

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

PUBLIC HEARING

SOUTH DAKOTA PUBLIC UTILITIES COMMISSION

In the Matter of the Application by Otter Tail Power Company
on Behalf of Seven Regional Utilities for a Permit to
Construct 5.45 Miles of 230-kV Transmission Line, 33 Miles
of 345-kV Transmission Line, the Big Stone 345-kV Substation
and Modification of the Big Stone 230-kV Substation

DOCKET EL06-002

Thursday, March 2, 2006
7:00 p.m.
Reville, South Dakota

I N D E X O F E X H I B I T S

NUMBER	DESCRIPTION	MARKED
*1	Presentation	3
*2	CD	89

(* Additional pages to Exhibit 1 and the entirety of Exhibit 2 will be forwarded to the Commission at a later date.)

(The following proceedings were taken before Maxine J. Risty, RPR, a Notary Public within and for the State of South Dakota.)

1 **CHAIRMAN SAHR:** Good evening. I want to welcome
2 you to the Public Utilities Commission's public hearing
3 for the proposed transmission lines and associated
4 facilities.

5 At the outset, I'd like to introduce the
6 Commission. My name is Bob Sahr and I'm the chairman
7 of the South Dakota Public Utilities Commission. With
8 me here tonight are my two fellow Commissioners, Gary
9 Hanson immediately to my left and then the next one
10 down is Commissioner Dusty Johnson.

11 We also have a number of PUC staffers here
12 tonight. And we really want to, whether you become a
13 party or an intervener or not, we want to make sure
14 that if you have questions about the project, if you
15 need information from us, that you know who to contact.
16 And Karen Cremer, who's in the front row and is one of
17 our staff attorneys, has offered -- if anyone is
18 interested, please pick up one of her business cards.
19 And that gives you an opportunity to have someone to
20 contact directly at the Commission.

21 And certainly the reason we're here tonight is to
22 hear from you, the public, and to hear from the
23 companies that are interested in the new power plant
24 and new power lines to have an opportunity to talk
25 about the project and to hear your viewpoints on it.

1 So part of this process will be fairly formal,
2 including the opening statement, which I'm required to
3 read, and I apologize for that. It's a little bit
4 lengthy. And then we're going to have a presentation
5 from the proponents of the new line. And then at that
6 point in time, we'll open up to your public comments.
7 And again, we really do want to hear from you and hear
8 if you have any concerns, if you have any thoughts, if
9 you think it's a good thing, bad thing, the whole
10 spectrum of what you might want to add to the process.
11 And again, that's why we're here tonight is to get your
12 input on that and to hopefully give you some good solid
13 information to help you understand more about the
14 proposed project.

15 And I should do at least one more introduction.
16 John Smith is to my immediate right, and he is our
17 general counsel. And then the rest of the PUC staffers
18 on down the line: Bob Knadle -- Bob, raise your
19 hand -- Nathan Solem, Martin Bettmann. And those three
20 are analysts. And then the Commissioner's chief
21 advisor is Greg Rislov, and Greg is at the far end of
22 this table. And did I miss any PUC staffers? I think
23 that's it from our side tonight.

24 With that, I will read this introduction. We will
25 now begin the public input hearing for Docket No.

1 EL06-002 entitled: In the Matter of the Application by
2 Otter Tail Power Company on Behalf of Seven Regional
3 Utilities -- or the applicants -- for a Permit to
4 Construct 5.45 Miles of 230-kV Transmission Line,
5 33 Miles of 345-kV Transmission Line, the Big Stone
6 345-kV Substation and Modification of the Big Stone
7 230-kV Substation.

8 The date is March 2nd, 2006, the time is 7:00
9 p.m., and the place of this hearing is Reville, South
10 Dakota.

11 This hearing concerns an application for a permit
12 to construct transmission lines and associated
13 facilities in Grant and Deuel Counties in South Dakota.
14 The applicants -- the applicants, plural -- seek a
15 construction permit designating a route and authorizing
16 construction of three new transmission lines in South
17 Dakota. Two lines would be constructed to 235-kV
18 standards and would run from the Big Stone to -- excuse
19 me, from the Big Stone 230-kV substation to a new Big
20 Stone 345-kV substation with one 230-kV line continuing
21 on to the Morris substation near Morris, Minnesota, a
22 distance of approximately 48 miles. Approximately
23 5.45 miles of the new 230-kV line will be built in
24 South Dakota. A third line would be constructed for
25 future 345-kV operation but initially be operated at

1 235-kV and would run from the new Big Stone 345-kV
2 substation to the Granite Falls substation in Granite
3 Falls, Minnesota, a distance of approximately 90 miles;
4 33 of which are in South Dakota. In addition,
5 modification of existing Big Stone 235-kV substation
6 and existing transmission facilities and construction
7 of a new Big Stone 345-kV substation will also be
8 required as part of the project.

9 The purpose of this hearing is to provide
10 information to the public about the applicant's
11 proposed project and to hear public comments regarding
12 the proposed project. Interested persons have the
13 right to present their views and comments regarding the
14 application, and we want to encourage you to do so. A
15 copy of the application is on file with the Grant and
16 Deuel County auditors. The public may also access the
17 application and all other nonconfidential documents in
18 the file on the Commission's Web site at www.puc.sd.gov
19 where you'd look under Commission Actions, then
20 Commission Dockets, 2006 Electricity Dockets, and
21 scroll down to EL06-002, which is the PUC number for
22 this case.

23 The parties to this proceeding at this time are
24 applicants and the Commission. Under South Dakota law,
25 each municipality, county and governmental agency in

1 the area where the facility is proposed to be
2 constructed, any nonprofit organization formed in whole
3 or in part to promote conservation or natural beauty,
4 to protect the environment, personal health or other
5 biological values, to preserve historical sites, to
6 promote consumer interest, to represent commercial and
7 industrial groups, or to promote the orderly
8 development of the area in which the facility is to be
9 constructed, or any interested person may be granted
10 party status in the proceeding by making a written
11 application to the Commission on or before March 20,
12 2006. We have applications available here this evening
13 if you'd like to apply for party status. And if you
14 have any questions about what that means, please ask
15 one of the PUC attorneys.

16 For its permit to be approved, applicants must
17 show that the proposed transmission lines and
18 associated facilities will comply with all applicable
19 laws and rules, that the transmission lines and
20 associated facilities will not pose a threat of serious
21 injury to the environment or to the social, economic --
22 social and economic condition of inhabitants or
23 expected inhabitants in a siting area, that the
24 transmission lines and associated facilities will not
25 substantially impair the health, safety or welfare of

1 the inhabitants, and that the transmission lines and
2 associated facilities will not unduly interfere with
3 the orderly development of the region with due
4 consideration having been given to the views of
5 governing bodies of affected local units of government.

6 Based on these factors, the Commission will decide
7 whether the permit for the project should be granted,
8 denied, or granted upon such terms, conditions, or
9 modifications of the construction, operation, or
10 maintenance of the facilities as the Commission finds
11 appropriate.

12 We will begin the hearing by having applicants
13 make a presentation to explain its proposed project.
14 Following that presentation, we'll take comments from
15 any interested persons. And we want to strongly
16 encourage members of the public to present your views.
17 And believe it or not, we actually shortened this, so
18 it was even longer when we started it.

19 With that, we'll first hear from Chris Madsen
20 who's a spokesman tonight for the applicants.

21 Chris, would you please introduce the others with
22 you tonight and then please begin your presentation?

23 And I should note for everybody in the room, you
24 probably notice we have a court reporter here tonight.
25 And if you -- we certainly, again, encourage you to

1 speak. We're going to kind of judge the volume levels
2 in the room and be mindful that the court reporter may
3 need you to speak up or else use a mike. So we'll just
4 kind of play that by ear as we go along. And also be
5 mindful that if you're making comments, things like
6 nodding your heads, for the court reporter, she can't
7 transcribe that. So what we need is people to say yes
8 or no if we get to that point, including our
9 applicants.

10 And if you could, please, when you come forward to
11 the mike, please identify yourself. And if you're
12 representing any sort of group, please let us know.
13 And certainly there's nothing wrong with representing
14 yourself and your own interests. And also please give
15 us your name and town so that we have that for the
16 record as well. Thank you.

17 And with that -- one more thing. Okay. And
18 Mr. Smith has pointed out that because some additional
19 people came into the room, I would just urge everyone
20 again to sign in on the signup sheets so that we have a
21 record of who attended here tonight. Thanks.

22 With that, Mr. Madsen.

23 **MR. MADSEN:** Thank you, Chairman Sahr, members of
24 the Commission.

25 On behalf of the applicants, my name is Chris

1 Madsen. I'm an attorney with the firm of Boyce,
2 Greenfield, Pashby & Welk in Sioux Falls. With me is
3 my colleague, Joanne Haase. She is seated in the front
4 row.

5 We're here on behalf of the applicants tonight,
6 which is a group of utility companies that are
7 interested in obtaining a permit to build lines to
8 transmit electricity. We're not here to talk about the
9 Big Stone II plant or other aspects of the project.
10 The purpose tonight is to discuss the plans for the
11 transmission. The applicants have put on and put
12 together -- spent a great deal of time and put together
13 a very good comprehensive Power Point presentation.

14 Mr. Chairman, members of the Commission, there are
15 handouts. A copy is marked as Exhibit 1. At the
16 conclusion -- if I forget, I'll ask now. I'm going to
17 ask that that be admitted into the record of this
18 proceeding and we will follow up with an electronic
19 copy so that the Commission can have that for posting
20 if need be.

21 There are a number of people who will make the
22 presentation tonight, and I'd like to introduce them at
23 this time, and then I will sit down and let them tell
24 you about what they want to show you.

25 Dean Pawlowski is with Otter Tail Power. He is

1 here. He will be explaining parts of the transmission
2 project as will Jason Weiers. Beth Regan will explain
3 parts of the project, and Gary Eggen will explain parts
4 of the project as well.

5 And, Mr. Chairman, what I would propose to do at
6 this time is to sit down and let Mr. Pawlowski
7 introduce his team members and begin the presentation.

8 **CHAIRMAN SAHR:** Thank you very much. And I think
9 everyone saw it when they came in, too. I should just
10 note the line route and some examples of what some of
11 these structures will actually look like are in the
12 back of the room, and I'm sure they will be available
13 after the meeting as well for the public to look at.
14 Thank you.

15 **MR. PAWLOWSKI:** Thank you, Chris and
16 Commissioners. My name is Dean Pawlowski and I'm the
17 project manager for the Big Stone transmission project.
18 And we're excited to be with you tonight to talk about
19 our project. It has a lot of great benefits to the
20 region, and we're going to share them with you tonight.

21 We have an agenda. It's going to be a fairly
22 detailed presentation as Chris pointed out. First of
23 all, I'm going to talk about the project description
24 and the electrical system background. That's going to
25 take about ten minutes for me. Then Jason will come up

1 and give a talk about the transmission planning he does
2 and how this project fits into the overall regional
3 plans on the transmission side, and that will take
4 about 15 minutes. Then Beth Regan will come up and
5 talk about how we take Jason's studies, the end points
6 that he determines, and determine the routes and how we
7 come down and narrow down the routes. That's going to
8 take about ten minutes. Then Gary will come up and
9 talk about the land right-of-ways. And he's going to
10 talk about the process he goes through in dealing with
11 the landowners; to get their approval, to get their say
12 into the project even further into the final details.
13 Finally, I'll come back and finish up the presentation
14 on the construction methods and the time line, and that
15 will be about a five-minute presentation. Overall, it
16 will probably be about 40 to 45 to minutes is what
17 we're estimating for our presentation.

18 This is a very unique project in that there are
19 seven utility companies coming together. There are
20 four that are based out of Minnesota. That would be
21 Otter Tail Power, Southern Municipal Power Agency,
22 Great River Energy and Central Minnesota Power Agency.
23 There's also two South Dakota-based utilities. That
24 would be Heartland Consumers Power District and
25 Missouri River Energy. And there's also one North

1 Dakota-based utility, Montana-Dakota Utilities.

2 Even more interesting in this project is that
3 there are investor-owned utilities, municipal and then
4 generation and transmission cooperative agencies that
5 are involved in this project. Of these seven
6 companies, they also serve seven different states. So
7 this is a far-reaching collaboration of utilities
8 coming together on this important project.

9 So why are we here tonight? We're here because of
10 the proposal we have before the Commission. We have
11 two alternatives basically in the overall scheme of the
12 project. The first alternative and which is the
13 project's preferred alternative is a new line from Big
14 Stone to Ortonville with an uprate of a 115 line from
15 Ortonville, Minnesota; to Johnson, Minnesota; to
16 Morris, Minnesota. It would be uprating a line from
17 115 to 230.

18 The second alternative we have is a brand-new 230
19 line from Big Stone to Willmar, Minnesota. Common to
20 both of these alternatives is a new line that would be
21 constructed from Big Stone, down south towards Gary,
22 South Dakota, over to Canby, Minnesota, and then an
23 uprate of a line from Canby to Granite Falls.

24 This line here is common to both Alternatives 1
25 and 2 and would be constructed for 345 operations but

1 initially operated at 230.

2 There's two alternatives on the table today
3 because we are ending -- some of these lines do cross
4 over to Minnesota, and by their rules and statutes, we
5 need to have two alternatives on the table. The
6 project's proponent and preferred one is Alternative 1
7 with a common corridor, with a common route.

8 The other thing we are looking at doing, because
9 of the generation plant, they have requested that we
10 reroute a line, that Big Stone to Hankinson line, onto
11 plant property.

12 I would like to say that even though we do have
13 two alternatives on the table, within South Dakota
14 Alternative 1 and Alternative 2 would basically be the
15 same thing. It's a brand-new line, 230 line, from Big
16 Stone to Ortonville.

17 Here's just a global overview of the proposed
18 area. It's a geographic map with Big Stone being right
19 here; Gary, South Dakota being down in the southern
20 portion; we've got Morris up north with Willmar over to
21 the east and Granite Falls over here. The preferred
22 route is the green corridor that goes north up to
23 Johnson and over to Morris. Alternative 2 is the
24 yellow one that goes over east to Willmar. The common
25 one is the orange route that goes south towards Gary,

1 to Canby, going over to Granite Falls. You will notice
2 that on the orange route there are two corridors here.
3 Our preferred and preference is the South Dakota one.
4 There is an orange corridor on the Minnesota side.
5 That is being looked at because of the federal
6 environmental impact statement that the project has to
7 go through. They are continuing to evaluate this
8 corridor. Our preference and our proposal remains to
9 be coming down the South Dakota side towards Gary.
10 This also fits into very -- the regional plans that
11 Jason's going to talk about and it fits very close to
12 the natural wind regime in that area of the country.

13 Now because the electrical system is foreign to
14 most people, they see the power lines when they're
15 driving down the road but they don't understand what it
16 is and how it works. Let me give a very brief overview
17 of how that works so that when Jason gets up, you'll
18 have a better understanding of what he's talking about
19 hopefully.

20 Basically the transmission system is a network of
21 wires and poles, and it starts at the generation
22 plants. And they generate the power, they step up the
23 power to a very high voltage. It's usually 115 kV or
24 greater. And that's called the bulk transmission
25 system. And what that system is made for is to move a

1 large volume of electricity long distances and get it
2 to very defined regions. Once it gets out to those
3 defined regions, it will be stepped down into what we
4 call the subtransmission region, and that's usually a
5 12.5 kV to 115 kV. That takes out -- further out into
6 the smaller regions of the area before it's converted
7 down to the distribution voltage, which is 12.5 or
8 below.

9 What we're proposing today is actually facilities
10 in the bulk transmission area. If you think of the
11 transmission system, it's very much like the highway
12 system in the U.S. We have the interstate highway
13 that's the four lanes. It gets from point A to point B
14 with very few on-ramps and off-ramps. That would be
15 equivalent to the bulk system that we're talking about
16 here. Then once you get off the interstate, you have
17 the county highways that take you to the further outer
18 regions of the area, towns off the interstate. That
19 would be equivalent to the subtransmission group, the
20 one -- or 12.5-kV to a 115-kV system.

21 Finally you have the distribution system, which
22 steps it down even further, and it's equivalent to the
23 county roads that takes it to the farms in the area.

24 The transmission's role is to reliably deliver
25 electricity to the distribution systems and to connect

1 the utilities together to enhance reliability of the
2 system.

3 Like I said earlier, the transmission system is a
4 network. It's a grid just like the interstate highway
5 or the highway system in the U.S. where everything is
6 tied together. So what it does is by having an outage
7 on one line, if we take it out of service for some
8 reason, we do have the ability to flow power and serve
9 our customers through other transmission lines or other
10 distribution lines. The benefit of this is it makes it
11 a very robust system that doesn't affect the customer
12 outages. They see less bumps, less outages on their
13 lines because we can feed from another area, another
14 line. And what this also does is helps us avoid
15 blackouts or outages, helps us avoid outages.

16 However, there are some challenges in the
17 transmission world today. We have an aging
18 transmission system, ever growing consumption of
19 electricity, increasing congestion on the transmission
20 system, and the transmission system is changing in its
21 role.

22 Backing up to the first bullet point, the aging
23 transmission system. The transmission facilities in
24 this region, there have not been any major projects
25 like what's being proposed by the Big Stone

1 transmission project in the region since the early
2 1980s. As a result of that, most of the transmission
3 system that we're talking about today hasn't been built
4 or is 30 to 50 years old. Some of it's even 80 years
5 old. There's poles and wires out there that could be
6 80 years old. And with that, you know, they have seen
7 a lot of hot, dry summer days to the very cold, harsh
8 winters that we have up here. And with that,
9 they're -- you know, they're aging. And that -- you
10 can attest to that because of the ice storms and some
11 of the issues that they had this last year with the ice
12 storm and the failure of some of the facilities in the
13 region.

14 The growing electric consumption. Some utilities
15 in the northern Midwest have done some studies and come
16 together and are predicting that they are going to see
17 a load growth of 2-and-a-half percent. So you take an
18 aging transmission system that hasn't had any expansion
19 on it and continued growth, you get congestion on the
20 system. It's very similar to the interstate highway.
21 If you make the assumption that each household would
22 add a new car to their family every three to four
23 years, over 20 years that's a lot more cars on our
24 highway system, and it gets tougher to get from point A
25 to point B because of congestion.

1 The changing role of the transmission system. If
2 you go way back in the history of the utility industry,
3 the transmission system was basically to get power from
4 the generating station to each utility's individual
5 customers. They weren't tied together like they are
6 today. Today we've moved to the stage to get a more
7 robust network to provide customer service. So we've
8 tied all the different utilities together in the
9 transmission system so one can provide backup to the
10 other. And what this does is it does provide a very
11 reliable system. But at the same time, it does make
12 impacts in one region of the country felt in other
13 regions of the country. And that's very attestable to
14 the blackout in 2003 on the East Coast which started in
15 Ohio and did affect the numerous states on the East
16 Coast.

17 Here is just a graph that some utilities in the
18 upper Midwest put together to show the demand,
19 electricity demand growth, that they've seen in the
20 last 20 years. It's at or about a 2-and-a-half percent
21 increase, and they're projecting that into the future.

22 Now the region of the U.S. has been divided into
23 independent system operators. And this is the MISO or
24 the Midwest Independent System Operator area. And what
25 their purpose is is to coordinate the regional planning

1 of the transmission system, ensure the equal access to
2 the transmission system, and maintain or improve the
3 transmission reliability.

4 They set a lot of the guidelines and standards
5 that we design to and perform our studies to. They
6 also make it open for anybody to get onto the
7 transmission system from the generation world. And
8 this project is being proposed because the Big Stone II
9 project has made a request to interconnect into the
10 transmission system to MISO. And that has come back
11 and had Otter Tail do some transmission studies, which
12 Jason's going to get up here and discuss the studies
13 that he's performed.

14 So at this point in time, I'm going to turn it
15 over to Jason.

16 **MR. WEIERS:** Thanks, Dean. Good evening. As Dean
17 mentioned, my name is Jason Weiers. I've been with
18 Otter Tail Power for about five years, and my function
19 at Otter Tail Power is to perform transmission studies
20 to determine the impact of new generating facilities on
21 today's transmission system.

22 With that, we'll jump right into my slides here.
23 I'd like to start by giving a brief overview of what we
24 have out there today on today's transmission system.
25 As you're well aware, there's a plant out at Big Stone

1 right now. 500 megawatts is its current capability.
2 And the power out of this generator allows it to flow
3 on four different transmission lines around the Big
4 Stone plant. I'd like to explain a little more in
5 detail where we are exactly here on the map and also
6 get into some details on what it means when we say 230
7 kV, 115 kV and so forth.

8 The Big Stone plant is shown in this circle here
9 in eastern South Dakota. Out of this plant, we see we
10 have two 230,000 line -- transmission lines north to
11 Hankinson and down to Blair. And when we think of this
12 transmission system, let's back up and think of Dean's
13 explanation he had in comparing this to the interstate
14 road system, highway system. 115,000-volt lines are
15 very similar to, like I say, gravel roads out in the
16 country. We have limited speeds and limited traffic
17 that can travel on these roads. When we go to a 230-kV
18 line, 230,000 volts, we have increased capability on
19 those lines and the electric system similar to
20 comparing maybe a gravel road to a two-lane highway
21 that's tar. We have higher speeds, can handle slightly
22 more traffic. We step up a little bit more and we go
23 to a 345 kV, 345,000 volts. You compare it to possibly
24 a interstate highway, a four-lane highway, tar both
25 sides. Here we have higher speeds and can handle

1 higher traffic. And the ultimate voltage level of
2 transmission line in this region is 500,000 volts, and
3 in my opinion, this would be a super highway, a very
4 high-speed, high-traffic, possibly six lanes one way
5 and the other, so twelve lanes all together. We don't
6 see many of those around here, but in California we may
7 see many super highways.

8 Getting back to the transmission system around Big
9 Stone, we see the 230's heading north and south of Big
10 Stone, north to Hankinson, south to Blair. Blair is
11 actually a substation name that's been assigned or
12 referred to as near Gary, South Dakota. And the 115-kV
13 lines that come out of Big Stone head to Morris and
14 Granite Falls as I mentioned.

15 I'd like to point out, you know, other
16 transmission in the region. The 500-kV line, there is
17 one in this region. It comes down from Manitoba. It
18 connects near Duluth and goes down to the north side of
19 the Twin Cities. And the 345-kV lines in this region
20 head from North Dakota through South Dakota into
21 Watertown and then continue south towards Sioux Falls.

22 This slide here indicates the loadings on the
23 transmission system. Give you a little bearing on
24 where we are. Big Stone is shown here; and we have
25 Gary here to the south, Watertown; we also have Fargo,

1 Moorhead kind of up north here, north of Wahpeton; and
2 then to the east, you can see the Paynesville, Willmar,
3 Granite Falls area.

4 Each line on the transmission system has a maximum
5 capacity that it can handle. And when we inject more
6 generation, we want to keep an eye on these existing
7 transmission lines to make sure that we don't overload
8 them beyond their capability.

9 The current transmission system capability shown
10 here with Big Stone I service indicates lines shown
11 with green highlighting. The key on your right here
12 indicates that green highlighting is approximately
13 50 percent of the line's maximum capability. When a
14 line is loaded above 50 percent, we see a change in
15 color from green to yellow. And when it reaches near
16 its maximum level, we have it turn red and pink.

17 Today's system -- with Big Stone I in today's
18 transmission system, we have a slight concern on the
19 loading level on the Ortonville to Johnson 115-kV line.
20 This has been identified and is on our radar screen for
21 a possible upgrade in the future.

22 When we add Big Stone II with today's transmission
23 system, you can see many transmission lines. All the
24 transmission lines within the vicinity of Big Stone
25 turn this pink color, which indicates that we have a

1 lot of pressure in this area. The current lines are at
2 their maximum capacities, and therefore the system
3 reliability is degraded to the point where we're going
4 to have to add more transmission.

5 So it's clear from this graph here, this map here,
6 that the existing lines out of Big Stone with the
7 additional generation are not going to be adequate for
8 the additional generation proposed from the plant.

9 As Dean mentioned, MISO, Midwest Independent
10 System Operator, is the governing body for generation
11 projects in this area. They ensure that all generators
12 are created fairly across the transmission systems. A
13 wind developer is treated the same as a possible
14 utility sponsored project. It turns out that the
15 participants interested in this project talked to MISO
16 and submitted a request on February 3rd of 2004 for
17 this project.

18 Once this project was in the -- on the MISO radar,
19 MISO backed up and had a conference call and a meeting
20 of transmission planners in this region. And at this
21 meeting, we sat down and talked about the possible
22 alternatives we could do to find ways to accommodate
23 the additional power from Big Stone II and get it to
24 the rest of the transmission system reliably.

25 Through this study effort, we have come up with

1 two transmission alternatives, and I'd like to show
2 them on these maps here. Again, Big Stone is shown
3 here on the left side with the existing transmission we
4 have up to Hankinson and down to Gary. We have
5 proposed for Alternative 1 a new 230,000-volt line up
6 to Morris and then down to Granite Falls. And again as
7 Dean mentioned, this would be a brand-new line to
8 Ortonville and an uprate or a voltage upgrade of the
9 existing line from Ortonville over to Morris from
10 115,000 volts to 230,000 volts.

11 Alternative 2 is shown here. Again on the dotted
12 blue line, we have today's existing facilities to
13 Hankinson and down to Gary. And instead of going to
14 Morris for Alternative 2, we are heading straight east,
15 shown as this dotted blue line, over to Willmar. And
16 again in common to both alternatives is the 230-kV line
17 from Big Stone down to Canby and over to Granite Falls.

18 Showing again the loading profiles on today's
19 system, recalling that this map indicates what happens
20 when we add Big Stone to the transmission system
21 without any additional transmission. We add
22 Alternative 1, and you can see that in the local area
23 of Big Stone the line loadings are significantly
24 reduced indicated by this yellow color, recalling that
25 beforehand it was pink, recognizing that it was at its

1 maximum capacity.

2 As shown on this map, Alternative 1 does include
3 the 230-kV line to Willmar shown as red here. Well,
4 that is simply an indication that the initial study
5 assumptions that we used to size this line were not
6 adequate. So when we go into the actual design and
7 engineering of this line, we'll have to make sure that
8 the conductor we use has enough capacity to accommodate
9 the anticipated flows with Big Stone II and service.

10 Alternative 2 again was to Willmar. This map
11 shows again the problems we have with today's system.
12 We add Big Stone II with Alternative 2 and again we see
13 the line loadings in the area are significantly
14 reduced. And we go from the hot pink or red color that
15 indicated the maximum capacity that we have reached now
16 down to yellow, which indicates we're closer to perhaps
17 50 percent of its capacity.

18 One thing I would like to point out on this map is
19 the Ortonville-to-Johnson-to-Morris 115-kV line, which
20 was not part of the interconnection alternative. It is
21 actually overloaded by adding this new line to Willmar
22 and to Granite Falls. So as part of the study process,
23 I have identified that we will need to upgrade this
24 line to a higher -- to be able to handle more power
25 once we put Big Stone II in service. So even if we

1 wouldn't choose Alternative 2, it appears that -- or
2 that the Ortonville-to-Johnson-and-Morris line would
3 need to be upgraded regardless.

4 Once we finished the MISO interconnection study,
5 we concluded that it looks like either transmission
6 alternative will work. The transmission we are
7 proposing as the two 230-kV lines appear to be adequate
8 in getting the power to the existing transmission
9 system beyond Morris and Granite Falls and beyond
10 Willmar. However, we have identified a few other
11 constraints as I show on the Ortonville-Johnson-Morris
12 for Alternative 2 will need to be upgraded. There are
13 other reconductor projects out there which involve
14 taking today's conductor down and replacing it with a
15 larger size so we can handle more power on these lines.
16 These would be not require a voltage increase from,
17 say, 115,000 volts to 230,000 volts. It's just simply
18 taking down today's wire and putting up bigger stuff.
19 So that kind of wrapped up the MISO interconnection
20 study.

21 Once we have finished this, what we have done is
22 we've taken a step back and have now looked. Okay. We
23 have a plan that's going to meet the needs for Big
24 Stone II. Now what matches with -- what plan can we do
25 to maybe fit into more of a regional picture? And

1 there's lots of studies under way within this region,
2 and the three I'm going to touch on tonight are the
3 CapX 2020 Vision Study, the MISO Northwest Exploratory
4 Study, and the last study called Southwest Minnesota
5 Twin Cities Electric High Voltage Study.

6 And, really, what we're doing here is we're
7 looking to optimize opportunities for further wind
8 development on the Buffalo Ridge area, and we're going
9 to make sure that our transmission plant is consistent
10 with not only short-term but long-term regional needs.
11 And, really, the study efforts from these three studies
12 here is what prompted the Big Stone participants to
13 propose the southern line being built at 345 but only
14 operate at 230 initially until such time that more
15 facilities at a higher voltage are built within this
16 region.

17 CapX 2020 Vision Study. CapX is an acronym that
18 stands for capital expenditures. And the goal of this
19 group was to look at what we need on the transmission
20 system to serve today's load into the future for
21 another 20 -- actually from 2009 to 2020. So it's a
22 very long-range planning study looking out 15 years and
23 growing load to figure out what transmission plan will
24 keep the lights on for us customers in the Midwest.

25 Through this effort, there has been subgroups kind

1 of formed, and there is also a group working with
2 legislators on trying to find a methodology for
3 streamlining, getting projects built and permitting
4 them. So there's lots of efforts on many different
5 fronts during this study.

6 The study area that was considered for this CapX
7 study included this area shown here in blue. You can
8 see it encompasses all of Minnesota and parts of the
9 Dakotas as well as a large part of Iowa and the western
10 side of Wisconsin. Now in the next 15 years, the study
11 group is anticipating up to 6,300 megawatts of load
12 growth, and again, this was based on approximately from
13 2009 to 2015.

14 Now we need to find a way to serve this load, so
15 there's been three different generation scenarios we've
16 looked at. And the first of which was an east bias
17 where we sourced most of the generation to service load
18 from the east, including Wisconsin. It all come from
19 Wisconsin to see, okay, what transmission plan do we
20 need to get generation from the east to the load in the
21 Minnesota and Dakotas region as well as Iowa? The
22 second generation bias we looked at was the northwest
23 bias. In this scenario, we took the generation and we
24 placed it out in the Dakotas and Manitoba trying to
25 find how we could adequately serve this increasing

1 load. And the last generation scenario we looked at
2 was a Minnesota bias where the additional generation
3 came from within the state of Minnesota.

4 Each of these three biases were looked at
5 individually, and the transmission plan that was
6 derived is shown on this map here. And this was a very
7 high level global study that looked kind of at more
8 regional concepts. It didn't get down to the specifics
9 on saying we need to connect these substations with
10 this voltage level of a line. It just kind of said it
11 looks like these connections throughout the system will
12 adequately serve the increasing load on the system.

13 As you can see on this map, we have two lines
14 across the Dakotas into Minnesota ultimately ending in
15 a new ring around the Twin Cities. The southern line
16 out of the Dakotas actually swings from Ellendale,
17 North Dakota -- and you can see Big Stone here on the
18 eastern South Dakota edge -- in towards Granite Falls
19 and then over to the Twin Cities. It's important to
20 realize that a high voltage path through this corridor
21 here makes the Big Stone II participants think that not
22 only can we accommodate only our project but we can
23 also plan for the future here and possibly help the
24 region by constructing the southern line at 345 kV and
25 hopefully being able to integrate that into an overall

1 plan once more facilities are built.

2 A second study I'm going to touch on tonight is
3 called the Northwest Exploratory Study, and this study
4 was initiated by the Midwest Independent System
5 Operator. And it included many utility participants as
6 well as generation developers from the Dakotas. What
7 we've done here is essentially taken this CapX scenario
8 of the northwest bias, sourcing generation from the
9 Dakotas, and kind of pinpointed more specific areas
10 trying to find the transmission plan to reliably
11 accommodate 2,000 megawatts of generation and serve
12 that or deliver that into the load center of the Twin
13 Cities.

14 As you can see on this map, we looked at
15 generation in the form of wind and in the form of coal.
16 And in order to -- through the study, in order to
17 deliver the generation to load, we have derived two
18 transmission lines across the Dakotas again and into
19 the Twin Cities. It appears that these transmission
20 lines here offer the support that the system needs.
21 And again, we see a line proposed from Ellendale down
22 towards Watertown. Again, the study was global and
23 high level enough that it didn't specifically say what
24 end points we need. It just seems like these end
25 points may work. We think that, as a Big Stone II

1 transmission project, we may be able to optimize our
2 plan into the more regional plan to get a shorter
3 length for projects into the Twin Cities metro area.

4 The last thing I'm going to touch on tonight is
5 the Southwest Minnesota Twin Cities Electric High
6 Voltage Study. EHV study is the acronym we use for
7 electric high voltage. This study was performed by
8 Xcel Energy, and the focus was primarily to look at
9 increasing wind generation in the Buffalo Ridge area.
10 We worked very closely with Xcel and other regional
11 planning engineers in determining the preferred
12 transmission alternative. We tested several
13 alternatives and have formulated a plan that involves a
14 345-kV line from southwest Minnesota into the Twin
15 Cities.

16 Through the regional planning efforts, we were
17 able to assume that, okay, Big Stone II is in service
18 at 600 megawatts with a 345 line down to Granite Falls.
19 Assuming that in our base case models, we then looked
20 at increasing generation in southwest Minnesota and
21 determined that a 345-kV line into the Twin Cities with
22 a connection up towards Granite Falls offers a lot of
23 benefits to generation -- wind generation in southwest
24 Minnesota.

25 Through the study work, we determined that we can

1 get approximately 1,900 megawatts of wind generation
2 off of Buffalo Ridge. This is a huge number realizing
3 that today's capability of the transmission system is
4 only 400 megawatts.

5 There is a plan out there right now. Xcel
6 engineers are in the building phase of putting in
7 additional 345-kV lines and increase its capability to
8 825 megawatts. We go from 825 megawatts to nearly
9 1,900 now with an additional 345-kV line through the
10 southwest Minnesota area. We've also determined that,
11 of course, this new line will be constructed as double
12 circuit to further enhance the capability of the
13 system.

14 And the conclusions I'm going to leave you with
15 tonight are summarized on this slide. Again, the MISO
16 study identified that two 230-kV lines are what we need
17 to reliably interconnect Big Stone II to the system.
18 However, once we take a more regional look at the
19 system in determining how we should serve increased
20 load and possible generation in the future, we're
21 making sure that our transmission plans are consistent
22 with both long-term needs and short-term needs. And
23 these have been identified through the CapX Study,
24 Northwest Exploratory Study, and then trying to
25 optimize opportunities for more wind on the Buffalo

1 Ridge.

2 We've gone through the study work now and we've
3 determined what the end points are. Now it's time to
4 start looking at how do we get transmission lines from
5 point A to point B, and Beth will get into much more
6 detail on that. But through this process, it was very
7 evident to start with that Big Stone is very close to
8 the high resource area for wind, and that's shown --
9 here we have the Buffalo Ridge area very well defined
10 by wind capability within the Midwest here. The red
11 and pink areas highlight the highest amount of wind
12 speeds that offer the most opportunity for wind
13 generation.

14 As you can see the routes here from Big Stone, we
15 have the Granite Falls line coming down to the South
16 Dakota portion of the corridor and over to Granite
17 Falls. The proposed corridor does get into this high
18 wind area. And since we are building a line at 345-kV,
19 it is beyond the needs of the project; therefore, we
20 feel that we are opening the door for future wind
21 projects to connect to a high capacity line that would
22 connect back to the high voltage system.

23 Again summarizing this map, we feel that by
24 routing this line through this high wind resource area,
25 we will allow for new wind generation to develop and

1 connect into this line. And basically we're going to
2 provide a high voltage link from the wind farms to the
3 rest of the transmission system. It's important to
4 realize that alternative routes to get to Granite Falls
5 may not offer this benefit of going through this high
6 wind resource area.

7 With that, I'll turn it over to Beth and thanks
8 for your time.

9 **MS. REGAN:** Hi. My name is Beth Regan. I'm an
10 environmental scientist with HDR Engineering, and I've
11 been working with Otter Tail through the permitting
12 process.

13 The environmental review process for the Big Stone
14 Transmission Project is occurring at both the federal
15 and state level.

16 The federal EIS process, which would be the
17 environmental impact statement process, is required for
18 the interconnection of the Big Stone transmission
19 project to the Western Area Power Administration grid
20 system.

21 As Dean mentioned in the introduction, the EIS
22 process has identified two viable corridors for the Big
23 Stone transmission to Granite Falls. There's the
24 corridor on the South Dakota side of the border and
25 then there's also the corridor on the Minnesota side of

1 the border.

2 The corridor selection process under the federal
3 guidance looks at criteria such as establishing the end
4 points as Jason has mentioned, accommodating regional
5 planning, improving system reliability, allowing for
6 more than one viable route and minimizing the length.

7 And it also looks at avoiding populated areas,
8 public infrastructure and agricultural facilities. It
9 also looks to avoid major environmental features, both
10 natural and socioeconomic, and also following existing
11 right-of-way when feasible.

12 Now that the two corridors have been selected, we
13 move into the actual South Dakota route permit
14 application process. The transmission line permit
15 application was filed with the South Dakota Public
16 Utilities Commission on January 17 of this year. And
17 the application is required for electric transmission
18 lines and facilities if they are greater than 250 kV or
19 if they are between 115 and 200 kV and if more than one
20 mile does not follow into section lines, property
21 lines, roads, highways or railroads.

22 So the actual application that was submitted
23 includes as it has been mentioned the 345-kV line from
24 Big Stone to Granite Falls; the 230-kV line from Big
25 Stone to Morris or Willmar, and that is four miles, the

1 portions actually in South Dakota; and then the 230- to
2 345-kV substation that will exist south of the plant,
3 the existing plant, and that will allow for upgrading
4 from 230 to 345 when it is needed.

5 This is just a figure of the actual preferred
6 route that is in the permit. And this is the Big Stone
7 plant. The substation is just south of Highway 12.
8 And this is the 33-mile segment of 345-kV line in South
9 Dakota. And then there's a small four-mile segment
10 right here that would go to either Morris or Willmar.

11 In moving into the route selection criteria for
12 the state application, these are some of the things
13 that we looked at prior to going out into the field and
14 actually driving the area and looking at features and
15 also based on comments from public meetings that we've
16 held. Things that we look to do are avoid populated
17 areas and residences; improve the reliability; minimize
18 the length; follow existing right-of-ways, agricultural
19 boundaries, natural division lines; avoid public
20 infrastructure and agricultural facilities and avoid
21 environmentally sensitive resources. Some of the
22 comments that we had in the public meetings were, you
23 know, for agricultural purposes; place the lines so
24 that you allow for farming equipment to be able to
25 maneuver, try to avoid cutting across farmland to

1 minimize using up the land. So we looked at, you know,
2 straight lines, trying to go right along a right-of-way
3 when we could or going down a half section.

4 The next figures I'll show you are maps that I'll
5 just highlight some points of why we chose the route
6 where we did. You can also refer to the larger
7 blown-up maps after the meeting if you want to look at,
8 you know, a closer point and see, you know, where you
9 may have land or interest in any of the set-aside
10 lands.

11 This is the northern portion of the project. This
12 is Big Stone City. Here is the existing plant. This
13 will be the future substation. Some of the things we
14 looked at here in this northern portion are -- these
15 are the existing lines that come out of the Big Stone
16 plant. We wanted to maximize the length of distance
17 between these lines for reliability issues. And we
18 also had some concerns in here where the Whetstone
19 River runs through here and we wanted to minimize the
20 impacts to that. So we placed the line to the west of
21 the corridor and to allow for one crossing point of the
22 Whetstone River. There's also some gravel mining type
23 operations that needed to be avoided, so we moved the
24 line over here. There's also some mining operations
25 down here that we needed to consider. We did look at

1 trying to run along roadway right-of-way. And what
2 we -- the common theme that you'll see throughout the
3 whole route selection is that along many of the roadway
4 right-of-ways there are residences quite close to the
5 road. And we didn't want to be that close so we tended
6 to move the line over to the section lines on the
7 agricultural fields.

8 This is a little bit further south in the route
9 area. And some of the things that we looked at were
10 once again avoiding the roadway right-of-way because of
11 the residences, avoiding set-aside either federal or
12 state lands, and we also wanted to keep in mind that --
13 this is that Blair or the 230 that runs towards Gary.
14 We wanted to maximize the distance there also for
15 reliability purposes.

16 This is the southern end of the route in South
17 Dakota. This is Gary, South Dakota here. The corridor
18 selection in Minnesota runs across here towards Canby.
19 So we had to look for an area that would be a good
20 crossover point. We started to run into both federal
21 and state set-aside land issues, residences very near
22 the roadway, populated areas, so we put our termination
23 point north of that. We also did have to run
24 cross-country in this area primarily because of terrain
25 features, set-aside lands, wetlands, quite a few issues

1 as far as engineering aspects.

2 So I just want to summarize. As far as the
3 criteria, you know, we take all this into account and
4 we spend a lot of time looking at aerial photos,
5 driving the route, talking to citizens and trying to
6 come up with the best option. So we looked closely at
7 environmental impacts to agricultural residences and
8 natural resources, looking to minimize cost, minimize
9 length, and then also minimizing impacts through
10 liability on the system.

11 With that, I'll hand it over to Gary Eggen from
12 Otter Tail Power to talk about right-of-way.

13 **MR. EGGEN:** Thank you, Beth. I'm Gary Eggen with
14 Otter Tail Power Company, land management specialist,
15 and I'm here tonight to talk about the right-of-way
16 process for the Big Stone II project.

17 And if you'll notice on the board, the
18 right-of-way process consists of four parts. There's
19 four action tasks in South Dakota, one of them being
20 survey permission. And that's normally the first
21 contact we have with the landowner. Two, option of
22 easement, which the option of easement is a document.
23 Easement acquisition is actually the final easement
24 across the property once everything is finalized. And
25 then there's also crop and land damage and restoration.

1 That's No. 4.

2 Survey permission is the first step in the contact
3 of the landowner. We make sure we help them understand
4 the project. We get into a little more detail, any
5 questions they have on a personal level. We explain
6 the potential impact to their property. And then also
7 at that time, we'll ask for survey permission to
8 cross -- to work on the property and then there could
9 be some environmental studies on the property also.
10 And then we do pay for any damages done during that
11 survey. There's also a comment sheet on the survey
12 permission. If the landowner has any concerns, we
13 write things down on that sheet and bring them back
14 also.

15 Option of easement, which is a document. Again, I
16 stressed that earlier. We'll ask for a three-year term
17 on that option, but we can exercise that at anytime
18 before three years. So we can do it as soon as next
19 February, next March, but we have a three-year term to
20 complete a final easement on that. The content of that
21 will be legal ownership. We will have the property
22 tract affected, which will be on that 40-acre tract if
23 that applies. We will have a surveyed location of the
24 defined line where it would be. And that, again, would
25 be also a signed, notarized document.

1 The option payment for that will be 20 percent,
2 and at that time we'll have to do an estimated easement
3 payment for that. And the document -- we wouldn't file
4 that document. We would do a notice of option
5 document. We'd file that with the recorder's office to
6 the corresponding county, register of deeds for that
7 county.

8 Easement acquisition. Easements would be offered
9 to the landowner and will contain the following
10 information. There again, it will be legal ownership,
11 the property tract, the description of the
12 right-of-away strip where it is on the property, and
13 that will also be a signed and notarized document.
14 After signing the easement, that will also be recorded
15 at the corresponding county. Full payment will be made
16 after execution of that document, and that would be the
17 remaining 80 percent. And any amount that wasn't
18 talked about would be added on at that time also.

19 The right-of-way widths to be requested on this
20 345 line, it's a 150 feet across the property or
21 adjoining the property line. And just for an example
22 on the board there, we're just showing one mile is
23 approximately 18 acres at 150 foot wide across the
24 property. To break that down a little further on
25 there, a half a mile would be approximately nine acres,

1 and a quarter mile would be 4.5 acres. The next figure
2 is 98.5 feet adjoining a road right-of-way, which we
3 would have approximately five miles adjoining a road
4 right-of-away. And that would be about 12 acres across
5 a mile, six acres across a half a mile, and a quarter
6 mile across three acres.

7 Crop damage is the final task. And there again,
8 land management personnel will contact the property
9 owners after construction is over to see if there had
10 been any damage or land damage or crop damage. And we
11 just want to let you know we will fairly reimburse the
12 property owner, tenant or both, if that applies, if any
13 damage was done.

14 **MR. PAWLOWSKI:** Thanks, Gary. Well, you're seeing
15 me so that means we're getting to the home stretch.
16 And I appreciate your time and patience for sitting
17 through this, but I think it's some pretty good
18 information that we're trying to share with you.

19 I'm going to briefly touch on the construction
20 process. Basically after Gary comes out and visits the
21 landowners and gets survey permission, the engineers
22 and the environmental folks will go out on the land and
23 do environmental surveys to check for cultural and
24 different aspects of that nature. The civil people
25 will be out there taking civil surveys. Once they have

1 that information, we'll take it back and the engineers
2 will look at it to finalize the design. And Gary will
3 be out again to visit the landowners to make sure the
4 pole locations work with the landowners.

5 Once that's all done, that's when we move to the
6 field construction phase where we'll actually build the
7 pole in place, drill a hole, set the pole. Then we'll
8 come back and string the wire from pole to pole. And
9 we can do that on about two-mile stretches. About
10 every two miles we'll have to set up a stringing
11 station to pull the wire across the poles. After
12 that's all done, we'll make sure the property's clean
13 and restored. Gary will come back up and do any
14 settle-ups that may be required.

15 This is a couple of typical structures. At this
16 point in time, the project's preference is the H frame
17 structure, which is the structure on my right, your
18 left. The other one that's typical around the area is
19 the single pole, which has got -- is the one on the
20 right. It's got the davit arm sticking out to the
21 side. The final decision on which type of structure
22 will be made later once we get the final engineering,
23 environmental and economical analysis completed for the
24 project.

25 We talked about the future 345 sub. This here is

1 just an overview of where it's going to be located. We
2 have the Big Stone plant up north with Big Stone City
3 off to the east here. It's about 1.2 miles south.
4 This is Highway 12 running diagonally. We'll have two
5 230 lines coming out of the Big Stone plant running
6 south to the substation. That's where one of them will
7 be turned into the 345 line and the other one will
8 continue on over to Ortonville at 230.

9 This is just a typical picture of what a
10 substation looks like. Pretty low to the ground and
11 nothing too fancy with it.

12 Here is the overall schedule for the project. The
13 critical date is the plant completion, which is
14 scheduled for early 2011. The transmission system
15 needs to be up nine months to a year in advance of
16 that. That's so the plant can turn on its big motors
17 and actually start producing power and doing its
18 testing. We are actually in the permitting phase here
19 in the 2006 frame where we need to get our Minnesota
20 permits, our South Dakota route permit, and the federal
21 environmental impact statement. We plan on going out
22 and actually acquiring options at this point in time,
23 and then early next year, late this year, actually
24 probably coming out and securing the easements on the
25 land in South Dakota.

1 We actually plan to construct this project in
2 three phases. The first phase would be the Big Stone
3 to Canby line or the South Dakota portion. That will
4 basically be in 2007. The Canby to Granite Falls line
5 will be 2008 time frame. And then the Morris to Big
6 Stone would be 2009-2010 time frame.

7 So in conclusion, the proposal that we're here to
8 discuss today was the -- to build a 230 line in the
9 South Dakota portion from Big Stone to Ortonville and
10 then build a 345 line from Big Stone down south towards
11 Gary over to Canby, Minnesota, but it would initially
12 be operated at 230 until other regional facilities are
13 built. We feel this project is going to provide our
14 customers with low cost reliable power. It's going to
15 improve the overall transmission system reliability by
16 putting another set of wires in the air, bigger wires
17 to keep storm damage and outages to a minimum, and to
18 increase the transmission system capabilities by
19 designing it for the 345 for future resource
20 developments. And I guess that concludes the
21 presentation at this point in time. If there's any
22 questions?

23 **CHAIRMAN SAHR:** Well, thank you, Dean. And we
24 appreciate you, Jason and Beth and Gary putting on the
25 presentation. And certainly we encourage you to ask

1 any questions that you might have. First, we're going
2 to go see at this point in time if the Commissioners
3 have any questions. And, you know, one thing I would
4 note that I think it's exciting to see that the Big
5 Stone II partners are looking at not just this project
6 but also the comprehensive needs going forward into the
7 future. And it's exciting to hear not just the
8 potential benefits of a new power plant to the area but
9 also looking at wind energy.

10 And I was curious as we look to possibly having
11 the ability to add wind energy onto this system, I
12 understand the Big Stone II partners, those seven
13 companies, would be the ones that would be receiving
14 the electricity or buying the electricity from the
15 plant. Would these be the people who would be looking
16 at developing wind farms or would that be open to
17 anyone or are there any plans in the works for that or
18 is it pretty much just built with that extra capacity
19 and at this point in time is open-ended as to who might
20 actually go out and have the interest in those type of
21 wind farms? Because I know down the road not too far
22 from here in Brookings County, we have Xcel talking
23 about some expansions in the near future up into South
24 Dakota. And I was just curious: Is there any
25 particular utility or group that you think has interest

1 or would have interest in potential wind farms?

2 **MR. PAWLOWSKI:** Thank you, Commissioner, for the
3 question. It's a very good question. The Big Stone II
4 project at this point in time is not committing any
5 resources to build renewables. They are looking at
6 providing the opportunity for others to do that. In
7 order to do that, any generation would have to submit,
8 you know, a generation request to the MISO queue to get
9 onto the system. Each individual company is handling
10 it on their own in their own utility, planning for it
11 on their own.

12 **CHAIRMAN SAHR:** Thank you. I may have another
13 question or two, but I think I'll turn it to -- to see
14 if my fellow Commissioners have any questions at this
15 point in time.

16 **COMMISSIONER JOHNSON:** I've got a couple. Thank
17 you very much. You noted that the line heading south
18 will be operated at 230 but it's designed for 345. A
19 few years after the line is built, if other generation
20 sources pop up, what will have to be done to that line
21 to move it from 230 operation ability to 345?

22 **MR. PAWLOWSKI:** Thank you for that question,
23 Commissioner. It's a very good question. What we are
24 anticipating at this point in time -- we haven't gone
25 through the final analysis yet. There won't be a whole

1 lot that we plan to do to it. We may have to run
2 another -- one more conductor. We may bundle this
3 wire, which means there will be two lines per phase.
4 We may string it for both right away depending on how
5 the other facilities are coming along in the region or
6 maybe just one. There will be some substation upgrades
7 that may be required. It all really depends on how far
8 along some of these other regional studies are coming
9 along. And to give you a definition of how they're
10 coming, CapX is looking at starting the permitting
11 process in Minnesota for the EHV line that Jason talked
12 about this year. They'll start that process this year.
13 They're probably looking at if there's any work to be
14 done in South Dakota for permitting in the 2008 time
15 frame. Construction would be starting in possibly the
16 2009 time frame, although it's very conceptual yet.
17 And I know CapX plans to come out and talk to each of
18 the state's Commissions to give them the grand plan,
19 but that's their concept at this point in time. So it
20 wouldn't be far past Big Stone. It's not the intent
21 right now.

22 **COMMISSIONER JOHNSON:** Now that line we're talking
23 about would be essentially finished being constructed
24 at the first quarter of 2008 I think I saw on the
25 schedule and the construction would begin in, what, the

1 second quarter of 2007? So that would be a
2 determination that would really have to be made
3 relatively quickly by you all.

4 **MR. PAWLOWSKI:** The actual substation work and how
5 that's done, yes. But the lines, we will probably --
6 you know, we've got some time to do that. Yeah, we've
7 got about a year to do that. We'll have a good feeling
8 at that point in time.

9 **COMMISSIONER JOHNSON:** Okay. Your maps that were
10 color-coded based on the stress of the line, those are
11 good maps because I'm not that bright so color-coding
12 always helps. Even after the proposed transmission
13 alternatives -- or not alternatives -- transmission
14 upgrades are included in the system, there's still some
15 red and pink areas, some areas that -- or some
16 transmission lines that are close to being filled that
17 are under some stress. I think maybe it was Jason who
18 mentioned an additional upgrade will be necessary to
19 the existing transmission system.

20 Will -- two questions I guess. First off, when
21 would you all make the determination what upgrades
22 would be necessary and then what would those upgrades
23 do? I mean would they essentially bring this map
24 from -- these areas of red, would they all be yellow
25 and green?

1 **MR. WEIERS:** There are several studies going on
2 through the MISO process, and it's very complicated
3 with the number of previous projects in front of us, so
4 there are extensive studies going on. We're working on
5 trying to identify those deficiencies in the system.
6 At the end of the day, Big Stone II could not come
7 online until all negative impacts on the system are
8 mitigated either through more line capacity or capacity
9 banks added for voltage reasons.

10 **COMMISSIONER JOHNSON:** So what's the standard that
11 you'll be necessary to have? I mean 50 percent, 60
12 percent?

13 **MR. WEIERS:** We just -- we need to unload the
14 lines so that they're not exceeding their maximum
15 allowed capacity.

16 **COMMISSIONER JOHNSON:** You talked about the two
17 different potential structures, the H structure and
18 then the taller single pole. Is one more reliable than
19 the other?

20 **MR. PAWLOWSKI:** Thank you for that question,
21 Commissioner. That is a very good question. Otter
22 Tail's history has indicated that H frames are more
23 reliable. We don't have a whole lot of engineering
24 data to back that up really. We feel they're more
25 reliable. You've got the cross bracing in between to

1 hold the structures up. The most recent incident that
2 we have to back up this is that the ice storm last
3 year, that we did not have a single H frame structure
4 go down. We had some cross arms that we found were
5 weak afterwards but nothing came down. We did have
6 single poles that were coming down.

7 **COMMISSIONER JOHNSON:** Is the single pole design
8 chosen sometimes just for aesthetics then, or why is
9 that an option?

10 **MR. PAWLOWSKI:** That's chosen sometimes for
11 landowner preference or through tight areas to deal
12 with -- they do that. I know the single poles also do
13 require a lot more foundation work. H frames we can
14 pretty much direct bury, put the poles right in the
15 ground; where a single pole we have to have cement
16 trucks come in, pour cement to hold that up. So
17 there's offsets there, too. But it looks better
18 aesthetically for the single pole than the H frame some
19 people believe.

20 **COMMISSIONER JOHNSON:** Thank you. I think it was
21 Beth had mentioned that there were -- in most cases,
22 the proposed transmission lines are going along section
23 lines and not along road right-of-way. I don't need an
24 exact number, but can somebody give me a feel for the
25 project? I mean what is the proportion of proposed

1 transmission line that's going along section lines?

2 **MS. REGAN:** I don't have a real good handle on the
3 percentage, but I would say that maybe 70 percent would
4 be along the section lines and, you know, roughly 25,
5 30 percent would be along the roadway right-of-ways.
6 We are very limited within the corridor to try and find
7 actual roadway right-of-away where we could avoid
8 housing. It just -- for the roadways that were
9 available, most of them were fairly highly populated
10 with homes.

11 **COMMISSIONER JOHNSON:** Okay. Thanks. Under the
12 survey permission slide, it was noted that the partners
13 would pay for any damages done during a survey. How
14 common are damages during the survey process? When I
15 say -- when I see surveyors out there, they don't look
16 like they're being too destructive.

17 **MR. EGGEN:** Well, one thing about South Dakota,
18 there's not a lot of trees. Normally the old surveys
19 required tree trimming and cutting for line of site.
20 Nowadays, the survey technology has gotten a lot
21 better. We use GPS and fly-over surveys and things of
22 that sort. But anyway, we still have to go through on
23 the center line. Depending on what time of the year it
24 is, if the crop was standing and ripe to go down, you'd
25 probably have somebody walking across the crop or

1 something like that. But something also to remember,
2 we do have -- there could be some environmental studies
3 out there, some soil testing, which actually probably
4 could get into the ground and disturb a small area. So
5 basically very little. But we just want to assure
6 everybody that we'll be looking at that and monitoring
7 any damage to the property.

8 **COMMISSIONER JOHNSON:** Okay. Thanks. I think I
9 only have one more. I thought that the team did a good
10 job of describing some of the environmental areas that
11 needed to be avoided. And I know the EIS will uncover
12 this, but do we know right off the top of any
13 culturally sensitive areas of concern in the proposed
14 corridors?

15 **MS. REGAN:** We don't know specifically at this
16 time. There may be some regions in the northern region
17 up by the plant. There have been some very -- you
18 know, surface, minimal studies done so far. But that
19 will be part of the next process, to identify areas
20 completely.

21 **COMMISSIONER JOHNSON:** But at this point, there
22 hasn't been any initial red flags raised, anything that
23 you all know is going to be a problem or could likely
24 be a problem?

25 **MS. REGAN:** No. Any areas that we -- that were

1 mentioned as being potential problems we try to route
2 away from that. So, no, we haven't identified
3 anything.

4 **COMMISSIONER JOHNSON:** And remind me again of when
5 the federal EIS is expected to be completed. When
6 the -- tell me when the draft is going to be out and
7 then when they expect to finalize that.

8 **MR. PAWLOWSKI:** The draft is scheduled to be
9 out -- I believe it's in March with the record decision
10 in November of this year.

11 **COMMISSIONER JOHNSON:** Okay. Thank you.
12 Mr. Chairman, that's all I have.

13 **CHAIRMAN SAHR:** And if I may, I have a follow-up
14 question for Beth that goes along the lines of the last
15 question from Commissioner Johnson. Along with the
16 sites that he talked about, are there any hunting,
17 fishing, wildlife concerns or red flags out there that
18 you're seeing right now?

19 **MS. REGAN:** No. We were able to choose a route
20 that minimized any impact to either state or federal
21 set-aside land.

22 **CHAIRMAN SAHR:** And maybe this is a little bit
23 more for Dean or just kind of general comments. You
24 know, obviously -- and it sounds like you're aware of
25 this. It kind of goes without being stated. Being a

1 good steward, being good to the landowners and making
2 sure damage is minimized, everything's cleaned up, all
3 that's very, very important. You know, you mentioned
4 paying for crops and land damage and so on and so
5 forth. What happens if the builders and the landowner
6 can't come to an agreement as to the price of damage
7 and those sorts of things? Do they end up going to
8 court, or what happens in that process, do you know?

9 **MR. EGGEN:** Just from my recent experience in
10 doing transmission line, I guess we haven't run into
11 that problem in not coming to an agreement. We have
12 had some serious damage due to the time of the year and
13 rain and rutting and just some tremendous damage, and
14 we've made it a point to make everything as fair as we
15 can. And we've -- I don't know the answer. It hasn't
16 went that far yet.

17 **CHAIRMAN SAHR:** Well, hopefully it never happens,
18 so it's at least some good news on that part.

19 Beth, I think our general counsel has a question
20 for you. Mr. Smith?

21 **MR. SMITH:** Thank you. I guess the question I
22 had, Beth, is if the studies related to cultural or
23 historical or other kinds of values haven't been
24 completed, what's the position of Otter Tail with
25 respect to our ability to proceed and issue a permit

1 without those studies having been done? What does the
2 Commission do? Do we condition a permit somehow, or do
3 those studies need to be completed before we can do
4 that?

5 **MS. REGAN:** I can speak to that on one level.
6 Maybe Dean can add. There have been initial studies
7 done. We have worked with the SHPO, the state
8 historical preservation office. We have worked with
9 them. We have done initial data reviews and studies of
10 the area. So that has been completed for the permit
11 application. Further in the process associated also
12 with the federal process there would also be areas that
13 would be surveyed further if there were any areas of
14 indication of problems and also if there were a request
15 through the federal process to have to do like shovel
16 testing and further surveys for coal placement, that
17 type of thing.

18 **CHAIRMAN SAHR:** Thank you. Dean, on one of the
19 slides I think towards the end you had the time line
20 for the project. And it indicated I believe lines
21 being built in '07, '08 and '09. And I'm just curious.
22 I know that our review process for the power plant
23 itself, we're scheduled to have a hearing on that at
24 the end of June. You also, though, obviously need to
25 get some permits from the state of Minnesota. And I'm

1 just curious, and if you know, with dealing with two
2 different jurisdictions, how this whole timing thing --
3 you know, I'm thinking, man, you start those lines in
4 2007. We normally move -- you know, we're pretty good
5 speed on petitions. Our neighbors to the east
6 sometimes take a little longer than we do. How are we
7 going to be looking when we -- well, do you have any
8 concerns about the Minnesota time frames with the
9 overall process, especially with some proposed start
10 dates on building lines in 2007?

11 **MR. PAWLOWSKI:** Thank you, Chair Sahr. That is an
12 absolutely excellent question. And it's not only two
13 jurisdictions, there's actually three, because we have
14 the federal EIS involved on top of that. We did submit
15 our route -- our CON (phonetic) application in
16 Minnesota December -- no, October 9 of 2005. And then
17 we submitted our route application in Minnesota
18 December 16 -- 13th, 16th -- in that time frame.
19 Minnesota has recently combined their process. By
20 statute they do have a year to make the decision. We
21 have had a prehearing conference in Minnesota on that.
22 The ALJ, administrative law judge, plans to have his
23 recommendation January 6 of '07, so hopefully we can
24 have a Minnesota PUC decision early '07. Once we have
25 that, we'll feel comfortable about starting

1 construction, but we don't know if we want to put
2 anything in the ground until we have all the permits
3 resolved or a good handle on them.

4 **CHAIRMAN SAHR:** Thank you. Any other questions
5 from the Commissioners?

6 **COMMISSIONER HANSON:** I have one or two if I may,
7 Mr. Chairman.

8 **CHAIRMAN SAHR:** Absolutely.

9 **COMMISSIONER HANSON:** I don't wish to belabor this
10 because I know that the folks in the audience want to
11 participate as well, and we're anxious to hear from
12 them. But I would like to say that it's been our
13 pleasure to sit through a number of these hearings of
14 this nature in the past, and I would like to thank you
15 for the -- for how comprehensive and complete your
16 presentation was. It's been one of the best, frankly,
17 that we have listened to over the years, so I
18 appreciate that very much.

19 And with that, I'm a little reticent to ask the
20 question because I assume you answered it as you were
21 going through and I simply missed it. As I was looking
22 at the information that you have on the displays, there
23 was a gentleman that I was chatting with, and one of
24 the concerns that came up and concern that I had as
25 well is that there's an existing line that your line is

1 paralleling. And I was curious what -- if there
2 were -- if you set out to be certain that your line was
3 not in close proximity to the other line. Why did you
4 not simply run this line closer to the existing lines
5 that are in that area?

6 **MR. PAWLOWSKI:** Thank you, Commissioner, for that
7 question. Actually there are a number of
8 lines probably -- I haven't really driven it for quite
9 a while. There could be some lower voltage lines that
10 are low that we could probably under build. However, I
11 don't know who the ownership of that would be in trying
12 to work out ownership on what some other party could be
13 challenging. There are some lines coming out of the
14 Big Stone plant that run down the Minnesota side. We
15 did want to separate those out by a fair amount of
16 distance for reliability purposes. If we have an
17 outage on one or a storm come through, the more
18 separation we have on them, the better chance we'll be
19 able to withstand that and keep the plant online and
20 keep our customers happy. So we did intentionally make
21 some effort to get some separation between the major
22 transmission lines.

23 **COMMISSIONER HANSON:** I appreciate that. I notice
24 the second to the last slide that you had was -- or the
25 last slide was a schedule, a tentative schedule. Have

1 you filed that with us? I have not seen that
2 previously. Have we received that do you know? And if
3 we haven't, would you please make that available to us?

4 **MR. PAWLOWSKI:** I apologize. It's not in your
5 packet. We made a last-minute change and we will file
6 that with you in the very near future, yes.

7 **COMMISSIONER HANSON:** All right. Thank you. Do
8 you know, are there any -- do you anticipate any
9 landowner issues at this juncture with this particular
10 line in your experience that are going to be especially
11 challenging that we should know about?

12 **MR. EGGEN:** I have heard nothing negative on this
13 whole project in South Dakota.

14 **COMMISSIONER HANSON:** All right. I appreciate
15 that. I also appreciate the parentheses at the end, in
16 South Dakota.

17 **MR. PAWLOWSKI:** I'll further comment on that.
18 This is the fourth time we've been out meeting with the
19 public in South Dakota. We have not heard of any major
20 issues.

21 **COMMISSIONER HANSON:** Thank you. Thank you,
22 Mr. Chairman.

23 **CHAIRMAN SAHR:** Thank you. Any further questions
24 from the Commissioners? Seeing none then, we'd really
25 like to hear from any members of the audience if they

1 have a comment, question, anything that they'd like to
2 bring before the Commission or the parties here
3 tonight. So please, again, introduce yourself, let us
4 know where you're from, and please raise your hand or
5 just step forward. And we're here to listen to your
6 thoughts. Thank you.

7 **MR. PAWLOWSKI:** Chair Sahr, I will offer that we
8 will stick around and answer one-on-one questions if
9 somebody would rather do that.

10 **CHAIRMAN SAHR:** Thank you. I think we have a hand
11 up. Yes.

12 **MS. NOSBUSH:** Mary Nosbush. I'm from Gary, South
13 Dakota. And I'm an alderman on our city council there.
14 I had one question for Beth and I have another
15 question. You talked about lines going on road
16 right-of-ways and section lines, and I'm not sure I
17 know what you mean by the difference because that's
18 where the roads are, so can you elaborate on that?

19 **MS. REGAN:** When I'm speaking of the road
20 right-of-way, actually along the road. I should
21 probably say like the half section where it would
22 actually be between, you know, the two mile --

23 **MS. NOSBUSH:** Quarters? Like quarter lines you
24 mean?

25 **MS. REGAN:** Right. Exactly. So it would run

1 actually through the field in most cases.

2 **MS. NOSBUSH:** Thank you. My other question
3 relating to wind energy. Probably for Dean; is that
4 correct? Okay. When you talk about -- I think it was
5 about 500 megawatts of power that you could take on
6 from wind energy. How many wind turbines would that
7 involve?

8 **MR. PAWLOWSKI:** Thank you for that question. Wind
9 turbines these days -- a typical wind turbine is in the
10 one-and-a-half-megawatt to two-megawatt range of the
11 big wind farms. So, you know, 500 megawatts would be
12 like 250 wind towers.

13 **MS. NOSBUSH:** Thank you.

14 **CHAIRMAN SAHR:** Thank you, councilor. Any other
15 questions from the audience? Going once, going twice.
16 Yes, it looks like this gentleman has a question.

17 **MR. BORK:** I'm Bill Bork from Marietta. I farm
18 out east of town here. Between here and the state
19 line, from here down to Highway 212. The proposed line
20 is going to go through the middle of my land.

21 You talk, sir, about weather damage to the lines.
22 In our storm here last fall, you get across the
23 Minnesota border, there was hardly any poles down. In
24 South Dakota, the toothpicks busted all the way
25 through. Is that -- the weather problems better going

1 west than they are going east? And also I farm land
2 where the other line that was put in 20 years ago that
3 goes down through the -- about a hundred feet from the
4 quarter line. So I farm around all them, too.

5 **MR. PAWLOWSKI:** Thank you for the question. My
6 understanding of the recent ice storm, not that I was
7 intimately involved, was that there was a temperature
8 change. It was a very brief or abrupt temperature
9 change where the icing did stop. So there was a line
10 and it just happened to fall basically on the
11 Dakota-Minnesota border roughly. We seen that all the
12 way up into North Dakota, into our service territory up
13 there, that there was a line.

14 **CHAIRMAN SAHR:** And I would just point out with
15 that storm, it really was interesting how it traveled
16 across the region. I live in Pierre and overnight that
17 night we had probably a foot of snow. And I turn on
18 the TV, and the Sioux Falls stations are all talking
19 about rain, and they didn't have any snow. So it was
20 one of those things where once you get past Pierre and
21 especially if you move further east, it got to be that
22 rain and that freezing rain and then came the snow and
23 the wind and that's always a really bad combination.

24 And we talked to some of our counterparts in other
25 states, and I think they just did not have that same

1 combination of weather that we just happened to have,
2 you know, throughout the eastern part of our state.
3 But certainly, we'd be more than happy -- and we've got
4 a lot of staff who are very knowledgeable about that,
5 sir, if you'd like to ask any other questions beyond
6 what maybe the proponents here tonight know about that.
7 And I'd like to hear your thoughts and experience on
8 that as well, and it may be something that may be
9 little more appropriate for our staff.

10 Any other questions from the audience? I would
11 remind everyone of a couple things. One, again, and
12 apologize for somebody -- this is a third time -- but a
13 couple people came in a little bit later. We do have
14 signup sheets. If you'd be nice enough to sign up. We
15 do keep a copy of who attended the meetings, and we'd
16 appreciate that. The second thing is we have PUC staff
17 here, and some of you may have questions not just for
18 the parties here tonight but also for PUC personnel.
19 And certainly feel free to ask our staff for their
20 business cards. And Karen Cremer has volunteered, our
21 staff attorney, to be the point contact on that. So
22 don't hesitate to do that as well.

23 And I would have a question I think for
24 Mr. Madsen. We have the one exhibit before the
25 Commission, and I think you might have mentioned in

1 your comments that there's going to be some minor
2 modifications to that. Do you want to make this part
3 of the record or do you want to leave the record open
4 for a late-filed exhibit or what works best for you
5 all?

6 **MR. MADSEN:** Well, thanks for the question,
7 Chairman Sahr. We've got the exhibit marked and we
8 would ask that you go ahead and take it. You'll be
9 provided with an electronic copy. There is one page
10 that Mr. Pawlowski showed with the time line on it as
11 Commissioner Hanson pointed out. There was a last
12 minute-change and I apologize for that and I'm the guy
13 that said make it. So an electronic copy will follow
14 up so that you can post it on the PUC Web site or
15 whatever you need. We'll get you the copies and we'll
16 have an electronic one. So for that matter, probably
17 the easier thing to do is just to leave the record open
18 so we can get you the electronic copy and that would be
19 the easiest.

20 **CHAIRMAN SAHR:** Great. And thank you very much.
21 And again as Commissioner Hanson already mentioned,
22 thanks to you and your clients for doing a very
23 thorough job. We'll all stay around here to answer any
24 questions. And certainly it's very, very valuable to
25 get your input. And if it's something that you maybe

1 didn't feel comfortable commenting on tonight or you
2 think about a few days down the road, we're still here.
3 And we're happy to listen. And I'm sure the parties
4 here tonight would be happy to answer any questions
5 that you might have after the fact. So, you know, this
6 is your public hearing, but it doesn't mean that you
7 don't have an opportunity to still contact the
8 Commission or the parties. And certainly, hopefully,
9 as the project moves forward, if there's any other
10 questions that come up down the road, if it goes
11 forward, it's going to be a multiyear process, please
12 don't hesitate to contact us or the interested parties
13 who are planning the project. We're certainly all here
14 to answer the public's questions and to be here as an
15 advocate for you. So thank you very much again for
16 coming tonight, and that will conclude the hearing.

17 (Proceedings adjourned.)
18
19
20
21
22
23
24
25

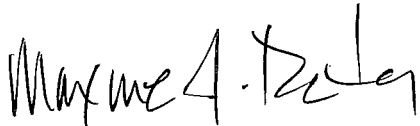
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

C E R T I F I C A T E

STATE OF SOUTH DAKOTA)
 : SS
COUNTY OF MINNEHAHA)

I, MAXINE J. RISTY, Court Reporter and Notary Public, do hereby certify the foregoing pages 1-67, inclusive, are a true and correct transcript of my stenotype notes.

In testimony whereof, I have hereto set my hand and official seal this 10th day of March, 2006.



MAXINE J. RISTY, RPR
Court Reporter and Notary Public
My Commission Expires: October 14, 2011

