipate that the
15 design could, could easily last 80 years or, or
16 more, if properly operated, properly
17 maintained.

18 So there's not really a known life
19 cycle or anything that we design, --

20 MR. KALK: Okay, that's fine.

21 THE WITNESS: -- you know, to say
22 that, you know, it's only worth 80 years.

23 MR. KALK: So you, you brought up
24 maintenance, and that was another question I
25 had was: what's the typical maintenance on a

1 line like this?

2 You know, both Kevin and my dad,
3 they, they grew up as -- they were linemen when
4 they grew up. And so they were always doing
5 maintenance.

6 Now, granted, it was different
7 poles and it was a different time frame, but,
8 but what, what maintenance is required for
9 these?

10 THE WITNESS: The normal
11 maintenance on transmission lines really
12 revolves around in -- inspection.

13 MR. KALK: Okay.

14 THE WITNESS: So there will be
15 periodic inspection of the line.

16 Much of that is done from an aerial
17 perspective, just, just fly the line and make
18 sure that the lines are in good condition.
19 Insulators aren't broken. The, the, the
20 structures are not corroding, those types of
21 things. The foundations are not cracked.

22 There's also walking inspections to
23 where, where, at some other period, vicinity,
24 that they'll go out and do a, a more close-up
25 inspection associated with that.

1 But that -- but that's really the
2 bulk of the maintenance that gets done on
3 transmission lines. They, they don't have a,
4 they don't have a lot of moving parts and they
5 don't break down very much, so --

6 MR. KALK: Well, no. The reason I
7 asked, is that we've had, you know, other,
8 other companies who regulated, had some
9 challenges with transmission, but it's not --
10 you know, you guys really don't need a
11 preshrunk plan, this is -- pretty typical
12 towers, so the typical things you might see, I
13 guess, you don't have to, to probably worry
14 about.

15 The, the max height I saw of the
16 towers is 205 feet, give or take.

17 What's the FAA height restriction,
18 you have to get their approval, is it 200 or
19 300, do you know?

20 THE WITNESS: It's 200 feet.

21 MR. KALK: Okay. So you have to
22 have FAA approval for those towers that are 205
23 feet?

24 THE WITNESS: Yes.

25 MR. KALK: So is that something

1 that, I guess, you'll be submitting at some
2 point in time? Is that -- I mean, if you
3 haven't yet, I guess, is my question.

4 THE WITNESS: Oh.

5 MR. KALK: You don't --

6 THE WITNESS: We don't --

7 MR. KALK: -- know where they're
8 going to be --

9 THE WITNESS: We haven't --

10 MR. KALK: -- at.

11 THE WITNESS: What's that, sir?

12 MR. KALK: You don't know exactly
13 where those 205-foot towers are going to be in
14 the corridor portion of it, right?

15 THE WITNESS: Well, we've got a
16 pretty good idea of, of where we'd like to put
17 them and we have submitted some preliminary
18 information to the Federal Aviation
19 Administration to get, get preliminary approval
20 on that, but we won't have final approval until
21 the route gets finalized.

22 MR. KALK: Sure, okay.

23 And on the right of way, it's 150
24 feet, so that's 75 feet on each side? I just
25 want to make sure I clarify that.

1 THE WITNESS: Yes, it is.

2 MR. KALK: Okay. So if you have a
3 205-foot tower, why wouldn't it be a 205-foot
4 right of way on each side? How do we get to
5 that 150-foot? I, --

6 THE WITNESS: The question --

7 MR. KALK: -- I understand they
8 probably aren't going to fall right over, but
9 maybe, maybe.

10 How do we get to that number?

11 THE WITNESS: The 150-foot right of
12 way, or any right of way width, is based on,
13 based on a safe -- safety of the public
14 operating within the right of way.

15 So, so to give a basic, basic
16 explanation, the, the phase conductors that are
17 in there, under certain weather conditions, are
18 going to move.

19 If, if we've got, if we've got very
20 high winds blowing at one direction, those,
21 those conductors are going to swing out away
22 from, from dead center.

23 And so what we do is, is we
24 calculate out the maximum amount of, of, of
25 swing, which is called a, a blowout, and, and

1 then we look at the National Electric Safety
2 Code clearances, to the edge of the right of
3 way, thinking then that, that, that something
4 could be legitimately right on the edge of the
5 right of way, such as a building or something
6 like that.

7 And so, so that right of way width
8 is enough that ev -- even underneath the
9 worst -- even underneath a, a very high wind
10 condition with, with the most amount of
11 blowout, that, that we would expect to see,
12 that we would maintain safe clearance to the
13 edge of that right of way.

14 MR. KALK: So --

15 THE WITNESS: So that -- that's
16 what that right of way's based on.

17 MR. KALK: So it's more about the
18 transmission line itself, the ability not to go
19 left to right, than it is anything to do with
20 the pole itself?

21 THE WITNESS: Yes, it is.

22 MR. KALK: Okay.

23 THE WITNESS: That's correct,
24 Commissioner.

25 MR. KALK: Asking all these

1 questions, because we're getting some pretty
2 good experience about wind-tower sitings. We
3 had some challenges and they're pretty big,
4 too.

5 What kind of foundation is -- as
6 far as -- I didn't see anything in there about
7 the depth of the foundation, the base.

8 I mean, if something -- once again,
9 205 feet, what kind of foundation are you
10 looking at putting in there and how do you
11 determine foundation based on the soil type
12 you're in?

13 THE WITNESS: So we will do a
14 geotech analysis of the soils along the route
15 every 1 mile, and, and everywhere where we, we
16 plan on placing an angle structure with a line,
17 makes, -- make -- makes a large angle on that.

18 So we'll take a soil boring out
19 there and we will analyze the soil. And we
20 will perform our foundation design based on, on
21 the exact soil conditions that are out there.

22 A typical foundation for the
23 tangent or the inline structures, is going to
24 be 7 to 9 feet in diameter and about 40 feet or
25 so deep.

1 So, so that's what the --
2 typical --

3 MR. KALK: For the foundation.

4 THE WITNESS: -- foundation for
5 those.

6 For the, for the angles, where we
7 make like a 90-degree angle or we have some,
8 some poles, higher tension on them, those,
9 those, those will typically be in the 11 to
10 15-foot-diameter range.

11 And, and, and we are anticipating
12 somewhere in the 65 to 90 feet deep for many of
13 those.

14 MR. KALK: Okay, okay. The -- when
15 you actually get around to stringing the line,
16 I assume that the -- everything you'll be able
17 to use with cranes, except for the river
18 portion of that? There must be something
19 different you're going to do to string those
20 lines?

21 THE WITNESS: Yeah. Most of the,
22 most of the stringing on the line, from, from
23 the preliminary conversations that we've had
24 with the line construction contractors, will
25 all be done by helicopter.

1 So they'll --

2 MR. KALK: All the way through?

3 THE WITNESS: -- they --

4 Yes. Yes, Commissioner.

5 So, so they'll pull, pull in the
6 guy lines, which is called a sock line, by
7 helicopter. Then, then they'll have the
8 pulling units at either end.

9 And then it -- and then, and then
10 they'll pull the wire that way.

11 So there's very, very little
12 equipment that'll actually be on the ground
13 during the stringing operations, just at either
14 end of, of that length of string.

15 MR. KALK: Okay.

16 Let's see here.

17 I had a question about the
18 different poles you had. There was a height
19 variation on -- on 10a, it talked about
20 anywhere from a typical monopole will be 95 to
21 180 feet, to 95 to 180 feet for the dead-end.

22 So how do you determine which size
23 height pole you're going to use? Are you going
24 to try to keep it level going across on terrain
25 or is -- why is there such a big range in that

1 Exhibit?

2 THE WITNESS: The range for the
3 heights of, of, of the structures we're going
4 to be using has to do with terrain conditions.

5 What we will do is we have made a
6 calculation for the maximum amount of sag or
7 the maximum -- the lowest portion of the
8 conductor underneath all weather conditions.

9 And then, and then we ensure that
10 that, that that wire at that midpoint in
11 between the spans at the lowest point will
12 never get below the National Electric Safety
13 Code --

14 MR. KALK: Okay.

15 THE WITNESS: -- clearance
16 standards.

17 And so based on the terrain in the
18 different areas, you may end up with different
19 heights of structures.

20 The vast majority of the structures
21 that we have will be in the 125 to 140-foot
22 range.

23 The ninety -- you, you know, 95 and
24 the 180-foot, foot will be infrequently used,
25 but are used just in specific terrain

1 locations.

2 MR. KALK: Okay, perfect.

3 Exhibit 12i, I had a question very
4 similar to Commissioner Cramer's question,
5 about east of Aneta, it's kind of running
6 diagonal across. Which is the -- Aneta would
7 be, I guess, the, -- where's 12i? -- the lower
8 left portion?

9 THE WITNESS: Yep.

10 MR. KALK: Some other -- why would
11 we want to run -- why wouldn't you just run
12 that straight east and then straight north
13 along the highway there, instead of going
14 across the -- what appear to be good farmland?

15 THE WITNESS: Well, we --

16 MR. KALK: I don't see any houses
17 in that area that, that couldn't be navigated
18 around?

19 THE WITNESS: Well, there was a
20 number of areas that we looked at, coming,
21 coming east, from Aneta, and there is a pretty
22 good path here. My arm movement here.

23 There is a pretty good path, it, it
24 looks like, coming east out of Aneta, that
25 comes for a certain amount.

1 But, but, but the challenge was,
2 then getting back, back north on that with the
3 residents -- residences that were in there.

4 So when we evaluated the different
5 options and then the, the different, different
6 potential paths that we had in that area, that
7 diagonal portion became the one with the least
8 impact and was the shortest length as well.

9 MR. KALK: Okay. And then I think
10 the last question is 12, 12j, if you will.

11 One of the questions I asked before
12 for a witness was, why wouldn't we pick that
13 southern route.

14 And it was the question about just,
15 all the potential homes in there.

16 So when you look at that Exhibit
17 12j, I guess, with the number of homes in
18 there, what, what you see there, be similar to
19 what, what was along the, the southern route,
20 if you will, along the whole way, where -- it
21 looks like the only way, almost, really, to get
22 into that substation was the route that you
23 guys came in on from the west?

24 THE WITNESS: Yes. It was -- the
25 area right outside Grand Forks proper, was, was

1 a very challenging area for us because of the
2 number of residences that are out in that area.

3 We would have had, had -- when we
4 took the southern route or not, the area that
5 is right outside of the substation, and -- I
6 don't know why I can't get my pointer to --

7 Anyway, the area that's right
8 outside of the substation, within, within the
9 first few miles, that, that would be impacted
10 no matter which, which corridor we chose.
11 Whether we chose the southern one or not.

12 I mean, we still have to get --

13 MR. KALK: And it --

14 THE WITNESS: -- in to the Prairie
15 substation.

16 But, but, but, but the southern
17 route was, was -- had more impacts on it from
18 homes, because the density of homes along that
19 I-29 corridor, for almost the entire length,
20 where, where coming in from the west, the way
21 we are proposing, once we get a certain
22 distance away from Grand Forks proper, the home
23 density came down quite a bit more than it
24 would have been if we went up the southern
25 route.

1 MR. KALK: Okay, thank you. That's
2 all I have.

3 MR. WAHL: Follow-up, Ms. Smith?

4 MS. SMITH: Just one question.

5

6 REDIRECT EXAMINATION

7 BY MS. SMITH:

8 Q. As far as the technologies that
9 were used with this, this particular project,
10 are they consistent with the current
11 technologies that are generally used and
12 typically used with 345 kV line, such as this
13 project?

14 A. Yes, they are.

15 MS. SMITH: That's all I have.

16 MR. WAHL: Mr. Sagsveen?

17 MR. SAGSVEEN: No further
18 questions, --

19 MR. WAHL: Mr. Lein?

20 MR. SAGSVEEN: -- your Honor.

21 MR. LEIN: No questions.

22 MR. WAHL: Anything further from
23 the Commission?

24 Thank you very much, Mr.
25 Phillips.

1 THE WITNESS: Thank you.

2 (Whereupon, the witness was
3 excused.)

4 MS. SMITH: I would call Mr. Silva
5 to the stand.

6 MR. WAHL: Mr. Silva, your
7 testimony is required to be under oath. And
8 I'm required by law to advise you regarding
9 perjury before administering the oath.

10 Perjury is a false statement of
11 material fact which you do not believe to be
12 true.

13 In North Dakota, perjury is a class
14 C felony, punishable by a fine up to \$5,000,
15 imprisonment for a period of up to five years
16 or both.

17 Will you raise your right hand,
18 please?

19 Being advised regarding perjury,
20 Mr. Silva, do you swear the testimony which
21 you're about to give in this matter shall be
22 the truth, the whole truth and nothing but the
23 truth?

24 THE WITNESS: Yes, I do.

25

1 J. M I C H A E L S I L V A,
2 called as a witness, being first duly sworn,
3 was examined and testified on his oath as
4 follows:

5

6 MR. WAHL: Ms. Smith.

7 MS. SMITH: Thank you.

8

9 DIRECT EXAMINATION

10 BY MS. SMITH:

11 Q. Could you please identify yourself
12 for the Commission?

13 A. Yes. My name is Michael Silva.
14 I'm a research engineer. I'm president of
15 ENERTECH Consultants.

16 Q. And what is your business address?

17 A. My business address is 494 Salmar
18 Avenue; Campbell, California.

19 Q. And, Mr. Silva, would you please
20 indicate the purpose of your testimony today?

21 A. Yes.

22 I was asked by Minnkota Power
23 Cooperative to view and comment on issues of
24 possible impacts of proposed Center to Grand
25 Forks 345 kV transmission line on use of the

1 Global Positioning System, or GPS, for
2 agricultural operations.

3 Q. And could you please briefly
4 outline your education and experience for the
5 Commission?

6 A. Yes.

7 I'm a research engineer. I have
8 some 41 years' experience related to electric
9 power facilities and applied research projects.

10 I grew up in Missouri.

11 I have a bachelor's degree in
12 engineering from the University of Alabama in
13 1971.

14 I also have a master's degree from
15 Auburn University in engineering in 1976.

16 And I'm a registered professional
17 engineer in electrical engineering in eight
18 states.

19 I founded ENERTECH Consultants in
20 1982. And then the focus of my work has been
21 applied research on electric and magnetic
22 fields, electric and magnetic comp -- or
23 electromagnetic compatibility, instrumentation
24 and software development and scientific
25 consulting on new technologies, such as the

1 Global Positioning System.

2 My company also designs,
3 manufactures and sells precision scientific
4 instrumentation in 59 countries.

5 And I performed a, a number of
6 projects related to GPS. And my company has
7 developed small GPS devices to be worn by
8 children. And it's been used in exposure
9 assessment for scientific studies of pesticides
10 in orchards.

11 I've also performed work that
12 focused on the accuracy of GPS and the use of
13 GPS, such as differential corrections for GPS
14 and new technologies, such as Real Time
15 Kinematic, or RTK methods.

16 And my research was to evaluate the
17 potential for electric power lines and other
18 things to affect use of GPS.

19 I've been a past adviser to the
20 U.S. Department of Energy on various research
21 projects.

22 And I have participated in the
23 Scientific Technical Exchange Program with the
24 Soviet Union, representing the U.S., in the
25 1970s.

1 I've given a number of seminars and
2 training on various research projects related
3 to electric power. And I've given -- I've
4 taught 14 different seminars on using GPS
5 around the United States.

6 I was the 1979 Lloyd Hunt
7 Distinguished Lecturer in electric power
8 engineering at the University of Southern
9 California. And I've also been a Distinguished
10 Lecturer at the University of Texas and Ohio
11 State University.

12 I'm a senior member of the
13 Institute of Electrical and Electronics
14 Engineers. And a past member of the Institute
15 of Navigation. And I've been a technical
16 reviewer on a number of scientific
17 publications.

18 And I've received some awards and
19 recognition from my own papers on various
20 research topics.

21 Q. And, Mr. Silva, if you would look
22 in the Exhibit book at what's been previously
23 marked as Exhibit 13. Do you recognize that
24 document?

25 A. Yes.

1 Q. Could you identify it for us?

2 A. That's my biographical outline.

3 MS. SMITH: I would offer Exhibit
4 13.

5 MR. WAHL: Mr. Sagsveen?

6 MR. SAGSVEEN: No objections.

7 MR. WAHL: Exhibit 13 is received.

8 Q. (By Ms. Smith) Mr. Silva, could
9 you please comment on what you understand the
10 nature of the concern with respect to GPS and
11 the proposed transmission line to be?

12 A. Sure.

13 My understanding is there are
14 concerns that GPS devices may not work in close
15 proximity to transmission lines because they
16 aren't able to receive signals from satellites,
17 which will, in turn, negatively affect
18 agricultural operations that rely on GPS.

19 Q. And, in your opinion, is this a
20 problem that's likely to occur?

21 A. No, I do not think it's likely to
22 occur.

23 Q. And before we get into the
24 rationale behind your opinion a little bit
25 further, could you please discuss the use of

1 GPS in precision farming applications?

2 A. Sure.

3 In my opinion, GPS is an
4 American-engineering marvel. It was designed
5 to provide year-round navigation and
6 positioning data.

7 And there are three basic
8 components in GPS, the accurate use of GPS.
9 There're the GPS satellites themselves, or the
10 space component. Then there's the, the use of
11 this GPS receiver, sometimes called the rover.
12 And then in modern applications, there's some
13 source of GPS error correction that is
14 broadcast to the user to improve accuracy.

15 Space component of the United
16 States presently has 13 active satellites that
17 each broadcast microwave signals from space
18 back to earth. They're used by GPS receivers
19 to determine position, velocity and time.

20 Now there are always some
21 systematic errors in using GPS. And these are
22 caused by things like atmospheric effects and
23 small errors in the satellite orbits and in the
24 clocks.

25 And the errors are not important

1 for many GPS applications, but they must be
2 minimized for ag precision application.

3 Q. Mr. Silva, I, I may have
4 misunderstood or misheard, did -- I think you
5 said 13 satelllites. Is that the correct number
6 of satelllites, or is it 32?

7 A. I meant to say 32, --

8 Q. All right.

9 A. -- if I said -- there's 32 active
10 satelllites.

11 Q. How is GPS accuracy improved for
12 precision applications?

13 A. Okay. Many modern applications,
14 such as precision agriculture, or ag aviation,
15 now require greater accuracy than the earlier
16 GPS receivers could deliver.

17 And accuracy improvements were
18 generally developed using two methods.

19 One, is using the GPS satellite
20 signals in different ways, than maybe they were
21 even originally intended.

22 And, second, evaluating the
23 systematic errors that I mentioned earlier, and
24 broadcasting corrections to subtract out the
25 majority of these errors.

1 One popular approach to improving
2 accuracy, was accomplished by a method called
3 Real Time Kinematic, or RTK.

4 Now, RTK was originally developed
5 for surveyors, but it's now commonly used in
6 precision agriculture.

7 RTK is an improved method for
8 determining location used in precision GPS
9 applications.

10 Additionally, GPS errors, the
11 system errors I told you about, can be reduced
12 using a concept called differential
13 corrections. And this can greatly enhance the
14 accuracy.

15 Now these corrections are
16 determined by placing the GPS receiver at a
17 fixed location, which they can estimate the
18 amount of the local errors and broadcast these
19 corrections to users that are nearby, thereby,
20 greatly improving accuracy.

21 Error correction can be broad --
22 broadcast, say, to, for example, an RTK user
23 nearby with a microwave radio link. And it can
24 be on the farm, it could be a, a dealer
25 subscription service. It can -- nowadays, they

1 actually use the Internet and cell phone
2 services to provide RTK corrections.

3 And it can also be broadcast from
4 space. There are subscription services that
5 provide that.

6 With the best use of RTK, some
7 recei -- receivers can achieve a GPS accuracy
8 of 1 inch.

9 Q. And, Mr. Silva, if you would look
10 at what has been previously marked as, as, as
11 Exhibit 14 in the binder, and it is also on the
12 board next to you. Do you recognize this
13 document?

14 A. Yes.

15 Q. Can you tell us what it is?

16 A. Yes, I can. The -- Exhibit 14
17 depicts a GPS user, or rover. In this case, --

18 Q. Before you get into the expla --

19 A. Oops, sorry.

20 Q. That's okay.

21 If you just want to identify the
22 Exhibit, then I'll, once I get it in, I'll let
23 you go forward with your, your testimony.

24 A. Yes.

25 Exhibit 14 is an Exhibit of GPS

1 accuracy improvement.

2 Q. And was it prepared under your
3 supervision and control?

4 A. Yes.

5 Q. And will it assist you with your
6 testimony?

7 A. Yes.

8 MS. SMITH: I would offer Exhibit
9 14.

10 MR. WAHL: Mr. Sagsveen?

11 MR. SAGSVEEN: No objection.

12 MR. WAHL: Exhibit 14 is received.

13 Q. (By Ms. Smith) I'm sorry, please
14 go ahead and, and, and explain what's depicted
15 in Exhibit 14.

16 A. Okay.

17 It depicts a GPS user, or rover.
18 In this case, I'm showing someone on a tractor
19 that uses a GPS antenna on, on top there.

20 And this rover's receiving a GPS
21 signal from a satellite in space.

22 And I might mention that I've only
23 shown one satellite, but typically to use RTK,
24 or precision agriculture, you need to be
25 receiving four, five satellites, five is a

1 minimum to start. Typically, I track eight
2 satellites, seven or eight or more sometimes,
3 just depending on your system.

4 But I've only shown one satellite
5 as the concept.

6 It depicts two other special GPS
7 units, or base units. One is on the farm, on
8 the tripod. And the other one's located off of
9 the farm.

10 Now these base stations receive the
11 same satellite signals as the, as the rover.
12 And the concept is, they're close enough to the
13 rover, that they're both looking at the same
14 satellites, or same constellation of
15 satellites.

16 And they will then compute the
17 errors that would be associated since thi --
18 that, that position is not moving.

19 And then it will broadcast by a
20 radio language, as a microwave radio link, to
21 the rover corrections. Which then they apply
22 to the signals they're getting from GPS.

23 This is al -- also can be done by
24 local co-ops or subscription services. And
25 there are some satellite subscription services,

1 such as OmniSTAR and John Deere, that broadcast
2 corrections from space using frequency similar
3 to the GPS.

4 Q. And what are some common ways use
5 of GPS sag -- satellite signal could be
6 affected?

7 A. Well, two common ways are when the
8 signal's blocked or when there's some
9 electronic interference that's at the same
10 frequency that GPS operates at.

11 Now the use of GPS satellites
12 requires an unobstructed view of the sky. Very
13 dense foliage or the walls of buildings or tall
14 fences or other objects can partially block a
15 signal so the GPS receiver may temporarily lose
16 its lock or lose the information from one
17 satellite or a certain satellite.

18 The most common causes of
19 electronic interference to GPS satellites are
20 common things like the quartz oscillator in a
21 computer or a clock radio, some vehicle
22 ignition systems.

23 Two-way radios, including
24 walkie-talkies, have interfered with GPS. Arc
25 welders. And the harmonics of certain TV, FM

1 radio stations and marine aviation and military
2 radars have also been known to interfere with
3 GPS.

4 Q. And are there any other ways GPS
5 satellite signal could be affected?

6 A. Yeah, there's another way that it
7 could be affected that does not directly
8 involve inference at the GPS microwave
9 frequency. It involves holding an electronic
10 device, such as a walkie-talkie, very close to
11 a GPS receiver.

12 In this situation, it could cause
13 potential interference to the GPS receiver's
14 internal circuits.

15 And I might also mention, that GPS
16 can have problems when the satellites
17 themselves sometimes fail to operate properly
18 for brief periods of time.

19 Now this is not real common, but it
20 does happen.

21 A GPS satellite can exhibit an
22 operational problem, such as low power, which
23 would generate a signal code error, or it can
24 have an outage, and this would cause a problem
25 for users on earth.

1 Q. Mr. Silva, are you familiar with
2 high voltage transmission lines?

3 A. Yes.

4 At the start of my career, I
5 designed transmission lines ranging from 46 kV
6 to, to 500 kV.

7 And during that period, I also
8 performed a variety of research projects
9 related to high voltage transmission lines.

10 Q. And about how many miles of high
11 voltage transmission lines are in service in
12 North America?

13 A. There are over 300,000 miles of
14 high voltage transmission line in North America
15 rated at 115 kV and above.

16 Q. And at what frequency do electric
17 power transmission lines, electric transmission
18 lines operate in North America?

19 A. Electric power lines operate at 60
20 hertz, or 60 cycles per second. Same as in
21 your house.

22 This is the extremely low frequency
23 portion of the range of frequencies that
24 engineers call the electromagnetic spectrum.

25 Q. And I'll direct you to the Exhibit

1 binder, again, to what's been previously marked
2 as Exhibit 15. And Exhibit 15 is also shown on
3 the board on the side here.

4 Do you recognize that Exhibit?

5 A. Yes.

6 Q. And could you identify it for us?

7 A. It's a sketch of the
8 electromagnetic spectrum.

9 Q. And was Exhibit 15 prepared under
10 your supervision and control?

11 A. Yes.

12 Q. And will it assist you with your
13 testimony here today?

14 A. Yes.

15 MS. SMITH: I would offer Exhibit
16 15.

17 MR. WAHL: Mr. Sagsveen?

18 MR. SAGSVEEN: No objections.

19 MR. WAHL: Exhibit 15 is received.

20 Q. (By Ms. Smith) Could you briefly
21 explain what is depicted in Exhibit 15?

22 A. Sure.

23 Exhibit 15 depicts the range of
24 frequencies that make up what I call the
25 electromagnetic spectrum.

1 Frequency is important because it
2 affects the characteristics of electromagnetic
3 waves.

4 Along the top of Exhibits (sic) are
5 frequencies in hertz, or cycles per second.

6 And you can see, at the far left,
7 there's 1 hertz and then 10 hertz. It moves
8 into higher frequencies, all the way up into
9 millions and billions and trillions of hertz.

10 And below are some typical devices
11 or objects that operate at different
12 frequencies in the spectrum.

13 So on the far left is what's called
14 the extremely-low frequency part of the
15 spectrum, right here.

16 And that, for example, would be
17 where electric power lines operate, at 60
18 cycles per second.

19 You move up into higher frequency,
20 such as AM radio, right here. And AM radio is
21 centered on approximately 1 million cycles per
22 second.

23 You move up a little higher to FM
24 radio. Whoops.

25 There we go.

1 Move up a little higher to FM
2 radio, you'll -- and it's centered
3 approximately around 100 million hertz, or 100
4 million cycles per second.

5 TV, several hundred million.

6 And then, finally, you're in the
7 microwave range, which is above a billion
8 cycles per second, or a billion hertz.

9 And that's where GPS would be,
10 right here, where I show GPS.

11 GPS operates the civilian frequency
12 at one and a half billion cycles per second, or
13 one and a half billion hertz.

14 Q. And are high voltage transmission
15 lines designed to transmit microwaves?

16 A. No.

17 Q. And can the operation of a high
18 voltage electric power line sometimes generate
19 noise that interferes with a radio signal?

20 A. Yes.

21 Sometimes during the rain, radio
22 noise close to transmission lines can be heard
23 as static, primarily on the lower-frequency AM
24 radios. A similar effect on the AM radios, can
25 occur for broken or damaged hardware on a power

1 line.

2 Sources of noise due to damaged
3 hardware on the power lines, however, can be
4 located and repaired.

5 Q. And does the power line radio noise
6 interfere with GPS?

7 A. No.

8 That is unlikely, because the radio
9 noise that I talk about is a much lower
10 frequency than GPS.

11 In general, the noise created like
12 during the rain on a power line, drops off with
13 higher frequencies.

14 And by the time you're higher than
15 above 20 or 30 megahertz, or 20 or 30 million
16 cycles per second, it's very low.

17 And GPS is at one and a half
18 billion, many times higher than that.

19 But it's -- so, in general,
20 electronic noise must be at the same frequency
21 band as the GPS receiver to cause interference.

22 Transmission lines produce, as I
23 explained, little or no noise at these much
24 higher microwave frequencies of over a billion
25 hertz, as shown on the electromagnetic

1 spectrum.

2 Q. And, Mr. Silva, did you pro --
3 perform any research to reach the conclusion
4 you stated earlier in your testimony, that high
5 voltage transmission lines are not likely to
6 interfere with GPS satellite signal?

7 A. Yes.

8 I evaluated the potential for high
9 voltage power lines to affect GPS signals in
10 two ways.

11 I did theoretical analysis of GPS
12 signals in relation, relation to transmission
13 lines.

14 And the second thing I did was I
15 did a number of practical measurements at
16 different locations in the United States
17 directly under power lines up to 500 kV and
18 including 345 kV lines.

19 I performed this research in
20 cooperation with an engineering colleague who's
21 a professor of electromagnetics and Associate
22 Dean at Washington State University.

23 And I also worked with the expert
24 senior technical staff of a leading supplier of
25 precision agricultural GPS equipment in the

1 United States at Trimble Navigation Company.

2 Q. And, Mr. Silva, what were the
3 results of your theoretical research to
4 evaluate GPS satellite signal use under
5 transmission lines?

6 A. The results, results of my
7 theoretical analysis indicate it's unlikely
8 that high voltage transmission lines can
9 interfere with the GPS satellite signals.

10 We evaluate the potential for
11 interference due to partial blocking of the
12 satellite signals, and this is called signal
13 scattering, by the overhead wires or the
14 overhead conductors.

15 And so the theoretical analysis
16 showed that this was not possible due to the
17 small electrical size of power line conductors
18 relative to a GPS microwave signal wavelength
19 and the relative large height above ground of
20 electrical wires.

21 In other words, because power line
22 conductors are smaller, much smaller than the
23 GPS signal wavelength, little blocking of the
24 signals would occur when they pass around a
25 conductor or conductors. And they're high

1 enough above the ground that any blocking is
2 insignificant.

3 Q. And, Mr. Silva, could you please
4 discuss your practical research to evaluate GPS
5 satellite signal use under transmission lines?

6 A. Yes.

7 I conducted many practical
8 experiments in which I performed measurements
9 using precision agriculture GPS receiver under
10 transmission lines up to 345 kV and higher.

11 And this was done to see if there
12 was any change in either the positioning
13 accuracy or the strength of the received
14 signals while driving under power lines.

15 And I did this in both fair and in
16 rainy weather.

17 Q. And if you would look again at the
18 Exhibit book, at what's been previously marked
19 as Exhibit 16 and 17.

20 And 17 is also on a board, 16 is
21 not.

22 Do you recognize these Exhibits?

23 A. Yes.

24 Q. What are they?

25 A. Okay. Exhibit 16 contains various

1 photographs at different locations in the
2 United States during my practical measurement
3 research.

4 Exhibit 17 shows the results, or
5 some of the results of my practical research in
6 which I made measurements of the satellite
7 signal strength under 345 kV lines.

8 Q. And were the photos in Exhibit 16
9 either taken by you or at your direction?

10 A. Yes.

11 Q. And was Exhibit 17 prepared under
12 your supervision and control?

13 A. Yes.

14 Q. And will both Exhibits assist you
15 with your testimony?

16 A. Yes.

17 MS. SMITH: I would offer both
18 Exhibits 16 and 17.

19 MR. WAHL: Mr. Sagsveen?

20 MR. SAGSVEEN: I don't have any
21 objections.

22 MR. WAHL: Exhibit -- well, Exhibit
23 16, consisting of two pages, and Exhibit 17 are
24 each received.

25 Q. (By Ms. Smith) Could you please

1 explain what is shown in the photos in Exhibit
2 16?

3 A. Yes.

4 Exhibit 16 depicts examples of some
5 of the practical measurements I made to
6 evaluation GPS satellite reception under
7 transmission lines.

8 And on the first page, for example,
9 it's a picture of a, essentially a traveling
10 electronics laboratory that we had, doing our
11 measurements.

12 The bottom part of the first page
13 of Exhibit 16 shows some of the GPS receivers
14 on my car, as I was driving under 500 and 345
15 kV lines, logging data.

16 The second page shows measurements
17 I made near Coast Guard differential GPS
18 correction stations and other kinds of data
19 collection related to transmission lines and
20 GPS use that I performed, including evaluations
21 of computer, ignition system and other
22 potential interference sources with GPS.

23 Q. And could you discuss the results
24 of your practical measure -- measurements
25 research as depicted in Exhibit 17?

1 A. Yes.

2 Exhibit 17 is, is some of the
3 results that I collected in which I took GPS
4 satellite signal strength measurements while
5 driving under 345 kV lines.

6 It's kind of a busy Exhibit, so if
7 you'll bear with me.

8 On the top left, -- I've got to
9 find my laser here.

10 On the top left, what I was
11 depicting here is an example of five satellites
12 I was tracking when I was logging this data.
13 And the numbers are there. The designations
14 that the U.S. Air Force gives to the GPS
15 satellites.

16 And there's a dark line, it says
17 345 kV.

18 So you can see the constellation of
19 satellites just dispersed on both sides of the
20 power line.

21 And then I started and drove under
22 the power line, logging strength of the signal
23 that I received, looking to see, would there be
24 any change in the strength of the GPS signals
25 far away and under the power line.

1 And I also did -- that was just one
2 double circuit 345.

3 I also did the same thing at
4 another location, it had a double circuit 120,
5 a double circuit 345 and another double
6 circuit.

7 When I say double circuit, there
8 are two sets of three wires, so it would be the
9 equivalent of four, four times this many 345 kV
10 lines as this project is proposing to use.

11 Now the two top figures on the
12 right are simply graphs of the si -- of the
13 signal strength, the vertical axis's signal
14 strength of the various satelllites that I
15 track.

16 On the bottom, you can see its
17 distance.

18 So, for example, on the top graph,
19 you'll see I started at zero, driving toward
20 the 345 line, which is over at around two,
21 two -- 240 feet or so.

22 And you can see -- what you're
23 looking for is a big change in the satellite
24 signal strength as you drive under the power
25 lines.

1 And in both cases, you don't see
2 any change in these satellite signal strengths.

3 Now on this top case, one of the
4 satellites, the signal start dropping off. And
5 that was when I was a couple hundred feet
6 beyond the power line, there's some really tall
7 trees. And that's what I was looking for.

8 When you go under the power line,
9 you're looking to see, does anything like that
10 happen.

11 And I wouldn't have expected that,
12 but -- to happen, based on my earlier work.

13 And so essentially this shows that
14 there's no effect on the received signal
15 strength due to the transmission line.

16 Q. And could you provide any other
17 practical examples of microwave devices similar
18 to GPS being successfully used near high
19 voltage transmission lines?

20 A. Yes.

21 There's a, a common practice in the
22 United States these days of mounting cell phone
23 base station antennas and high accuracy GPS
24 antennas directly on transmission lines.

25 And that's a practical example of

1 successful use of GPS and similar microwave
2 signals near power lines.

3 Cell phones are actually not
4 radios, they're not, they're not telephones,
5 they're just small microwave radios.

6 And cell phones operate at
7 frequencies very similar to GPS, around 1 to 2
8 billion cycles per second.

9 And some cell phone companies even
10 use the same signal modulation scheme that GPS
11 uses.

12 Across the country now, cell phone
13 companies are mounting and installing cell
14 phone base station antennas directly on
15 transmission lines.

16 Now this is significant, because
17 the microwave cell phone signals from distant
18 users are received by the base station, they're
19 located -- the antennas are located close to
20 energized vol -- high voltage conductors on the
21 towers. And these are -- signals do pass
22 through the region occupied by the conductors.

23 Also, there's extensive use of GPS
24 by the cell phone industry.

25 And the cell phone industry uses

1 GPS for precise timing. Each GPS satellite has
2 four different atomic clocks on it. These
3 atom -- atomic frequency standards are used for
4 precise timing in the operation of cell phone
5 networks.

6 And cell phone companies are
7 mounting GPS antennas directly on high voltage
8 towers.

9 And as the use of GPS applications
10 continues to grow, such as phone locating and
11 real-time mapping, you're going to see more and
12 more use of this.

13 So given the fact that the cell
14 phone industry is mounting GPS antennas and
15 their end -- their own phone antennas on
16 towers, they wouldn't be doing this if
17 interference were a concern for them.

18 Q. And if you can look again at the
19 Exhibit book, at what has been previously
20 marked as Exhibits 18 and 19?

21 A. Yes.

22 Q. Do you recognize those?

23 A. Yes.

24 Q. Could you tell us what they are?

25 A. Exhibit 18 are photographs of cell

1 phone antennas installed on the transmission
2 line.

3 And Exhibit 19 are photographs of
4 GPS antennas being installed directly on
5 transmission lines.

6 Q. And did you take these photos
7 yourself?

8 A. Yes, I did.

9 Q. And where were they taken?

10 A. These photos were taken in
11 California, Maryland, Michigan and British
12 Columbia.

13 Q. And approximately when were they
14 taken?

15 A. Over the period of the last ten
16 years.

17 MS. SMITH: I would offer Exhibits
18 18 and 19.

19 MR. WAHL: Mr. Sagsveen?

20 MR. SAGSVEEN: No objections.

21 MR. WAHL: Exhibit 18, consisting
22 of three pages, and Exhibit 19, consisting of
23 three pages, are each received.

24 Q. (By Ms. Smith) Could you please
25 describe for us what is shown in the photos in

1 the two Exhibits?

2 A. Okay.

3 Exhibit 18 shows a variety of cell
4 phone base station antennas installed on
5 transmission lines.

6 On the first page, they're
7 installed on the top of a 230 line.

8 The next figure's a 500 kV line.

9 The bottom on Page 1 are cell phone
10 antennas installed on top of double circuit 345
11 kV lines.

12 And, similarly, the next page shows
13 antennas being installed above and below the
14 transmission line, antennas on a large
15 transmission line.

16 Some companies actually install
17 them on the basket part between the wires.

18 The last page shows antennas
19 installed. The actual base stations below the
20 tower.

21 And the bottom one shows two, on
22 Page 3 of Exhibit 18, the bottom figure shows
23 two 500 kV towers in which not only cell phone,
24 but a variety of other communications' antennas
25 are installed on transmission lines. Police

1 and fire, and so forth, radios.

2 Exhibit 19 are pictures of the GPS
3 antennas that phone companies use for system
4 timing that I referred to.

5 And they're the little small white
6 antennas that you can see.

7 And I put a little arrow under
8 those pictures showing that these antennas, as
9 well, as -- are being installed directly on the
10 transmission tower legs.

11 Q. And do electric power companies use
12 GPS near high voltage transmission lines?

13 A. Yes.

14 Electric power companies themselves
15 use GPS for many applications, such as
16 precision timing, the Chief and SCADA
17 applications.

18 They do their system frequency
19 monitoring, protective relaying and many other
20 important applications.

21 And I've been informed that
22 Minnkota itself has GPS antennas that are
23 critical to their system operations that are
24 mounted directly inside of high voltage
25 electric power substations.

1 Q. And can you comment on the
2 potential for transmission line structures to
3 affect GPS?

4 A. Yes.

5 It could be possible, under certain
6 circumstances, that if the line of sight
7 between one satellite and the user could be
8 briefly affected while passing close to a large
9 steel tower.

10 For the proposed transmission line,
11 this is probably not as likely due to these
12 steel poles, instead of large lattice towers.

13 Because the steel poles are just
14 smaller than the lattice towers.

15 I should also point out that
16 operating a GPS receiver close to any
17 obstructions, such as a building, a tall fence,
18 a tree or farm equipment, such as a crop wagon,
19 could also potentially temporarily block, for
20 example, one satellite, depending on the
21 relative align -- instantaneous alignment of
22 the satellite and the user.

23 You have to remember, these
24 satellites are moving all the time, so the
25 amount of time that that lasts might be brief.

1 Blocking a satellite may or may not
2 affect GPS use, depending upon how many
3 satellites are being used. If it did occur, it
4 would be temporary.

5 And this effect is further
6 minimized by modern precision units that both
7 use GPS satellites and the use of Russian
8 constellation of satellites as well.

9 And the importance of that is it
10 means you're looking at more satellites. If
11 you're tracking eight satellites and
12 temporarily lost one, it would not, not affect
13 your use of GPS.

14 Q. And have you seen a change in the
15 capability and design of GPS equipment over the
16 years?

17 A. Yes.

18 It is increasing at an amazing
19 pace. G -- GPS equipment is constantly
20 improving and manufacturers are designing their
21 systems for an array of sophisticated
22 applications.

23 It's a very competitive market and
24 each company is seeking to provide the best and
25 the most robust guidance system they can.

1 And so whenever there's a new
2 design feature, it's usually not long before
3 all of the companies have it in some fashion or
4 another.

5 Q. And when designing their equipment,
6 do GPS manufacturers take into account the
7 environment in which the equipment will be
8 used?

9 A. Yes.

10 I have met with GPS manufacturers
11 and I've given lectures at some of their
12 conferences.

13 In general, high-quality GPS
14 manufacturers supply GPS units that are
15 designed to function in the environment for
16 which they're intended to be operated.

17 Since there are over 300,000 miles
18 of high voltage transmission lines in the
19 United States, GPS manufacturers can reasonably
20 anticipate that an electric power line would be
21 one part of a diverse operating environment for
22 their GPS equipment.

23 In addition, there are continuing
24 improvements to the GPS system itself.

25 The Air Force is adding new and

1 stronger signals for the next generation of
2 satellites, which they started launching two
3 years ago. And all of that will enhance
4 reception and performance.

5 Q. And, Mr. Silva, what is your
6 conclusion with respect to the concern that
7 GPS devices may experience interference when
8 in proximity to the proposed transmission
9 line?

10 A. Well, based on the theoretical work
11 I did and the practical measurements that I
12 performed, I do not believe it is likely that
13 GPS receivers will be unable to receive the
14 satellite signals near the proposed 345 kV
15 transmission line.

16 The fact the cell phone industry
17 mounts cell phone base stations and high
18 accuracy GPS antennas on high voltage
19 transmission towers, further supports my
20 conclusion.

21 MS. SMITH: I have no further
22 questions.

23 MR. WAHL: Mr. Sagsveen?

24

25

1 CROSS-EXAMINATION

2 BY MR. SAGSVEEN:

3 Q. Was -- your theoretical work and
4 your practical measurements, were they done in,
5 in conjunction with each other?

6 A. It was part of the same research
7 project.

8 Q. And I saw some dates on the
9 pictures, were those -- was all of that
10 finished in 1999 approximately?

11 A. In, in around 2000.

12 Q. 2000.

13 A. Or --

14 Q. Do you -- go ahead.

15 A. Oh, the, the measurements were,
16 yes.

17 Q. Okay. Do you recall the height of,
18 of the line above your vehicle as you were
19 driving under them or did you try to keep it
20 steady or --

21 A. I tried to drive generally at the
22 lowest point, so that it would be closest to
23 the vehicle.

24 I do not recall the height. I
25 would imagine it was on the order of 35 to 40

1 feet.

2 Q. I guess the only reason I ask is
3 because I, I want to look at Exhibit 16, the,
4 the bottom picture. It looks like all the, the
5 lines are on a hill.

6 And I, I don't know if that's the
7 spot we're using -- where you were using as a
8 measurement and how that would equate with
9 something that might be used in our -- in the,
10 the line that's being proposed here?

11 A. That particular picture was taken
12 near the Tesla substation, that PG&E operates
13 in California. And I was making measurements
14 to both look at the substation and the
15 transmission lines.

16 The measurements that I showed in
17 Exhibit 17, were at the midspan, always at the
18 midspan, at the lowest point.

19 I did do several sets of
20 measurements, but I always pick the lowest
21 point of sag.

22 And in Exhibit 17, since they were
23 345 lines, I would estimate the conductor
24 height on the order of 35 feet or so, maybe 40
25 feet.

1 Q. And I was glad that you were asked
2 about the, the new equipment, because I was
3 going to ask you whether or not you've -- are
4 familiar with the new GPS equipment and whether
5 or not it's designed in, in a, in a fashion to
6 accommodate, maybe, our growing transmission
7 structures.

8 Do GPS companies warn buyers to be
9 wary of transmission lines or do they -- is
10 that part of the, maybe a warning process that
11 they might give?

12 A. Some of the early GPS manuals did
13 mention power lines as a potential source of
14 interference.

15 Since my papers, and, as I say,
16 I've sent all of my work, and I visited and,
17 and, GPS companies and given lectures.

18 I've actually taken GPS engineers,
19 for example, at Trimble, who are designing the
20 new equipment out in the field and showed them
21 where to find sites to test their equipment.

22 I have examples of some of the
23 newer manuals. For example, I have one that
24 says: the -- hydro power lines affect the GPS
25 signal.

1 And the answer is: normally high
2 voltage power lines do not affect the GPS
3 signal at all.

4 So some of the newer manuals that
5 are updated, you know, since I've done my work,
6 they list sources of interference, and they're
7 usually things like ignition systems on the
8 vehicle and computers and things like that, but
9 they don't list power lines anymore.

10 Q. Now I have to apologize, I don't
11 own a tractor with a G -- well, I don't own a
12 tractor or a GPS device.

13 But are there any technologies that
14 are associated with GPS technology or that are
15 used in conjunction with them, maybe in
16 tractors, that, that might be interfered with?

17 A. I mentioned AM radios potentially.

18 Q. Okay. Are there --

19 MR. SAGSVEEN: Well, I don't have
20 any further questions.

21 MR. WAHL: Mr. Lein?

22 MR. LEIN: I'm just curious as to
23 whether cell phones would maybe cause problems
24 with GPS signals?

25 THE WITNESS: Cell phones operate a

1 maximum about six-tenths of a watt.

2 If you were to hold it really
3 close, the antenna really close to a GP -- it
4 would -- then you're down to the point, it
5 depends on the GPS receiver.

6 If you're an engineer type person,
7 what you do is you hammer the front end, the
8 preamp of the circuit and overloads it. And
9 you could affect it in a way walkie-talkies do
10 potentially.

11 But, you know, you'd be real --
12 have to be relatively close.

13 MR. LEIN: Thanks.

14 No further questions.

15 MR. WAHL: Commissioner Cramer.

16 MR. CRAMER: This is the most
17 thorough record I can imagine on this topic. I
18 can't think of anything else to ask to improve
19 it.

20 MR. WAHL: I would agree.

21 Commissioner Kalk, having said
22 that, I'm sorry.

23 MR. CRAMER: Well, he's smarter
24 than me, he might have something he needs to
25 ask.

1 MR. KALK: You know I can't pass it
2 up, Judge.

3 MR. WAHL: Go ahead.

4 MR. KALK: Dr. Silva, as much as
5 I'd like to talk more about what you did with
6 the Soviets in the '70s, I'll hold off until
7 the break for them.

8 But the -- but I -- no, I did, I
9 mean, I, I really appreciate, like Kevin
10 pointed out here, your very thorough testimony.

11 But I did have a couple questions
12 about -- when you talk about RTK, the corr --
13 the correction, if you will, what's, again, a
14 practical example of things that might be on
15 the ground to help correct that? If I
16 understood that right?

17 THE WITNESS: Well, the, the, the
18 way differential corrections work in general,
19 the general concept is, you have errors in
20 position due to the atmosphere.

21 The way GPS works --

22 MR. KALK: So what's just a
23 practical example of something that would, that
24 would aid in that, just doesn't have to be put
25 up, that's already there? Are there -- is --

1 you know, if I go out here in Northwood, what
2 are something that might give us that real-time
3 correction that's in the town of Northwood?

4 THE WITNESS: It, it would have to
5 be a GPS base station that's installed. It has
6 to look at the satellites and, and compute the
7 amount of error.

8 MR. KALK: Okay. So those aren't
9 things that are -- readily be available, but --
10 they're, they're somewhere, they will help?

11 THE WITNESS: No.

12 MR. KALK: Okay.

13 THE WITNESS: In fact, the, the
14 base station I showed on the farm, you know,
15 some of those are pretty darn expensive, that's
16 why farmers use co-ops and other people.

17 No. You have to observe the
18 satellites, the, the equipment has to observe
19 the satellites, it's not moving.

20 And it, and it computes the, the
21 errors.

22 And, and it broadcasts a correction
23 to take those errors out back to you, but
24 there -- there's noth -- there's -- unless it's
25 a GPS base station designed to do it, there's

1 no other equip -- equipment that --

2 MR. KALK: Okay.

3 THE WITNESS: -- will do that.

4 MR. KALK: Okay. That's -- so
5 that --

6 THE WITNESS: If that's what you're
7 asking.

8 MR. KALK: Yeah, that was --

9 THE WITNESS: Okay.

10 MR. KALK: Exactly.

11 And then, I think what I kind of
12 heard is that, any kind of visual obstruction
13 could potentially throw off GPS.

14 So if you look at a power line like
15 a visual obstruction, that could cause some
16 problems, but that would be no different than
17 any -- a building like this, right?

18 THE WITNESS: Yeah. You would have
19 to be close to it and it'd have to be lining up
20 exactly --

21 MR. KALK: Exactly.

22 THE WITNESS: -- with one of the
23 satelllites, yeah.

24 MR. KALK: Okay.

25 THE WITNESS: And it could knock,

1 it could knock off waves to one satellite.

2 Most of the GPS companies know that
3 and, and, and you're able to --

4 MR. KALK: Redundancy.

5 THE WITNESS: Yeah, you're able to
6 go on.

7 MR. KALK: The -- what is the
8 reliability of GPS just -- if -- is like an
9 industry standard that ten years ago, a GPS
10 device would have been 70 percent accurate and
11 now it's 90 percent accurate? Is there some
12 type of, of -- you know, I assu -- assume it's
13 gotten better.

14 THE WITNESS: It has gotten better.
15 It's -- it got really good in May of 2000, the
16 military turned off selective availability.

17 The military degraded the GPS
18 signals on a 70 to a hundred years, randomly.

19 MR. KALK: Uh-huh.

20 THE WITNESS: I put a GPS receiver
21 on my house and plotted my house's position for
22 24 hours and it wandered all over the place.
23 Some places it wandered 280 feet away. And
24 obviously my house wasn't moving.

25 The military cranked in random

1 error for civilian uses.

2 There are two GPS signals. There's
3 a military signal that's heavily encrypted and
4 there's a, a civilian signal.

5 And they, in 2000, by presidential
6 order, they turned off, they turned off
7 selective availability, which is the biggest
8 source of error.

9 And it kind of became useless,
10 because the civilian population and farmers and
11 others figured out how to work around it by
12 using differential corrections. They figured
13 out a way to subtract out all that error that
14 the military was cranking in. So it kind of --
15 using method differential corrections.

16 MR. KALK: Okay.

17 THE WITNESS: So in the, I would
18 say in the following, if you're using GPS just
19 in general in your car, or something like
20 that, you can probably get within 5 or 10
21 meters of accuracy.

22 If you are using the Y's satellite
23 correction system that the FAA -- A --
24 provides, you can probably get, say, within 3
25 meters or so.

1 Most of the little handheld hiking
2 units now use the Y satellites.

3 And farmers require, for some, for
4 some applications, and there're also correc --
5 differential corrections broadcast by the U.S.
6 Coast Guard, even though it says Coast Guard,
7 there're buil -- they've built a number of
8 inland differential correction stations.

9 MR. KALK: Okay, that -- that's
10 good enough.

11 THE WITNESS: You can get within a
12 meter -- my, my unit, without RTK, can get
13 about 1-foot accuracy.

14 Then when you move on up to RTK,
15 you can get within inches.

16 And some, some people specify they
17 can get within 1-inch accuracy using Real Time
18 Kinematic plus differential corrections.

19 MR. KALK: Okay.

20 THE WITNESS: All of that costs
21 more, I mean.

22 MR. KALK: I'm there, Doc. You
23 got --

24 I guess the last question I'd ask
25 is that, going back, to get in another previous

1 life, I taught and researched at North Dakota
2 State and we, we do all this work and I put out
3 my research and the next day there'd be a paper
4 that'd be published that would say they didn't
5 agree with my research.

6 You just, you always have two
7 different viewpoints.

8 To your knowledge, is there anyone
9 that, that, that, that would -- that
10 functionally disagrees with your research?

11 THE WITNESS: No.

12 And, quite frankly, that's why I
13 involved Dr. Lange, from Trimble Navigation,
14 and Dr. Olson, from Washington State. I wanted
15 really to perform this research with the GPS
16 community involved and with academia involved,
17 the professors that teach electromagnetic
18 compatibility.

19 I mean, the, the bottom line is,
20 there's just, just really no sc -- scattering
21 going on. And it just doesn't produce
22 microwave signals, power lines don't. So,
23 really, you're down to, can a, can a tower
24 partially block the satellite system
25 potentially.

1 I've investigated two cases where
2 people are sure that power lines caused
3 interference. In both cases, it was something
4 else.

5 MR. KALK: Okay.

6 THE WITNESS: In one case it was
7 the walkie-talkie, in the other case, it was
8 lights on a vehicle, it had a short in them,
9 but the person looked up and saw a power line
10 nearby and assumed, you know, it must have been
11 a, a power line.

12 But I know of no published work
13 that's been done that would disagree with what
14 I found.

15 MR. KALK: Okay.

16 THE WITNESS: I mean, quite
17 frankly, the people are using GPS all over the
18 United State -- all over the world now, around
19 power lines. And if, if this was some obvious
20 problem, it would be pretty obvious to
21 everybody by now.

22 MR. KALK: All right, thank you.

23 THE WITNESS: Sure.

24 MR. WAHL: Anything further from
25 the Commission?

1 Follow-up, Ms. Smith?
2 MS. SMITH: No.
3 MR. WAHL: Mr. Sagsveen?
4 MR. SAGSVEEN: No.
5 MR. WAHL: Mr. Lein?
6 MR. LEIN: No questions.
7 MR. WAHL: Thank you very much, Mr.
8 Silva.
9 THE WITNESS: Thank you, sir.
10 (Whereupon, the witness was
11 excused.)
12 MR. WAHL: Let's take ten minutes,
13 please. Not any more than ten minutes, it
14 makes it twenty after 3:00.
15 We've got a ways to go yet.
16 (Whereupon, a twelve-minute recess
17 was taken.)
18 MR. WAHL: All right. Let's be in
19 order, please.
20 Ms. Smith, you ready?
21 Mr. Sagsveen, you ready?
22 MR. SAGSVEEN: Yep.
23 MR. WAHL: The Commission's ready,
24 let's go.
25 Ms Smith.

1 MS. SMITH: I would call Terry
2 Fasteen.

3 MR. WAHL: Mr. Fasteen, as you have
4 heard, your testimony is required to be under
5 oath. And I'm required by law to advise you
6 regarding perjury before administering the
7 oath.

8 Perjury is a false statement of
9 material fact which you do not believe to be
10 true.

11 In North Dakota, perjury's a class
12 C felony, punishable by a fine up to \$5,000,
13 imprisonment for a period of up to five years
14 or both.

15 Will you raise your right hand,
16 please?

17 Being advised regarding perjury,
18 Mr. Fasteen, do you swear that the testimony
19 which you're about to give in this matter shall
20 be the truth, the whole truth and nothing but
21 the truth?

22 THE WITNESS: Yes, sir.

23

24 T E R R Y F A S T E E N,
25 called as a witness, being first duly sworn,

1 was examined and testified on his oath as
2 follows:

3

4 MR. WAHL: Ms. Smith.

5

6 DIRECT EXAMINATION

7 BY MS. SMITH:

8 Q. Could you please state your full
9 name?

10 A. Yes, my name is Terry Fasteen.

11 Q. And by whom are you employed?

12 A. I'm employed by Kadrmas, Lee &
13 Jackson.

14 Q. And what is your business address?

15 A. 1505 Thirty -- 30th Avenue South,
16 in Moorhead, Minnesota.

17 Q. And please discuss briefly your
18 education and your work history.

19 A. I've got a, a civil engineering
20 technology degree.

21 I'm a licensed real estate
22 salesperson in Minnesota.

23 I've been employed with Kadrmas,
24 Lee & Jackson for about the last 28 years. And
25 during that time, I've worked as a survey crew

1 chief, a construction manager, a right of way
2 agent. And currently I'm in charge of the
3 right of way group for Kadrmas, Lee & Jackson.

4 Q. And what is your role with respect
5 to the proposed project?

6 A. I am the right of way task leader.
7 I manage the right of way effort.

8 Q. And could you discuss, then, what
9 that role entails?

10 A. Yes. I provide oversight for our
11 group for the production of documents that we
12 use when we meet with landowners.

13 I do a work schedule and schedule
14 the agents to go meet with landowners.

15 We do the title work reports,
16 surface ownership.

17 We do the -- I do the training of
18 the agents for the project, specific duty that
19 they're going to do. I provide the
20 communication link between Minnkota Power and
21 the right of way agents. And I attend and do
22 public presentations with the group.

23 Q. And how do you coordinate with
24 Minnkota on right of way acquisition?

25 A. We coordinate, we coordinate daily

1 with Minnkota Power by telephone, by e-mail.
2 We have project specific documents that we use
3 to document landowner requests that we fill out
4 and forward on to them.

5 We have several weekly meetings
6 with Minnkota Power, right of way specific
7 meetings, meeting as a general group, and also
8 a public information group.

9 We also have quarterly training
10 sessions directly with the right of way people
11 from Minnkota Power so that we're providing the
12 best information we can to our landowners.

13 Q. And could you describe the process
14 of, of contacting and negotiating with
15 landowners to obtain eventually the easements,
16 but, in this case, right now, the easement
17 options?

18 A. Sure.

19 Usually we start out with a
20 personal phone call to each landowner to try to
21 set up a meeting.

22 If we're unable to reach them by
23 telephone, we will send out a general mailing,
24 again, to try to get some contact with these
25 landowners. And in some cases, we've had to

1 send out certified mail.

2 Once we've set up a meeting, the
3 agent will go either to that landowner's
4 residence or a place designated by them to have
5 this conversation.

6 Once the agent meets with the
7 landowner, we'll do a general project de --
8 description, what the project intent is, what
9 the goals are.

10 Then we'll start going over the
11 specific details.

12 The agents will take each
13 individual document that's going to be used and
14 go over that with the landowner and explain it
15 to them so they understand the legal aspects of
16 each document, what they're signing and what
17 the result of their signing will be.

18 We also present them with a draft
19 easement document, as to what the actual
20 easement specifics would be when we get to that
21 stage.

22 We also present them with a written
23 offer of what would be offered when we acquire
24 the easement and define how it will be paid and
25 when.

1 The agents also document the
2 questions that come from the landowners in
3 writing.

4 At the end of every conversation,
5 the agent will go somewhere and, and write up a
6 record of conversation that becomes a part of
7 our project transference of information to the
8 -- Minnkota Power.

9 Q. So how are landowner requests or
10 comments handled then?

11 A. What we do is, again, we transcribe
12 our meetings with those landowners, put it in
13 writing.

14 If the landowner has a specific
15 request during our meetings, we show them the
16 locations, or potential locations of
17 structures.

18 Should that landowner want to shift
19 that structure, we have a form that we indicate
20 which pole we're working with and get the
21 landowner to tell us where they'd like to see
22 us move that pole.

23 If there's a request for a reroute,
24 we'll go through a little more extensive
25 process of documenting that.

1 And once those requests are brought
2 in from the agents, we usually have a
3 debriefing on, at the end of the week or the
4 start of the week.

5 We'll transfer that information to
6 Minnkota Power and the other design staff
7 members for ant -- analysis.

8 Q. And besides easement negotiations,
9 are there any other reasons that you contact
10 landowners?

11 A. Yes.

12 Currently, the right of way group,
13 since we've been talking to landowners since
14 the inception of the project, there's a lot of
15 studies and reports that need to be done by the
16 other project partners, such as cultural
17 surveys or wetland surveys.

18 We do phone calls to let the
19 landowners know that we would like to get
20 access to their properties.

21 So we've made multiple calls on
22 behalf of ourselves, to set up landowner
23 meetings, and the other project members, to get
24 access to the project -- or the property to do
25 that.

1 Q. And what do you do if someone
2 doesn't want to talk to you about any of this
3 at, at all to do with the project?

4 A. We'll document that in our
5 database. We'll pass it on to other
6 landowners.

7 We do, however, know that sometimes
8 people change their minds. So when we have a
9 need or one of the other groups have a need to
10 get on a piece of property, we may contact
11 those landowners again, just to see if, if
12 there's any potential movement on their thought
13 process.

14 Q. Okay. And Mr. Hennes and Mr.
15 Phillips discussed some of the concerns that
16 landowners raised during -- regarding
17 transmission lines. Are there any other
18 concerns besides what's all be -- ready been
19 mentioned in the testimonies that you can think
20 of that you have come across?

21 A. I think they've touched on
22 virtually every one of those. Though, again,
23 some of the biggest issues is, how do we site
24 the location of our corridor. And, and where
25 would the structures actually go if they were

1 placed on the property. What type of
2 compensation would we be giving the landowners,
3 how it was determined. Why not annual
4 payments. Impacts to farming or impacts to
5 health issues, to livestock or to residents of
6 the farms.

7 Q. And, again, how many miles of line
8 are -- is -- are under option by Minnkota at
9 this time?

10 A. As Mr. Hennes pointed out earlier,
11 there's about 50 percent -- 57 percent of line
12 miles currently under option, or about 139
13 miles.

14 MS. SMITH: I have no further
15 questions.

16 MR. WAHL: Mr. Sagsveen?

17 MR. SAGSVEEN: I have no questions.

18 MR. WAHL: Mr. Lein?

19 MR. LEIN: No questions.

20 MR. WAHL: Commissioner Cramer.

21 MR. CRAMER: I have just a couple,
22 Terry. Thank you for your testimony.

23 How, how are agents compensated?
24 Is it -- is there a -- an incentive built in
25 or -- you know, we, we might think of as, sales

1 as some sort of a, you know, extra compensation
2 or -- or is it just a straight salary or, or
3 hourly wage?

4 THE WITNESS: The agents we have
5 working in the field are employed by Kadrmas,
6 Lee & Jackson, it's on an hourly basis, so
7 there is no additional compensation.

8 MR. CRAMER: Okay. Is there an
9 incentive for the -- KLJ, depending on success
10 rate or anything like that?

11 THE WITNESS: No, there isn't.

12 MR. CRAMER: Okay. What's, what's
13 the most common objection to the project by
14 landowners?

15 THE WITNESS: The initial one is
16 always: why did you pick us.

17 You know, and, and from there, it
18 moves on to compensation or impacts to the
19 farming operation.

20 MR. CRAMER: Have you seen a
21 dramatic increase recently in requests for or
22 inquiry about annual payments?

23 THE WITNESS: Yes, we have. As the
24 result of development of the wind farms.

25 MR. CRAMER: Sure.

1 THE WITNESS: It comes up quite
2 often.

3 MR. CRAMER: You bet.

4 I have nothing further, thank you.

5 THE WITNESS: Yep.

6 MR. WAHL: Mr. Kalk.

7 MR. KALK: Just, just maybe one.

8 Thank you, Terry, for your
9 testimony.

10 The -- we'll go through a scenario.
11 The landowner, they don't want nothing at all.
12 And eventually they call you up and say: okay,
13 come on, let's talk.

14 And they say: I'll let you put it
15 across here if you put a pole there and a pole
16 there and a pole there.

17 How much would landowner preference
18 where poles be, actually be able to happen?

19 THE WITNESS: Actually, we are able
20 to accommodate a lot of those requests. It
21 also depends upon design restrictions.

22 Again, it was talked earlier about
23 the amount of spacing between the poles.

24 So it's -- a lot of the requests
25 for shifts are also based on what happens

1 either upstream or downstream from their
2 properties. But we've been able to accommodate
3 quite a few requests up to this point.

4 MR. KALK: Okay. And I suspect
5 that goes a long ways if they can have a say
6 where the stuff might end up at?

7 THE WITNESS: Yes, it is. And
8 we're able to provide them that opportunity.

9 MR. KALK: All right. Thank you,
10 that's it.

11 MR. WAHL: Follow-ups, Ms. Smith?

12 MS. SMITH: No, your Honor.

13 MR. WAHL: Mr. Sagsveen?

14 MR. SAGSVEEN: No, your Honor.

15 MR. WAHL: Mr. Lein?

16 MR. LEIN: No questions.

17 MR. WAHL: Thank you very much, Mr.
18 Fasteen.

19 THE WITNESS: Thank you.

20 (Whereupon, the witness was
21 excused.)

22 MS. SMITH: And our final witness
23 is Brian Hunker.

24 MR. WAHL: Mr. Hunker, do I
25 pronounce your name correctly?

1 THE WITNESS: Yes.

2 MR. WAHL: Mr. Hunker, as you know,
3 your testimony is required to be under oath.
4 And I am required by law to advise you
5 regarding perjury before administering the
6 oath.

7 Perjury is a false statement of
8 material fact which you do not believe to be
9 true.

10 In North Dakota, perjury's a class
11 C felony, punishable by a fine up to \$5,000,
12 imprisonment for a period of up to five years
13 or both.

14 Will you raise your right hand,
15 please?

16 Being advised regarding perjury,
17 Mr. Hunker, do you swear that the testimony
18 which you're about to give in this matter shall
19 be the truth, the whole truth and nothing but
20 the truth?

21 THE WITNESS: I do.

22

23 B R I A N H U N K E R,
24 called as a witness, being first duly sworn,
25 was examined and testified on his oath as

1 follows:

2

3 MR. WAHL: Ms. Smith.

4

5 DIRECT EXAMINATION

6 BY MS. SMITH:

7 Q. Could you please state your name
8 for the Commission?

9 A. Brian Hunker.

10 Q. And by whom are you employed?

11 A. HDR Engineering.

12 Q. And what is your business address?

13 A. 701 Xenia Avenue South, Suite 600;
14 Minneapolis, Minnesota.

15 Q. And what's your educational
16 background?

17 A. I received a bachelor of science
18 from the University of Wisconsin - Madison and
19 I've got about ten years environmental
20 consulting experience.

21 Q. And could you tell the Commission
22 about your work history?

23 A. Sure.

24 Throughout my caree -- career, I've
25 gained extensive experience in project

1 management, compliance and permitting
2 experience working on linear energy projects,
3 for example, transmission and pipeline
4 projects.

5 I have a broad understanding of the
6 regulatory framework relating to the federal
7 and the state environmental review
8 documentation.

9 I've led routing studies. Gathered
10 environmental and land use data through
11 windshield analysis and fieldwork.

12 I've analyzed data using GIS and
13 participated in agency meetings and public open
14 houses.

15 Q. And what is your role with respect
16 to the proposed project?

17 A. Environmental consulting project
18 manager.

19 Q. And in that role, what do you do?

20 A. I've managed technical staff, field
21 studies and preparation of reports, permit
22 applications, as well as assist in agency
23 consultations.

24 Q. So were you involved in the
25 environmental analysis of the project corridor?

1 A. Yes.

2 Q. And were you also involved of
3 the -- in the preparation of the Certificate of
4 Corridor Compatibility application?

5 A. Yes.

6 Q. And what was the overall approach
7 to environmental analysis of the proposed
8 project?

9 A. The primary components of
10 environmental analysis include data
11 acquisition, mapping, stakeholder and public
12 involvement.

13 Publicly available GIS data was
14 collected relating to natural resources,
15 cultural resources and land use issues from
16 federal and state data clearinghouses and
17 agencies.

18 Then, field assessments and public
19 outreach were conducted. Stakeholder comments
20 were entered into the GIS database.

21 The environmental data was combined
22 with data on electrical reliability factors,
23 engineering feasibility and costs.

24 This data was determined -- or
25 analyzed to determine the potential

1 opportunities and constraints.

2 Q. And could you give us just a
3 general description of the project corridor
4 from an environmental perspective?

5 A. Sure.

6 In general, the project corridor is
7 rural and intensively farmed or pastureland
8 interspersed with rural homesteads, open lands
9 and water, as well as transmission and
10 distribution lines.

11 Cultivated croplands are more
12 prevalent in the eastern portion of the project
13 towards the Red River Valley; whereas, pasture
14 and wetlands are more prevalent in the western
15 portion of the corridor towards the Missouri
16 River.

17 The project corridor contains
18 undulating terrain in the western sections
19 with -- within the Prairie Pothole Region, near
20 the, near the major rivers. Otherwise, the
21 eastern half is nearly level in the Red River
22 Valley.

23 Wetlands are typically small,
24 isolated depressions, but may also be found
25 along drainage ways, streams, rivers.

1 Trees are sporadic throughout,
2 throughout the project and are primarily
3 present at wooded draws and riparian areas and
4 windrows.

5 Currently, the most common wooded
6 areas are around shelterbelts and buildings.

7 And in -- the major rivers have a
8 wooded, riparian fringe and they include the
9 Missouri and the Sheyenne Rivers.

10 Q. And are you familiar with the
11 exclusion areas, the avoidance areas, the
12 selection criteria and the policy criteria that
13 are set forth in the Commission's rules?

14 A. Yes.

15 Q. And when analyzing the project
16 corridor, corridor, did Minnkota and HDR take
17 into consideration the exclusion areas, the
18 avoidance areas, the selection criteria and the
19 policy criteria?

20 A. Yes.

21 Q. And could you please discuss
22 whether any exclusion areas are located within
23 the project corridor?

24 A. Sure.

25 As shown in Table 3.1-1 of the

1 Corridor application, with the -- which is
2 Exhibit 3, there's one exclusion area present
3 within the project corridor, but impacts to
4 this ex -- exclusion area will be avoided by
5 the project.

6 The exclusion area is called areas
7 critical to the life stages of threatened and
8 endangered species.

9 In this particular case, it's
10 critical habitat for the federally-threatened
11 piping plover.

12 The Missouri River is designated
13 critical habitat for the piping plover.

14 The project will span the Missouri
15 River.

16 There will be no direct impacts
17 within this designated critical habitat. The
18 structures will be placed approximately 150
19 feet back from the river's banks.

20 Minnkota will not construct across
21 the Missouri River during the typical breeding
22 season for the piping plover.

23 During construction, no equipment
24 will be located within the Missouri River.

25 The RUS has engaged the U.S. Fish

1 and Wildlife Service in Section 7 consultation,
2 in the, in the Section 7 consultation process
3 as a part of the National Environmental Policy
4 Act, or NEPA, process to ensure that the
5 project will not endanger the continued
6 existence of any listed species or adversely
7 modify the designated critical habitats.

8 Q. And Mr. Hennes talked about this a
9 little bit as well, but you mentioned Section 7
10 consultation. Could you explain what a Section
11 7 consultation is?

12 A. Sure.

13 Section 7 of the Endangered Species
14 Act, that requires all federal agencies to
15 conserve threatened and endangered species and
16 consult with the U.S. Fish and Wildlife Service
17 to ensure that a project won't jeopardize the
18 species or designated critical habitat.

19 Q. And what's the status of that
20 Section 7 consultation?

21 A. Currently, the Rural Utilities
22 Service, or RUS, Minnkota and the U.S. Fish and
23 Wildlife Service are determining the
24 appropriate conservation measures for the
25 federally-listed species.

1 Q. And are there any other exclusion
2 areas present within the corridor?

3 A. No. However, we'd like to clarify
4 that although areas containing unique or rare
5 plant or animal species are present, these
6 areas and species will not be irreversibly
7 damaged.

8 Q. And could you please discuss
9 whether there are any avoidance areas located
10 within the project corridor?

11 A. Sure.

12 The avoidance areas present in the
13 project corridor are discussed in Table 3.2-1
14 of the Corridor application, Exhibit 3.

15 And I'll briefly describe the
16 avoidance areas present and how the project
17 will avoid these areas.

18 The first criteria is designated or
19 registered national wildlife areas.

20 There are two Waterfowl Production
21 Areas, or WPAs, located within the corridor.
22 These are called the Hoornaert and Gaub WPAs.

23 And then there's one Wildlife
24 Development, or WDA, located within the
25 corridor and this is the East Park Lake WDA.

1 Minnkota will develop a route that
2 avoids the WPAs and WDA.

3 Q. And, Mr. Hunker, could -- I know
4 that it was asked earlier, where those are
5 located. Mr. Lein had asked that. Do you --
6 can you provide that information to him?

7 A. Sure.

8 The Hoornaert WPA -- actually, --
9 Actually, I'm going to jump back.

10 The Gaub WPA is on map 12c.

11 And it's kind of in the lower
12 left-hand corner.

13 MR. WAHL: Is that Exhibit 12c, Mr.
14 Hunker?

15 THE WITNESS: Correct.

16 MR. CRAMER: It's down in here?

17 THE WITNESS: It's down in here.

18 Q. (By Ms. Smith) And you're
19 pointing, then, to the lower left-hand corner
20 of the map, right, --

21 A. Correct.

22 Q. -- on Exhibit C, 12c?

23 A. Correct.

24 MR. SAGSVEEN: 12 -- has 12c been
25 admitted? Or have all 12 Exhibits been ad --

1 MS. SMITH: Yes.

2 MR. SAGSVEEN: -- admitted?

3 MR. WAHL: Yes.

4 MR. SAGSVEEN: Okay.

5 I just couldn't remember if it was
6 those three sub-12s that had been put up.

7 MR. WAHL: No, they, they are
8 all -- they were all Exhibit 12.

9 A. Next WPA's the Hoornaert WPA,
10 that's on Exhibit 12e.

11 And that, again, is in the -- on
12 the left-hand section of the map.

13 And the East Park Lake WDA is on
14 map 12b. Sorry to make you jump back and forth
15 there.

16 That's basically right in the
17 middle, right along Highway 41 here.

18 Q. (By Ms. Smith) And then are there
19 any other avoidance areas that are located
20 within the project corridor?

21 A. Yes, there is.

22 Next criteria, designated and
23 registered state management areas.

24 There's one Wildlife Managem --
25 Management Area, the Wilbur Boldt WMA, that is

1 located within the corridor.

2 Minnkota will work with the North
3 Dakota Game and Fish Department and no
4 structures will be placed within or lines will
5 cross this, this WMA.

6 And this facility is located on map
7 12a.

8 It's about a mile east of the
9 Center substation.

10 Okay. I -- it's, again, on the
11 left-hand side.

12 MR. WAHL: For the record, the
13 witness refers to Exhibit 12a.

14 Mr. Hunker, I -- you're going to --
15 I -- I'm, I'm jealous of the record. It's an
16 Exhibit, not a map, please.

17 THE WITNESS: Sorry.

18 A. Next criteria are historic
19 resources not designated as exclusion or
20 avoidance areas.

21 There are eleven previously
22 recorded archaeological resources within the
23 North Dakota State Historic Preservation, or
24 SHPO, database that are present within the
25 corridor.

1 Also, within the corridor are 12
2 historic structures previously recorded within
3 SHPO's database.

4 None of these resources will be
5 impacted by construction or operation of the
6 project.

7 And Minnkota will conduct a Class
8 III Cultural Resource Field invest --
9 investigation on the high probability areas in
10 accordance with the SHPO guidelines to avoid
11 impacting cultural resource previously
12 identified.

13 RUS and Minnkota are engaged in the
14 Section 106 consultation process to consult
15 with the SHPO, Native American tribes and
16 others on the project.

17 The product of this process is a
18 Programmatic Agreement, or PA, to address the
19 Class III Field Survey, treatment plan and
20 monitoring.

21 Under the PA, Minnkota will develop
22 an Unanticipated Discoveries Plan to establish
23 procedures that will be followed if cultural
24 resources are unexpectedly encountered during
25 construction.

1 And this plan is being reviewed by
2 SHPO.

3 Q. (By Ms. Smith) And you mentioned a
4 Section 106 consultation. Can you explain
5 this, what a Section 106 consultation is?

6 A. Under NEPA, in order to comply with
7 Section 106 of the National Historic
8 Preservation Act, federal agencies must
9 consider effects to historic properties and
10 afford the opportunity for comment by the
11 Advisory Council on Historic Properties.

12 Q. And what's the status of the
13 Section 106 consultation?

14 A. The Programmatic Agreement has been
15 sent to the required signatories and the
16 invited signatories for review and signature.

17 Q. And could you explain what a
18 Programmatic Agreement is?

19 A. Sure.

20 Again, a Programmatic Agreement, or
21 PA, is a document that spells out the terms of
22 the legally -- of a formal, legally-binding
23 agreement between agencies.

24 And the PA establishes a process
25 for consultation, review and compliance with

1 one or more federal laws.

2 In context of Section 106 of the
3 National Historic Preservation Act, PAs are
4 used for unanticipated discoveries.

5 Q. And are there other avoidance areas
6 present within the project area?

7 A. Yes.

8 Q. Could you please discuss those
9 further?

10 A. Sure.

11 The next criteria is a corridor
12 within 500 feet of a residence.

13 There are four occupied residences
14 and one vacant but occupiable home located
15 within the corridor.

16 Minnkota will develop a route
17 within the project corridor that maximizes
18 setbacks from residences.

19 If locating a route within 500 feet
20 of an occupied residence is preferable due to
21 other routing factors, Minnkota will work with
22 the affected landowner to obtain a waiver of
23 the 500-foot-setback requirement.

24 If waivers cannot be obtained,
25 Minnkota will be able to develop a viable route

1 within the project corridor that will satisfy
2 the 500-foot setback, as well as other siting
3 requirements.

4 Q. And this number of residences
5 within the corridor, is that different than
6 what was proposed in the Certificate of
7 Corridor Compatibility application?

8 A. Yes. As originally filed, the
9 application had -- or the corridor had seven
10 homes within the -- or -- yeah, seven homes
11 that were within the corridor. And that number
12 has been dropped down to five.

13 Q. And why has that number changed?

14 A. Due to two route shifts that Mr.
15 Hennes discussed.

16 Q. Okay. And are there other
17 avoidance areas that you'd like to discuss?

18 A. Yes.

19 The next criteria, water sources
20 for organized rural water districts.

21 McClusky Canal will be crossed by
22 the project corridor and no impacts are
23 anticipated to the canal or water availability
24 for rural water districts.

25 Rural water pipelines are

1 potentially present within the corridor and no
2 impacts are anticipated.

3 Will sur -- Minnkota will survey
4 four underground utilities in order to avoid
5 these impacts.

6 Next criteria is irrigated land.

7 There's one central-pivot
8 irrigation system located within the project
9 corridor and this system will be avoided by a
10 route within the corridor.

11 Last avoidance criteria is areas of
12 recreational significance, not designated as
13 exclusion areas.

14 The North Country National Scenic
15 Trail, the Lewis and Clark National Historic
16 Trail and the Chain of Lakes Recreational Area,
17 McClusky Canal are located within the corridor.

18 Minnkota will span these trails and
19 the Chain of Lakes Recreation Area.

20 Visual impacts will be minimized by
21 the placement of structures, by placing
22 structures away from the features, to the
23 extent practical.

24 Access to these features will be
25 maintained so that recreational activities may

1 continue.

2 There is no reasonable alternative
3 to crossing these features, since the trail
4 runs parallel to the Missouri River and the
5 McClusky Canal.

6 Minnkota proposes to cross the
7 Missouri River near existing transmission lines
8 and cross the Chain of Lakes along State
9 Highway 41.

10 Q. And will any significant adverse
11 effects resulting from the location,
12 construction and operation of the project
13 within the project corridor, as they relate to
14 the selection criteria set forth in the
15 Commission's rules, be at an acceptable minimum
16 or managed and maintained at an acceptable
17 minimum?

18 A. The -- yes. And the selection
19 criteria is outlined in Section 3.1 (sic) and
20 Table 3.3-1 of the Corridor application,
21 Exhibit 3.

22 Q. And were environmental studies
23 conducted for the project?

24 A. Yes.

25 Q. And could you please identify what

1 studies were conducted and when any applicable
2 reports were or will be filed with the
3 Commission?

4 A. Sure.

5 There's a number of environmental
6 studies that were conducted over the course of
7 developing the project corridor.

8 The studies that were filed with
9 the application include the following.

10 The Macro-Corridor Study, which is
11 Exhibit (sic) B to the application.

12 Scoping Report, which is Exhibit
13 C -- or Appendix C to the application.

14 Environmental Assessment with
15 Scoping, Appendix D to the application.

16 Cultural Resources Class I
17 Literature Search, Appendix F to the
18 application.

19 And the Raptor Nest Survey,
20 Appendix G to the application.

21 In addition, some fieldwork has
22 recently, recently been completed on additional
23 environmental studies.

24 Once the reports are complete, they
25 will be filed in conjunction with the Route

1 Permit application.

2 These include the Wetland
3 Delineation Report, Class III Cultural
4 Resources Inventory, Architectural Survey and,
5 and the Tree Inventory.

6 Q. And were all of the studies
7 conducted, and the reports that have been
8 completed to date, prepared under your
9 supervision and control?

10 A. Yes.

11 Q. Could you briefly discuss the key
12 reports that have been prepared?

13 A. Yes. I'd like to highlight a
14 couple of these reports.

15 The first being the Environmental
16 Assessment with Scoping, again, Appendix D to
17 the application.

18 The RUS is an agency that
19 administers the U.S. Department of
20 Agriculture's Rural Development Utilities
21 Program. It is required to complete an
22 environmental analysis prior to providing
23 financial assistance for the project.

24 This environmental analysis then
25 helps us -- is in accordance to the RUS's

1 guidelines, titled Environmental Policy and
2 Procedures for implementing NEPA.

3 The outcome of the EA, is that the
4 EA proposed three route alternatives and 39
5 segment alternatives and identified a preferred
6 route alternative, which was used as the basis
7 for the proposed corridor in the Corridor
8 application.

9 The next study that I'd like to
10 highlight is the Cultural Resources Class I
11 Literature Search, Appendix F to the
12 application.

13 The purpose of this literature
14 search was to determine the location of
15 previously recorded cultural properties and
16 surveys, archaeological surveys, architectural
17 surveys and archaeological sites, within the
18 Macro-Corridor and to assess the potential for
19 the presence of unrecorded archaeological
20 resources within the Macro-Corridor.

21 This report found a total of 242
22 Class -- cultural resource investigations that
23 have been completed within the Macro-Corridors.

24 These cultural resource
25 investigations yielded 270 archaeological

1 sites, 410 architectural properties and 277
2 isolated sites.

3 As a result of these findings, the
4 Class III Report -- or Class III Inventory was
5 recommended.

6 Q. In addition to the formal studies
7 that you've just discussed, were there any
8 other key analyses of the project corridor
9 conducted?

10 A. Yes.

11 As Mr. Phillips discussed in his
12 testimony, EMF fields were calculated for the
13 project.

14 In addition, audible noise from the
15 transmission line was modeled and found no
16 significant effects.

17 We conducted visual simulations of
18 the structures that were completed for the
19 public meetings.

20 Floodplain analyses were completed
21 for the Missouri River, the Sheyenne River and
22 the English Coulee.

23 We conducted an overview study for
24 high quality native prairie areas.

25 We also conducted a -- or suitable

1 whooping, whooping crane habitat was
2 identified.

3 Q. And both you and Mr. Henn -- Hennes
4 have testified that the proposed project is
5 undergoing a federal NEPA review process. I
6 take it that, as environmental consulting
7 project manager, you've been involved with that
8 process?

9 A. Yes.

10 Q. And so you're familiar with the
11 purpose and components of the NEPA review
12 process?

13 A. Yes.

14 Q. What is the purpose of the NEPA,
15 NEPA review process?

16 A. Well, Minnkota's requesting
17 financing assistance from the Rural, from the
18 U.S. Department of Agriculture Rural Utilities
19 Service to construct the project.

20 The RUS is an agency that
21 administers the U.S. Department of
22 Agriculture's Rural Development Utilities
23 Program.

24 It is required to complete an
25 environmental analysis prior to approving this

1 financial assistance.

2 The RUS is following its policies
3 and procedures. Again, it's titled
4 Environmental Policy and Procedures for imp --
5 implementing NEPA, in order to ensure
6 compliance with NEPA and related laws,
7 regulations and executive orders.

8 Q. And could you explain what the NEPA
9 review process entails?

10 A. Well, first, the applicant files a
11 Notice of Intent, or NOI, to prepare an EA and
12 hold scoping meetings.

13 Then, then the applicant -- or then
14 the agency holds the scoping meetings that
15 identify potential project effects and concerns
16 that would be addressed in the EA document.

17 And then you draft a scoping
18 report.

19 Next step is to draft an
20 Environmental Assessment that discusses the
21 purpose and need, the reasonable and feasible
22 alternatives, a description of the proposed
23 action and reviews the, reviews the affected
24 environment with impacts and mitigation of the
25 proposed action.

1 Then the EA is released for a
2 30-day comment period.

3 Following this comment period, an
4 EA comment report is issued with responses to
5 the comments received during that 30-day
6 comment period.

7 An issuance of findings by the RUS.

8 And as mentioned earlier, the RUS
9 is engaged, is also engaged in Section 7
10 consultation with U.S. Fish and Wildlife
11 Service and Section 106 consultation with SHPO
12 and U.S. Fish and Wildlife Services.

13 Q. And Mr. Hennes testified the NEPA
14 review process provides opportunities for
15 public involvement. And I take it that is also
16 true for agency input. Is that right?

17 A. Yes. As shown in Exhibit 9, and as
18 discussed in the application, there have been
19 many opportunities for input by the general
20 public, as well as federal and state agencies.

21 For public participation, as Mr.
22 Hennes discussed, there has been about 18
23 meetings, about 800 people have attended those
24 meetings. And we've received about 300
25 comments.

1 For the federal, state and local
2 agency participation, we have attended
3 intra-agency meetings at the Corps' office.

4 The RUS has hosted the agency
5 scoping meeting.

6 And Minnkota's attended county
7 commissioner meetings.

8 We've also engaged the Tribes
9 through letters, conference calls, meetings.
10 The Missouri and Sheyenne River field reviews.
11 A Programmatic Agreement.

12 And augering them -- and offering
13 them a -- the opportunity to monitor augering
14 locations of the structures.

15 Q. And I believe Mr. Hennes testified
16 that the expected result is a finding of no
17 sig -- significant impact, or a FONSI, and that
18 it's anticipated in 60 to 90 days. Is that
19 correct?

20 A. Yes.

21 Q. And earlier, Mr. Phillips testified
22 that the factors set forth in North Dakota
23 Century Code, Section 49-22-09 were considered
24 when selecting the project corridor. Would you
25 concur with that testimony?

1 A. Yes. A discussion of these factors
2 is provided in Section 8 on Pages 8-1 and (sic)
3 8-4 of the application, Exhibit 3.

4 Q. And I want to just focus on the
5 last two factors set forth in Section 49-22-09.

6 Section 10 of that provision
7 requests information regarding any anticipated
8 effects of selecting the proposed corridor on
9 areas which are unique because of biological
10 wealth or because they are habitats for rare
11 and endangered species.

12 In addition to the information
13 that's provided in Section 8.10 of the Corridor
14 application, is there any in -- other
15 information that you would like to present to
16 the Commission today?

17 A. Yes. In Sections 5.14, 5.15 and
18 5.16 of the application, it discusses
19 conservation measures that Minnkota will
20 implement to avoid and minimize the effects of
21 biological resources in the vicinity of the
22 project corridor.

23 In addition, the RUS, Minnkota and
24 the U.S. Fish and Wildlife Service are
25 determining the appropriate conservation

1 measures for the federally-listed species
2 through the Section 7 consultation process.

3 As a result, the impact of the
4 project on vegetation, wildlife and sensitive
5 species is expected to be minimal.

6 Q. And with respect to Section 11 of
7 that particular provision, Section 49-22-09,
8 could you please discuss whether any problems
9 or -- were -- concerns were raised by federal
10 or state agencies or local entities that were
11 not specifically addressed in Section 8.10 of
12 the Corridor application -- actually, it should
13 be 8.11 of the Corridor application, excuse me?

14 A. I'd like to address some concerns
15 provided by the North Dakota Department of
16 Parks and Recs, Recreation.

17 Since it may not be readily
18 apparent from the application how these
19 concerns were addressed, the Department
20 recommended selecting the southern corridor
21 identified on the preliminary corridor map,
22 avoiding the Cross Ranch Nature Preserve and
23 obtaining appropriate permits to cross any
24 federal Land and Water Conservation Fund
25 properties.

1 Minnkota did utilize the southern
2 corridor. In addition, the proposed corridor
3 does not cross the Cross Ranch Nature Preserve.
4 And all the federal Land and Water Conservation
5 Fund properties have been avoided.

6 We've also spoke with The Nature
7 Conservancy regarding their properties near the
8 Cross Ranch Preserve in, in Sheridan County.
9 And The Nature Conservancy properties are not
10 within the project corridor. And there were no
11 issues to be addressed.

12 Additionally, Minnkota continues to
13 consult with the U.S. Fish and Wildlife Service
14 on the appropriate line marking mitigations --
15 or line marking measures.

16 Q. And have any agency comments been
17 received since the Certificate of Corridor
18 Compatibility application was filed?

19 A. Yes. The Environmental Assessment
20 Comment Report was issued after the Corridor
21 application.

22 In addition, we are also engaged in
23 ongoing communication with various agencies and
24 updated information will be provided during the
25 Route Permit proceedings.

1 Q. And if you would look in the
2 Exhibit binder at what has been previously
3 marked as Exhibit 20?

4 Is this the Environmental
5 Assessment Comment Report that you were
6 referencing?

7 A. Yes.

8 Q. And could you explain what the
9 Environmental Assessment Comment Report is?

10 A. It's a report issued by the Rural
11 Utilities Service that documents the comments
12 and responses they received during the 30-day
13 EA comment period.

14 Q. And when was the Environmental
15 Assessment Comment Report issued?

16 A. March of 2011.

17 MS. SMITH: I would offer the --
18 Exhibit 20.

19 MR. WAHL: Mr. Sagsveen?

20 MR. SAGSVEEN: I don't think I have
21 any objections. Is this -- should this be
22 considered a supplement to the November 2010
23 Comment Report in the Permit application or a
24 replacement?

25 THE WITNESS: The Comment Report?

1 MS. SMITH: What Appendix are you
2 referencing?

3 MR. SAGSVEEN: D.

4 MS. SMITH: D?

5 THE WITNESS: Is that the
6 Environmental Assessment?

7 MS. SMITH: Yeah.

8 MR. SAGSVEEN: Yeah, it -- I'm
9 sorry. If it's not the Comment Report, it's
10 just --

11 THE WITNESS: In addition to.

12 MR. SAGSVEEN: -- the Environmental
13 Assessment.

14 So this should --

15 MS. SMITH: This is in addition to
16 that.

17 MR. SAGSVEEN: Okay. No
18 objections.

19 MR. WAHL: Exhibit 20 is received.

20 Q. (By Ms. Smith) In your opinion,
21 and based on your study and review of the
22 Exhibits and testimony presented here today,
23 and the siting statutes and rules, will
24 construction of the proposed project within the
25 proposed project corridor produce minimal

1 adverse environmental effects?

2 A. Yes.

3 MS. SMITH: I have no further
4 questions.

5 MR. WAHL: Mr. Sagsveen?

6 MR. SAGSVEEN: I don't have any
7 questions.

8 MR. WAHL: Mr. Lein?

9 MR. LEIN: Yeah.

10 Just -- all of these Waterfowl
11 Production Areas, and, and stuff that we
12 described there, that appeared to me, looking
13 at them, that none of them take up more than
14 half the corridor width. Is that true?

15 THE WITNESS: Yes.

16 MR. LEIN: Okay.

17 And another question I had, is
18 looking at the route, was, was there a reason
19 that we could not parallel the McClusky Canal
20 or, or use part of that for right of way?

21 THE WITNESS: The McClusky Canal is
22 a -- it -- it's federal lands, and due to P --
23 the PSC's siting criteria, we tried to, tried
24 to stay away from, from those types of
25 facilities.

1 MR. LEIN: Like it's an avoidance
2 area or an exclusion area, I don't --

3 THE WITNESS: Correct.

4 MR. LEIN: -- know.

5 It's not -- I might have to think
6 about that one.

7 And the, the homes that are within
8 the corridor, what happens if some of those
9 will not waive? Is there room to get around
10 them in the corridor without violating the
11 500-foot statute?

12 THE WITNESS: Yes, we believe we
13 can get a site route within the corridor that
14 would be 500 feet away.

15 MR. LEIN: Okay.

16 And then I think that's it for my
17 questions, thanks.

18 THE WITNESS: Okay.

19 MR. WAHL: Commissioner Cramer.

20 MR. CRAMER: I have no questions
21 for this witness.

22 MR. WAHL: Commissioner Kalk.

23 MR. KALK: You know it, Judge, I've
24 got to have questions.

25 The --

1 MR. WAHL: You're the commissioner.

2 MR. KALK: The --

3 A, first a question for Matt.

4 Now tell me the -- your question,
5 you asked about, was this a su -- a supplement
6 for the comments?

7 Explain to me what your question
8 was there exactly, because I think was
9 somewhere -- when --

10 Because you testified 300 comments.
11 And the Exhibit has comments 303 to 350
12 something. 356. So where are the other 1 to
13 300 comments at?

14 THE WITNESS: The Comment Report
15 has comments I received only during the 30-day
16 EA comment, comment period, so all of the 300
17 comments include all of the comments I received
18 during the public involvement and agency
19 outreach effort from basically 2009 to the
20 present time.

21 So there, there are some comments
22 that are not included in that report.

23 MR. KALK: So where would I find
24 the, all of the comments to read through?

25 THE WITNESS: There are some

1 comments located, or summarized within the
2 scoping reports.

3 Otherwise, some of them were just
4 ones that we collected at open houses.

5 MR. KALK: I guess where I'm
6 going is, I, I guess I'd like to --

7 THE WITNESS: For you --

8 MR. KALK: -- see, I'd like to see
9 the listings, just like you did here, of all of
10 the comments.

11 And so if -- I don't know if we'd
12 call it a late Exhibit, because this is going
13 to be open for three days, or if you could,
14 maybe tomorrow, present something better.

15 Because this, this is very helpful,
16 when you look at the -- Page 2-1, it lays out
17 the comment number, who commented, what the
18 topic was.

19 It'd be nice just to look through
20 all of them.

21 THE WITNESS: Uh-huh.

22 MR. KALK: So if you -- maybe you,
23 maybe tomorrow you can lay out exactly where
24 those might be, because that's -- there's some,
25 there's some good things in there that I think

1 will help us as we, we go through the decision
2 process here.

3 THE WITNESS: Okay.

4 There's also some comments that are
5 highlighted within the Macro-Corridor Study as
6 well. And --

7 MR. KALK: Okay. I can look at
8 those tonight, then, because I'm sure we'll see
9 each other tomorrow.

10 THE WITNESS: Okay.

11 MR. KALK: The -- how much were you
12 involved in the, the route disqualification, if
13 you will, all the way through from -- you know,
14 we, we started with a bunch of different
15 choices, you narrowed it down to three.

16 How much were you involved in that
17 disqualification, as far as related to
18 environmental things?

19 THE WITNESS: I was involved in the
20 disqualification.

21 MR. KALK: But like how? Give me
22 an example of how it -- how you, how you do
23 that.

24 I mean, did you -- how, how did you
25 prepare the: this is better, this is worse?

1 THE WITNESS: Right. Mostly, we
2 looked at, you know, basically wetland areas,
3 large wetlands, cultural resource sites and
4 some of the land use matters.

5 And we, we would basically look at
6 one segment and a segment that may be adjacent
7 or near it, or something like that, and we
8 would have a discussion with our team and --

9 MR. KALK: Did you have any like
10 weighted --

11 THE WITNESS: -- see if they were
12 interested in some --

13 MR. KALK: Were they weighted any
14 differently, the factors or were they all kind
15 of the same?

16 THE WITNESS: Well, since there's
17 a -- corridor crosses, you know, a large
18 portion of the state, there are certain
19 criteria in certain areas that may have
20 differing factors upon, upon the landscape;
21 such as, in the Red River Valley, there are not
22 quite as many wetlands as in the Missouri River
23 area.

24 And so, you know, some of the large
25 wetlands in the Missouri River area kind of

1 created more of a constraint than in the Red
2 River Valley area.

3 MR. KALK: Okay. I think somebody
4 testified before about the two, the beginning
5 questions, crossing the two rivers was kind a
6 big issue, northwe --

7 THE WITNESS: Kind of in a
8 neck-down point area.

9 MR. KALK: Okay. Do you think the
10 delay in the FONSI is, is administrative or is
11 there something that they're, they're concerned
12 about environmentally?

13 THE WITNESS: I think it's because
14 we kind of, kind of had to narrow it down, the
15 corridor and we had to conduct some field
16 analysis to find out like the whooping crane
17 suitable habitat.

18 To find out exactly where some of
19 the line marking would occur.

20 So I think it's, it's, it's, it's
21 more of, sort of the process.

22 MR. KALK: Okay.

23 THE WITNESS: And some of the
24 fieldwork efforts.

25 MR. KALK: The -- when you talk

1 about comments, you refer to agencies. I
2 assu -- I assume that's under federal or state
3 agencies.

4 How do you classify a group like
5 Ducks Unlimited, if, if they would comment? Is
6 that an agency or is that just a -- an
7 individual citizen? Do they have any different
8 standing?

9 THE WITNESS: We basically kind of
10 use them like a citizen or a, or a
11 nongovernmental organization.

12 MR. KALK: Okay. And then, you
13 know, we get around to do a lot of hearings. A
14 different company's set a transmission line and
15 there was a lot of discussion about bird flight
16 deflectors.

17 Have you had any discussions with
18 the Fish and Wildlife Service or anyone about
19 installing those?

20 Because I, I think we had a hearing
21 where, where -- I know we did. We had a
22 hearing that -- and, and the company put them
23 on, but I don't know if they were, if they were
24 directed to do it or if they just chose to do
25 it, I can't remember.

1 THE WITNESS: Okay.

2 MR. KALK: But, but have you had
3 any, any guidance, that you might need to put
4 whooping crane bird flight deflectors on, for
5 lack of a better term?

6 THE WITNESS: Yes, we've had
7 discussions with the U.S. Fish and Wildlife
8 Service regarding bird flight diverters.

9 MR. KALK: So what's -- where is
10 the status of that? I mean, is that like
11 something you'll have to do or --

12 THE WITNESS: Currently, that's in
13 discussion with the U.S. Fish and Wild Service.
14 More than likely, yes, we'll have to do that.

15 MR. KALK: Okay. And then the last
16 question is: the -- do you have to participate
17 or prepare a habitat conservation plan as part
18 of this project?

19 Different wind farms have done
20 that, it has become almost like a deal breaker
21 for them.

22 THE WITNESS: That has not been
23 discussed -- or the U.S. Fish and Wildlife
24 Service has not brought that up.

25 MR. KALK: Have you asked the

1 question?

2 THE WITNESS: We don't anticipate
3 adverse effects due to this project, so that's
4 why we're not anticipating a habitat
5 conservation plan.

6 MR. KALK: I'll just throw this out
7 there just for thought, because there's,
8 there's projects that are -- that I -- would
9 appear, that are, that are far and away from
10 the flyway that had to prepare habitat
11 conservation plans, so --

12 I don't know, that may come out at
13 some point in time, so --

14 That's all the questions I have,
15 thank you.

16 MR. WAHL: Follow-up, Ms. Smith?

17 MS. SMITH: I just want to clarify.

18

19 REDIRECT EXAMINATION

20 BY MS. SMITH:

21 Q. With respect to the McClusky Canal,
22 I think Mr. Lein asked about that, and we've
23 identified that as an area of recreational
24 significance and, and, therefore, an avoidance
25 area. Is that correct?

1 A. Yes.

2 MS. SMITH: That's all the
3 questions I have.

4 MR. WAHL: Mr. Sagsveen?

5 MR. SAGSVEEN: Just one short
6 follow-up, please, your Honor.

7

8 CROSS-EXAMINATION

9 BY MR. SAGSVEEN:

10 Q. The, the document that's Exhibit
11 20, is -- the document that you provided, the
12 document that the, the government pr -- has
13 produced or is that an -- is this an excerpt of
14 a -- another document?

15 A. This is what the Rural Utilities
16 Service produced.

17 Q. Okay. So there isn't another few
18 sections in a different spot or --

19 A. No. This highlights the comments
20 and the responses received during their 30-day
21 EA comment --

22 Q. Okay.

23 A. -- review period.

24 Q. And so what you've provided to us
25 is exactly what you've received from the

1 government?

2 A. Yes.

3 Q. Okay.

4 MR. SAGSVEEN: No further --

5 MR. WAHL: Mr. --

6 MR. SAGSVEEN: -- questions.

7 MR. WAHL: Mr. Lein?

8 MR. LEIN: No questions.

9 MR. WAHL: Anything further from
10 the Commissioners?

11 Commissioner Cramer.

12 MR. CRAMER: Thank you.

13 Just so I -- for, for clarification
14 purposes, for the record. With regard to
15 comments. The comment was made by a landowner,
16 to a land agent, to a -- perhaps at an open
17 house that might have caused the, the, the
18 company to make a change in, is it location of
19 a, of a structure, or something, that might not
20 have been documented, documented, but it might
21 have caused a, a change in the, in the route or
22 a change in, at least in, in location of a
23 structure. Is that accurate?

24 That, and that may not have been
25 documented in, in evidence, but certainly it

1 was a comment that might be part of the
2 aggregate. Is that accurate?

3 THE WITNESS: Yes. All of our
4 right of way agents enter all of their comments
5 into a database.

6 MR. CRAMER: So somewhere there is
7 a database with all of those comments. Is that
8 accurate?

9 THE WITNESS: With, the right of
10 way agent's discussions with landowners,
11 yes.

12 MR. CRAMER: But perhaps not at an
13 open house or something like that?

14 THE WITNESS: Some of those
15 conversations can be private, so we don't want
16 to publish them at an open house.

17 MR. CRAMER: Okay. That's -- I
18 understand.

19 Then one other question, because
20 a -- along the lines of Commissioner Kalk's
21 questioning regarding the bird diverters, and
22 whatnot, I'm, I'm thinking when we have the
23 hearing, perhaps more in the Pothole Region or
24 in the first hundred miles or the western 100
25 miles where we are finding whooping crane,

1 maybe we'll hear more about that. Is that
2 possible?

3 THE WITNESS: Well, currently, we,
4 as a part of the Section 7 process, we are
5 drafting what's called a Biological Assessment.
6 That's a document to the U.S. Fish and Wildlife
7 Service that documents conservation measures.

8 And, currently, like I said, we're,
9 we're drafting that, we're going to hopefully
10 submit that to the U.S. Fish and Wildlife
11 Service in a couple weeks here.

12 MR. CRAMER: How about, then, with
13 regard to taking, for example, a -- tran -- we
14 say a lot of transmission lines, but we, we say
15 it, many more, energy-conversion facilities, so
16 habitat's often more of a topic for a wind
17 farm; whereas, diverting or taking -- bird kill
18 is more common to a, a transmission line. Is
19 that an accurate statement?

20 THE WITNESS: Well, due to the
21 small footprint of this project, we don't
22 anticipate -- or we anticipate having minimal
23 effects upon the landscape.

24 MR. CRAMER: All right, I have
25 nothing further, thank you.

1 MR. WAHL: Anything further from
2 the Commissioners?

3 MR. KALK: Just maybe a follow-up
4 here. Kevin brought out a good point. Because
5 look at, that's what I was trying to get to,
6 is, is to just show that there's been a lot of
7 comments from the agencies, that there has --
8 has been responsive or hasn't been responsive
9 to, to public input.

10 So if there's something that the
11 company can produce at that -- at, at later
12 hearings, I think that'd be very helpful.

13 So -- thank you.

14 THE WITNESS: Thank you.

15 MR. WAHL: Anything further from
16 the Commissioners?

17 Follow-up, Ms. Smith?

18 MS. SMITH: I do have one.

19

20 REDIRECT EXAMINATION

21 BY MS. SMITH:

22 Q. With respect to the comments that
23 we're discussing, there's a difference, isn't
24 there, between the comments that are acquired
25 by Minnkota and then the comments that are

1 obtained by RUS as a formal part of the RUS
2 process. Is that right?

3 A. Yes. All of the comments received
4 during, all the comments that the RUS receives
5 during the National Environmental Policy Act,
6 or NEPA process, are contained within,
7 summarized in some kind of document, whether
8 it's the Macro-Corridor Study, scoping report
9 or the comment report.

10 Q. So all of those comments during the
11 RUS process are provided in some form in, in
12 the application or in the Exhibits that have
13 been presented?

14 A. Yes.

15 Q. And so the other comments that we
16 have are just internal comments from Minnkota.
17 Is that right?

18 A. Yes.

19 MS. SMITH: Okay. I have no
20 further questions.

21 MR. WAHL: Mr. Sagsveen?

22 MR. SAGSVEEN: No further
23 questions.

24 MR. WAHL: Mr. Lein?

25 MR. LEIN: No questions.

1 MR. WAHL: Commissioners?

2 MR. CRAMER: None.

3 MR. WAHL: Thank you very much, Mr.
4 Hunker.

5 THE WITNESS: Thank you.

6 (Whereupon, the witness was
7 excused.)

8 MS. SMITH: That concludes our
9 direct testimony.

10 MR. WAHL: All right. We're going
11 to take a, a ten-minute recess, at which time,
12 if anybody has any specific questions
13 concerning their testimony, any member of the
14 public has any specific questions concerning
15 their testimony, and especially if anyone has
16 any Exhibits, any documents which they would
17 want to be made part of the record as part of
18 their testimony, it is important that you bring
19 those to me, that I get them marked so that --
20 and, and really, so we can get the lawyers to
21 get a look at them so we can save, maybe save
22 some time.

23 In any event, ten minutes. We'll
24 be in recess for ten minutes or until I call us
25 back to order. Thank you.

1 (Whereupon, a seven-minute recess
2 was taken.)

3 MR. WAHL: All right. Let's be in
4 order, please.

5 All right, we'll begin with public
6 testimony. I'll just ask people who wish to
7 testify or make a statement to the Commission
8 to come forward, have a seat.

9 I'll ask you your, your name,
10 where -- your residence address, whether your
11 post office address is the same as your
12 residence address, whether you appear for
13 yourself or whether you're, whether you're
14 speaking for a group or whether you're speaking
15 for yourself.

16 And then I'll administer the oath
17 and I'll tell you, you may proceed.

18 After you complete your
19 presentation, the lawyers get to ask you
20 questions and the Commissioners get to ask you
21 questions.

22 I'm -- I can tell you that it's not
23 cross-examination, it's simply questions by, by
24 the lawyers and the Commission who wish to be
25 sure that they understand what it is that you

1 want them to know.

2 So with the first person, please.

3 Come forward.

4 Please state your name for the
5 record, sir?

6 MR. WELTE: My name is Herbert
7 Welte. I'm speaking for my wife and I.

8 I --

9 MR. WAHL: Mr. Welte, would you
10 spell your last name for me, please?

11 MR. WELTE: W-e-l-t-e.

12 MR. WAHL: All right. And what is
13 your residence address, Mr. Welte?

14 MR. WELTE: 624 46th Street
15 Northeast; Aneta, North Dakota.

16 MR. WAHL: Is that also your post
17 office address?

18 MR. WELTE: Yes, it is, sir.

19 MR. WAHL: All right. All right.
20 Mr. Welte, as you heard me advise the prior
21 witnesses, your testimony is required to be
22 under oath. And I'm required by law to advise
23 you regarding perjury before administering the
24 oath.

25 Perjury is a false statement of

1 material fact which you do not believe to be
2 true.

3 In North Dakota, perjury's a class
4 C felony, punishable by a fine up to \$5,000,
5 imprisonment for a period of five years or
6 both.

7 Will you raise your right hand,
8 please?

9 Being advised regarding perjury,
10 Mr. Welte, do you swear that the testimony
11 which you're about to give in this matter shall
12 be the truth, the whole truth and nothing but
13 the truth?

14 MR. WELTE: I do, sir.

15
16 H E R B E R T W E L T E,
17 being first duly sworn, testified on his oath
18 as follows:

19
20 MR. WAHL: You may proceed, sir.

21 MR. WELTE: I have just basically
22 two comments I think.

23 My first one is, I, I, I would
24 question the method that was described to me
25 by, by Kelly Anderson, who is the

1 representative of the, the company that I spoke
2 with in relation to the, the way the price of
3 land was, was achieved.

4 The dates, when they did the study
5 for the price of land, was betwee -- I believe
6 she said 2009 and 2010, or early 2010.

7 We have a, a sale of property 2
8 miles north of our farm, a -- about four months
9 ago. We, we referred to is as the Mutchler
10 land. There was seven quarters.

11 The, the sale of that property was
12 between \$1750 an acre on the bottom end and
13 the, the top end was 2520, \$2550 an acre.

14 When, when we spoke with Ms., Mrs.
15 Kelly -- excuse me, Mrs. Anderson, she
16 mentioned that -- and showed us the appraisal
17 of, of land at that time in 2009, 2010, which I
18 believe was around \$1300 an acre.

19 This does not reflect the current
20 price of land, as, as I have just pointed out.

21 Of course, I, in some respects, I
22 feel sorry for the power company because
23 obviously they are building a line through
24 property that is excessively high, I think.

25 Being an old, an aged individual,

1 I, I think, very frankly, that, that, that they
2 probably are paying excessive, exorbitant land
3 prices.

4 I, I don't know how to put it other
5 than that.

6 By the way, I, I do want to
7 comment, when I -- one of the -- I want to
8 compliment the, the Public Service Commission's
9 members for being so darn alert as this hearing
10 has gone.

11 I want to express my condolences to
12 you for having to go through this all over
13 again.

14 But, anyway, we'll get back to
15 this.

16 The second, the second point I had
17 was, I am very firmly convinced that a
18 landowner, when they are approached to, to
19 having to sell their land or to have it
20 acquired by a utility, should be a -- or, or
21 have some say in how that payment is taken.

22 Whether it be in, in one lump sum
23 or annual payments, as, as quite obviously it
24 will be a huge advantage for me.

25 If I have to pay it -- the tax up

1 front in one lump sum, it's going to -- much of
2 it is going to go to the government, as is
3 quite obvious.

4 I just, I just think that this is
5 something that has to be considered. I don't
6 know whether it can be done now or not. I know
7 how -- I spoke to Kelly Anderson about this
8 when, when I was approached initially, that, of
9 all of the things that I thought would allow me
10 to sincerely consider signing it, an option to
11 sell our land. Or have it acquired.

12 The first and most important thing
13 was that it should be an annual payment,
14 because Lord knows I don't need, my wife is
15 going to kick me in the shorts for this
16 comment, I don't need, need the money.

17 Certainly those people that come
18 after me could perhaps have better use of that
19 money because they are the ones that are going
20 to have to put up with this power line.

21 Obviously it's going to be here for
22 an extended period of time. And certainly the
23 funds would go to the -- whoever owns that
24 land.

25 That's about all the questions --

1 or comments I have.

2 I want to thank you for being
3 willing to listen to an old man who really is
4 not entirely sure whether he makes a hell of a
5 lot of sense or not, but, but, frankly, I think
6 it does have to be said.

7 So I'll thank you for your time.

8 MR. WAHL: All right. Ms. Smith,
9 any questions --

10 MS. SMITH: I have --

11 MR. WAHL: -- or do you --

12 MS. SMITH: I'm sorry. I have no
13 questions.

14 MR. WAHL: Mr. Sagsveen?

15 MR. SAGSVEEN: I have no questions.

16 MR. WAHL: Mr. Lein?

17 MR. LEIN: No questions, thank you.

18 MR. WAHL: Commissioners?

19 MR. CRAMER: I --

20 MR. WAHL: Commissioner Cramer.

21 MR. CRAMER: Yeah.

22 First of all, let me express my
23 appreciation for your courage and your
24 willingness to do this and I'm glad you've set
25 the trend.

1 Can I ask specifically: where is
2 your land in relation to Aneta?

3 MR. WELTE: It's, it's 12 miles
4 north of Northwood here, a mile and a quarter
5 to the north of Highway 15. The section number
6 is southwest of 134 thirty-si -- excuse me,
7 southwest of Section 34, 151-56 -- 150-56.

8 The, the township is Logan Center
9 Township. We are -- we have a farm there that
10 has been there for 104 some odd years.

11 I, I initially became a farmer by
12 accident, more or less. I used, I used to be a
13 schoolteacher.

14 I do think that it was a very smart
15 move of us to move to North Dakota. We lived
16 in, in Connecticut at the time and moved to
17 North Dakota.

18 I'm proud of the state of North
19 Dakota. They have -- I consider it an
20 absolutely wonderful place to bring up a
21 family.

22 MR. CRAMER: Well, both farming and
23 teaching are high callings, so you've, you've
24 done well, thank you. Thank you for your
25 testimony.

1 MR. WAHL: Commissioner Kalk.

2 MR. KALK: Yeah, thank you, sir,
3 for your testimony.

4 Could you maybe a, give a better --
5 it's not better. Your, your, your, your --
6 where you said your farm was was exactly legal
7 terms, but given the Exhibits that were laid
8 out, the 12, could you actually show us on
9 which one of those Exhibits where your farm is
10 at, in relation to the transmission lines? Is
11 there a way we can do that?

12 Can you folks help him?

13 MR. WAHL: Ms. Smith, have you
14 got some staff that can help him --

15 MR. KALK: Yeah.

16 MR. WAHL: -- with reference to an
17 Exhibit? If we're going to do this, let's
18 refer to an Exhibit that may be in some
19 existence.

20 MS. SMITH: Yes, we'll do that next
21 time. He's getting -- I don't think my mike's
22 working.

23 Either Terry -- maybe Terry could
24 help with that?

25 Terry and Duane can probably help

1 point out and then we can reference the
2 Exhibit.

3 MR. KALK: Because --

4 MS. SMITH: And --

5 MR. KALK: -- I'm thinking maybe
6 Exhibit 12i, somewhere in there maybe.

7 He said by Aneta.

8 MS. SMITH: Exhibit 12i.

9 Section 34.

10 MR. WAHL: Does that answer your
11 question, Commissioner Kalk?

12 MR. KALK: It does, thank you.

13 Sir, I just had a couple questions
14 I guess that -- you know, first off, like Kevin
15 said, I appreciate the willingness to testify
16 and, and share with us your thoughts, but it
17 sounds like your concerns are, are, are a lot
18 about the, the dollar amount and when it's
19 given and those kind of things.

20 But do you have any concerns about
21 the transmission line itself, as far as, you
22 know, the things that -- you're, you're going
23 to be the person looking at this for, for
24 probably the re -- rest of your life, perhaps.
25 I mean, it's --

1 MR. WELTE: Not really. I, I, I
2 understand 100 percent the, the necessity of
3 having an electric -- electricity. I don't
4 know -- we are extremely fortunate. I remember
5 when it came through in 1948, when we first had
6 electricity and what a blessing it really truly
7 was.

8 We no longer had to rely on a
9 32-volt system. I still have the, the
10 batteries, if anyone's interested in them.

11 I, I guess I have, no, none, no
12 concern with it at all.

13 MR. KALK: Okay.

14 MR. WELTE: I thank you for
15 thinking of that, but it isn't -- to me,
16 it's -- I understand the value, the concerns,
17 the necessities of, of having these things.

18 I don't want to be an
19 obstructionist, that's not my reason for, for
20 being here. My, my point is, yes, these are
21 value, extreme value to the state.

22 I think the Public Service
23 Commission serves such a valuable point in
24 allowing us to comment about these, but I do
25 think that as a landowner, I have to have

1 some -- something to say about how the
2 compensation takes place.

3 MR. KALK: Okay. The -- one of the
4 previous witnesses for the company testified
5 that they could be spread over a five-year
6 period. Did you --

7 MR. WELTE: That --

8 MR. KALK: -- know that before
9 today?

10 MR. WELTE: Yes, that was pointed
11 out to me. I, again, I don't think that's far
12 enough.

13 MR. KALK: What would be a -- an
14 optimal number, your number for you, if you --

15 MR. WELTE: 99 years.

16 MR. KALK: 99 years, okay.

17 All right, thank you, sir.

18 MR. WELTE: I think that's about as
19 direct as I can make it.

20 MR. CRAMER: That's good.

21 MR. KALK: Okay. Thank you.

22 MR. WAHL: Further questions from
23 the Commission?

24 Quickly, follow-up, Ms. Smith?

25 MS. SMITH: I have no questions.

1 MR. WAHL: Mr. Sagsveen?
2 MR. SAGSVEEN: No.
3 MR. WAHL: Mr. Lein?
4 MR. LEIN: None. Thanks.
5 MR. WAHL: Thank you very much, Mr.
6 Welte.
7 MR. WELTE: Thank you.
8 (Whereupon, the witness was
9 excused.)
10 MR. WAHL: Next, please?
11 Please state your name for the
12 record, sir.
13 MR. DAHLEN: I'm Mike Dahlen.
14 MR. WAHL: Mike, Mr. Dahlen, will
15 you spell your last name for the record,
16 please?
17 MR. DAHLEN: D-a-h-l-e-n.
18 MR. WAHL: What is your residence
19 address, Mr. Dahlen?
20 MR. DAHLEN: 3305 Primrose Court.
21 Grand --
22 MR. WAHL: City?
23 MR. DAHLEN: -- Forks, North
24 Dakota.
25 MR. WAHL: Is that also your post

1 office address?

2 MR. DAHLEN: Yes.

3 MR. WAHL: And do you speak for any
4 organization other than yourself?

5 MR. DAHLEN: Just myself.

6 MR. WAHL: All right. Mr.
7 Dahlen, as you've heard me advise previous
8 witnesses, your testimony is required to be
9 under oath. And I'm required by law to advise
10 you regarding perjury before administering the
11 oath.

12 Perjury is a false statement of
13 material fact which you do not believe to be
14 true.

15 In North Dakota, perjury's a class
16 C felony, punishable by a fine up to \$5,000,
17 imprisonment for a period of up to five years
18 or both.

19 Will you raise your right hand,
20 please?

21 Being advised regarding perjury,
22 Mr. Dahlen, do you swear that the testimony
23 which you're about to give in this matter shall
24 be the truth, the whole truth and nothing but
25 the truth?

1 MR. DAHLEN: Yes.

2

3 M I K E D A H L E N,
4 being first duly sworn, testified on his oath
5 as follows:

6

7 MR. WAHL: You may proceed, sir.

8 MR. DAHLEN: Thank you for coming
9 today, I appreciate having an opportunity to
10 talk to you.

11 I am not opposed to this project,
12 but where they're going to install it.
13 There's -- an old adage is: if you do not
14 study history, you're doomed to repeat it.

15 Right now, there are four major
16 power lines running into Grand Forks, feeding
17 it. And the fifth one -- they're proposing a
18 fifth one.

19 My problem is, with this, is in
20 Fairfield Township. This line will run right
21 next to the WAPA line. I -- I'm not for sure
22 for how many miles.

23 And that's one of the major
24 concerns I have with this power line.

25 We've had a number of different

1 weather events come through Northwood the last
2 few years. This, this school, this school, not
3 where we are right now, got wiped out by a
4 tornado a couple years ago.

5 Last -- or in '09, Owen Dahl, which
6 lives just a few miles from the WAPA line in --
7 he'd be in Fairfield Township, als -- I don't
8 know, maybe he's Union, Union Township, got his
9 whole house wiped out by a F3, F4 tornado.

10 In '04, near where I -- where my
11 mother lives, we had 80 to 90 mile an hour
12 winds come through and did a pretty good job
13 wiping out a few things.

14 What I'm concerned about is, is
15 here we're going to have two, two power lines
16 straddling each other for quite a ways. I, I
17 think maybe at least 5 to 6 miles, I'm not
18 sure, I didn't do the homework on that, but --

19 Those two power lines then would
20 comprise probably 40 percent of the power
21 coming into Grand Forks or to, to run this
22 thing.

23 So imagine now if, if -- I do a lot
24 of natural air-drying of my grain. So if we
25 had power outages when my grain was -- or when

1 my bins were full of wet wheat, we could have
2 a -- I could maybe lose some wheat or corn or
3 whatever because of power outages caused by
4 having too much too close.

5 This is one of the areas where I
6 think Minnkota hasn't done its job analyzing
7 that, because I, I -- I'm very -- I'm a backup
8 person. I -- everything I have, I almost back
9 up. I have two combines, I have two planters.
10 I always make sure that I have an alternate
11 something to help me so that I don't stop.

12 I'm not the only one who does this.
13 Think about the railroad. Okay, we're having
14 problems in Devils Lake right now. What do
15 they do, they can reroute it from Minot down to
16 Fargo.

17 So, you see, if we have alternative
18 power lines too close to each other -- or
19 too -- if we can have them spaced more far
20 apart, then the probability of having two go
21 down one time isn't as great.

22 That's the whole concern I have
23 about where they're placing this power line
24 right now is, is to have too many, too close.

25 Sometimes we look at cost benefit

1 ratios. The cost of having those two power
2 lines together is a great idea for maintenance
3 and everything else, because you can, you know,
4 you can just look over them and work on them,
5 everything together is, is a great idea, but
6 it's when you have a catastrophic event like
7 maybe a real bad windstorm. Ice is another
8 concern. Ice and wind taking lines down.

9 These are major things that I think
10 they haven't done a good job looking at in
11 preparing.

12 And that's why I am -- even though
13 sometimes the cost might -- it might cost more
14 to route these lines in another direction, but
15 when you amortize a project out like this over
16 20, 30 years, the cost differential, I haven't
17 done the math because I don't get the math that
18 they get, but -- if it maybe costs, I'm not
19 sure, \$10 million more, when you amortize that
20 out over 20 years, it isn't that big of a cost
21 differential on rates that I think --

22 And that's why it's more important
23 for me to have a, a reliable supplier than --
24 and maybe the electricity costs a little bit
25 more, than to have something go down.

1 That's all I have.

2 MR. WAHL: Questions, Ms. Smith?

3 MS. SMITH: I have no questions.

4 MR. WAHL: Mr. Sagsveen?

5 MR. SAGSVEEN: I have no questions.

6 MR. WAHL: Mr. Lein?

7 MR. LEIN: I don't know if I have
8 questions for you, as much as I would just
9 state that I think that what you're talking
10 about is common transmission planning, analysis
11 and the reliability planning for contingency
12 outages is part of any line that is being
13 built.

14 And, and I think that Minnkota
15 would be able to explain maybe a little bit
16 more of what they looked at in that regards for
17 paralleling that line.

18 MR. DAHLEN: Well, it's easy, just
19 cross the salt flats. There's nothing out
20 there.

21 It's a great idea to parallel them,
22 I can understand why. It's not a hard thing.
23 But, I mean, to me, it's not good planning.

24 You're better off having them
25 separated apart so if you do have natural

1 disasters, that you don't have an outage.

2 Even though it might cost a few
3 bucks more now, it's easier to handle the
4 problem now than when it happens.

5 Think about the, the English Coulee
6 diversion dike. I mean, to help stop flooding
7 in Grand Forks. There, they had the foresight
8 to do something, to help stop something and
9 meter it in instead of having another problem.

10 It cost \$20 million probably up
11 front, but it saved a lot of problems in the
12 end.

13 MR. WAHL: All right. Questions
14 from the Commission?

15 Commissioner Cramer.

16 MR. CRAMER: Mr. Dahlen, have you
17 been here all day? I mean, --

18 MR. DAHLEN: Yes, I have.

19 MR. CRAMER: Okay. So you've heard
20 some of the, the testimony and the examination
21 regarding this topic of efficiencies of --
22 versus redundancy and reliability versus the
23 kinds of efficiencies you're talking about.

24 Your point -- I think -- and maybe
25 Jerry was getting to this, but one of the

1 advantages of day one of the, of the three days
2 of hearings, is that these witnesses will get
3 back up on the stand before us, so be sure that
4 your points regarding, especially this
5 Fairfield Township paralleling, will be brought
6 up again from the witnesses.

7 MR. DAHLEN: Thank you.

8 MR. CRAMER: So thank you.

9 I have nothing else.

10 MR. WAHL: Any further questions
11 from the Commission?

12 MR. KALK: Just echo what
13 Commissioner Cramer said, there, there was
14 already a lot of discuss on this, so thanks for
15 bringing it back up.

16 MR. WAHL: Follow-up, Ms. Smith?

17 MS. SMITH: No, your Honor.

18 MR. WAHL: Mr. Sagsveen, any
19 follow-up?

20 MR. SAGSVEEN: Nothing further.

21 MR. WAHL: All right.

22 Thank you very much, Mr. Dahlen.

23 (Whereupon, the witness was
24 excused.)

25 MR. WAHL: Next, please.

1 Please state your name for the
2 record, sir.

3 MR. LEET: Ralph Leet.

4 MR. WAHL: I -- I'm sorry?

5 MR. LEET: Ralph Leet.

6 MR. WAHL: Spell your last name,
7 please?

8 MR. LEET: L-e-e-t.

9 MR. WAHL: Mr. Leet, what is your
10 residence address?

11 MR. LEET: 1300 Ridgeview Lane;
12 Bismarck, North Dakota, 58 --

13 MR. WAHL: And that's also --

14 MR. LEET: -- 501.

15 MR. WAHL: Okay. And so that's
16 also your post office address?

17 MR. LEET: Okay, thank you.

18 MR. WAHL: Now, just a minute,
19 please.

20 Are you speaking for yourse -- for
21 anybody other than yourself?

22 MR. LEET: For my wife and myself.

23 MR. WAHL: All right. Mr. Leet, as
24 you know, your testimony is required to be
25 under oath. And I'm required by law to advise

1 you regarding perjury before administering the
2 oath.

3 Perjury is a false statement of
4 material fact which you do not believe to be
5 true.

6 In North Dakota, perjury is a class
7 C felony, punishable by a fine of up to \$5,000,
8 imprisonment for a period of up to five years
9 or both.

10 Will you raise your right hand,
11 please?

12 Being advised regarding perjury,
13 Mr. Leet, do you swear that the testimony which
14 you're about to give in this matter shall be
15 the truth, the whole truth and nothing but the
16 truth?

17 MR. LEET: I do.

18

19 R A L P H L E E T,
20 being first duly sworn, testified on his oath
21 as follows:

22

23 MR. WAHL: You may proceed.

24 MR. LEET: I want to thank you for
25 a good day of information, a good long day of

1 information.

2 It is, it is apparent that there's
3 a strong need for electricity in, in, in many
4 areas. And the need for an electrical line is
5 evident.

6 We see you are concerned about the
7 wildlife, environment, GPS, plants and other
8 needs. I assume, I assume you won't protect
9 leafy spurge or quack grass.

10 That was just a joke.

11 MR. CRAMER: A good one.

12 MR. LEET: I'm, I'm concerned, I'm
13 concerned about the landowners who -- whose
14 land will be crossed.

15 In my opinion, there'll be a loss
16 in land value and more in some areas like Grand
17 Forks.

18 We live in Bismarck. And people
19 who work out of town -- I mean, work in town,
20 rather, and they may want to live out of town,
21 in a small area, a ru -- rural residence, have
22 a little hobby farm, but drive to Bismarck to
23 work. And they'll pay a pretty good price for
24 40 acres of land.

25 Now Grand Forks is a growing town

1 and I'm quite sure that from here to Grand
2 Forks, there could be some building sites on
3 40-acre tracts that would, that would have more
4 value than just ag value.

5 So there's a difference in value
6 now.

7 I'm a, I'm a partially-retired
8 re -- real estate appraiser. And so that's how
9 I see this land values happening where I do
10 farm appraisals.

11 When you use real estate like land
12 or, or buildings or commercial buildings or a
13 house, normally you'll pay rent. The rent is
14 paid on an annual basis or a monthly basis.

15 The, the, the company will have
16 rights to the land, where their lines will
17 cross. They can use it when they need to.

18 So my question is: why don't they
19 pay at least annual rent for the land that
20 the -- that they will be able to access to take
21 care of their property?

22 It makes sense to me that they do
23 that.

24 And I think that it would avoid a
25 lot of red tape of trying to figure out when

1 they do, to damage crops, which they may have
2 to, to get rid of a lot of red tape in, in
3 trying to figure out what to pay, when to pay
4 and how to pay.

5 We have, we have a renter on the
6 land that we are worried about. He's not en --
7 a bit en -- enthused about having the property
8 crossed by a line.

9 And if he doesn't have to rent that
10 land, well, that's -- that would -- we would --
11 that would -- he'd be very comfortable. And
12 that might be only 5 or 6 or 8 acres, I don't
13 know. But I think that should be a
14 consideration.

15 Remember, the line will affect the
16 value of land for a long time. A long time.

17 And my question is: if a lump sum
18 is paid, and I assume it's -- and they've
19 talked about four-year payments, is that
20 taxable if it's a result of depreciation value
21 of the land?

22 I don't know if somebody can answer
23 that question. I'd like to hear it.

24 And -- but I want to thank you for
25 the opportunity to talk to you folks.

1 Thank you.

2 Any questions?

3 MR. WAHL: Ms. Smith?

4 MS. SMITH: I have no questions,
5 thank you.

6 MR. WAHL: Mr. Sagsveen?

7 MR. SAGSVEEN: I have no questions.

8 MR. WAHL: Mr. Lein?

9 MR. LEIN: No questions.

10 MR. WAHL: Questions from the
11 Commission?

12 Commissioner Cramer.

13 MR. CRAMER: Just so I'm clear,
14 Ralph, and thank you for your testimony and
15 your patience, and for driving so far, is your
16 question -- or your, your, your last
17 statement -- a, a rhetorical question.

18 Because we know, Judge, there are
19 only rhetorical questions.

20 Are you suggesting that -- is
21 there, is there an offset to the loss of value
22 or does the loss of value of the land provide
23 an offset to the income derived from the lump
24 sum. Is that your question?

25 MR. LEET: Well, my question is is:

1 do our taxes due on -- if, if we lose -- if we
2 sell something and it -- because -- and, and
3 somebody pays us for the loss and the -- what
4 we get for the loss, is that taxable?

5 MR. CRAMER: Okay. That's worth
6 pursuing. I don't know that it's relevant to
7 siting --

8 MR. KALK: Uh-huh.

9 MR. CRAMER: -- the line, but it's
10 a good question. Thank, thank you.

11 Nothing further.

12 MR. WAHL: Follow-up, Ms. Smith?

13 MS. SMITH: I have no questions.

14 MR. WAHL: Mr. Sagsveen?

15 MR. SAGSVEEN: No questions.

16 MR. WAHL: Mr. Lein?

17 MR. LEIN: No questions.

18 MR. LEET: Thank you.

19 MR. WAHL: Thank you very much, Mr.
20 Leet.

21 (Whereupon, the witness was
22 excused.)

23 MR. WAHL: Next, please?

24 MS. PEDERSON: Hi.

25 MR. WAHL: Please state your name

1 for the record, ma'am.

2 MS. PEDERSON: My name is Audrey
3 Pederson, P-e-d-e-r-s-o-n.

4 MR. WAHL: Ms. Pederson, what is
5 your residence address?

6 MS. PEDERSON: My official
7 residence is 2323 East Tenth Street, Superior,
8 Wisconsin, but I spend part of my time here, so
9 I'm also at Box 19 at Northwood.

10 MR. WAHL: And are you speaking for
11 any organization or group other than yourself?

12 MS. PEDERSON: Just myself.

13 MR. WAHL: Ms. Pederson, as you
14 well know by now, your testimony is required to
15 be under oath. And I'm required by law to
16 advise you regarding perjury before
17 administering the oath.

18 Perjury is a false statement of
19 material fact which you do not believe to be
20 true.

21 In North Dakota, perjury's a class
22 C felony, punishable by a fine up to \$5,000,
23 imprisonment for a period of up to five years
24 or both.

25 Will you raise your right hand,

1 please?

2 Being advised regarding perjury,
3 Ms. Pederson, do you swear that the testimony
4 which you're about to give in this matter shall
5 be the truth, the whole truth and nothing but
6 the truth?

7 MS. PEDERSON: I do.

8
9 A U D R E Y P E D E R S O N ,
10 being first duly sworn, testified on her oath
11 as follows:

12
13 MR. WAHL: You may proceed.

14 MS. PEDERSON: I appreciate the
15 presentations today, too, I know it's taken a
16 lot of work with a lot of people.

17 As a landowner of land during -- in
18 the proposed project, I really respectfully
19 reject the offer to buy it.

20 And I do believe that the
21 structures will depreciate the value of my
22 land.

23 I am in process of moving back to
24 North Dakota after a long stay away from it and
25 somehow a power line just doesn't fit into my

1 idea of where I wanted to move back into.

2 Some landowners might, you know,
3 feel that this is a fair amount, but I think
4 when you look at the reimbursement over a long
5 period of time, and my intention is not -- of
6 course I'm not going to live forever, the
7 line's going to live longer than I am, but
8 with, with somebody who might inherit it, which
9 I intend to be of family, you know, I feel that
10 they're inheriting something of less value.

11 And then compensation comes into
12 it, too. If that's going to be the case, well,
13 then maybe compensation ought to be looked at
14 to be a little bit heavier than what it's, it's
15 intended.

16 And I don't have figures to
17 substantiate this, but it just seems to me if a
18 line is there forever, then the compensation
19 needs to be looked at, too.

20 My first choice, of course, would
21 be that there not be any line through it,
22 although I realize this is a good project for
23 North Dakota and for all the people in eastern
24 North Dakota.

25 But, at the same time, this is my

1 opportunity to tell you that it's not something
2 that I would favor on my land.

3 So with that.

4 MR. WAHL: Questions, Ms. Smith?

5 MS. SMITH: I have no questions.

6 MR. WAHL: Mr. Sagsveen?

7 MR. SAGSVEEN: I have no questions.

8 MR. WAHL: Mr. Lein?

9 MR. LEIN: I would just ask where
10 your land is at?

11 MS. PEDERSON: Well, the land in
12 question is in Avon Township. And I can't tell
13 you the legal description, I need --

14 MR. LEIN: What was --

15 MS. PEDERSON: -- to --

16 MR. LEIN: -- the Township again?

17 MS. PEDERSON: Avon.

18 MR. LEIN: Okay.

19 MS. PEDERSON: So the line would
20 come in, the proposed line would come in only a
21 half a mile from where I live.

22 And as I understand it, three
23 structures are going to be on my sister's land,
24 which would be half a mile from me, and then it
25 will start coasting north from there. Which is

1 right on my land.

2 MR. LEIN: Okay. So nothing,
3 nothing further, thanks for testifying.

4 MS. PEDERSON: Thank you.

5 MR. WAHL: Questions from the
6 Commission?

7 Commissioner Cramer.

8 MR. CRAMER: Your, your opposition
9 is strong, obviously, and --

10 MS. PEDERSON: Uh-huh.

11 MR. CRAMER: -- does that mean
12 you've not yet signed?

13 MS. PEDERSON: I've not yet
14 signed, --

15 MR. CRAMER: Okay.

16 MS. PEDERSON: -- no.

17 MR. CRAMER: How've you been
18 treated as, as somebody who's a, a -- who
19 has --

20 MS. PEDERSON: Well, --

21 MR. CRAMER: Has it been
22 professional?

23 MS. PEDERSON: I can't complain
24 about that at all.

25 MR. CRAMER: Okay, good.

1 MS. PEDERSON: But --

2 MR. CRAMER: Sometimes --

3 MS. PEDERSON: You know, I've not
4 been interviewed or anything like that, if
5 that's what you're wondering about.

6 MR. CRAMER: Well, I'm just -- I
7 always want to -- wondering if you've been
8 treated with respect and --

9 MS. PEDERSON: Oh, sure.

10 MR. CRAMER: -- courteously and --

11 MS. PEDERSON: Sure.

12 MR. CRAMER: -- well informed.

13 MS. PEDERSON: So it's a good idea
14 to have this, so that you can hear, hear --

15 MR. CRAMER: Well, we --

16 MS. PEDERSON: -- what we're
17 thinking.

18 MR. CRAMER: That's not always been
19 the case, where --

20 MS. PEDERSON: Uh-huh.

21 MR. CRAMER: So I'm pleased when it
22 is.

23 But I have nothing else and thank
24 you for your testimony.

25 MR. WAHL: Commissioner Kalk.

1 MR. KALK: Thank, thank you,
2 Audrey, for testifying today. And thanks for
3 moving back to North Dakota, too, we really
4 like that.

5 MS. PEDERSON: Thank you.

6 MR. KALK: When you say you're
7 basically just straight north of Northwood?

8 MS. PEDERSON: Oh, I'm sorry.

9 Well, my residence is 2 miles, if
10 you're going strictly from the corner of, the
11 northeast corner of Northwood.

12 MR. KALK: Okay.

13 MS. PEDERSON: My residence is 2
14 miles east and a half a mile north.

15 MR. KALK: Okay, I see where you're
16 at then.

17 MS. PEDERSON: Uh-huh.

18 MR. KALK: All right. This is
19 what's interesting, this is, I guess, for
20 everyone else listening, too, is that the
21 Commission jurisdiction on what is a fair price
22 for land, we really don't have much there.

23 But it -- but the, the point about
24 making sure we have a good project, that's --
25 it's, it's -- that's our job.

1 But when you talk about
2 compensation, is your concern more so that,
3 that you would like to have some amount forever
4 so it can pass on to the next person
5 afterwards?

6 MS. PEDERSON: Well, this is land
7 that I have inherited in part from my parents
8 and it's not something that I intend to sell.
9 You know, my heirs will probably be my family
10 and they're going to be stuck with a power line
11 that's --

12 MR. KALK: So there's no --

13 MS. PEDERSON: -- not movable.

14 MR. KALK: So there's no amount of
15 compensation that, that would offset that, just
16 because I -- and I, I -- I'm not saying I
17 disagree --

18 MS. PEDERSON: Well, it seems --

19 MR. KALK: -- with that.

20 MS. PEDERSON: It seems to me that,
21 well, if I have to live with it, there should
22 be compensation during my lifetime, but
23 whoever's inheriting it, should get something,
24 too, because it's going to be there and in the
25 way.

1 MS. PEDERSON: And, again, --

2 MR. KALK: Sure.

3 MS. PEDERSON: -- I can respect
4 that it's needed, but maybe a landowner would
5 appreciate it more --

6 MR. KALK: So --

7 MS. PEDERSON: -- than me.

8 MR. KALK: -- did this become,
9 though, a -- this is what I've thought about of
10 lot of today, where, okay, we've had folks
11 testify from the company that these things live
12 forever.

13 So --

14 MS. PEDERSON: Uh-huh.

15 MR. KALK: -- is it, is it, is it,
16 the, the money that they could give you
17 upfront, no way really compensates the true
18 loss over the next hundred years?

19 MS. PEDERSON: Correct, uh-huh.

20 MR. KALK: Okay. Thank you.

21 MS. PEDERSON: Yeah, thank you.

22 MR. WAHL: Any further questions
23 from the Commission?

24 Follow-up quickly, Ms. Smith?

25 MS. SMITH: No, your Honor.

1 MR. WAHL: Mr. Sagsveen?
2 MR. SAGSVEEN: No.
3 MR. WAHL: Mr. Lein?
4 MR. LEIN: No.
5 MR. WAHL: Thank you very much, Ms.
6 Pederson.
7 MS. PEDERSON: Thank you.
8 (Whereupon, the witness was
9 excused.)
10 MR. WAHL: Well, you're going to
11 have to draw lots or -- somebody's going to
12 have to do it.
13 MR. CRAMER: Whose birthday is
14 closest to today?
15 MS. THOMPSON: I was the last one
16 to arrive, so I'm budging the line. Is that
17 all right?
18 Okay, thank you.
19 MR. WAHL: Please state your name
20 for the record.
21 MS. THOMPSON: My name is Genevieve
22 Thompson.
23 MR. WAHL: Spell your last name,
24 please?
25 MS. THOMPSON: T-h-o-m-p-s-o-n.

1 MR. WAHL: Would you like it if
2 her --

3 MS. THOMPSON: Do you need my first
4 name?

5 MR. WAHL: Well, you better -- I
6 was going to -- just thinking to myself, is
7 that with a G or --

8 MS. THOMPSON: G-e-n-e-v-i-e-v-e.

9 MR. WAHL: Got it.

10 MR. KALK: I'm glad you clarified
11 that.

12 MR. WAHL: What is your residence
13 address, Ms. Thompson?

14 MS. THOMPSON: 2802 Evergreen Road
15 North; Fargo, North Dakota, 58102.

16 MR. WAHL: And so that's also your
17 post office address?

18 MS. THOMPSON: Yes, sir.

19 MR. WAHL: Are you speaking for any
20 organization or group other than yourself?

21 MS. THOMPSON: Yes, I am.

22 MR. WAHL: And who are you speaking
23 for?

24 MS. THOMPSON: I'm the executive
25 director and a vice president for Audubon,

1 North Dakota, the state office for North and
2 South Dakota.

3 MR. WAHL: All right. As you
4 know, your testimony is required to be under
5 oath. And I'm required by law to advise you
6 regarding perjury before administering the
7 oath.

8 Perjury is a false statement of
9 material fact which you do not believe to be
10 true.

11 In North Dakota, perjury is a class
12 C felony, punishable by a fine up to \$5,000,
13 imprisonment for a period of up to five years
14 or both.

15 Will you raise your right hand,
16 please?

17 Being advised regarding perjury,
18 Ms. Thompson, do you swear that the testimony
19 which you're about to give in this matter shall
20 be the truth, the whole truth and nothing but
21 the truth?

22 MS. THOMPSON: I do.

23

24 G E N E V I E V E T H O M P S O N,
25 being first duly sworn, testified on her oath

1 as follows:

2

3 MR. WAHL: You may proceed.

4 MS. THOMPSON: Thank you.

5 I should just clarify, I'm also a
6 member of, of the tru -- a trustee for the
7 North Dakota Natural Resources Trust. Serve on
8 the Northern Plains Wind Energy Forum and am
9 the vice chair of the American Wind Wildlife
10 Institute.

11 So my background's a little bit
12 more with wind energy as opposed to
13 transmission, so just for the sake of clarity.

14 I'm here to respectfully request
15 that the Commission reconsider the routing.
16 I'm not opposed to the project, but to
17 reconsider a potential rerouting to the
18 southern route, Route B.

19 I'm basing that, of the questions
20 that you put forward, on concerns that have to
21 do with the minima -- minimal adverse effects
22 to environment, the -- compatible with
23 environmental preservation and the minimal
24 adverse environmental impact. So questions
25 one, two and three.

1 The proposed route that we've
2 talked about today bisects an area that has a
3 great deal of conservation significance. It's
4 alternatively known as alkali flats, Ojata
5 flats, Oakville, Fairfield Township. It goes
6 by a few different names. But in actual fact,
7 it, it is a -- an area of very rare saline
8 prairie.

9 The fact that it's a saline
10 prairie, I think there's maybe 5 percent left
11 in it anywhere in the, in the U.S. that I know
12 of.

13 But the fact that it's saline means
14 that it's not cropped or heavily developed.
15 It's -- there's a great deal of grazing that
16 goes on. But that's part of the reason why
17 it's so valuable for wildlife.

18 It's a synergistic relationship
19 between, you know, the cattle as, or bison as
20 they graze, help manage that prairie and
21 disturb it.

22 So it creates a -- an -- a -- some
23 structural and species diversity that some of
24 our best grassland bird species need.

25 It has been -- we've been meeting

1 for about ten years looking at this prairie
2 and, and trying to strategize on how to protect
3 it.

4 There've been meetings with the
5 Fish and Wildlife Service, with the North
6 Dakota Game and Fish Department, with local
7 landowners and residents and with birding
8 experts. And so we -- it really is kind of a
9 unique little 20,000-acre spot.

10 I think that -- some examples,
11 it's -- currently the data are being compiled
12 to have it be designated as a globally
13 important IBA, or important bird area.

14 It's located right south of Kellys
15 Slough, so in terms of contiguous habitat, it
16 has, it has special value.

17 And, and probably its biggest value
18 is that it's, it's not fragmented.

19 When you look at it on Landsat or
20 Google Earth, it looks a little fuzzy compared
21 to adjacent areas that are more of a -- you
22 know, more normal, quote, by farmland. It kind
23 of -- the boundaries are a little blurred, just
24 because it's still, a great deal of it's in
25 native prairie.

1 So -- and I guess the only other
2 thing that we're looking at is the potential to
3 look at NAWCA, North American Wetlands
4 Conservation Act funding to, to help, you know,
5 with easements and to protect it.

6 If, if you need any information, I,
7 I don't -- I understand that I can't -- yeah.

8 But if you do need information,
9 there is a website, and if it's all right to
10 just recite the website?

11 MR. WAHL: It is.

12 MS. THOMPSON: Thank you.

13 GF Prairie, g-f-p-r-a-i-r-i-e, dot
14 web, dot officelive, one word, dot com.

15 That would have site descriptions,
16 species lists, conservation planning or if, if
17 the Commissioners would need more information.

18 If I could, I don't want to take
19 too much more time, but two other quick points.

20 The second has to do with
21 footprint. I would just -- I might have missed
22 it today, but I would just ask the Commission
23 if they could seek clarification.

24 I was happy to hear that it is not
25 a thousand-foot right of way, but, rather, I

1 think 150 feet.

2 Our colleagues to the east that
3 some of us work with sited some 500 kV lines
4 that had 200-foot right of ways, so I was
5 pleased to hear that it isn't a thousand feet.

6 My question would be: does the
7 footprint estimate include the entire right of
8 way or just where the towers themselves are
9 positioned?

10 I would recommend that it includes
11 the entire right of way area.

12 Our primary concern is when you
13 have those kinds of right of ways going in for
14 our grassland species that are, are declining,
15 and I think North Dakota's probably one of the
16 top places in the country for these grassland
17 species, it, it encourages predation, it
18 give -- it provides corridors for predators to,
19 to reach grassland nesting birds.

20 So if we could look at that
21 footprint as being the entire right of way,
22 rather than just where a tower meets, meets the
23 ground so to speak.

24 And then my last point. In
25 addition to the expertise I have biologically,

1 I'm a licensed commercial pilot and I was a
2 flight instructor before I came her -- moved
3 back to North Dakota.

4 And so I, I just can't help notice
5 that if we went to Route B, or southern route,
6 it might be a little bit safer, especially for
7 student pilots.

8 It's not so much on the approach
9 end, but when you're departing, just,
10 statistically, that is one of the more higher
11 risk times for engine failures.

12 And especially with students, the
13 safest place for them to land is straight
14 ahead. If they try to turn and then land,
15 stall speeds are higher.

16 So it -- it's safer to have less
17 obstacles straight ahead to land a plane.

18 Again, I just want to really thank
19 you all. I have a new appreciation for
20 attention spans and I'm going to try to be a
21 better student therein.

22 Thank you for making the time for
23 all of us to also weigh in.

24 And I don't know how you do it. I
25 mean, people that do that, like sign language,

1 trade off, but as near as I can tell, you
2 haven't moved, so congratulations on that one
3 as well.

4 Anyway, thank you.

5 MR. WAHL: Questions, Ms. Smith?

6 MS. SMITH: Just a couple.

7 Where is this alkali flats that
8 you're referencing? I -- maybe if we put up
9 the full project corridor map or the one with
10 the routes, we could --

11 MS. THOMPSON: Sure. It --

12 MR. SAGSVEEN: 12j.

13 MS. SMITH: Is it in 12j?

14 MR. LEAKE: I, I farm and live out
15 there, so I can kind of outline it.

16 MS. THOMPSON: He might be --

17 MR. LEAKE: In Grand Forks.

18 MS. THOMPSON: He might be able to
19 knock it down for us.

20 MR. LEAKE: Basically in Oakville
21 Township --

22 MR. WAHL: Just a minute here.

23 MS. THOMPSON: Okay.

24 MR. WAHL: Let's -- it doesn't work
25 this way.

1 MR. LEAKE: Sorry.

2 MS. THOMPSON: But he hasn't been
3 wit -- sworn in, but he, he, once he's sworn
4 in, he can give you the exact --

5 MR. WAHL: Yes. He can --

6 MS. THOMPSON: The exact --

7 MR. WAHL: Yes.

8 Ms. Smith, if, if you're going to
9 testify, Counsel could ask you the question, we
10 can put it in that way.

11 MS. THOMPSON: I -- I'm happy to
12 say that it's --

13 MR. WAHL: Unless you can point it
14 out.

15 MS. THOMPSON: Well, he has more of
16 the exact -- it's basically the area west,
17 southwest of Grand Forks. But I would defer to
18 my agricultural friend for knowing exactly the,
19 the --

20 MR. WAHL: All right.

21 MS. THOMPSON: -- area.

22 MS. SMITH: And who currently owns
23 that acreage that you're referencing?

24 MS. THOMPSON: It's a mosaic of
25 public and private land right now. So it's,

1 you know, farmers, the University owns land,
2 there's State School land, there's some
3 conservation easements on there. So it's
4 definitely a mosaic.

5 MS. SMITH: Okay. That's all I was
6 wondering, thank you.

7 MR. WAHL: Mr. Sagsveen?

8 MR. SAGSVEEN: I, I think my
9 question has been answered, thanks.

10 MS. THOMPSON: Okay.

11 MR. WAHL: Mr. Lein?

12 MR. LEIN: I guess I'm not real
13 sure just what to ask, not knowing exactly
14 where we're at and what alternatives there
15 might be, but it looks -- are one of the routes
16 more acceptable in that neighborhood?

17 MS. THOMPSON: I, I guess as we
18 looked at it, the easiest way to kind of
19 safeguard this really rare area would be the
20 southern Route B.

21 But I should say, that I believe it
22 was Commissioner Kalk that asked earlier, when
23 you all were up here, whether there could be --

24 I forget the word you used.

25 But it was kind of a hybridization,

1 so to speak, of different routes.

2 And so it may be that it, you know,
3 the other, the routes to the west could be,
4 whatever route it is, but when you get close to
5 the Ojata flatland or the alkali flats or
6 Oakville Township, that it, it would be the
7 route that goes to the south there.

8 It, it might be a hybridization of
9 those two that would protect the saline prairie
10 and maybe reduce the number of obstacles off of
11 Highway 1 -- or runway 17.

12 MR. LEIN: And my other question
13 was, you said you worked with the Fish and
14 Wildlife on this or Game and Fish or somebody
15 before?

16 MS. THOMPSON: Yes. We've, we've
17 actually, because of the species that are
18 present there, and then interestingly, there's
19 also some residents in the area that are bird
20 experts, some of whom are not young, and they
21 have amazing records over the -- over time, of,
22 of what birds are there. But we've, yes, we've
23 been meeting together off and on for about ten
24 years.

25 MR. LEIN: Are any of those species

1 like endangered in some way or --

2 MS. THOMPSON: At this point
3 they're not endangered.

4 I would say some of the species
5 right now are species that were impacted by the
6 Gulf oil spill. There's -- it's a shore bird.

7 For shore birds, it's a
8 particularly unique area, so there's Marbled
9 Godwits, there's a lot of the sandpipers that,
10 because of their wintering grounds, have been
11 impacted. Their summer, you know, their
12 breeding grounds and their migration corridors
13 are more important to try to help them be
14 strong -- stronger.

15 There's also some of the grassland
16 bird species, Baird's sparrows, Dickcissels,
17 they're declining for a number of reasons, not
18 obviously specifically to this project, but
19 they're declining, you know, for a number of
20 reasons and that kind of elevates the
21 importance of this unfragmented area.

22 MR. LEIN: And then I guess my
23 other question is, if you put structures in,
24 and span the rest of it, how is the area
25 spanned causing a path for preda -- for

1 predators? I don't understand.

2 MS. THOMPSON: It's, it's the, it's
3 the ground prep, it's the --

4 MR. LEIN: It's disturbing them
5 when they put it in?

6 MS. THOMPSON: It's, it's
7 disturbing it when it -- when they put it in,
8 but like fox and skunks, grou -- Franklin's
9 ground squirrels, you know, traditional
10 predators of ground-nesting birds are like any
11 of us, if there's a mowed pathway, they're
12 going to take that more easily than an
13 unfragmented section.

14 If it's unfragmented, there's more
15 places to hide, and the likelihood of a
16 predator coming across a nest is reduced.

17 If it's fragmented, it just, it
18 kind of creates sidewalks, if you will. It
19 makes, it makes it -- exposure easier for, for
20 birds.

21 MR. LEIN: So I'm wondering if
22 there's some kind of a mitigation that can be
23 done to keep from degrading the grass through
24 there during construction or afterwards? I
25 mean, you, you have to keep the trees trimmed

1 out of the line, but the rest of it should be
2 all right, I would think, not -- you know, ways
3 not to disturb --

4 MS. THOMPSON: As, --

5 MR. LEIN: -- any of it.

6 MS. THOMPSON: -- as I understand
7 it, unless they're going to plant native, we're
8 going to reseed native prairie under the lines,
9 if the lines -- as I understand it, the lines
10 are mowed or, or tended, right? Or --
11 underneath?

12 MR. LEIN: I don't know.

13 MS. THOMPSON: They don't?

14 MR. LEIN: No.

15 MS. THOMPSON: You don't.

16 I, I honestly don't know.

17 I was under the impression that
18 the, for access for maintenance, for whatever,
19 that it would be grass.

20 If it was restored, you know, to
21 its -- it's never quite the same, but it would
22 certainly be one mitigating factor if you
23 restored it.

24 You wouldn't have to deal with
25 strikes, yeah, direct strikes stuff, but --

1 MR. LEIN: Okay. I think that's it
2 for my questions, thanks.

3 MR. WAHL: Commissioner Cramer.

4 MR. CRAMER: Oh, I'm glad Jerry got
5 that clarification, because I wasn't really
6 sure either about that. But, but it's a good
7 point.

8 We should, remember, we certainly
9 can ask tomorrow about reclamation of that
10 particular land and particular area.

11 Does the WAPA line -- are you
12 familiar with the WAPA line? Does, does that
13 in -- dissect diagonally, then, through these
14 flats?

15 MS. THOMPSON: Part of it, I think,
16 yeah.

17 MR. CRAMER: Part of it would,
18 so -- okay.

19 I guess beyond that, just thank
20 you. And you, and you have obviously opened
21 another line of po -- probable questioning
22 tomorrow, at least clarification, so --

23 MS. THOMPSON: I didn't mean to
24 make your job any harder than it already --

25 MR. CRAMER: Oh.

1 MS. THOMPSON: -- is.

2 MR. CRAMER: Never -- you should
3 never have to apologize for that, that's
4 exactly why we're here. Because if we weren't
5 here, we'd be hearing one side of a, of a very
6 major story, so thank you.

7 MS. THOMPSON: It -- all I can say
8 is it -- I mean, a lot of folks under
9 appreciate it, but, biologically, that, that
10 region is, is very significant.

11 MR. CRAMER: You know, Genevieve,
12 I, I just have to ask: how in the world does
13 that much Red River Valley land go untilled?
14 How did that happen? Do you have any idea?

15 MS. THOMPSON: I think part of it,
16 and, again, my colleagues might have been --
17 you know, deeper answers, but -- a lot of it is
18 saline.

19 The, the soils don't lend
20 themselves to be cultivated. It works for
21 grazing, because the grasses, the, the saline
22 grasses that have adapted over millennium are,
23 are palatable.

24 So ranchers, you know, on, on some
25 of those areas where you can't cultivate it,

1 ranchers can do all right.

2 And as I understand it, even like
3 for housing, you know, for bedroom communities,
4 I think, you know, that, that sleep in the
5 country, somebody was talking about it, the
6 soils don't lend themselves to draining for --
7 like if you're not on a central collection
8 line, like, you know, septic systems, they,
9 they don't work so well either.

10 So it's not only somewhat precluded
11 from cultivation, but also from housing
12 developments.

13 So it just ends up by default being
14 a grazing area. And, you know, grazing and
15 birds mix.

16 MR. CRAMER: Yeah.

17 MS. THOMPSON: So --

18 MR. CRAMER: Thank you, I have
19 following further.

20 MR. WAHL: Commissioner Kalk.

21 MR. KALK: Thank you, Genevieve,
22 for your testimony, and, and also your
23 patience, too.

24 You've been in the business of what
25 you do for a while, the -- how do you think the

1 NEPA assessment hasn't fleshed this out yet?

2 MS. THOMPSON: It -- it's
3 interesting. I have on my notes to kind of
4 follow-up a little with where some of the
5 consultations are, you know, just to kind of
6 look more at that.

7 I, I think, probably with the
8 Section 7 consultation, it is more to do with
9 the whooping crane corridor.

10 And, again, I -- I'm, I'm focused
11 on, today, on, on this area.

12 So I would imagine that -- the
13 whooping crane corridor and the piping plover,
14 you know, those are the species of Section 7
15 consultation.

16 That's, you know, a much stronger
17 reach for some of this than birds that may be
18 declining or at risk. They, they, thankfully,
19 they don't tip the scale, that they aren't
20 threatened or endangered at this point, so --

21 MR. KALK: Let me ask you another
22 one, too, Genevieve.

23 The -- I read through the comments
24 that were filed and I, I don't see where your
25 agency or your organization filed any comments.

1 MS. THOMPSON: That's true. And,
2 and actually, today, there were -- if there's
3 other folks that work with -- in this Grand
4 Forks prairie area, it was one of our
5 colleague's birthday's today, and so he gave
6 himself the present of, you know, taking the
7 day off.

8 There should be comments either by
9 the Grand Forks County Prairie Partners or by
10 Dr. David Lambeth, I think, that are in the
11 record for when -- during the scoping.

12 MR. KALK: Okay. Did you -- when
13 did your -- did the Audubon society, if you
14 will, first find out about this project to
15 where you actually could comment?

16 Because one of the -- in my
17 previous life again, where people that wanted
18 to comment didn't know about it until the
19 comment period was closed, because it opens for
20 30 days and it closes and it -- you just don't
21 know, you just don't know.

22 MS. THOMPSON: I think specifically
23 for me and for Audubon, it's because we do work
24 with colleagues that live in the area and live
25 in the Grand Forks area, so they were aware --

1 you know, we were aware in terms of just
2 sharing the data that these, these were coming
3 up. They were advertised pretty well I think.

4 MR. KALK: When you meet with the
5 Fish and Wild Service or North Dakota Game and
6 Fish, how do they look at your concerns?

7 I mean, do they say: yep, your
8 concerns are valid; or they say: well, they
9 don't quite meet the threshold that we're
10 concerned about?

11 MS. THOMPSON: Right.

12 I'm under oath and I can honestly
13 say --

14 MR. KALK: Yes, you --

15 MS. THOMPSON: -- that --

16 MR. KALK: -- are girl.

17 MS. THOMPSON: Yes.

18 And I'm mindful, you're a scary
19 guy.

20 But we have not specifically talked
21 about -- at least I have not specifically
22 talked with Game and Fish or Fish and Wildlife
23 Service about the transmission line per se.

24 We've more looked at what might the
25 strategies that benefit landowners and benefit

1 conservation.

2 So, you know, our conversations
3 have taken more of a look at, are there Farm
4 Bill - Conservation Title Programs that may
5 lend themselves to help to protect the area.

6 Are there outreach efforts, you
7 know, with the North Dakota Natural Resources
8 Trust that might help afford --

9 MR. KALK: Okay.

10 MS. THOMPSON: -- some continued
11 protection.

12 But to me --

13 MR. KALK: Then, last question,
14 Genevieve.

15 MS. THOMPSON: Yes.

16 MR. KALK: The -- if it turned out
17 that this wouldn't be mowed and it would be
18 constructed during the non-nesting season,
19 would that go a long ways, in your estimation,
20 to, to helping preserve this area?

21 MS. THOMPSON: I think some of the
22 other folks that have testified today have
23 brought -- let their -- shined light on the
24 fact that this is a long-term project, into the
25 future.

1 And I guess trying to minimize
2 disturbance as much as we can, because it is a
3 special area.

4 If, if there were another route or,
5 as you had quarried, a hybrid route, that
6 might --

7 MR. KALK: Uh-huh.

8 MS. THOMPSON: -- avoid this area,
9 that would be the most preferred.

10 If that's not possible, then you --
11 you're certainly correct, mitigation is
12 always -- you know, the avoid, minimize and
13 then mitigate, that would always, always be
14 something worth visiting, --

15 MR. KALK: Okay.

16 MS. THOMPSON: -- but --

17 MR. KALK: Thank you.

18 MR. WAHL: Further questions from
19 the Commission?

20 Follow-up, Ms. Smith?

21 MS. SMITH: No, your Honor.

22 MR. WAHL: Mr. Sagsveen?

23 MR. SAGSVEEN: No, your Honor.

24 MR. WAHL: Mr. Lein?

25 MR. LEIN: No. Thank you.

1 MR. WAHL: Thank you very much, Ms.
2 Thompson.

3 (Whereupon, the witness was
4 excused.)

5 MS. WAHL: Please, we're all
6 waiting with bated breath.

7 Please state your name for the
8 record, sir?

9 MR. LEAKE: My name is Todd Leake.

10 MR. WAHL: Spell your -- L-e-a-k?

11 MR. LEAKE: L-e-a-k-e.

12 MR. WAHL: Mr. Leake, what is your
13 residence address?

14 MR. LEAKE: My residence is 2371
15 Tenth Avenue Northeast; Emerado, North Dakota,
16 58228.

17 MR. WAHL: And that's also your
18 post office address, --

19 MR. LEAKE: Yeah.

20 MR. WAHL: -- too.

21 Do you speak for any group or
22 organization other than yourself, Mr. Leake?

23 MR. LEAKE: I'm representing myself
24 today.

25 MR. WAHL: All right. Mr. Leake,

1 as you have heard me advise other persons, your
2 testimony is required to be under oath. And
3 I'm required by law to advise you regarding
4 perjury before administering the oath.

5 Perjury is a false statement of
6 material fact which you do not believe to be
7 true.

8 In North Dakota, perjury's a class
9 C felony, punishable by a fine up to \$5,000,
10 imprisonment for a period of up to five years
11 or both.

12 Will you raise your right hand,
13 please?

14 Being advised regarding perjury,
15 Mr. Leake, do you swear that the testimony
16 which you're about to give in this matter shall
17 be the truth, the whole truth and nothing but
18 the truth?

19 MR. LEAKE: I do.

20

21 T O D D L E A K E,
22 being first duly sworn, testified on his oath
23 as follows:

24

25 MR. WAHL: You may proceed, sir.

1 MR. LEAKE: Commissioners, thank
2 you for coming to Northwood school today.

3 I am present today to speak to the
4 route for the Center to Grand Forks
5 transmission line as applied for by Minnkota
6 Power Cooperative.

7 I live and farm in Fairfield
8 Township, Grand Forks County. I have some
9 concerns with the route as proposed in the
10 application.

11 I understand there were four
12 primary questions to be addressed here today
13 regarding the proposed route.

14 One, will the location,
15 construction, operation of the facilities
16 produce minimal adverse effects on the
17 environment, on the welfare of the citizens of
18 North Dakota?

19 Of course, there's no one here that
20 doesn't utilize gen -- electrical generation in
21 central western North Dakota and that
22 electricity need, transmission, needs
23 transmission lines and other facilities to
24 deliver that to customers for our use.

25 The question asks, if the location

1 of the route will minimize the adverse effects
2 on the environment and citizens?

3 I believe that the preferred
4 alternative put forth in the Environmental
5 Assessment and the proposed route in the
6 application do not minimize adverse effects.
7 And compared to the two alternative routes
8 proposed at the public meetings and addressed
9 in the Environmental Assessment, Routes B and
10 C, that those are preferable.

11 Route A, the preferred route by
12 Minnkota, and the route in the application,
13 fails to minimize these impacts, in that the
14 routes for the transmission line cross prime
15 farmland, unique wildlife land and into the
16 control zone of the Grand Forks International
17 Airport.

18 Wherever this line is routed, the
19 line will cross farmland and be near farmsteads
20 and rural homes, that is a given.

21 However, the last legs of the
22 proposed route, in addition, will cause the
23 transmission line to parallel the Western Area
24 Power Administration transmission line in
25 Fairfield Township, which can leave both lines

1 vulnerable to the same catastrophic,
2 catastrophic events, such as ice storms, wind
3 or tornado events.

4 MR. WAHL: Mr. Leake, let, let me
5 just ask you to slow down a bit.

6 MR. LEAKE: Okay, I'm sorry.

7 MR. WAHL: The, the court reporter
8 is very good, but --

9 MR. LEAKE: Yeah, --

10 MR. WAHL: -- you're --

11 MR. LEAKE: -- I will. I will --

12 MR. WAHL: -- talking, you're
13 talking --

14 MR. LEAKE: -- slow down.

15 MR. WAHL: -- too fast.

16 MR. LEAKE: I was trying to finish
17 here from -- don't want to be here all day.

18 Having raised cattle in this alkali
19 flats portion of the route in Fairfield
20 Township, I will concur with the wildlife
21 people here today, that it does host, host a
22 unique variety of wildlife, but it also
23 prevents some unique -- presents some unique
24 challenges to locating structures due to unique
25 geology.

1 Soil structures along this portion
2 of the route, both the di -- the diagonal
3 portion and the rest of the, the -- traverses
4 into, north into Brenna Township, are notorious
5 for their instability, as witnessed by the
6 denial of permits for solid waste landfills and
7 other proposals by Grand Forks County
8 Commission and townships.

9 There's also a great question of
10 the wisdom of locating the transmission line
11 through the control zone of Grand Forks
12 International Airport.

13 The route will locate the line 2
14 and one-quarter mile south of the thresholds of
15 parallel runways 17, 35.

16 Although it is legal to do so,
17 according to the FAA Regional Runway Safety
18 Office, it is not -- that is not something they
19 can prevent.

20 It would be far better, in my
21 opinion, as a pilot and a former student pilot
22 at UND - Aerospace, at Grand Forks
23 International Airport, that these transmission
24 lines not be located so close to the
25 aforementioned runways, that they -- because,

1 though, beneath the legal flight services, they
2 still present a hazard to aviation in the event
3 of loss of power on takeoff.

4 As a pilot in that situ -- a pilot
5 in that situation, must make a decision about
6 where to land, and, in that event, and pick a
7 landing location.

8 And the location of this line in
9 that area will present a significant obstacle
10 to that pilot. Perhaps a catastrophic obsta --
11 obstacle.

12 In addition to commercial aircraft
13 at GFK -- and, and -- there have, there have
14 been military presidential aircraft. And we
15 must keep in our foremind (sic), hundreds of
16 student pilots at UND - Aerospace, some
17 children as young as 17 and 18 years of age.
18 And we must strive to make GFK the safest
19 environment we can for that flight school. And
20 it is one of the best in the nation, a symbol
21 of pride for our state's higher education
22 system.

23 I truly believe that by locating
24 the Center to Grand Forks transmission line on
25 Route B or C, as described in the Environmental

1 Assessment, will satisfy question three: will
2 the proposed facility locations minimize
3 adverse human and environmental impact, while
4 ensuring continuing system reliability and
5 integrity and ensuring that the energy needs
6 are met and fulfilled in an orderly and timely
7 fashion?

8 I believe that Route B or C will
9 address the shortcomings of the proposed route
10 in the application and need to be looked at
11 again.

12 Question four: is it appropriate
13 for the Commission to approve the
14 1,000-foot-wide corridor as requested in the
15 application?

16 My opinion is no.

17 And that the process should look at
18 the alternative routes, or at the very least,
19 modify in the proposed route, mitigate the
20 issues I've outlined.

21 Thank you.

22 MR. WAHL: Questions, Ms. Smith?

23 MS. SMITH: I was just wondering,
24 are you -- do you own property that's within
25 the proposed corridor?

1 MR. LEAKE: I do not. I own
2 property 1 and one-half miles from the proposed
3 corridor.

4 MS. SMITH: Okay. I was just
5 asking because I know it will get asked, I may
6 as well take care of that.

7 And then I guess if we wanted to
8 get on record, where the alkali flats are, if
9 you want to reference, I think it was Exhibit
10 12j you were looking at. Is that correct?

11 MR. LEAKE: Yes. In, in Exhibit
12 12j, what's referred to as alkali flats, Ojata
13 flats, generally comprises the eastern half of
14 Oakville Township and the eastern half of
15 Fairfield Township, with some sections
16 excepted.

17 That is the general area. It
18 extends somewhat to the north and to adjacent
19 townships.

20 MS. SMITH: Okay. I have no
21 further questions.

22 MR. WAHL: Mr. Sagsveen?

23 MR. SAGSVEEN: I don't have any
24 questions.

25 MR. WAHL: Mr. Lein?

1 MR. LEIN: Looking at the route
2 segments, would we miss those alkali flats if
3 we didn't do that diagonal cut right there and,
4 and, and ran along the section line?

5 MR. LEAKE: Primarily, yes.

6 If it were to continue to the east
7 and then progress to the north, coming into the
8 Prairie substation from the south, that
9 would --

10 MR. LEIN: How far east would we --

11 MR. LEAKE: It goes around.

12 MR. LEIN: How far east would we
13 have to go to miss it? Could we go up --

14 It's hard to see this map here.

15 If we were -- stayed in Oakville
16 Township, on that segment, and kept that
17 segment on the, on the east side of Oakville
18 Township?

19 MR. LEAKE: If it were to
20 progress -- I can't, I can't really speak to
21 what people might consider legal to do.

22 However, if it were to progress
23 eastward, halfway through Brenna Township and
24 Allendale Township, then that would avoid that
25 sensitive area.

1 However, the alternative routes in
2 the Environmental Assessment did have it coming
3 up a specific route from the south into the
4 Prairie substation.

5 MR. LEIN: Because I'm looking at
6 it and it's already paralleling the road. 16th
7 Street Northeast -- or -- I can't quite read
8 what the road is there. 19th.

9 And if that diagonal section was
10 moved in Fairfield, we would parallel that road
11 all the way down.

12 MR. LEAKE: To avoid the southern
13 end of that, of that area, you'd have to
14 basically parallel Highway 15, roughly, which
15 is a -- roughly the southern end of Fairfield
16 Township. And Allendale Township. Then hence
17 north.

18 But that's just my geographical
19 knowledge of the area, having lived here all my
20 life.

21 MR. LEIN: It would be helpful, I
22 think, if we had, somehow or other had a -- an
23 Ex -- a late-filed Exhibit that showed the, the
24 alkali flats area on a map.

25 MR. WAHL: Let's, Mr. Lein, let's

1 recall Ms. Thompson, please.

2 Did you hear that, Ms. Thompson?

3 Please don't leave, I'm going to
4 recall you for some further questioning.

5 Mr. Leake, yeah, you got her into
6 trouble, but that's all right.

7 MR. LEAKE: Yeah.

8 MR. WAHL: Well, I've forgotten
9 what I was going to say.

10 Mr. Lein, anything further?

11 MR. LEIN: No, that's it.

12 MR. KALK: Thank you.

13 MR. WAHL: Que -- questions from
14 the Commission?

15 Commissioner Kalk.

16 MR. KALK: Thank you, Todd, for
17 your testimony.

18 What's your best guess on why
19 the -- none of this got fleshed out in the
20 Environmental Assessment? All the -- because
21 the Environmental preferred route, if you will,
22 is, is the route that's up in front of us.

23 How do you think something like
24 this would, would happen?

25 MR. LEAKE: Well, --

1 MR. KALK: Where there's a --
2 differing viewpoints?

3 MR. LEAKE: I attended the open
4 houses by Minnkota and by the Rural Utilities
5 Service. These questions were brought up in
6 front of the operators of those open houses and
7 they were presented in, in the record, in, in
8 comments through the NEPA process.

9 MR. KALK: Did you file any
10 comments that, that were filed dur -- during
11 the -- because we have Exhibit 20 up here that
12 basically says during the 30-day period the,
13 that the NEPA comments were, were accepted.

14 Did you file any during that
15 period, with actually the federal agencies, if
16 you will? With the RUS?

17 MR. LEAKE: Yes, I, I, I used the
18 comment page that was provided at the open
19 house --

20 MR. KALK: Okay.

21 MR. LEAKE: -- scoping meetings.

22 MR. KALK: I think that's it for
23 now, thank you.

24 MR. WAHL: Any further questions
25 from the Commission?

1 MR. CRAMER: No, just thank you
2 very much.

3 MR. KALK: Thank you, Todd.

4 MR. LEAKE: Thank you.

5 MR. WAHL: Follow-up -- just a
6 minute, Mr. Leake.

7 Follow-up, Ms. Smith?

8 MS. SMITH: No, your Honor.

9 MR. WAHL: Any follow-up, Mr.
10 Sagsveen?

11 MR. SAGSVEEN: I have no additional
12 comments or questions.

13 MR. WAHL: Mr. Lein, anything
14 further?

15 MR. LEIN: No, thanks.

16 MR. WAHL: Thank you very much, Mr.
17 Leake.

18 MR. LEAKE: Thank you.

19 (Whereupon, the witness was
20 excused.)

21 MR. WAHL: Ms. Thompson, if you
22 could, please, for just a little bit more.

23 Mr. Lein, what Exhibit were we
24 looking at with Mr. Leake, 12i?

25 MR. SAGSVEEN: J.

1 MR. LEIN: This -- we're looking at
2 12j.

3 MR. WAHL: J.

4 MR. LEIN: But what I was hoping
5 for was just some kind of a little map that
6 would show where this alkali flats area is.
7 Does it have boundaries kind of associated
8 somehow or other?

9 MR. WAHL: And, I'm sorry, Ms.
10 Thompson, I, I -- we need to do the drill
11 always.

12 No.

13 But I, I, I just ask you and tell
14 you that you understand, of course, that your
15 testimony continues under oath and subject to
16 penalties of perjury?

17 MS. THOMPSON: Yes, sir.

18 MR. WAHL: Yes, indeed.

19

20 G E N E V I E V E T H O M P S O N,
21 being previously first duly sworn, testified on
22 her oath as follows:

23

24 MR. WAHL: And so let me, Mr. Lein,
25 let me just interject.

1 I wonder, Ms. Thompson, if, if we
2 provided Exhibit 12j, whether you would have
3 the resources, using that Exhibit, to outline,
4 to define the area that you are concerned with?

5 Not necessarily on an Exhibit 12, a
6 copy of Exhibit 12j, but in relation to Exhibit
7 12j, that is, for reference.

8 And if you had another map that,
9 that showed the, the, the item, we would then
10 mark it as an Exhibit, as what we call a
11 late-filed Exhibit. You could submit that
12 later and you could have, oh, I don't know, Mr.
13 Lein, probably a couple, three weeks to, to
14 obtain that?

15 MR. LEIN: Sure, if you needed that
16 long.

17 MS. THOMPSON: I could definitely
18 do that. And it could be much sooner than
19 three weeks.

20 MR. WAHL: Well, let me then tell
21 you, Ms. Thompson, it would be helpful if we
22 had your Exhibit before the last of these
23 hearings.

24 MS. THOMPSON: Absolutely,
25 absolutely.

1 MR. WAHL: That would be great.
2 That would give the company time, Minnkota,
3 time to review it and, --

4 MS. THOMPSON: Sure.

5 MR. WAHL: -- and work with it,
6 also.

7 So, for the record, let's make
8 that -- well, Ms. Smith, what's your advice?
9 Shall we go seriatim or shall we make it a --
10 an Exhibit 12j-a or something? What do you
11 prefer?

12 MS. SMITH: I would --

13 MS. THOMPSON: Yeah.

14 MS. SMITH: -- prefer to make it
15 its own Exhibit so that it's not confused with
16 these.

17 MR. WAHL: Fair enough.

18 We'll then call this -- it'll be --
19 for the record, this'll be late-filed -- is the
20 last of your intended Exhibits at this point?

21 MS. SMITH: At this point it is.

22 We will have one more, though, that
23 we have in our Exhibit binder.

24 MR. WAHL: Well, all right. For
25 the record, we'll call it Thompson, Exhibit 1.

1 MS. THOMPSON: Wow.

2 MR. WAHL: Mr. Lein, anything
3 further?

4 MR. LEIN: No, I think that'll do
5 it.

6 Thank you, Genevieve.

7 MS. SMITH: If I, I --

8 MR. WAHL: Ms. Smith?

9 MS. SMITH: I do have a couple of
10 questions.

11 This alkali flats area that you're
12 referencing, is it a state protected or
13 designated area?

14 MS. THOMPSON: Not at this time,
15 no.

16 MS. SMITH: And is it a federally
17 protected or designated area?

18 MS. THOMPSON: There are
19 conservation easements within the re -- regi --
20 within the area. It -- I should clarify.

21 It's a large expanse, you know,
22 again, about probably closer to, in true value
23 habitat, to 10 to 11,000 acres in that region.

24 But it isn't like it's just -- it's
25 not like you, you step in and immediately

1 you're there. You know, it's in this region, I
2 can, like I said, I can show it spatially.

3 So there are, -- excuse me -- there
4 are regi -- areas within it, sites within it,
5 that have conservation easements on them. And
6 there are records of species use and plant, you
7 know, plant composition.

8 MS. SMITH: Oh, okay. So there are
9 the conservation easements which are in other
10 parts of the state as well, right?

11 MS. THOMPSON: Federal, yeah.

12 MS. SMITH: And so -- and, and we
13 do keep records of other species in other parts
14 of the state as well.

15 MS. THOMPSON: Yeah.

16 MS. SMITH: So this isn't a
17 federally protected area or designated area?

18 MS. THOMPSON: Not at this point.

19 As I said earlier, it's a mosaic of
20 ownership between agent -- federal and state
21 agency, private and private landowners.

22 MS. SMITH: All right. I have no
23 further questions.

24 MR. WAHL: Mr. Sagsveen?

25 MR. SAGSVEEN: I don't have any

1 questions.

2 MR. WAHL: Mr. Lein?

3 MR. LEIN: No questions.

4 MR. WAHL: Anything further from
5 the Commission?

6 If not, Ms. Smith, if -- I assume
7 that Minnkota can provide Ms. Thompson a, a
8 copy of Exhibit 12j for her use?

9 MS. SMITH: And you're just wanting
10 a hard copy of that, a --

11 MR. WAHL: Yes.

12 MS. SMITH: -- printout.

13 Yes, we can provide that.

14 MR. WAHL: Questions?

15 MS. THOMPSON: Thank you.

16 It's electr -- you have it -- it's
17 electronic? Is it available electronically as
18 well on the site?

19 Are the maps there?

20 Maps are there, right?

21 MS. SMITH: Yeah, there is one
22 available on the website.

23 MS. THOMPSON: Okay.

24 MS. SMITH: It may not be exactly
25 12j, --

1 MR. WAHL: Well, --

2 MS. SMITH: -- but --

3 MR. WAHL: -- let's --

4 MS. SMITH: -- it's going to be
5 that area.

6 MR. WAHL: Let's give her a copy of
7 Exhibit 12j.

8 MS. SMITH: Okay.

9 MR. WAHL: The resourc -- and then
10 whatever resource she uses, that's up to you,
11 because it'll be a, a separate Exhibit.

12 I, I do not suggest that it need be
13 made at -- on Exhibit 12j, you're free to
14 use --

15 MS. THOMPSON: Okay.

16 MR. WAHL: -- whatever map --

17 MS. THOMPSON: And --

18 MR. WAHL: -- works best.

19 MS. THOMPSON: And --

20 MR. CRAMER: And, you know, --

21 MS. THOMPSON: Do you want me to --
22 who do I send that to?

23 Do I send it to you, Mr. Lein,
24 or --

25 MR. WAHL: You know, it's, it's,

1 it's -- you should send that to me.

2 MS. THOMPSON: Okay, okay.

3 MR. WAHL: Yeah, especially if
4 you're going to be able to do that before the,
5 the hearing in Washburn, I've forgotten the
6 exact date, but --

7 MS. THOMPSON: The 24th, I believe.

8 MR. WAHL: -- it's next week.

9 Okay.

10 MS. THOMPSON: Okay, I'll send it
11 to you.

12 MR. WAHL: Right.

13 MS. THOMPSON: And copies or just
14 you and then you deal with it?

15 MR. WAHL: Well, you know, that's
16 not going to work. I'm not thinking straight,
17 it's been a long day.

18 You know, you're going to have to
19 come to that Washburn hearing. Can you -- you
20 or somebody. Can you --

21 MS. THOMPSON: Okay.

22 MR. WAHL: -- do that?

23 MS. THOMPSON: Yes.

24 MR. WAHL: Yeah, you really are
25 going to have to bring the Exhibit. In fact,

1 you don't need to send it to me, I'm just, I'm
2 not thinking.

3 You need to bring it to the
4 Washburn hearing, you or somebody who's
5 prepared to say: this is the Ex -- this is the
6 Exhibit, this is how it was prepared, this is
7 the source of the information, I know this
8 because I did it or, or I, I know this because
9 I got it from some book or something, whatever,
10 and --

11 MS. THOMPSON: Okay. I can.

12 MR. WAHL: -- this is the area
13 we're talking about.

14 MS. THOMPSON: Okay.

15 MR. WAHL: In other words, some
16 additional testimony. All right?

17 MS. THOMPSON: Okay.

18 MR. WAHL: Now, let's not -- I
19 don't, I don't get the last word.

20 Anything further, Ms. Smith?

21 MS. SMITH: No, I have nothing
22 further.

23 MR. WAHL: Mr. Sagsveen?

24 MR. SAGSVEEN: Nothing further.

25 MR. WAHL: Mr. Lein?

1 MR. LEIN: Yeah, I just have one
2 question.

3 MR. WAHL: Sure.

4 MR. LEIN: You gave us a website,
5 is there a map on that website that shows where
6 the -- or something to --

7 MS. THOMPSON: I believe that there
8 was, but I'm not a hundred percent sure that
9 it's there right now, because I haven't checked
10 it within the last couple, but if there isn't
11 now, there will be.

12 MR. LEIN: Okay.

13 MR. WAHL: Anything further from
14 the Commissioners?

15 MR. CRAMER: You know, I would --

16 MR. WAHL: Commissioner --

17 MR. CRAMER: -- just --

18 MR. WAHL: -- Cramer.

19 MR. CRAMER: I would just say
20 something, that if you go to the PSC website
21 and go on our search, you know, find the case,
22 it's -- this map that is Exhibit 12j is about
23 Page 187.

24 MS. THOMPSON: Okay.

25 MR. CRAMER: On the, on the

1 application.

2 MS. THOMPSON: Okay.

3 MR. CRAMER: There are a lot of
4 documents there, but it's, it's -- you know, if
5 that helps.

6 But thank you.

7 MS. THOMPSON: Okay. That does,
8 thank you. Okay.

9 MR. WAHL: All right. Thank you
10 very much, Ms. Thompson.

11 MS. THOMPSON: Thank you.

12 (Whereupon, the witness was
13 excused.)

14 MR. WAHL: Next, please?

15 Is there anybody else who has
16 anything to say to the Commission?

17 I take that no one.

18 For the last time, I guess, is
19 there anybody else who wishes to address the
20 Commission?

21 All right. Ms. Smith, I'm assuming
22 if you have, have rebuttal, you can --

23 MR. KALK: Your Honor, I have a
24 question for you real quick.

25 MR. WAHL: Yes.

1 MR. KALK: At what point could we
2 get Mr. Brian Hunker back up here, the
3 environmental person?

4 I would like to talk to him about
5 what -- his thoughts on some of this salt flat
6 business.

7 MR. WAHL: Is he going to be a
8 witness at tomorrow's hearing?

9 MS. SMITH: Well, the problem is,
10 your Honor, that we, we were not planning to
11 focus on that particular --

12 MR. KALK: That's what I was
13 thinking, --

14 MS. SMITH: -- part of --

15 MR. KALK: -- because that's --

16 MS. SMITH: -- the corridor.

17 MR. KALK: -- unique.

18 MS. SMITH: We'd prefer to just
19 bring our witnesses up now.

20 MR. WAHL: All right.

21 MS. SMITH: So can we take five
22 minutes?

23 MR. WAHL: You know, -- so how long
24 is this going to take?

25 MS. SMITH: Hopefully not very

1 long.

2 MR. WAHL: Why can't we do it
3 tomorrow?

4 MS. SMITH: Because -- well, if
5 we -- if you insist that we do it, we'll do it
6 tomorrow, but we --

7 MR. WAHL: No, --

8 MS. SMITH: -- would prefer --

9 MR. WAHL: -- I'm --

10 MS. SMITH: -- to do it --

11 MR. WAHL: -- not insisting, I'm
12 trying to understand.

13 MS. SMITH: Because we focus the
14 corridor testimony on this particular area, so
15 tomorrow, when we talk about the proposed
16 corridor and walk through it, we won't get back
17 to this particular Exhibit 12j that's in front
18 of us, where this issue is, is pertinent.

19 MR. WAHL: All right.

20 MS. SMITH: We can incorporate
21 it, --

22 MR. WAHL: All right.

23 MS. SMITH: -- if you --

24 MR. WAHL: All right.

25 MS. SMITH: -- want to.

1 MR. WAHL: Let's, let's proceed.

2 Did you --

3 MR. KALK: Your Honor, I would have
4 a second question, too. Is that, some of the
5 questions Ms. Thompson had about the, the
6 aviation impacts, I know we've had discussion
7 about the poles and there was some adjustments
8 to the, to the poles, but I don't mind waiting
9 until tomorrow for some of that, but those are
10 two questions I would just like to get some
11 follow-up on.

12 MR. WAHL: No. Let's, let's
13 proceed. Let's recess for ten minutes.

14 Will that be sufficient, Ms. Smith?

15 MS. SMITH: Yes, your Honor.

16 MR. WAHL: It'll be more than ten
17 minutes, anyway.

18 So we'll be in recess for
19 approximately ten minutes.

20 (Whereupon, a nine-minute recess
21 was taken.)

22 MR. WAHL: All right. Let's be in
23 order, please.

24 Ms. Smith?

25 MS. SMITH: I would recall Duane

1 Phillips.

2 MR. WAHL: Mr. --

3 THE WITNESS: Afternoon, again.

4 MR. WAHL: Mr. Phillips, you
5 understand, of course, that your testimony
6 continues under oath and subject to the
7 penalties of perjury?

8 THE WITNESS: Yes, I do, your
9 Honor.

10

11 D U A N E P H I L L I P S,
12 called as a witness, being previously first
13 duly sworn, was examined and testified on his
14 oath as follows:

15

16 MR. WAHL: Ms. Smith.

17

18 REBUTTAL

19 BY MS. SMITH:

20 Q. Mr. Phillips, could you utilize
21 Exhibit 12j and 12 -- and, and Exhibit 7, to
22 the extent you need it, to explain why Route A
23 was selected over the other routes?

24 A. Yes, I can.

25 If we could draw your attention to

1 Exhibit 7, the questions that we've heard so
2 far have been in regards to Route A, which, on
3 Exhibit 7, is of the red route to the northern
4 section.

5 And, and Route, Route B, which,
6 which, on Exhibit 7, is of the southern more --
7 most route, which is a blue one, Exhibit,
8 Exhibit 7.

9 And, and we've also had some
10 questions about some hybrid opportunities
11 associated with those routes as well.

12 Well, those routes were thoroughly
13 looked at. And, and when you have a chance to
14 take a look at the data, information in the
15 Environmental Assessment, this'll become
16 apparent as well, that, that the impacts of
17 going along Route, the blue route, Route B, to
18 the southern section, especially in the areas
19 of Carrington and Cooperstown and the southern
20 part of what we would term the I-29 corridor
21 down in Traill County, were much -- were more
22 significant than they were to go towards the
23 northern route.

24 We did look at the possibility of
25 additional route segments from where we have

1 chosen to go, where we are proposing to go
2 across the Sheyenne River, to move down to, to
3 the southern route, but it doesn't eliminate
4 enough of those environmental and, and, impacts
5 and avoidance criteria to warrant that as being
6 a less impacting route.

7 So that's, that's a, that's a --
8 primarily why Route A, or the red route, on
9 Exhibit 7, was, was selected over the -- that
10 southern route.

11 In terms of the specific area that
12 we've been talking about, if, if I could direct
13 your attention to Exhibit 12j. This area of,
14 of the alkali flats that we've talked about,
15 there was identified, fairly early on in the
16 public meetings.

17 We did get comments from, from the
18 public at those public meetings. We were able
19 to annotate on, on some of the maps that we had
20 there at the public meetings this area.

21 We did hear concerns in regards to
22 wildlife that was in the area, particularly
23 avian wildlife.

24 So it was an area that we were able
25 to take a look at as part of, of the NEPA

1 process that was in there.

2 Wi -- with our conversations with
3 U.S. Fish and Wildlife, and, and the
4 consultation that's ongoing with them, they
5 have raised no, no concerns for this area for
6 us. It -- it's not a designated area, as we
7 heard testimony on earlier.

8 So, so the impacts of that, taking
9 a look at it, you know, that was one of the
10 things that we looked at.

11 So in looking at different possible
12 corridor options going through Grand Forks
13 County, in this area, really, when you take a
14 look at it, this, this is the corridor that has
15 the least amount of impact. Not only from the
16 avoidance criteria, but also from an
17 environment perspective as well.

18 One of the, one of the things we
19 looked at is, is there already is a line that
20 is there. The WAPA 230 kV line, going through,
21 through that area. And the impacts that we saw
22 from, from siting another transmission line in
23 that short area were, were minimal.

24 Q. And that raises the, the next
25 issue, as far as paralleling. There were

1 concerns raised about having two transmission
2 lines in the same corridor. Were those
3 considered and what was the result of that
4 consideration?

5 A. Yes. As we heard testimony
6 earlier, any time that we look at, at, at a
7 corridor siting of transmission facilities, we
8 want to do a risk analysis or a risk benefit
9 analysis, if you will, in, in consideration
10 with, with other transmission lines that are in
11 the area. And I think we heard some of that
12 earlier.

13 There were a couple of things in
14 regards to the WAPA 230 kV line that we looked
15 at that impacted. One is, that -- pardon me
16 -- it -- it's a noneast-west line, so there's a
17 lot less opportunity and impact for ice
18 collection on the line.

19 And that has to do with, with the
20 diagonal portion of where it is, where it is --
21 where is -- the way the line is running
22 geographically on a diagonal there.

23 Another, another consideration we
24 had is this -- this is a relatively short
25 section. It's only about 5 miles or so, that,

1 that we're paralleling the WAPA 230 line.

2 And another one is, is that we're
3 in very close proximity to Grand Forks, so in
4 the event that a weather event were, were to
5 take down both lines, the impact in terms of
6 maintenance and repairs on that would be
7 greatly reduced, because we are in close
8 proximity to, to the maintenance personnel.

9 The most likely challenge that we
10 would have, actually taking out both those
11 lines simultaneously, would be, would be a
12 tornado kind of an event.

13 The weather cases we design for is
14 going to eliminate most of the, most of the
15 higher straight-line wind events, which,
16 really, a tornado event that, that would have
17 the most probability of taking out both lines
18 in close proximity, and that, that normally
19 occurs during what we call the shoulder months,
20 in terms of load, load usage.

21 So that, that further reduces that
22 impact of that, because of, because of the load
23 being used less during those shoulder months.

24 The other thing is, is that, is
25 that WAPA 230 line and the proposed Center to

1 Grand Forks line, would terminate at two
2 different locations.

3 So there's additional reliability,
4 in terms of where those would, would terminate
5 and where that power flow, you know, and where
6 that power flow goes.

7 So, so when we looked at the
8 benefits of routing and parallel for that short
9 section with the WAPA line, versus the
10 liability risks, we felt that that was, that
11 was, that was the optimal routing location for
12 the corridor.

13 Q. And one of the questions was, as
14 far as the maintenance of the right of way
15 itself, is that, is that clear cut? Is that
16 mowed?

17 A. No. The only, the only disruption,
18 short-term, during the construction, along a
19 right of way such as this is, is removal of
20 trees and obstacles that are going to, that are
21 going to have, have the potential to impact the
22 safe operations of the line.

23 In this area, there, there is no
24 reason to, to mow along the right of way.
25 There is no reason to clear out a, a, a --

1 native, native vegetation or grasslands that
2 are in this area. That's, that's actually one
3 of the things that helps us out, there's,
4 there's not a wooded forest area in there that
5 we have to clear out or anything.

6 So, I mean, there will be some
7 temporary impacts due to the construction
8 activities, again, at each one of the, the, the
9 structure locations, just to put the structure
10 in, but, but then the only other impact that
11 would be in between the structures, would just
12 be driving from one location to the other.

13 And I think that working with
14 landowners in the area and, and working with
15 different groups, that we could, that we could
16 minimize those construction impacts by, by --
17 when we do construction as well.

18 Q. And with respect to the concerns
19 about the airport, have you discussed this
20 route with the FAA and with the Grand Forks
21 International Airport?

22 A. Yes. We've been in -- we have been
23 in discussions with both Grand Forks Airport
24 and with the, the Federal Aviation
25 Administration. And as long as we are adhering

1 to the nonprecision approach path that they
2 have, they see no safety concerns associated
3 with where the corridor has been sited -- or,
4 or where the corridor is being proposed, excuse
5 me.

6 Q. Is there anything else that you'd
7 like to share with the Commission on this
8 iss -- these issues that have been raised?

9 A. I can't think of anything at this
10 time.

11 Q. All right.

12 MS. SMITH: I have no further
13 questions.

14 MR. WAHL: Mr. Sagsveen?

15 MR. SAGSVEEN: Thank you.

16 I have a few, I have a few
17 questions.

18

19 REBUTTAL

20 BY MR. SAGSVEEN:

21 Q. In -- you talked about Exhibit 7.
22 And do you have Exhibit 7 in front of you or do
23 you want to just look at the --

24 A. I can open it up.

25 Q. And, and you indicated just now

1 that some of the re -- some of the bases for
2 choosing Route A were -- was in Traill County?
3 Was it some environmental issues in Traill
4 County?

5 A. It was, it was -- there was some
6 wetland areas down there. There's a river, I
7 believe it's called Goose Creek, going through
8 there. And there was a number of residences
9 that were in that area. That is correct.

10 Q. So wer -- was there anything in
11 Grand Forks County that would have swayed you
12 one way or another to avoid Route B or Route C
13 and choose Route A?

14 A. Specifically looking at Grand Forks
15 County, if that's, if that's the scope that
16 we're looking at, again, the major impacting
17 factor in siting a corridor through, through
18 Grand Forks County was, was occupied residences
19 and the density of those residences.

20 So, so Route A, or, or the proposed
21 corridor that we're on, has, has the least
22 amount of, of those residences in close
23 proximity.

24 Q. And so for Route B and Route C,
25 there were -- it was your belief that there

1 were residences, more residences in close
2 proximity that would make it kind of
3 prohibitive?

4 A. There was --

5 Q. Or less --

6 A. -- a higher density of, of
7 residences in those areas.

8 So when we looked at those, those
9 were corridors evaluated.

10 So if you're asking me, could we
11 have routed a transmission line in those
12 corridors; the answer would be yes.

13 I mean, those are, those are ones
14 evaluated in the, in the Environmental
15 Assessment; however, Route A was, was the least
16 impacting route.

17 Q. Overall?

18 A. Route A in the Environmental
19 Assessment was the least impacting corridor --

20 Q. Okay.

21 A. -- through that area and overall.

22 Q. Do you have the -- could you pull
23 the, the permit page out? I'm looking at a
24 map, it's in Appendix B, Page 55 of 55.

25 A. And that was Appendix delta, what

1 page?

2 Q. B. Appendix B, as in boy, Page 55

3 of 55.

4 A. 55 of 65.

5 Q. 55 of 55.

6 A. Is there a figure number associated

7 with that?

8 Or a map number, I'm -- you know,

9 I'm not seeing --

10 Q. It's Map, --

11 A. -- page numbers on the --

12 Q. -- Map fifty --

13 A. -- pages.

14 Q. -- Map 55. I . . .

15 A. If I could walk over with, --

16 Q. Sure. Well, --

17 A. -- with mine --

18 Q. -- I'll --

19 A. -- and take a look, maybe we could,

20 maybe we could get on the same --

21 Q. I'll, --

22 A. -- page, sir.

23 Q. -- I'll come over there.

24 (Whereupon, there was discussion

25 off the record.)

1 A. Okay.

2 It's at --

3 MR. WAHL: Mr. --

4 A. -- Appendix delta --

5 MR. WAHL: -- Sagsveen, why don't
6 you show that to Ms. Smith, too, please.

7 A. It's at Appendix delta, Page 54 of
8 55.

9 Excuse me, Page 55 of 55.

10 MR. SAGSVEEN: For the --

11 Thank you, I apologize.

12 MR. WAHL: No, that's fine.

13 Now, let's identify for the record
14 where you are, please.

15 Q. (By Mr. Sagsveen) I believe it is
16 Appendix D, Page 55 of 55. There's a map that
17 illustrates three route prop -- possibilities.
18 Is that, is that correct? Or maybe --

19 A. Yes.

20 Q. -- you could describe for me what
21 you see on Page 55 in Appendix D.

22 A. Absolutely.

23 On Page 55 of 55, in, in Appendix
24 delta, which is out of the Environmental
25 Assessment, is a map showing the, the general

1 location in the, in the eastern portion of
2 Grand Forks County, which shows the three route
3 alternatives from the Environmental Assessment,
4 which, which -- as they approach and come in at
5 the Prairie substation.

6 Q. And so, for the record, there
7 appears to be a red, green and blue, and those
8 are the three different route alternatives?

9 A. Yes, they are.

10 Q. And so just from my lay, layman's
11 perspective, when I look at the green and blue,
12 which are Routes 2 and 3, is that -- or B and
13 C?

14 A. That is correct.

15 Q. It doesn't appear to me, and I, I
16 can be -- stand corrected, what --
17 that there -- it doesn't appear that there's a
18 whole lot of population density around those
19 routes.

20 So if you could explain to me how
21 population density or home density in that area
22 factor into the analysis, I'd, I'd be
23 interested to hear that.

24 A. Absolutely.

25 When you look at Page 55 of 55 in

1 there, you are correct, when we look at
2 residences that are in the immediate vicinity
3 of, of those three corridor options, they are,
4 they are about the same.

5 When, but when we do the analysis
6 on the route in the Environmental Assessment,
7 the analysis goes for the entire, goes for the
8 entire route through that area.

9 And if we were to go back a few
10 pages, we, we would see differences in, in, in
11 the home density, even within the corridor.

12 For instance, if I could direct
13 your attention one page back, to, to where we
14 look at Page 54 of 55, we can see that, that,
15 that, that red band, or Route A, has, has no
16 homes within the corridor; however, the green
17 band, which is Route, Route C, has, has a home
18 that's within the thousand-foot corridor.

19 And then, and then on that page as
20 well, Route B, which is the blue band, has, has
21 an occupied residency right in the middle of
22 the corridor, that, that we would be very
23 challenged to route, you know, to meet the, the
24 avoidance criteria of 500 feet through that
25 area.

1 So, so we can look on one
2 individual map or another and, and kind of see.

3 But when you look, when you look
4 back and, you know, and actually look at, at,
5 at a couple counties or so, that's where we
6 start seeing the, the, the difference in, in,
7 in occupied residencies within the corridor.

8 Q. Do you recall -- can I -- I'd like
9 to draw your attention to Exhibit 6.

10 A. Oop. Didn't mean to hit the mike.

11 I am on Exhibit 6, sir.

12 Q. And when I look to the south and
13 west of the Prairie substation indication on
14 that map, it, it kind of looks like you --
15 there was a consideration that, that was
16 eliminated for a segment to go from Route A,
17 which is the red line, over to, over to the
18 east.

19 Do you recall why that might have
20 been eliminated in that area? And do you --
21 can you see where I'm pointing out, before,
22 before you answer that question?

23 A. I believe we were talking about, on
24 Exhibit 6, on the right-hand side, right-hand
25 side of the page there, it shows, it shows a

1 number of route segments in red, that basically
2 go from the southwest side of the diagonal
3 portion on, on the proposed Route A, and, and
4 would then shift over to Route, Route, I
5 believe that's Route C, in that area.

6 Is, is that the area that you're
7 talking about, sir?

8 Q. That's correct.

9 A. Okay.

10 Right off the top of my head, I do
11 not, I do not remember exactly why, why that
12 route segment was eliminated or what the
13 challenges were that, that were within that
14 route segment.

15 Certainly that is something that we
16 could go back and take a look at and be
17 prepared to talk about at one of the other
18 hearings. I mean, I just do not have my notes
19 for that right in front of me, sir.

20 Q. Do you think your environmental
21 analysis would have drilled down to that small
22 of a component in the corridor or was it -- or
23 would it have been a little bit broader than
24 that?

25 A. I don't understand what you mean by

1 drilling down to that, that small of an area.

2 Q. Well, I guess from a, from a
3 mileage perspective, that area, it's a --
4 that's a pretty small part, and I guess --

5 A. Sure.

6 Q. -- whether or not you would have
7 focused on a -- an individual segment that
8 small and said: we don't want to go east
9 there, let's go northeast and then go by the
10 airport and then, and then over?

11 I'm just curious whether or not
12 there might have been a, maybe an analysis or
13 something specific for that area.

14 But that might depend on, on kind
15 of the overall analysis of whether or not you
16 focused so, so specifically on small parts like
17 that.

18 A. Well, there was an overall analysis
19 to put together a viable corridor or what the
20 Environmental Assessment has called a route to
21 look from one end to the other. So, so there
22 was that overview that was done there.

23 But, also, within the Environmental
24 Assessment, and, and I don't, I don't know the
25 Table right off the top of my head for the

1 numbers, but there is an analysis for each one
2 of those 191 segments.

3 So, so we did a, a drill down and,
4 and look at each, each small segment that was
5 in there. And, and, and made our decisions as
6 to, as to the proposed corridor based on that
7 detailed level of an analysis, so yes.

8 Q. So just looking at the Appendix D,
9 Page 55 of 55 again, is there something that,
10 that jumps out at you that you see just at
11 the -- off the top of your head that would
12 prohibit the Route A to jog straight east
13 instead of kind of go up and -- by the airport
14 there?

15 A. It -- I believe what -- Mr. Leake,
16 I believe, is who, who discussed this, about
17 going due, due east, instead of paralleling the
18 WAPA line that was in that area, to help try to
19 avoid some of those items.

20 Just looking at that very quickly,
21 one of the challenges that we had was on the
22 southern end. And I think it's better to
23 look --

24 Q. Before you go any further, why
25 don't you identify what you're referring to

1 when you say: the southern end, and then which
2 map you're talking about.

3 A. Okay.

4 If we look at the southern end of
5 that diagonal portion, where, where we parallel
6 the WAPA line, the WAP -- the existing WAPA 230
7 kV line, which is depicted on maps Page 54 of
8 55 and 55 of 55.

9 So I believe the suggestion was,
10 was to look at, at the map on, on, looking at
11 the map on Page 54 of 55, on, on that
12 southwestern portion, and before we begin to
13 parallel, we -- I was going directly east out
14 of that area.

15 That was one of the segments that
16 we looked at. Some of the, some of the
17 challenges that we had, is, is if you -- if I
18 could draw your attention to Page 54 of 55. If
19 we went directly east, through Fairfield
20 Township, we end up with a number of large
21 water body areas in Section 23 of that area,
22 which would have proposed a, a challenge to us
23 to get around those.

24 We also looked at, at taking the
25 corridor as comes in on the left side of Page

1 54 of 55 and shifting that south some to miss
2 some of those larger water body areas.

3 But, again, if, if we were to work
4 our way back to the west on, on Pages 53 --
5 Maps 53 and 52, we see that, we see that the
6 proximity of homes in that area did not make
7 that a viable corridor option for us.

8 But we did look at, at the
9 possibility of going on those water bodies.

10 The other challenge that we had in
11 that area to go through there was, was, if you
12 look on Page 54 of 55 in Section 13, you'll see
13 a darker area in the northeast side of, of 13,
14 that, that is water that is standing the
15 majority of the year. And that is part of the
16 English Coulee retention system.

17 And, and the further east and the
18 further south you get in that English Coulee
19 retention system, you end up running into
20 wat -- you end up running into larger water
21 body areas.

22 And in our discussions with, with
23 the Water Board through that area, the
24 suggestion was made to stay, stay more west and
25 north through that area, because of, of, of the

1 topography and the way the water, the way the
2 water collects through that, through that area.

3 Q. In, in, in Appendix D on Page 55 of
4 55, this is my last question, where the --
5 where Route A goes north and WAPA keeps going
6 to the northeast? Do you see where I'm, I'm --

7 A. Yes.

8 Q. -- talking about.

9 Couldn't you have gone straight
10 east into, tap into one of the other route
11 alternatives? Wouldn't that have been just as
12 easy or easier, than if you went all the way
13 north up on -- into the salt flats area and
14 then went back to the east?

15 A. It certainly is a possibility of
16 going there. The concern with the, with the --
17 making that turn to cross the existing WAPA 230
18 line, is there's a recreational area that is
19 just south of where that eastern turn was made.

20 And, and, and part of our avoidance
21 criteria with siting the corridors, was to stay
22 away from, from, from recreational areas as
23 much as possible.

24 MR. SAGSVEEN: I don't have any
25 further questions.

1 MR. WAHL: Mr. Lein?

2 MR. LEIN: That recreational area
3 you were just talking about, is that on the map
4 as an avoidance area?

5 THE WITNESS: Yes, the recreation
6 area, area as indicated on Page, Page 55 of 55,
7 it is a blue square with a black dot in it.
8 And it, and it resides right along 18th Street
9 Northeast.

10 Or approximately 1.2 miles from,
11 from where we make the north turn with the
12 proposed corridor.

13 MR. LEIN: Okay.

14 I think I got it.

15 Okay. Okay.

16 I think that's all my questions for
17 now.

18 MR. WAHL: Questions from the
19 Commission?

20 Commissioner Cramer.

21 MR. CRAMER: Comment, slash,
22 question. It -- to me, it's really obvious why
23 you chose the corridor you chose.

24 While, while some of the others are
25 plausible, none of them avoid every single

1 water body or occupied residence like the one
2 you chose does.

3 The irony is that the reason there
4 are no occupied residences in the place you've
5 chosen is because that's the alkali flats,
6 flats that are more conducive to critters than
7 it, than it is to people.

8 And so we find ourselves in a
9 little bit of a dilemma on what to protect.

10 Between now, and, I guess, the last
11 hearing in Washburn, just speaking for myself,
12 could you take just one more really good hard
13 look at some alternative that maximizes the,
14 the alternatives that, to use Brian's term,
15 hy -- creates a hybrid for these last couple of
16 miles?

17 I, I -- it is ironic that we might
18 be the agency that protects something that no
19 other agency, including the federal agencies
20 that are charged with this, protect.

21 None -- nonetheless, it's also an
22 opportunity, perhaps, to do that.

23 So I'm just, I'm just pleading a
24 little bit.

25 And, and maybe you're -- you know,

1 maybe next Friday, the case is even more
2 convincing for you. But just, if I could just
3 ask you to do that.

4 THE WITNESS: Sure. I'll take a
5 look at that.

6 And, again, we have looked at it in
7 the past and, and believe that with the
8 construction through that area and the impact
9 that, that, that the proposed structures and
10 foundations have, that, that they will be
11 minimal impact in that area.

12 But, but we will go back and take a
13 look at it.

14 MR. CRAMER: All right, thank you.
15 Nothing else.

16 MR. WAHL: Commissioner Kalk?

17 MR. KALK: I don't think I could
18 have said what Kevin said any better, but I
19 would agree with what he just said.

20 The -- I do have an extension
21 question, though.

22 Okay. You talked about, testified
23 that you had discussion with the FAA about the,
24 the transmission lines in the vicinity of the
25 airport. You had discussion with the Grand

1 Forks International Airport itself.

2 Did you have any discussion with
3 the UND - School of Aviation?

4 THE WITNESS: Yes, they were
5 present at, at the meetings that we had. There
6 was a representative from -- for -- from the
7 School of Aviation there.

8 Actually, that representative
9 pointed out some of the training areas that,
10 that they use in particular.

11 They would, they would be in
12 relatively close proximity to where the
13 proposed corridor is, in, in terms of
14 helicopter training, when they do touch and
15 goes in that area.

16 And we, we have assured the, the
17 University of North Dakota - School of Aviation
18 that, that we will work with them for a line
19 marking once we have a final route in that
20 area.

21 So whether that be aerial ball
22 markers, so that, so that we can make sure
23 that, that the pilot trainings can, can clearly
24 see, see the location of the line.

25 MR. KALK: Do you have anything

1 written from the School of Aviation or the
2 airport that says they are okay with this?

3 THE WITNESS: I do not believe that
4 we have anything in writing at this point in
5 time, we, we have just had discussions with
6 them.

7 MR. KALK: I think that's something
8 I would be looking for, is that the -- this is
9 potentially significant.

10 And I'm having -- I don't know who
11 the U -- the rep was from the UND - School of
12 Aviation, was it the, you know, was it the
13 president or was it somebody down the food
14 chain?

15 So -- I'm not sure the best way to
16 proceed with that.

17 This, this is a very significant
18 issue to me, as, as well as the others, I'm
19 sure, you've got to have some -- someone I
20 think of, of that has the ability to, to make
21 the decisions, has to state that this will not
22 affect their, their operations.

23 And agreeing verbally to work with
24 you is different, I think, than saying: we
25 think it's a good idea.

1 I don't think the project is all
2 fleshed out, but it'd be so -- it'd be nice to
3 know who at the U -- School of Aviation that
4 you've talked with.

5 So is there a way that we can get
6 that as well?

7 THE WITNESS: Yes. We can go back
8 to our meeting notes and, and get the name of,
9 of the representative that was there.

10 The approval for that area comes
11 from the FAA, from the Federal Aviation
12 Administration, so, so that's where the
13 approval is.

14 And I think it's important to, to
15 note that, that, that there's other
16 transmission lines closer to the airport than
17 we are and we will not be at a height, you
18 know, that's any higher than those other
19 transmission lines as well.

20 So, so if a plane -- this, this
21 nonprecision approach surface that, that the
22 FAA and Grand Forks airport has established,
23 was based on the height of those other
24 transmission lines.

25 With us being at, at or below that

1 height, the, the safety potential in there
2 doesn't -- does not increase and does not
3 infringe upon that non -- noninstrument
4 approach path.

5 MR. KALK: Okay. I know it's late,
6 and I don't want to take up something I'll
7 regret tomorrow, too, but the, the FAA has
8 their responsibility, but we have ours, too.

9 Just because the FAA says it's
10 okay, doesn't mean that, that we would agree
11 with, with that.

12 If we have someone from the school
13 that says they're not -- you know, is, is okay
14 with it.

15 So if you could get that, who you
16 talked to with the School of Aviation, I don't
17 know if we want to call that a late-filed
18 Exhibit or, or we'll just enter it tomorrow,
19 that'd be very helpful.

20 THE WITNESS: We can certainly
21 contact them.

22 MR. KALK: Okay.

23 THE WITNESS: And, and have that
24 discussion with them about getting, getting
25 that documentation.

1 MR. KALK: Okay. Do you think
2 they'd be willing to come say in the hearing
3 that they're okay with working with you?

4 THE WITNESS: I don't know --

5 MR. KALK: That would be
6 ideal.

7 THE WITNESS: -- if they'd be
8 willing or not to come to the hearing tomorrow,
9 but --

10 MR. KALK: Okay.

11 THE WITNESS: We, we can certainly
12 inquire and ask.

13 MR. KALK: I think that would go a
14 long ways. I think if there're some concerns,
15 if someone from the school came and said
16 they're willing to work with you, that would go
17 a long ways, I think. If we end up going with
18 that northern route, that, that could be
19 significant.

20 THE WITNESS: I understand.

21 MR. KALK: So thank you.

22 MR. WAHL: Anything further from
23 the Commission?

24 Follow-up, Ms. Smith?

25

1 REBUTTAL

2 BY MS. SMITH:

3 Q. I would just ask: does the
4 preferred -- or the proposed corridor that is
5 submitted in the application, satisfy all of
6 the Commission's siting criteria?

7 A. Yes, it does.

8 MS. SMITH: That's all the
9 questions I have.

10 MR. WAHL: Mr. Sagsveen?

11 MR. SAGSVEEN: I have no additional
12 questions.

13 MR. WAHL: Mr. Lein?

14 MR. LEIN: No questions.

15 MR. WAHL: Anything further from
16 the Commission?

17 All right. Thank you, Mr.
18 Phillips.

19 THE WITNESS: Thank you.

20 (Whereupon, the witness was
21 excused.)

22 MR. WAHL: Anything further, Ms.
23 Smith?

24 MS. SMITH: No, your Honor.

25 MR. WAHL: All right. Mr.

1 Sagsveen, anything further for the record?

2 MR. SAGSVEEN: I don't have
3 anything further at this time, your Honor.

4 MR. WAHL: All right. Closing
5 comments from the Commission.

6 Commissioner Cramer.

7 MR. CRAMER: Just thank you to
8 everyone, including the applicant, for a, for a
9 very good, thorough hearing.

10 And a, just a very special
11 expression of appreciation again to the school
12 for your hospitality, your patience and your --
13 many of you maybe don't know, but he went to
14 extraordinary measures to allow us to stay
15 here. And so we appreciate your leadership as
16 well.

17 Thank you.

18 MR. WAHL: Commissioner Kalk.

19 MR. KALK: Just, also, thank
20 everyone for -- it's been a long day, it's been
21 good testimony, good discussion.

22 The only comment I would add,
23 though, is that a lot of discussion about the
24 Commission's siting criteria.

25 You know, we are constantly looking

1 at that because in this, this ever-changing
2 energy development field, what's going on in
3 the state, we're, we're constantly looking at
4 our siting criteria, because it -- we need to
5 make sure what, what we have in our own
6 criteria reflects what's going on out there.

7 So thank you.

8 MR. WAHL: The portion of the
9 hearing in the matter of Minnkota Power
10 Cooperative, Inc., 345 kilovolt transmission
11 line, Center to Grand Forks, North Dakota,
12 Public Service Commission Case No. PU-09-670,
13 scheduled to be held June 16, 2011, is closed.

14 Thank you.

15 Thank you all.

16 (Whereupon, the proceedings were
17 concluded at 6:32 o'clock p.m.)

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1 REPORTER'S CERTIFICATE

2

3 I, Joy Filipski, a general shorthand
4 (Stenograph) reporter, 600 DeMers Avenue, Suite
5 300, Grand Forks, North Dakota, do hereby
6 certify that the foregoing 446 pages of
7 typewritten material constitutes a full, true
8 and correct transcript of my original
9 Stenograph notes, as they purport to contain,
10 of the transcript of the proceedings reported
11 by me at the time and place hereinbefore
12 mentioned.

13

14

15

16 Joy Filipski

17

18

19

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23 Dated this day of , 2011.

24

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