

**Thompson, Pamela J.**

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## Filing Accepted

Envelope Number: 6287298

Case Number: 08-2025-CV-02068

Case Style: Wano Township, et al. vs. North Dakota Public Service Commission, et al.



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STATE OF NORTH DAKOTA  
PUBLIC SERVICE COMMISSION

Otter Tail Power Company/Montana-Dakota  
Utilities Co. 345kV Transmission Line -  
Jamestown to Ellendale  
Public Convenience & Necessity

Case No.  
PU-24-91

**TRANSCRIPT OF WORK SESSION**

**October 17, 2024**

APPEARANCES

Commissioners Sheri Haugen-Hoffart, Randy Christmann, and  
Julie Fedorchak

PUBLIC SERVICE COMMISSION:  
Christopher Hanson, Adam Renfandt

1           COMMISSIONER CHRISTMANN: Good morning,  
2 everyone. This is a Public Service Commission work  
3 session so we don't take testimony or anything. We just  
4 discuss information that we've received. I'm Randy  
5 Christmann, joined by Commissioner Sheri Haugen-Hoffart.

6           Commissioner Haugen-Hoffart, this is, of course,  
7 your portfolio.

8           Commissioner Fedorchak is tied up on another  
9 project, but I believe will be here just very  
10 momentarily.

11           I know some -- while this is certainly your  
12 portfolio, the OMS portfolio has a big impact on this  
13 and I know some of my comments have to do with some OMS  
14 things.

15           COMMISSIONER HAUGEN-HOFFART: Uh-huh.

16           COMMISSIONER CHRISTMANN: So I guess I know I  
17 would rather maybe get into my thoughts and comments  
18 once she is here, but I think it would be fine if you  
19 want to -- if you want to kick it off, kind of a roundup  
20 of the case that you might have, either you or staff,  
21 however you want to proceed, Commissioner.

22           COMMISSIONER HAUGEN-HOFFART: Okay. Thank you,  
23 Chair Christmann.

24           Yeah, with this work session, I'm going to frame  
25 it up this way as the portfolio holder. Based on the

1 last work session, there were inquiries that we as  
2 commissioners had, information that we requested, both  
3 from MDU and Otter Tail but then also MISO. So I  
4 thought it would be best, and I talked to staff, that  
5 Chris is going to summarize some of his communication  
6 that he's had with the two utilities.

7 And then, Adam, I believe I've asked you to go  
8 through some of the MISO information that we inquired so  
9 we have the foundation of what the inquiries were. And  
10 then at any time Randy and I or when Commissioner  
11 Fedorchak comes, we might ask for further information.  
12 So just to let everybody know how this work session is  
13 going to go.

14 So, Chris, I'll turn it over to you as far as  
15 the communication between MDU, Otter Tail, and yourself  
16 and the information that we requested.

17 CHRIS HANSON: Okay. Thank you, Commissioner.  
18 I'm Chris Hanson. I'm Public Utilities Department staff  
19 here with the North Dakota Public Service Commission.

20 As part of the follow-up, we had some inquiries  
21 of Otter Tail and MDU, and Jason Weiers, who's here, was  
22 the one that responded on a lot of these. And I have a  
23 little bit of follow-up that wasn't in the data request  
24 that he followed up with recently that I'll add in here.

25 So there were basically three questions that we

1 were asking them specifically coming out of the last  
2 work session. The first question was:

3 "What N-1 events were identified as  
4 justification for the line and which of  
5 these were in North Dakota?" Do you know?

6 So we were -- so I talked about -- I mentioned  
7 events versus elements. You know, he's talking about,  
8 in the write-up, that there were 40 transmission  
9 elements and 97 transmission elements -- or 40  
10 transmission elements or relieve -- there were thermal  
11 issues and 97 elements during N-1 events. It got a  
12 little conflated between elements and events and stuff  
13 like that.

14 So Jason did some follow-up on the -- on the  
15 question. And I'm going to work off of his follow-up as  
16 opposed to the actual response to the question because  
17 it's actually more clarifying.

18 He said: Upon our review of the MISO study  
19 results from the Tranche 1 studies, we've identified  
20 that the Jamestown to Ellendale 345 kV project in  
21 combination with the Big Stone, Alexandria, Cassie's  
22 Crossing where Big Oaks 435 kV project relieves thermal  
23 loading issues on 56 elements during N-1 events instead  
24 of the 40 that was noted in their initial response. Of  
25 the 56 events -- or 56 elements that had their thermal

1 issues relieved with these two projects, eight of those  
2 elements were in North Dakota. So like 14 out of the 56  
3 were in North Dakota. Based upon the evaluation of the  
4 thermal issues, we've used engineering judgment to  
5 conclude that all eight of these transmission elements  
6 in North Dakota are likely a direct result of adding the  
7 JETx project to the system.

8           Likewise, a review of the MISO study results  
9 from the Tranche 2 studies have identified that the  
10 Jamestown to Ellendale and the Big Oaks project -- you  
11 know, the Big Stone to Big Oaks project -- relieves  
12 voltage issues on 70 transmission elements during N-1  
13 events instead of 97. And of the 70 transmission  
14 elements --

15           COMMISSIONER FEDORCHAK: Excuse me, Chris.

16           CHRIS HANSON: Sorry?

17           COMMISSIONER FEDORCHAK: Just one quick second.  
18 Just to bring me up to speed, what are you reading from?

19           CHRIS HANSON: Well, so Commissioner  
20 Haugen-Hoffart asked that I follow up on some of the  
21 responses to the questions that we had for MDU and Otter  
22 Tail. And Jason Weiers responded to this about -- and  
23 the question was what N-1 events were identified as  
24 justification for the line and which of those were in  
25 North Dakota.

1 COMMISSIONER FEDORCHAK: Okay.

2 CHRIS HANSON: So we were wondering about how  
3 much of the N-1 and the N-1-1s were related to North  
4 Dakota. Because the project was noting -- the project  
5 was noting the total amount, but it was a combination of  
6 North Dakota, South Dakota, and Minnesota.

7 COMMISSIONER FEDORCHAK: Yeah. Is that  
8 something we can all get a copy of or do we have that?

9 CHRIS HANSON: This is docketed.

10 COMMISSIONER FEDORCHAK: The memo that you're  
11 reading from?

12 CHRIS HANSON: Oh, this one I just got this  
13 morning.

14 COMMISSIONER FEDORCHAK: Okay.

15 CHRIS HANSON: So I literally was reading it  
16 before the meeting so Jason --

17 COMMISSIONER FEDORCHAK: Okay. I think it  
18 sounds like there's a lot of great information, but it  
19 might be easier for us to follow if we had copies of it  
20 while you go through it.

21 CHRIS HANSON: Can I take a second to do it?

22 COMMISSIONER FEDORCHAK: Yeah, I think -- I  
23 mean, is that all right, Randy?

24 COMMISSIONER CHRISTMANN: Sure.

25 UNIDENTIFIED SPEAKER: Do you want to go over

1 that MISO stuff since --

2 CHRIS HANSON: You go over the MISO stuff.  
3 You're the MISO guy. Sorry.

4 (Laughter)

5 COMMISSIONER CHRISTMANN: I will say this,  
6 though. The previous work session was two months ago.

7 CHRIS HANSON: Yeah, right.

8 COMMISSIONER CHRISTMANN: So now we're getting  
9 answers this morning.

10 CHRIS HANSON: Yep. So while Victor's making a  
11 copy of that, just to note too that -- to clarify that  
12 when they were looking at the N-1 and N-1-1 events, two  
13 points to clarify, and that is that that's based upon,  
14 like, 10 and 20-year projections. So they're looking at  
15 the projected load and they're looking at projected  
16 generation growth. And then they're looking at  
17 basically these constraints that will cause congestion.  
18 So it's a projection of where they think the system will  
19 be and where transmission needs to be built out going  
20 forward.

21 And so the second point to make is when -- on  
22 the Ellendale to Jamestown line is that when they're  
23 looking at these -- at these issues, these N-1s and  
24 these N-1-1s, that's a combination of both the Jamestown  
25 to Ellendale line and the Big Stone to Big Oaks line.

1 So it's not just the Jamestown to Ellendale --

2 COMMISSIONER FEDORCHAK: Sure.

3 CHRIS HANSON: -- in isolation. So it's looking  
4 at the -- at the complete thing.

5 COMMISSIONER FEDORCHAK: Which are both part of  
6 Tranche 1.

7 CHRIS HANSON: Right, right. So -- and I guess  
8 there's a third thing too that is pointed out, that  
9 there's currently a 345 line that runs from Coyote to, I  
10 think, Maple -- Maple River that runs through Jamestown.  
11 If you think of that as leg one, and if you think -- and  
12 then there's currently a line that was built, like,  
13 starting, like, in -- or in 2018 that goes from  
14 Ellendale to Big Stone and you think of that as leg  
15 three, the Jamestown to Ellendale is leg two, the 345 kV  
16 circuit, if you want to call it that, and then they're  
17 extending Big Stone through Alexandria to -- to Big  
18 Oaks, which is approximately in the St. Cloud area of  
19 Minnesota. So that -- that's kind of like leg four of  
20 this whole thing.

21 So we have currently leg one and three, and  
22 they're basically adding legs two and four to this 345  
23 kV line to get power out of North Dakota and move it  
24 into the east. Or I guess power can move both  
25 directions but -- so just a little clarification that

1 the N-1s and N-1-1s are forward-looking. The congestion  
2 issues, the N-1s and the N-1-1s are -- those are a  
3 combination of both the Big Stone to Big Oaks line and  
4 the Ellendale to Jamestown.

5 And the third thing is that part of the -- when  
6 they looked at this project, it was completing this  
7 whole, like, loop of lines basically going from -- all  
8 the way from the, you know, Coyote up in the coal  
9 country into -- well into Minnesota.

10 So getting back to the N-1s and the N-1-1s, they  
11 updated their numbers, like I stated. So to reiterate  
12 for Commissioner Fedorchak, you know, instead of -- I  
13 lost my place here a little bit.

14 Instead of 40 transmission elements that were  
15 related to thermal, there were actually 56, and they  
16 identified eight of those were specifically in North  
17 Dakota. So that's 14 percent. So one-seventh. And  
18 that would be likely relieved by this line.

19 And then instead of the 97 that they previously  
20 identified, there were 70 transmission elements instead  
21 of the 97 that were previously noted. And of the 70, 21  
22 of those were in North Dakota, or about 30 percent of  
23 those. And those were the ones related to the voltage.

24 So, anyways, there's 14 percent of one and  
25 30 percent of the other so there's a representative

1 portion of the total that were involved.

2 And in the MISO -- in the MISO response, it  
3 actually points out some of the substations,  
4 transformers, and lines that would be affected by that  
5 specifically where they see the constraints without this  
6 being constructed.

7 So that's kind of in response to the first  
8 question which came out of the last working session  
9 which was looking at this project and saying, "Well, how  
10 much of this was actually within North Dakota  
11 jurisdictionally?" That was one of the questions that  
12 we had.

13 And the second question that we had was --

14 COMMISSIONER HAUGEN-HOFFART: So, Chris,  
15 summarize that for me. I mean, they talked about the  
16 project benefits and all these voltage violations and  
17 all that. So when we narrow it down to North Dakota, we  
18 had 17 occurrence -- 17 percent and about 30 percent.

19 CHRIS HANSON: Right. Of the ones they noted.  
20 So they -- they specifically stated that just related to  
21 North Dakota there were -- there would have been eight  
22 of the thermal and there would have been 21 of the  
23 voltage N-1s and N-1 -- you know, N-1 events -- or N-1  
24 elements that would have been located in North Dakota.

25 COMMISSIONER HAUGEN-HOFFART: Go ahead.

1 COMMISSIONER CHRISTMANN: Would have been or --

2 CHRIS HANSON: Well, would be.

3 COMMISSIONER CHRISTMANN: -- would eventually

4 be?

5 CHRIS HANSON: Okay. Will eventually be.

6 COMMISSIONER CHRISTMANN: Okay.

7 CHRIS HANSON: Sorry. Yeah, I know. It gets  
8 confusing because we have current congestion, but there  
9 is a forward-looking -- the N-1s and N-1-1s are  
10 forward-looking. So I will try to state that correctly.  
11 They're projecting that those will be in North Dakota.

12 COMMISSIONER HAUGEN-HOFFART: So wrap it up as  
13 in a benefit to North Dakota, this line, on how it  
14 addresses this as --

15 CHRIS HANSON: Well --

16 COMMISSIONER HAUGEN-HOFFART: I know it's  
17 forward-looking.

18 CHRIS HANSON: Right.

19 COMMISSIONER HAUGEN-HOFFART: And that's one of  
20 the things, that this is long-term transmission  
21 planning. So that will --

22 CHRIS HANSON: Yeah, so --

23 COMMISSIONER HAUGEN-HOFFART: -- eliminate the  
24 "would have beens"? Or what's the projections on the  
25 future?

1           CHRIS HANSON: Well, I mean -- so it -- these  
2 are -- these are elements that they're projecting are  
3 going to be constrained based upon Otter Tail and MDU's  
4 load growth as well as the projected generation growth.  
5 So essentially it's saying, if we grow the generation  
6 and we grow the load, where are the constraints going to  
7 fall on the transmission side?

8           So if you look at the 345 kV line, a couple  
9 quick items to note on that is that -- based upon how  
10 that's circuited, that can relieve about -- about  
11 2,000 megawatts of -- I don't know, capacity or -- or  
12 production. It can carry about 2,000 megawatts on the  
13 line.

14           And as I recall, and Adam can clarify on this,  
15 but MISO also builds their system to be double  
16 circuited. So, presumably, then it could carry another  
17 set of 2,000-megawatt line. So it, presumably, has  
18 about 4,000 megawatts of capacity potential on the line,  
19 2,000 initially and four -- I mean, if they decided down  
20 the road to double circuit it, they have that option to  
21 do that.

22           So we create a significant amount of capacity.  
23 I mean, I think the analogy we always use is the  
24 interstate highway system. This would create really an  
25 enormous amount of capacity, you know, coming in and out

1 of North Dakota. So then these points of the 115 and  
2 the 230 line, 230 lines where a lot of this is going  
3 over now, it would relieve a lot of those -- would  
4 relieve those lines and would avoid these constraints  
5 going forward.

6 COMMISSIONER HAUGEN-HOFFART: Okay.

7 CHRIS HANSON: So does that answer your  
8 question?

9 COMMISSIONER HAUGEN-HOFFART: Yep. It did.

10 CHRIS HANSON: Okay. The second question was:  
11 "Exclusive of the need to get power out of  
12 North Dakota and to feed Ellendale-Big Stone  
13 and the future Big Stone-Sherburne lines,  
14 what other alternatives identified would  
15 have addressed the previously identified  
16 issues for less cost?"

17 And when -- when they came back -- and basically  
18 the way MISO evaluated this is they had six different  
19 options, but every single one of these options included  
20 Jamestown to Ellendale. So there were six different  
21 ways that they tried to get the power from Big Stone  
22 into Minnesota and stuff. But as I pointed out, the way  
23 you can kind of look at this is Jamestown -- Jamestown  
24 to Ellendale is the -- is the missing link between the  
25 Coyote to Maple River and the Ellendale to Big Stone.

1 So every one of these options they looked at included  
2 building this line.

3 So they didn't look at -- they didn't have --  
4 they obviously thought this was such a critical part of  
5 the infrastructure that -- that all of their options  
6 included this. So they didn't really -- they didn't  
7 look at other options. This -- I think this was  
8 basically something that they felt was pretty  
9 self-evident. And they did actually point out different  
10 options on, like, the Minnesota side about how to get  
11 the power into Minnesota and how to move it around  
12 Minnesota, but every one of the options included  
13 Jamestown to Ellendale. So they didn't really look at  
14 -- I guess you could say they didn't look at other  
15 options because I think they felt this was such a  
16 critical part of the infrastructure.

17 The other thing that I would note going to the  
18 MISO report is that -- or the MISO response is that they  
19 look at these tranches as a whole. And Adam deals with  
20 MISO more than I can, but they look at these as a whole.  
21 So they don't look at necessarily one project in  
22 isolation of the other projects.

23 As I noted, when they evaluated this project,  
24 they evaluated it with the Big Stone to Big Oaks, both  
25 of those together, and looked at the constraints, but

1 they also kind of look at the whole Tranche 1 as kind of  
2 one big project. So if -- they point out specifically  
3 that if you take one part of the project or one of the  
4 projects out, it actually affects the whole -- the whole  
5 tranche for the project. So they don't look at these  
6 things necessarily in isolation.

7 So in this case they obviously felt that  
8 Jamestown to Ellendale was a critical piece because they  
9 didn't actually have an option where it didn't include  
10 Jamestown to Ellendale.

11 So that was my second question.

12 The third question was:

13 "Did MISO include the impact of Applied  
14 Digital's operation and future plans as well  
15 as the prospect of generation west of Fargo  
16 in their calculations? If not, have either  
17 of your companies attempted to do this?"

18 So when they did the studies for Tranche 1, they  
19 did not include Applied Digital in those because they --  
20 and the other thing is that -- so they did not  
21 include -- the Future 1 models which was used for  
22 Tranche 1 was before Applied Digital got up and running  
23 and -- but they did -- they did actually include -- they  
24 did actually include the 200 megawatts of natural gas  
25 generation west of Fargo. So we had the question

1 specifically about whether it included that in the  
2 model. It does.

3 They also pointed it out that it includes  
4 800 megawatts of solar generation in the mix as well.  
5 So they do actually take future generation plans into  
6 account on this, but Applied Digital was not included in  
7 the initial Tranche 1 analysis.

8 They did point out, however, that -- that when  
9 they did the LRTP Tranche 2 portfolio, which I think  
10 we've been having some conversations on lately, that  
11 does actually include the impacts of Applied Digital's  
12 load and -- and then doesn't say specifically if it's  
13 including their -- let's see here. That includes  
14 Applied Digital's operation and future plans in those  
15 subsequent models in the 2.1.

16 So they're playing catch-up. You know, they  
17 didn't include it in the -- in the study -- in the  
18 Future 1 Model which was used for Tranche 1, but it is  
19 -- as they go along, it's being included in the future  
20 tranches. So the -- I guess the answer to that is that  
21 Applied Digital wasn't included, future generation was  
22 included.

23 I would note that, in my memo, that one of --  
24 Leif Clark, the engineer on our staff, actually did an  
25 analysis of the 12 months prior to ramp-up of the first

1 phase of Applied Digital and then looked at the 12  
2 months after it was ramped-up, and he did actually see  
3 that it did -- did relieve a significant amount of the  
4 congestion on the system as it occurred at that time.  
5 So what that did is it reduced the congestion and raised  
6 the LMP prices.

7           And we have the numbers right here. So he found  
8 that it reduced the Ellendale 1 and 2, it reduced the  
9 MCC, which is the marginal congestion, by 69 percent and  
10 56 percent from before to after. And then he showed  
11 that the LMP prices actually increased by 12 percent and  
12 46 percent. So as you relieve congestion, it allows the  
13 power to flow more freely over the -- over and it -- and  
14 it levelizes the LMP prices.

15           So if you look at a map -- like Victor was  
16 showing me yesterday, if you look at a map of North  
17 Dakota, when it's constrained we have excess production  
18 on windy days so the prices are sometimes zero or even  
19 -- maybe even negative and -- but that gets constrained  
20 so that it can't -- and then you look east of that  
21 constraint into Minnesota and the prices are higher. So  
22 as you remove the constraint, it levelizes the prices.  
23 So the -- so as you remove the congestion, the LMP  
24 prices should -- will probably, on average, come up.  
25 That's the expectation.

1 COMMISSIONER FEDORCHAK: For North Dakotans.

2 CHRIS HANSON: For North Dakotans, right. So --

3 COMMISSIONER FEDORCHAK: Another great benefit  
4 of transmission for us.

5 CHRIS HANSON: Yeah, for customers. But then --  
6 yeah. So that was the three responses that we had from  
7 them.

8 COMMISSIONER CHRISTMANN: On that, though, when  
9 those LMP prices go so low, negative, or even if it's 5  
10 or \$10, when those come up, it's because energy is  
11 flowing, meaning it's getting somewhere else and lower  
12 there and so --

13 COMMISSIONER FEDORCHAK: Yes.

14 COMMISSIONER CHRISTMANN: -- it somewhat  
15 balances out.

16 CHRIS HANSON: Correct.

17 COMMISSIONER FEDORCHAK: So that's the goal.

18 COMMISSIONER CHRISTMANN: Yeah.

19 CHRIS HANSON: Well, and it's pointed out too  
20 that, yeah, for a consumer, then it means they're not  
21 getting super-uber low prices, which is like what  
22 Applied Digital is saying why they located where they're  
23 at, is because they're getting this super low energy  
24 price, but the other thing it does as it levelizes  
25 prices is that it, theoretically, but I think logically,

1 would mean that it should provide a more incentive for  
2 our thermal to produce as well. You know, when the  
3 prices get depressed to the point where the coal gets  
4 interrupted or the gas gets interrupted, if those prices  
5 levelize more, it should provide a better environment  
6 for them to operate on a more consistent basis as well  
7 too. So it's a trade-off on things so...

8 So that's -- those are the basic questions that  
9 we had.

10 We also had the MISO response. I think I'd read  
11 my summary of that so then I don't have to go through  
12 the --

13 COMMISSIONER HAUGEN-HOFFART: Are you going to  
14 go through that or is Adam?

15 CHRIS HANSON: Adam --

16 UNIDENTIFIED SPEAKER: (Inaudible).

17 CHRIS HANSON: Adam would prefer I did that.

18 So the MISO response, I'll just kind of read  
19 from the memo. And I apologize, we just got this the  
20 day before yesterday, and late in the day or something  
21 like that. So this is a pretty quick turnaround on  
22 things.

23 So I said, as a result of this session, we sent  
24 a request to MISO to explain the benefits to address the  
25 key reliability and economic benefits of the project.

1           In response, we received a letter from Jeremiah  
2           Doner, the director of cost allocation with MISO, on  
3           October 14 addressing the justification and benefits of  
4           the project. He states that this project will remedy  
5           the N-1 and N-1-1 issues noted in the previous memo and  
6           he identifies the elements that are projected to be  
7           affected by thermal overload and voltage issues. As I  
8           noted, these N-1 and N-1-1 events and elements are  
9           projected -- oh, the MISO report? Sorry -- are  
10          projected based on each company's long-term forecasts of  
11          load and generation growth. Essentially, they're  
12          projected overloading the lines, transformers, and  
13          substations that could result in customer outages. So  
14          they're reliability issues.

15                 Mr. Doner further notes that in not constructing  
16          that -- this -- or, sorry, I did not write this right --  
17          that not constructing this project -- I got a double  
18          negative here, but essentially he noted that -- that --  
19          sorry, I apologize for that -- that not constructing  
20          this project would affect the entire Tranche 1 because  
21          it's a critical element of it.

22                 Obviously, we're moving power out of North  
23          Dakota. So, you know, you could probably argue that  
24          this was one of the more critical elements of the whole  
25          Tranche 1, is the ability to move -- to not have this

1 power get constrained into North Dakota. I also point  
2 out that he was the one that pointed out about how this  
3 is kind of basically a leg in the line of the Coyote to  
4 Maple River and the Ellendale to Big Stone lines. So  
5 this connects up those lines.

6 I pointed out how they looked at five  
7 alternatives to this but all six -- all proposals  
8 included the Jamestown to Ellendale line. So he does  
9 say too -- Mr. Doner identifies that these projects will  
10 provide more reliable and efficient delivery of energy  
11 from low-cost, regionally sited generators. He further  
12 notes that this build-out will, quote, "allow for the  
13 continued interconnection of new generation resources in  
14 areas that offer higher capacity factors for  
15 intermittent resources, such as wind generation."

16 So he basically called out that -- that they see  
17 that this is an opportunity to connect up more wind  
18 generation. In other words, it creates additional  
19 capacity for the wind to be transmitted from North  
20 Dakota eastward.

21 I said additionally -- oh, no. Then I got into  
22 basically the response I just talked about. So, you  
23 know, essentially he's saying it's critical, it -- it's  
24 critical to the Tranche 1. They see it as an  
25 opportunity to get more generation resources out of

1 North Dakota, but they specifically did call out more  
2 wind -- intermittent wind resources as part of that.  
3 And that was basically his response.

4 And then also in there, in the MISO letter, he  
5 talks about the specific elements that are being  
6 affected and lines. Like I said, the transformers,  
7 substations, and lines that are being affected by the  
8 forecasted N-1 and N-1-1s. So that's -- that's kind of  
9 the MISO letter in a nutshell.

10 COMMISSIONER HAUGEN-HOFFART: Adam, do you have  
11 anything else to add?

12 ADAM RENFANDT: Just to say that I think we have  
13 to realize that this is -- we're dealing with generation  
14 futures that are projected in what, 2042? So this was  
15 based on Future 1. Each year we up -- or each tranche  
16 prior to the LRTP process, MISO updates that generation  
17 profile based on member plans and IRPs and such. So now  
18 we have Future 1-A in which MISO then reassesses what  
19 benefits come out of connecting both Tranche 1 as well  
20 as, in this case, Tranche 2.1.

21 So I would say that an advantage of what we have  
22 in terms of how the Commission can influence that  
23 decision, when we look at the type of resources that are  
24 assumed in North Dakota, because it's in 2042, this  
25 Commission now has the tool, which is an IRP, to

1 influence what type of resource is preferred.

2 So the question is then "What kind of resources  
3 hook up into this line" is somewhat dependent on  
4 Commission preference as well. And I would say that  
5 will become even more important for Tranche 2.1 and 2.2.

6 COMMISSIONER CHRISTMANN: Whose IRP has that  
7 800 megawatts of solar in North Dakota that this was  
8 based on?

9 UNIDENTIFIED SPEAKER: I'd have to take a  
10 look --

11 COMMISSIONER FEDORCHAK: It wouldn't just be one  
12 IRP.

13 UNIDENTIFIED SPEAKER: Yeah.

14 COMMISSIONER FEDORCHAK: It's collective. They  
15 look at all the company plans. So some of it might have  
16 been specific but -- and they try to argue that there  
17 are sort of specific locations, but I think it's -- I  
18 don't know. In our analysis, we think MISO's  
19 overstating that, how much specificity they're seeing in  
20 the IRPs and using some judgment as to what resources  
21 are going to end up where in their modeling.

22 CHRIS HANSON: So these are placeholders. And a  
23 lot of times these placeholders are a generic technology  
24 or technology that doesn't even exist so there's room to  
25 pivot.

1           COMMISSIONER CHRISTMANN: And so how effective  
2 is our IRP process if they don't really go by them, they  
3 go by whatever placeholders they make up?

4           CHRIS HANSON: Well, the placeholder, let's say,  
5 for a CT would be -- it would be dispatchable. So they  
6 might consider that in one IRP, based on their carbon  
7 preference, they might consider it powered by hydrogen.

8           COMMISSIONER FEDORCHAK: I think what Randy's  
9 getting at is a little broader. They look at the IRPs.  
10 And to the extent that IRPs say where stuff is going to  
11 be and when, they use that.

12           The problem is a lot of the IRPs aren't that  
13 specific. It might be a more general goal. And so they  
14 then have to use judgment as to where they think those  
15 are going to end up. And so that's step number one.

16           And step number two, we don't have them yet so  
17 they haven't been able to use any direction from what  
18 we've said because we don't have it.

19           COMMISSIONER CHRISTMANN: But the companies have  
20 them.

21           COMMISSIONER FEDORCHAK: The companies -- they  
22 use the company plans, yep.

23           COMMISSIONER CHRISTMANN: And so that's what I  
24 was wondering --

25           COMMISSIONER FEDORCHAK: And anything that

1 they've announced from the company.

2 COMMISSIONER CHRISTMANN: -- whose companies'  
3 IRP would have contained that.

4 COMMISSIONER FEDORCHAK: Well, Otter Tail has  
5 solar. So does Xcel has quite a lot of solar so...

6 COMMISSIONER CHRISTMANN: In North Dakota.

7 COMMISSIONER FEDORCHAK: Well, wherever. It may  
8 or may not be in North Dakota.

9 COMMISSIONER HAUGEN-HOFFART: So just for  
10 clarification, everyone that's in the MISO, all the  
11 companies have submitted an IRP to MISO?

12 COMMISSIONER FEDORCHAK: No.

13 COMMISSIONER HAUGEN-HOFFART: So then how do  
14 they base it on -- is it load growth?

15 COMMISSIONER FEDORCHAK: They base it on  
16 whatever IRPs are available.

17 COMMISSIONER HAUGEN-HOFFART: Okay.

18 COMMISSIONER FEDORCHAK: Because not every state  
19 does them.

20 COMMISSIONER HAUGEN-HOFFART: Okay.

21 COMMISSIONER FEDORCHAK: There's a broad  
22 difference between states. Some states have them, some  
23 states don't have them. Some companies use them,  
24 provide them to us like they have over years and they've  
25 just kind of received them. So whatever IRPs they have,

1 they use.

2 And then they look at -- it's a -- it's not like  
3 a one-set plan. You have to get over this idea that  
4 there's, like, one formula for this. It's a bunch of  
5 information that they're collecting to try to build this  
6 vision of the future as close as they can imagine it to  
7 be. So they pull in the IRPs, they pull in any  
8 announcements that the companies have made.

9 Like Xcel has said, "We're shutting down the  
10 Sherco units." That's an announcement. They consider  
11 that to be firm. They use that. They put that into  
12 their -- into their model. And any other company  
13 announcement that they have, they plug those in. And  
14 then they look at state -- state directives. Minnesota  
15 has a law so they assume that the companies in Minnesota  
16 have to meet that law and they bake that into their  
17 plans. But maybe the companies haven't said how they're  
18 going to do it yet so that's where they use some of  
19 these placement resources, to make a judgment for, well,  
20 Minnesota has to have -- you know, all the companies  
21 have to have 30 percent whatever, 30 percent --

22 COMMISSIONER HAUGEN-HOFFART: Sure.

23 COMMISSIONER FEDORCHAK: -- solar by whatever  
24 date. And so they plug that into their models. And  
25 then the models have to pick -- in the cases where there

1 aren't specific locations identified yet, the models  
2 pick where they think those are going to be.

3 And so there's a ton of judgment going into  
4 these futures. But at the same time transmission  
5 planning takes a long time and you can't -- you --  
6 there's no planning for it if you don't do that because  
7 it takes so long to develop it and site it and build it  
8 that you're always going to be making it based on what  
9 you think the future is going to be. So this is the  
10 models that they've used for their futures.

11 And then they have -- you hear them talk about  
12 low and -- like the Future 1, Future 2, Future 3.  
13 Future 1 is the most conservative. So that looks at,  
14 like, as closely to the state laws, the existing plans  
15 of the companies and their IRPs as much as, like, they  
16 know to be happening, as close to that as they can  
17 predict. So it's the most conservative, the least  
18 amount of judgment.

19 Future 3 is the most amount of judgment. It  
20 looks at trends. It looks at, like, okay, the maximum  
21 amount of decarbonization, the maximum amount or, you  
22 know, a -- not maximum but a larger amount of  
23 decarbonization, of EV adaption, higher-demand growth,  
24 all of those sorts of things. That's Future 3.

25 And then Future 2 is kind of right in the

1 middle.

2 And so there's this -- all of this discussion on  
3 which future you're using for which tranches. And  
4 they're constantly looking at, okay --

5 When we started Future 1, it was like how many  
6 years ago, Adam, did we start with Future 1? And --

7 ADAM RENFANDT: Four. Three, four years.

8 COMMISSIONER FEDORCHAK: Yeah. Now we've got  
9 actuals to plug in to see, like, how are we -- how are  
10 we trending? Are we close to Future 1? They're seeing  
11 actually that it's trending closer to some of the more  
12 aggressive futures. So that's why you see them adopting  
13 more aggressive plans for the transmission system.

14 And that might pivot back because, you know,  
15 with demand growth and the reality of the system and the  
16 excessive retirements, you might see -- I hope we see  
17 companies pulling back and slowing down. And so you  
18 might see it going the other way in the next couple of  
19 years.

20 So it's a very iterative approach, but also  
21 recognize that, you know, you got to pull the trigger on  
22 some things along the way. You can't just constantly  
23 plan so...

24 When I look at this memo from MISO, the one  
25 piece that I think is worth pulling out -- well, there's

1 a few -- there's a few kind of conclusions that I reach,  
2 but one piece that I think is worth pointing to is on  
3 the bottom of page 2 of the Jeremiah Doner letter, which  
4 is the second one back. I don't know if I have the same  
5 -- is this a copy that everybody got?

6 UNIDENTIFIED SPEAKER: Uh-huh.

7 COMMISSIONER FEDORCHAK: Okay. So page 2, under  
8 "Reliability Benefits."

9 And, Randy, I see you've highlighted it.

10 With the second to last paragraph, the last  
11 sentence: "Without the JETx project, these reliability  
12 issues would still be present on the local area  
13 transmission systems in the future and will need to be  
14 mitigated by local reliability projects with the costs  
15 borne by the local transmission pricing zones."

16 That's a fancy way of saying one of the benefits  
17 of this project is it takes care of these local issues,  
18 that if we don't have this bigger project cost allocated  
19 to the entire MISO north footprint, we'll be paying for  
20 it ourselves, these fixes. Now, they might be smaller,  
21 it's not going to be as big of a project, but there  
22 still wouldn't be any cost share on those sorts of  
23 things.

24 And I think that that's an important  
25 consideration for these. That, and the fact that, you

1 know, as we see the shrinking capacity availability of  
2 dispatchable capacity in the entire MISO footprint right  
3 now and the increased demand, is our -- the capacity  
4 that North Dakota has is extremely valuable. And this  
5 is an outlet for that capacity to places that are going  
6 to need it. So it's -- you know, it's a highway for it.

7 COMMISSIONER CHRISTMANN: And so I'm so  
8 frustrated I don't know what to do with this case.  
9 Because it's like two things merged. And there's never  
10 a right place to start to draw a line on something.

11 My frustration is with the allocation of the  
12 costs. We go through these things, and whether it was  
13 from way back, the Otter Tail and MDU filings that  
14 talked about benefits including distribution of  
15 renewable energy, reduced carbon emissions, and  
16 landowner payments or what MISO just got into, which  
17 benefits is basically getting more renewables on the  
18 system so just not going quite as far, it's -- the  
19 benefits is largely to the developers, not to North  
20 Dakota ratepayers. And to challenge MISO's allocation  
21 once we've already approved this CPCN seems backwards  
22 and -- so I sort of feel like -- almost that in one  
23 effort this should be denied and we should be initiating  
24 a FERC case or something.

25 I don't know how you really fight that

1 allocation. Because there's this, over \$10 billion, and  
2 then the second tranche and the third tranche and the  
3 fourth tranche. This is almost -- this tranche is  
4 almost \$6 a month for those Otter Tail customers. And I  
5 don't know what their customer in Garrison or Fessenden  
6 gets out of this. And I don't know what MDU's customer  
7 in Williston or Bismarck gets out of this. Theirs is  
8 less. It's a little over three, I think. But a FERC  
9 case is really expensive too.

10 And I really feel like what MISO is doing here  
11 -- and I kind of relate back to my old co-op board days,  
12 and I know, a big difference between co-ops and IOUs,  
13 but, you know, if somebody wanted to build a house 10  
14 miles from any of our old facilities, it's some old  
15 copper line that hadn't been used in 40 years, there  
16 would have been some aid to construction. Now when our  
17 -- our team came in over the winter and said, like,  
18 "Okay, here's the area where we're having problems," we  
19 would plan for construction for that summer and maybe  
20 rebuild that area because it was having problems.

21 But when we asked for what the reliability  
22 issues here are, it's not like they're saying, "Oh,  
23 well, down there in Enderlin there's just these  
24 frequently -- frequent voltage issues and things like  
25 that" or "Over at Valley City we've had power shortages

1 time and time again." We had one in Jamestown that, the  
2 way we often work through our evaluations of reliability  
3 would probably just fall as major event days on some  
4 lines. I don't know that this would have helped that  
5 either.

6 But this isn't really solving any problems that  
7 exist. It's solving problems that some developers want  
8 to add to the system and that will exist once they add  
9 their developments to the system.

10 And I really view this as MISO eliminating the  
11 interconnection charges. We will build this way in  
12 advance -- just like my example of the guy that wants to  
13 build way out on the old copper line and then our  
14 construction crew come in and say, "We can't afford to  
15 do that. The aid to construction would be too much.  
16 We'll build the fiber out there, and then when he comes,  
17 it won't cost so much for him to hook up." Well, but it  
18 costs everybody else.

19 And, to me, that's all we're doing here with --  
20 with these -- with this Tranche 1, is eliminating  
21 interconnection charge to developers. And like I say,  
22 we approve this, I don't know how we fight this  
23 allocation at MISO. Because that is really the problem.

24 If the -- if the developers were paying for  
25 this, I don't think I'd have any objection. But I also

1 -- it's a big battle to initiate a case at FERC. And so  
2 some thoughts.

3 COMMISSIONER FEDORCHAK: Well, I certainly  
4 understand your frustration and share a lot of it.  
5 Maybe I've been beat down because I've been at this  
6 longer on this particular tranche.

7 So I have two thoughts. First of all, I think  
8 we should -- I would like to talk with our counsel about  
9 -- and get a more clear -- clear advice and just  
10 discussion of options for our legal paths kind of moving  
11 forward. Because I think you raise a good point about  
12 what we do here and how it affects future issues.

13 My real concerns are with Tranche 2. I think  
14 that there's more legitimate benefits to -- which I just  
15 talked about, on this project and everything in Tranche  
16 1, which is much more focused on future -- on the Future  
17 1 growth scenario, change scenario, which is pretty  
18 realistic, I think. So I'm -- I'm more comfortable with  
19 Tranche 1. I'm not -- I don't love it and I still would  
20 have liked a generate pays component in the cost  
21 allocation, but that would have, again, not given them a  
22 hundred percent of the cost but a higher share going to  
23 the people who are demanding it, but that didn't happen.

24 So that said, I think there's much more benefits  
25 on this -- on this project and these two projects -- or

1 this project and the whole Tranche 1 for North Dakota.  
2 So I separate them a little bit.

3 But I would like to have a discussion with Jack  
4 and Brian and probably our FERC advisors on our -- what  
5 our paths forward are, because I think we're seeing more  
6 and more concerns on Tranche 2 and want to do whatever  
7 we can to preserve maximum rights for -- for fighting  
8 that one. So that's where I'm at.

9 COMMISSIONER CHRISTMANN: And I just want to add  
10 one more thing I forgot on my tirade. It also bothers  
11 me on this planning, the modeling, now we can see way  
12 out into the future all this stuff, within two months --  
13 I'll go right to the hour, we can recalculate and come  
14 up with even more N-1 and N-1-1 benefits involved here,  
15 we can do all that, we can envision 800 megawatts of  
16 solar in North Dakota, most of which has never been  
17 applied for, we can envision 200 megawatts of natural  
18 gas, the company for which is -- has an incentive in  
19 place and they're trying to get out of it so -- and not  
20 (indiscernible) that is real, real likely at the moment,  
21 anytime soon, but it's just too much of a -- too much of  
22 a burden to calculate in what already exists. A big  
23 user down at Ellendale or -- I mean, that's only been  
24 there a year. It would be overwhelming to try to  
25 calculate that in.

1           COMMISSIONER FEDORCHAK: Well, I mean, in their  
2 defense, those models -- that modeling was occurring  
3 probably three or four years before that came online.  
4 And those models are -- they are massive.

5           COMMISSIONER CHRISTMANN: But this morning we  
6 had adjustments to the (indiscernible) --

7           COMMISSIONER FEDORCHAK: Well, but those were  
8 already done. Those models were -- those had already  
9 been run and they were just pulling from stuff. I'm  
10 assuming. I don't know but --

11          CHRIS HANSON: But I think they did note that  
12 the 2.1 on the current tranche, that they had taken into  
13 account the current Ellendale and the projected plans  
14 from Ellendale into the 2.1 so --

15          COMMISSIONER FEDORCHAK: Yeah.

16          CHRIS HANSON: So they do -- they do update  
17 them. But as we've noted before, they don't go  
18 retroactive on these. They don't go back to Tranche  
19 1 --

20          COMMISSIONER FEDORCHAK: Yeah.

21          CHRIS HANSON: -- and say, "Relook at it" so...

22          COMMISSIONER FEDORCHAK: Yeah.

23          ADAM RENFANDT: And you also have to realize  
24 that those contracts could be renegotiated after five  
25 years.

1 UNIDENTIFIED SPEAKER: True.

2 COMMISSIONER CHRISTMANN: Good point.

3 COMMISSIONER HAUGEN-HOFFART: So, Adam or Julie,  
4 have you talked within MISO that looking at Tranche 1,  
5 if one of the legs is not approved, what that means?

6 COMMISSIONER FEDORCHAK: Unh-unh.

7 COMMISSIONER HAUGEN-HOFFART: Can you --

8 ADAM RENFANDT: I haven't.

9 COMMISSIONER FEDORCHAK: It's a package.

10 ADAM RENFANDT: Yeah.

11 COMMISSIONER HAUGEN-HOFFART: Okay.

12 COMMISSIONER FEDORCHAK: They put it through as  
13 a package and that's the risk of all of these, you know,  
14 projects, is they go to the states then.

15 COMMISSIONER HAUGEN-HOFFART: Okay.

16 COMMISSIONER FEDORCHAK: And the states --

17 COMMISSIONER HAUGEN-HOFFART: I was just --

18 COMMISSIONER FEDORCHAK: -- where they're --  
19 where they're being built. Now we won't have any say on  
20 any of the other --

21 COMMISSIONER HAUGEN-HOFFART: Correct.

22 COMMISSIONER FEDORCHAK: -- ones, but this one  
23 is in our territory and with our utilities so yeah. And  
24 it's happened before. It happened. It's -- there's a  
25 line in -- what's the first? I lost the acronym for the

1 first build-out. What was it?

2 ADAM RENFANDT: The MVP.

3 COMMISSIONER FEDORCHAK: MVPs. MVP, the first  
4 one or -- I don't -- anyway, one of those MVP lines is  
5 still in court in Wisconsin. So it's not unprecedented  
6 that these projects get tangled up.

7 COMMISSIONER HAUGEN-HOFFART: Okay. Did we  
8 receive the information that was requested from MDU?

9 CHRIS HANSON: Otter Tail responded for both  
10 Otter Tail and MDU on the questions.

11 COMMISSIONER HAUGEN-HOFFART: Okay. Thank you.

12 Anybody have anything else? Our legal counsel  
13 has been prepped for the questions that have been asked  
14 so... I know that with certainty. So --

15 COMMISSIONER FEDORCHAK: So in terms of next  
16 steps, maybe we can look at getting -- well, we can --  
17 I'll do what I need to do and talk to you guys about my  
18 thoughts on next steps. And then we can all do the same  
19 and you guys can decide what the next steps are, I  
20 guess. I do think we should try to get this moving,  
21 though, and not dilly-dally too much longer. So I will  
22 try to do my part to make that happen.

23 COMMISSIONER CHRISTMANN: Anything else?

24 COMMISSIONER HAUGEN-HOFFART: No. I think I've  
25 already directed staff.



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# Otter Tail Power Co./MDU Co. 345kV Line, Case No. PU-24-91

October 17, 2024, Work session

## ND PUBLIC SERVICE COMMISSION

<p style="text-align: right;">1</p> <p style="text-align: center;">STATE OF NORTH DAKOTA PUBLIC SERVICE COMMISSION</p> <p>Otter Tail Power Company/Montana-Dakota Utilities Co. 345kV Transmission Line - Jamestown to Ellendale Public Convenience &amp; Necessity</p> <p style="text-align: right;">Case No. PU-24-91</p> <p style="text-align: center;">TRANSCRIPT OF WORK SESSION October 17, 2024</p> <p style="text-align: center;">APPEARANCES</p> <p>Commissioners Sheri Haugen-Hoffart, Randy Christmann, and Julie Fedorchak</p> <p>PUBLIC SERVICE COMMISSION: Christopher Hanson, Adam Renfandt</p>	<p>1 last work session, there were inquiries that we as 2 commissioners had, information that we requested, both 3 from MDU and Otter Tail but then also MISO. So I 4 thought it would be best, and I talked to staff, that 5 Chris is going to summarize some of his communication 6 that he's had with the two utilities.</p> <p>7 And then, Adam, I believe I've asked you to go 8 through some of the MISO information that we inquired so 9 we have the foundation of what the inquiries were. And 10 then at any time Randy and I or when Commissioner 11 Fedorchak comes, we might ask for further information. 12 So just to let everybody know how this work session is 13 going to go.</p> <p>14 So, Chris, I'll turn it over to you as far as 15 the communication between MDU, Otter Tail, and yourself 16 and the information that we requested.</p> <p>17 CHRIS HANSON: Okay. Thank you, Commissioner. 18 I'm Chris Hanson. I'm Public Utilities Department staff 19 here with the North Dakota Public Service Commission.</p> <p>20 As part of the follow-up, we had some inquiries 21 of Otter Tail and MDU, and Jason Weiers, who's here, was 22 the one that responded on a lot of these. And I have a 23 little bit of follow-up that wasn't in the data request 24 that he followed up with recently that I'll add in here. 25 So there were basically three questions that we</p> <p style="text-align: right;">PAGE 3</p>
<p>1 COMMISSIONER CHRISTMANN: Good morning, 2 everyone. This is a Public Service Commission work 3 session so we don't take testimony or anything. We just 4 discuss information that we've received. I'm Randy 5 Christmann, joined by Commissioner Sheri Haugen-Hoffart. 6 Commissioner Haugen-Hoffart, this is, of course, 7 your portfolio. 8 Commissioner Fedorchak is tied up on another 9 project, but I believe will be here just very 10 momentarily. 11 I know some -- while this is certainly your 12 portfolio, the OMS portfolio has a big impact on this 13 and I know some of my comments have to do with some OMS 14 things. 15 COMMISSIONER HAUGEN-HOFFART: Uh-huh. 16 COMMISSIONER CHRISTMANN: So I guess I know I 17 would rather maybe get into my thoughts and comments 18 once she is here, but I think it would be fine if you 19 want to -- if you want to kick it off, kind of a roundup 20 of the case that you might have, either you or staff, 21 however you want to proceed, Commissioner. 22 COMMISSIONER HAUGEN-HOFFART: Okay. Thank you, 23 Chair Christmann. 24 Yeah, with this work session, I'm going to frame 25 it up this way as the portfolio holder. Based on the</p> <p style="text-align: right;">PAGE 2</p>	<p>1 were asking them specifically coming out of the last 2 work session. The first question was: 3 "What N-1 events were identified as 4 justification for the line and which of 5 these were in North Dakota?" Do you know? 6 So we were -- so I talked about -- I mentioned 7 events versus elements. You know, he's talking about, 8 in the write-up, that there were 40 transmission 9 elements and 97 transmission elements -- or 40 10 transmission elements or relieve -- there were thermal 11 issues and 97 elements during N-1 events. It got a 12 little conflated between elements and events and stuff 13 like that. 14 So Jason did some follow-up on the -- on the 15 question. And I'm going to work off of his follow-up as 16 opposed to the actual response to the question because 17 it's actually more clarifying. 18 He said: Upon our review of the MISO study 19 results from the Tranche 1 studies, we've identified 20 that the Jamestown to Ellendale 345 kV project in 21 combination with the Big Stone, Alexandria, Cassie's 22 Crossing where Big Oaks 435 kV project relieves thermal 23 loading issues on 56 elements during N-1 events instead 24 of the 40 that was noted in their initial response. Of 25 the 56 events -- or 56 elements that had their thermal</p> <p style="text-align: right;">PAGE 4</p>

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<p>1 issues relieved with these two projects, eight of those 2 elements were in North Dakota. So like 14 out of the 56 3 were in North Dakota. Based upon the evaluation of the 4 thermal issues, we've used engineering judgment to 5 conclude that all eight of these transmission elements 6 in North Dakota are likely a direct result of adding the 7 JETx project to the system. 8 Likewise, a review of the MISO study results 9 from the Tranche 2 studies have identified that the 10 Jamestown to Ellendale and the Big Oaks project -- you 11 know, the Big Stone to Big Oaks project -- relieves 12 voltage issues on 70 transmission elements during N-1 13 events instead of 97. And of the 70 transmission 14 elements -- 15 COMMISSIONER FEDORCHAK: Excuse me, Chris. 16 CHRIS HANSON: Sorry? 17 COMMISSIONER FEDORCHAK: Just one quick second. 18 Just to bring me up to speed, what are you reading from? 19 CHRIS HANSON: Well, so Commissioner 20 Haugen-Hoffart asked that I follow up on some of the 21 responses to the questions that we had for MDU and Otter 22 Tail. And Jason Weiers responded to this about -- and 23 the question was what N-1 events were identified as 24 justification for the line and which of those were in 25 North Dakota.</p> <p style="text-align: right;">PAGE 5</p>	<p>1 that MISO stuff since -- 2 CHRIS HANSON: You go over the MISO stuff. 3 You're the MISO guy. Sorry. 4 (Laughter) 5 COMMISSIONER CHRISTMANN: I will say this, 6 though. The previous work session was two months ago. 7 CHRIS HANSON: Yeah, right. 8 COMMISSIONER CHRISTMANN: So now we're getting 9 answers this morning. 10 CHRIS HANSON: Yep. So while Victor's making a 11 copy of that, just to note too that -- to clarify that 12 when they were looking at the N-1 and N-1-1 events, two 13 points to clarify, and that is that that's based upon, 14 like, 10 and 20-year projections. So they're looking at 15 the projected load and they're looking at projected 16 generation growth. And then they're looking at 17 basically these constraints that will cause congestion. 18 So it's a projection of where they think the system will 19 be and where transmission needs to be built out going 20 forward. 21 And so the second point to make is when -- on 22 the Ellendale to Jamestown line is that when they're 23 looking at these -- at these issues, these N-1s and 24 these N-1-1s, that's a combination of both the Jamestown 25 to Ellendale line and the Big Stone to Big Oaks line.</p> <p style="text-align: right;">PAGE 7</p>
<p>1 COMMISSIONER FEDORCHAK: Okay. 2 CHRIS HANSON: So we were wondering about how 3 much of the N-1 and the N-1-1s were related to North 4 Dakota. Because the project was noting -- the project 5 was noting the total amount, but it was a combination of 6 North Dakota, South Dakota, and Minnesota. 7 COMMISSIONER FEDORCHAK: Yeah. Is that 8 something we can all get a copy of or do we have that? 9 CHRIS HANSON: This is docketed. 10 COMMISSIONER FEDORCHAK: The memo that you're 11 reading from? 12 CHRIS HANSON: Oh, this one I just got this 13 morning. 14 COMMISSIONER FEDORCHAK: Okay. 15 CHRIS HANSON: So I literally was reading it 16 before the meeting so Jason -- 17 COMMISSIONER FEDORCHAK: Okay. I think it 18 sounds like there's a lot of great information, but it 19 might be easier for us to follow if we had copies of it 20 while you go through it. 21 CHRIS HANSON: Can I take a second to do it? 22 COMMISSIONER FEDORCHAK: Yeah, I think -- I 23 mean, is that all right, Randy? 24 COMMISSIONER CHRISTMANN: Sure. 25 UNIDENTIFIED SPEAKER: Do you want to go over</p> <p style="text-align: right;">PAGE 6</p>	<p>1 So it's not just the Jamestown to Ellendale -- 2 COMMISSIONER FEDORCHAK: Sure. 3 CHRIS HANSON: -- in isolation. So it's looking 4 at the -- at the complete thing. 5 COMMISSIONER FEDORCHAK: Which are both part of 6 Tranche 1. 7 CHRIS HANSON: Right, right. So -- and I guess 8 there's a third thing too that is pointed out, that 9 there's currently a 345 line that runs from Coyote to, I 10 think, Maple -- Maple River that runs through Jamestown. 11 If you think of that as leg one, and if you think -- and 12 then there's currently a line that was built, like, 13 starting, like, in -- or in 2018 that goes from 14 Ellendale to Big Stone and you think of that as leg 15 three, the Jamestown to Ellendale is leg two, the 345 kV 16 circuit, if you want to call it that, and then they're 17 extending Big Stone through Alexandria to -- to Big 18 Oaks, which is approximately in the St. Cloud area of 19 Minnesota. So that -- that's kind of like leg four of 20 this whole thing. 21 So we have currently leg one and three, and 22 they're basically adding legs two and four to this 345 23 kV line to get power out of North Dakota and move it 24 into the east. Or I guess power can move both 25 directions but -- so just a little clarification that</p> <p style="text-align: right;">PAGE 8</p>

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<p>1 the N-1s and N-1-1s are forward-looking. The congestion 2 issues, the N-1s and the N-1-1s are -- those are a 3 combination of both the Big Stone to Big Oaks line and 4 the Ellendale to Jamestown. 5 And the third thing is that part of the -- when 6 they looked at this project, it was completing this 7 whole, like, loop of lines basically going from -- all 8 the way from the, you know, Coyote up in the coal 9 country into -- well into Minnesota. 10 So getting back to the N-1s and the N-1-1s, they 11 updated their numbers, like I stated. So to reiterate 12 for Commissioner Fedorchak, you know, instead of -- I 13 lost my place here a little bit. 14 Instead of 40 transmission elements that were 15 related to thermal, there were actually 56, and they 16 identified eight of those were specifically in North 17 Dakota. So that's 14 percent. So one-seventh. And 18 that would be likely relieved by this line. 19 And then instead of the 97 that they previously 20 identified, there were 70 transmission elements instead 21 of the 97 that were previously noted. And of the 70, 21 22 of those were in North Dakota, or about 30 percent of 23 those. And those were the ones related to the voltage. 24 So, anyways, there's 14 percent of one and 25 30 percent of the other so there's a representative</p> <p style="text-align: right;">PAGE 9</p>	<p>1 COMMISSIONER CHRISTMANN: Would have been or -- 2 CHRIS HANSON: Well, would be. 3 COMMISSIONER CHRISTMANN: -- would eventually 4 be? 5 CHRIS HANSON: Okay. Will eventually be. 6 COMMISSIONER CHRISTMANN: Okay. 7 CHRIS HANSON: Sorry. Yeah, I know. It gets 8 confusing because we have current congestion, but there 9 is a forward-looking -- the N-1s and N-1-1s are 10 forward-looking. So I will try to state that correctly. 11 They're projecting that those will be in North Dakota. 12 COMMISSIONER HAUGEN-HOFFART: So wrap it up as 13 in a benefit to North Dakota, this line, on how it 14 addresses this as -- 15 CHRIS HANSON: Well -- 16 COMMISSIONER HAUGEN-HOFFART: I know it's 17 forward-looking. 18 CHRIS HANSON: Right. 19 COMMISSIONER HAUGEN-HOFFART: And that's one of 20 the things, that this is long-term transmission 21 planning. So that will -- 22 CHRIS HANSON: Yeah, so -- 23 COMMISSIONER HAUGEN-HOFFART: -- eliminate the 24 "would have beens"? Or what's the projections on the 25 future?</p> <p style="text-align: right;">PAGE 11</p>
<p>1 portion of the total that were involved. 2 And in the MISO -- in the MISO response, it 3 actually points out some of the substations, 4 transformers, and lines that would be affected by that 5 specifically where they see the constraints without this 6 being constructed. 7 So that's kind of in response to the first 8 question which came out of the last working session 9 which was looking at this project and saying, "Well, how 10 much of this was actually within North Dakota 11 jurisdictionally?" That was one of the questions that 12 we had. 13 And the second question that we had was -- 14 COMMISSIONER HAUGEN-HOFFART: So, Chris, 15 summarize that for me. I mean, they talked about the 16 project benefits and all these voltage violations and 17 all that. So when we narrow it down to North Dakota, we 18 had 17 occurrence -- 17 percent and about 30 percent. 19 CHRIS HANSON: Right. Of the ones they noted. 20 So they -- they specifically stated that just related to 21 North Dakota there were -- there would have been eight 22 of the thermal and there would have been 21 of the 23 voltage N-1s and N-1 -- you know, N-1 events -- or N-1 24 elements that would have been located in North Dakota. 25 COMMISSIONER HAUGEN-HOFFART: Go ahead.</p> <p style="text-align: right;">PAGE 10</p>	<p>1 CHRIS HANSON: Well, I mean -- so it -- these 2 are -- these are elements that they're projecting are 3 going to be constrained based upon Otter Tail and MDU's 4 load growth as well as the projected generation growth. 5 So essentially it's saying, if we grow the generation 6 and we grow the load, where are the constraints going to 7 fall on the transmission side? 8 So if you look at the 345 kV line, a couple 9 quick items to note on that is that -- based upon how 10 that's circuited, that can relieve about -- about 11 2,000 megawatts of -- I don't know, capacity or -- or 12 production. It can carry about 2,000 megawatts on the 13 line. 14 And as I recall, and Adam can clarify on this, 15 but MISO also builds their system to be double 16 circuited. So, presumably, then it could carry another 17 set of 2,000-megawatt line. So it, presumably, has 18 about 4,000 megawatts of capacity potential on the line, 19 2,000 initially and four -- I mean, if they decided down 20 the road to double circuit it, they have that option to 21 do that. 22 So we create a significant amount of capacity. 23 I mean, I think the analogy we always use is the 24 interstate highway system. This would create really an 25 enormous amount of capacity, you know, coming in and out</p> <p style="text-align: right;">PAGE 12</p>

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1 of North Dakota. So then these points of the 115 and  
2 the 230 line, 230 lines where a lot of this is going  
3 over now, it would relieve a lot of those -- would  
4 relieve those lines and would avoid these constraints  
5 going forward.  
6 COMMISSIONER HAUGEN-HOFFART: Okay.  
7 CHRIS HANSON: So does that answer your  
8 question?  
9 COMMISSIONER HAUGEN-HOFFART: Yep. It did.  
10 CHRIS HANSON: Okay. The second question was:  
11 "Exclusive of the need to get power out of  
12 North Dakota and to feed Ellendale-Big Stone  
13 and the future Big Stone-Sherburne lines,  
14 what other alternatives identified would  
15 have addressed the previously identified  
16 issues for less cost?"  
17 And when -- when they came back -- and basically  
18 the way MISO evaluated this is they had six different  
19 options, but every single one of these options included  
20 Jamestown to Ellendale. So there were six different  
21 ways that they tried to get the power from Big Stone  
22 into Minnesota and stuff. But as I pointed out, the way  
23 you can kind of look at this is Jamestown -- Jamestown  
24 to Ellendale is the -- is the missing link between the  
25 Coyote to Maple River and the Ellendale to Big Stone.

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1 So every one of these options they looked at included  
2 building this line.  
3 So they didn't look at -- they didn't have --  
4 they obviously thought this was such a critical part of  
5 the infrastructure that -- that all of their options  
6 included this. So they didn't really -- they didn't  
7 look at other options. This -- I think this was  
8 basically something that they felt was pretty  
9 self-evident. And they did actually point out different  
10 options on, like, the Minnesota side about how to get  
11 the power into Minnesota and how to move it around  
12 Minnesota, but every one of the options included  
13 Jamestown to Ellendale. So they didn't really look at  
14 -- I guess you could say they didn't look at other  
15 options because I think they felt this was such a  
16 critical part of the infrastructure.  
17 The other thing that I would note going to the  
18 MISO report is that -- or the MISO response is that they  
19 look at these tranches as a whole. And Adam deals with  
20 MISO more than I can, but they look at these as a whole.  
21 So they don't look at necessarily one project in  
22 isolation of the other projects.  
23 As I noted, when they evaluated this project,  
24 they evaluated it with the Big Stone to Big Oaks, both  
25 of those together, and looked at the constraints, but

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1 they also kind of look at the whole Tranche 1 as kind of  
2 one big project. So if -- they point out specifically  
3 that if you take one part of the project or one of the  
4 projects out, it actually affects the whole -- the whole  
5 tranche for the project. So they don't look at these  
6 things necessarily in isolation.  
7 So in this case they obviously felt that  
8 Jamestown to Ellendale was a critical piece because they  
9 didn't actually have an option where it didn't include  
10 Jamestown to Ellendale.  
11 So that was my second question.  
12 The third question was:  
13 "Did MISO include the impact of Applied  
14 Digital's operation and future plans as well  
15 as the prospect of generation west of Fargo  
16 in their calculations? If not, have either  
17 of your companies attempted to do this?"  
18 So when they did the studies for Tranche 1, they  
19 did not include Applied Digital in those because they --  
20 and the other thing is that -- so they did not  
21 include -- the Future 1 models which was used for  
22 Tranche 1 was before Applied Digital got up and running  
23 and -- but they did -- they did actually include -- they  
24 did actually include the 200 megawatts of natural gas  
25 generation west of Fargo. So we had the question

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1 specifically about whether it included that in the  
2 model. It does.  
3 They also pointed it out that it includes  
4 800 megawatts of solar generation in the mix as well.  
5 So they do actually take future generation plans into  
6 account on this, but Applied Digital was not included in  
7 the initial Tranche 1 analysis.  
8 They did point out, however, that -- that when  
9 they did the LRTP Tranche 2 portfolio, which I think  
10 we've been having some conversations on lately, that  
11 does actually include the impacts of Applied Digital's  
12 load and -- and then doesn't say specifically if it's  
13 including their -- let's see here. That includes  
14 Applied Digital's operation and future plans in those  
15 subsequent models in the 2.1.  
16 So they're playing catch-up. You know, they  
17 didn't include it in the -- in the study -- in the  
18 Future 1 Model which was used for Tranche 1, but it is  
19 -- as they go along, it's being included in the future  
20 tranches. So the -- I guess the answer to that is that  
21 Applied Digital wasn't included, future generation was  
22 included.  
23 I would note that, in my memo, that one of --  
24 Leif Clark, the engineer on our staff, actually did an  
25 analysis of the 12 months prior to ramp-up of the first

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1 phase of Applied Digital and then looked at the 12  
2 months after it was ramped-up, and he did actually see  
3 that it did -- did relieve a significant amount of the  
4 congestion on the system as it occurred at that time.  
5 So what that did is it reduced the congestion and raised  
6 the LMP prices.  
7 And we have the numbers right here. So he found  
8 that it reduced the Ellendale 1 and 2, it reduced the  
9 MCC, which is the marginal congestion, by 69 percent and  
10 56 percent from before to after. And then he showed  
11 that the LMP prices actually increased by 12 percent and  
12 46 percent. So as you relieve congestion, it allows the  
13 power to flow more freely over the -- over and it -- and  
14 it levelizes the LMP prices.  
15 So if you look at a map -- like Victor was  
16 showing me yesterday, if you look at a map of North  
17 Dakota, when it's constrained we have excess production  
18 on windy days so the prices are sometimes zero or even  
19 -- maybe even negative and -- but that gets constrained  
20 so that it can't -- and then you look east of that  
21 constraint into Minnesota and the prices are higher. So  
22 as you remove the constraint, it levelizes the prices.  
23 So the -- so as you remove the congestion, the LMP  
24 prices should -- will probably, on average, come up.  
25 That's the expectation.

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1 COMMISSIONER FEDORCHAK: For North Dakotans.  
2 CHRIS HANSON: For North Dakotans, right. So --  
3 COMMISSIONER FEDORCHAK: Another great benefit  
4 of transmission for us.  
5 CHRIS HANSON: Yeah, for customers. But then --  
6 yeah. So that was the three responses that we had from  
7 them.  
8 COMMISSIONER CHRISTMANN: On that, though, when  
9 those LMP prices go so low, negative, or even if it's 5  
10 or \$10, when those come up, it's because energy is  
11 flowing, meaning it's getting somewhere else and lower  
12 there and so --  
13 COMMISSIONER FEDORCHAK: Yes.  
14 COMMISSIONER CHRISTMANN: -- it somewhat  
15 balances out.  
16 CHRIS HANSON: Correct.  
17 COMMISSIONER FEDORCHAK: So that's the goal.  
18 COMMISSIONER CHRISTMANN: Yeah.  
19 CHRIS HANSON: Well, and it's pointed out too  
20 that, yeah, for a consumer, then it means they're not  
21 getting super-uber low prices, which is like what  
22 Applied Digital is saying why they located where they're  
23 at, is because they're getting this super low energy  
24 price, but the other thing it does as it levelizes  
25 prices is that it, theoretically, but I think logically,

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1 would mean that it should provide a more incentive for  
2 our thermal to produce as well. You know, when the  
3 prices get depressed to the point where the coal gets  
4 interrupted or the gas gets interrupted, if those prices  
5 levelize more, it should provide a better environment  
6 for them to operate on a more consistent basis as well  
7 too. So it's a trade-off on things so...  
8 So that's -- those are the basic questions that  
9 we had.  
10 We also had the MISO response. I think I'd read  
11 my summary of that so then I don't have to go through  
12 the --  
13 COMMISSIONER HAUGEN-HOFFART: Are you going to  
14 go through that or is Adam?  
15 CHRIS HANSON: Adam --  
16 UNIDENTIFIED SPEAKER: (Inaudible).  
17 CHRIS HANSON: Adam would prefer I did that.  
18 So the MISO response, I'll just kind of read  
19 from the memo. And I apologize, we just got this the  
20 day before yesterday, and late in the day or something  
21 like that. So this is a pretty quick turnaround on  
22 things.  
23 So I said, as a result of this session, we sent  
24 a request to MISO to explain the benefits to address the  
25 key reliability and economic benefits of the project.

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1 In response, we received a letter from Jeremiah  
2 Doner, the director of cost allocation with MISO, on  
3 October 14 addressing the justification and benefits of  
4 the project. He states that this project will remedy  
5 the N-1 and N-1-1 issues noted in the previous memo and  
6 he identifies the elements that are projected to be  
7 affected by thermal overload and voltage issues. As I  
8 noted, these N-1 and N-1-1 events and elements are  
9 projected -- oh, the MISO report? Sorry -- are  
10 projected based on each company's long-term forecasts of  
11 load and generation growth. Essentially, they're  
12 projected overloading the lines, transformers, and  
13 substations that could result in customer outages. So  
14 they're reliability issues.  
15 Mr. Doner further notes that in not constructing  
16 that -- this -- or, sorry, I did not write this right --  
17 that not constructing this project -- I got a double  
18 negative here, but essentially he noted that -- that --  
19 sorry, I apologize for that -- that not constructing  
20 this project would affect the entire Tranche 1 because  
21 it's a critical element of it.  
22 Obviously, we're moving power out of North  
23 Dakota. So, you know, you could probably argue that  
24 this was one of the more critical elements of the whole  
25 Tranche 1, is the ability to move -- to not have this

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1 power get constrained into North Dakota. I also point  
2 out that he was the one that pointed out about how this  
3 is kind of basically a leg in the line of the Coyote to  
4 Maple River and the Ellendale to Big Stone lines. So  
5 this connects up those lines.  
6 I pointed out how they looked at five  
7 alternatives to this but all six -- all proposals  
8 included the Jamestown to Ellendale line. So he does  
9 say too -- Mr. Doner identifies that these projects will  
10 provide more reliable and efficient delivery of energy  
11 from low-cost, regionally sited generators. He further  
12 notes that this build-out will, quote, "allow for the  
13 continued interconnection of new generation resources in  
14 areas that offer higher capacity factors for  
15 intermittent resources, such as wind generation."  
16 So he basically called out that -- that they see  
17 that this is an opportunity to connect up more wind  
18 generation. In other words, it creates additional  
19 capacity for the wind to be transmitted from North  
20 Dakota eastward.  
21 I said additionally -- oh, no. Then I got into  
22 basically the response I just talked about. So, you  
23 know, essentially he's saying it's critical, it -- it's  
24 critical to the Tranche 1. They see it as an  
25 opportunity to get more generation resources out of

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1 North Dakota, but they specifically did call out more  
2 wind -- intermittent wind resources as part of that.  
3 And that was basically his response.  
4 And then also in there, in the MISO letter, he  
5 talks about the specific elements that are being  
6 affected and lines. Like I said, the transformers,  
7 substations, and lines that are being affected by the  
8 forecasted N-1 and N-1-1s. So that's -- that's kind of  
9 the MISO letter in a nutshell.  
10 COMMISSIONER HAUGEN-HOFFART: Adam, do you have  
11 anything else to add?  
12 ADAM RENFANDT: Just to say that I think we have  
13 to realize that this is -- we're dealing with generation  
14 futures that are projected in what, 2042? So this was  
15 based on Future 1. Each year we up -- or each tranche  
16 prior to the LRTP process, MISO updates that generation  
17 profile based on member plans and IRPs and such. So now  
18 we have Future 1-A in which MISO then reassesses what  
19 benefits come out of connecting both Tranche 1 as well  
20 as, in this case, Tranche 2.1.  
21 So I would say that an advantage of what we have  
22 in terms of how the Commission can influence that  
23 decision, when we look at the type of resources that are  
24 assumed in North Dakota, because it's in 2042, this  
25 Commission now has the tool, which is an IRP, to

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1 influence what type of resource is preferred.  
2 So the question is then "What kind of resources  
3 hook up into this line" is somewhat dependent on  
4 Commission preference as well. And I would say that  
5 will become even more important for Tranche 2.1 and 2.2.  
6 COMMISSIONER CHRISTMANN: Whose IRP has that  
7 800 megawatts of solar in North Dakota that this was  
8 based on?  
9 UNIDENTIFIED SPEAKER: I'd have to take a  
10 look --  
11 COMMISSIONER FEDORCHAK: It wouldn't just be one  
12 IRP.  
13 UNIDENTIFIED SPEAKER: Yeah.  
14 COMMISSIONER FEDORCHAK: It's collective. They  
15 look at all the company plans. So some of it might have  
16 been specific but -- and they try to argue that there  
17 are sort of specific locations, but I think it's -- I  
18 don't know. In our analysis, we think MISO's  
19 overstating that, how much specificity they're seeing in  
20 the IRPs and using some judgment as to what resources  
21 are going to end up where in their modeling.  
22 CHRIS HANSON: So these are placeholders. And a  
23 lot of times these placeholders are a generic technology  
24 or technology that doesn't even exist so there's room to  
25 pivot.

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1 COMMISSIONER CHRISTMANN: And so how effective  
2 is our IRP process if they don't really go by them, they  
3 go by whatever placeholders they make up?  
4 CHRIS HANSON: Well, the placeholder, let's say,  
5 for a CT would be -- it would be dispatchable. So they  
6 might consider that in one IRP, based on their carbon  
7 preference, they might consider it powered by hydrogen.  
8 COMMISSIONER FEDORCHAK: I think what Randy's  
9 getting at is a little broader. They look at the IRPs.  
10 And to the extent that IRPs say where stuff is going to  
11 be and when, they use that.  
12 The problem is a lot of the IRPs aren't that  
13 specific. It might be a more general goal. And so they  
14 then have to use judgment as to where they think those  
15 are going to end up. And so that's step number one.  
16 And step number two, we don't have them yet so  
17 they haven't been able to use any direction from what  
18 we've said because we don't have it.  
19 COMMISSIONER CHRISTMANN: But the companies have  
20 them.  
21 COMMISSIONER FEDORCHAK: The companies -- they  
22 use the company plans, yep.  
23 COMMISSIONER CHRISTMANN: And so that's what I  
24 was wondering --  
25 COMMISSIONER FEDORCHAK: And anything that

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<p>1 they've announced from the company. 2 COMMISSIONER CHRISTMANN: -- whose companies' 3 IRP would have contained that. 4 COMMISSIONER FEDORCHAK: Well, Otter Tail has 5 solar. So does Xcel has quite a lot of solar so... 6 COMMISSIONER CHRISTMANN: In North Dakota. 7 COMMISSIONER FEDORCHAK: Well, wherever. It may 8 or may not be in North Dakota. 9 COMMISSIONER HAUGEN-HOFFART: So just for 10 clarification, everyone that's in the MISO, all the 11 companies have submitted an IRP to MISO? 12 COMMISSIONER FEDORCHAK: No. 13 COMMISSIONER HAUGEN-HOFFART: So then how do 14 they base it on -- is it load growth? 15 COMMISSIONER FEDORCHAK: They base it on 16 whatever IRPs are available. 17 COMMISSIONER HAUGEN-HOFFART: Okay. 18 COMMISSIONER FEDORCHAK: Because not every state 19 does them. 20 COMMISSIONER HAUGEN-HOFFART: Okay. 21 COMMISSIONER FEDORCHAK: There's a broad 22 difference between states. Some states have them, some 23 states don't have them. Some companies use them, 24 provide them to us like they have over years and they've 25 just kind of received them. So whatever IRPs they have,</p> <p style="text-align: right;">PAGE 25</p>	<p>1 aren't specific locations identified yet, the models 2 pick where they think those are going to be. 3 And so there's a ton of judgment going into 4 these futures. But at the same time transmission 5 planning takes a long time and you can't -- you -- 6 there's no planning for it if you don't do that because 7 it takes so long to develop it and site it and build it 8 that you're always going to be making it based on what 9 you think the future is going to be. So this is the 10 models that they've used for their futures. 11 And then they have -- you hear them talk about 12 low and -- like the Future 1, Future 2, Future 3. 13 Future 1 is the most conservative. So that looks at, 14 like, as closely to the state laws, the existing plans 15 of the companies and their IRPs as much as, like, they 16 know to be happening, as close to that as they can 17 predict. So it's the most conservative, the least 18 amount of judgment. 19 Future 3 is the most amount of judgment. It 20 looks at trends. It looks at, like, okay, the maximum 21 amount of decarbonization, the maximum amount or, you 22 know, a -- not maximum but a larger amount of 23 decarbonization, of EV adaption, higher-demand growth, 24 all of those sorts of things. That's Future 3. 25 And then Future 2 is kind of right in the</p> <p style="text-align: right;">PAGE 27</p>
<p>1 they use. 2 And then they look at -- it's a -- it's not like 3 a one-set plan. You have to get over this idea that 4 there's, like, one formula for this. It's a bunch of 5 information that they're collecting to try to build this 6 vision of the future as close as they can imagine it to 7 be. So they pull in the IRPs, they pull in any 8 announcements that the companies have made. 9 Like Xcel has said, "We're shutting down the 10 Sherco units." That's an announcement. They consider 11 that to be firm. They use that. They put that into 12 their -- into their model. And any other company 13 announcement that they have, they plug those in. And 14 then they look at state -- state directives. Minnesota 15 has a law so they assume that the companies in Minnesota 16 have to meet that law and they bake that into their 17 plans. But maybe the companies haven't said how they're 18 going to do it yet so that's where they use some of 19 these placement resources, to make a judgment for, well, 20 Minnesota has to have -- you know, all the companies 21 have to have 30 percent whatever, 30 percent -- 22 COMMISSIONER HAUGEN-HOFFART: Sure. 23 COMMISSIONER FEDORCHAK: -- solar by whatever 24 date. And so they plug that into their models. And 25 then the models have to pick -- in the cases where there</p> <p style="text-align: right;">PAGE 26</p>	<p>1 middle. 2 And so there's this -- all of this discussion on 3 which future you're using for which tranches. And 4 they're constantly looking at, okay -- 5 When we started Future 1, it was like how many 6 years ago, Adam, did we start with Future 1? And -- 7 ADAM RENFANDT: Four. Three, four years. 8 COMMISSIONER FEDORCHAK: Yeah. Now we've got 9 actuals to plug in to see, like, how are we -- how are 10 we trending? Are we close to Future 1? They're seeing 11 actually that it's trending closer to some of the more 12 aggressive futures. So that's why you see them adopting 13 more aggressive plans for the transmission system. 14 And that might pivot back because, you know, 15 with demand growth and the reality of the system and the 16 excessive retirements, you might see -- I hope we see 17 companies pulling back and slowing down. And so you 18 might see it going the other way in the next couple of 19 years. 20 So it's a very iterative approach, but also 21 recognize that, you know, you got to pull the trigger on 22 some things along the way. You can't just constantly 23 plan so... 24 When I look at this memo from MISO, the one 25 piece that I think is worth pulling out -- well, there's</p> <p style="text-align: right;">PAGE 28</p>

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<p>1 a few -- there's a few kind of conclusions that I reach, 2 but one piece that I think is worth pointing to is on 3 the bottom of page 2 of the Jeremiah Doner letter, which 4 is the second one back. I don't know if I have the same 5 -- is this a copy that everybody got? 6 UNIDENTIFIED SPEAKER: Uh-huh. 7 COMMISSIONER FEDORCHAK: Okay. So page 2, under 8 "Reliability Benefits." 9 And, Randy, I see you've highlighted it. 10 With the second to last paragraph, the last 11 sentence: "Without the JETx project, these reliability 12 issues would still be present on the local area 13 transmission systems in the future and will need to be 14 mitigated by local reliability projects with the costs 15 borne by the local transmission pricing zones." 16 That's a fancy way of saying one of the benefits 17 of this project is it takes care of these local issues, 18 that if we don't have this bigger project cost allocated 19 to the entire MISO north footprint, we'll be paying for 20 it ourselves, these fixes. Now, they might be smaller, 21 it's not going to be as big of a project, but there 22 still wouldn't be any cost share on those sorts of 23 things. 24 And I think that that's an important 25 consideration for these. That, and the fact that, you</p> <p style="text-align: right;">PAGE 29</p>	<p>1 allocation. Because there's this, over \$10 billion, and 2 then the second tranche and the third tranche and the 3 fourth tranche. This is almost -- this tranche is 4 almost \$6 a month for those Otter Tail customers. And I 5 don't know what their customer in Garrison or Fessenden 6 gets out of this. And I don't know what MDU's customer 7 in Williston or Bismarck gets out of this. Theirs is 8 less. It's a little over three, I think. But a FERC 9 case is really expensive too. 10 And I really feel like what MISO is doing here 11 -- and I kind of relate back to my old co-op board days, 12 and I know, a big difference between co-ops and IOUs, 13 but, you know, if somebody wanted to build a house 10 14 miles from any of our old facilities, it's some old 15 copper line that hadn't been used in 40 years, there 16 would have been some aid to construction. Now when our 17 -- our team came in over the winter and said, like, 18 "Okay, here's the area where we're having problems," we 19 would plan for construction for that summer and maybe 20 rebuild that area because it was having problems. 21 But when we asked for what the reliability 22 issues here are, it's not like they're saying, "Oh, 23 well, down there in Enderlin there's just these 24 frequently -- frequent voltage issues and things like 25 that" or "Over at Valley City we've had power shortages</p> <p style="text-align: right;">PAGE 31</p>
<p>1 know, as we see the shrinking capacity availability of 2 dispatchable capacity in the entire MISO footprint right 3 now and the increased demand, is our -- the capacity 4 that North Dakota has is extremely valuable. And this 5 is an outlet for that capacity to places that are going 6 to need it. So it's -- you know, it's a highway for it. 7 COMMISSIONER CHRISTMANN: And so I'm so 8 frustrated I don't know what to do with this case. 9 Because it's like two things merged. And there's never 10 a right place to start to draw a line on something. 11 My frustration is with the allocation of the 12 costs. We go through these things, and whether it was 13 from way back, the Otter Tail and MDU filings that 14 talked about benefits including distribution of 15 renewable energy, reduced carbon emissions, and 16 landowner payments or what MISO just got into, which 17 benefits is basically getting more renewables on the 18 system so just not going quite as far, it's -- the 19 benefits is largely to the developers, not to North 20 Dakota ratepayers. And to challenge MISO's allocation 21 once we've already approved this CPCN seems backwards 22 and -- so I sort of feel like -- almost that in one 23 effort this should be denied and we should be initiating 24 a FERC case or something. 25 I don't know how you really fight that</p> <p style="text-align: right;">PAGE 30</p>	<p>1 time and time again." We had one in Jamestown that, the 2 way we often work through our evaluations of reliability 3 would probably just fall as major event days on some 4 lines. I don't know that this would have helped that 5 either. 6 But this isn't really solving any problems that 7 exist. It's solving problems that some developers want 8 to add to the system and that will exist once they add 9 their developments to the system. 10 And I really view this as MISO eliminating the 11 interconnection charges. We will build this way in 12 advance -- just like my example of the guy that wants to 13 build way out on the old copper line and then our 14 construction crew come in and say, "We can't afford to 15 do that. The aid to construction would be too much. 16 We'll build the fiber out there, and then when he comes, 17 it won't cost so much for him to hook up." Well, but it 18 costs everybody else. 19 And, to me, that's all we're doing here with -- 20 with these -- with this Tranche 1, is eliminating 21 interconnection charge to developers. And like I say, 22 we approve this, I don't know how we fight this 23 allocation at MISO. Because that is really the problem. 24 If the -- if the developers were paying for 25 this, I don't think I'd have any objection. But I also</p> <p style="text-align: right;">PAGE 32</p>

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1 -- it's a big battle to initiate a case at FERC. And so  
2 some thoughts.  
3 COMMISSIONER FEDORCHAK: Well, I certainly  
4 understand your frustration and share a lot of it.  
5 Maybe I've been beat down because I've been at this  
6 longer on this particular tranche.  
7 So I have two thoughts. First of all, I think  
8 we should -- I would like to talk with our counsel about  
9 -- and get a more clear -- clear advice and just  
10 discussion of options for our legal paths kind of moving  
11 forward. Because I think you raise a good point about  
12 what we do here and how it affects future issues.  
13 My real concerns are with Tranche 2. I think  
14 that there's more legitimate benefits to -- which I just  
15 talked about, on this project and everything in Tranche  
16 1, which is much more focused on future -- on the Future  
17 1 growth scenario, change scenario, which is pretty  
18 realistic, I think. So I'm -- I'm more comfortable with  
19 Tranche 1. I'm not -- I don't love it and I still would  
20 have liked a generate pays component in the cost  
21 allocation, but that would have, again, not given them a  
22 hundred percent of the cost but a higher share going to  
23 the people who are demanding it, but that didn't happen.  
24 So that said, I think there's much more benefits  
25 on this -- on this project and these two projects -- or

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1 this project and the whole Tranche 1 for North Dakota.  
2 So I separate them a little bit.  
3 But I would like to have a discussion with Jack  
4 and Brian and probably our FERC advisors on our -- what  
5 our paths forward are, because I think we're seeing more  
6 and more concerns on Tranche 2 and want to do whatever  
7 we can to preserve maximum rights for -- for fighting  
8 that one. So that's where I'm at.  
9 COMMISSIONER CHRISTMANN: And I just want to add  
10 one more thing I forgot on my tirade. It also bothers  
11 me on this planning, the modeling, now we can see way  
12 out into the future all this stuff, within two months --  
13 I'll go right to the hour, we can recalculate and come  
14 up with even more N-1 and N-1-1 benefits involved here,  
15 we can do all that, we can envision 800 megawatts of  
16 solar in North Dakota, most of which has never been  
17 applied for, we can envision 200 megawatts of natural  
18 gas, the company for which is -- has an incentive in  
19 place and they're trying to get out of it so -- and not  
20 (indiscernible) that is real, real likely at the moment,  
21 anytime soon, but it's just too much of a -- too much of  
22 a burden to calculate in what already exists. A big  
23 user down at Ellendale or -- I mean, that's only been  
24 there a year. It would be overwhelming to try to  
25 calculate that in.

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1 COMMISSIONER FEDORCHAK: Well, I mean, in their  
2 defense, those models -- that modeling was occurring  
3 probably three or four years before that came online.  
4 And those models are -- they are massive.  
5 COMMISSIONER CHRISTMANN: But this morning we  
6 had adjustments to the (indiscernible) --  
7 COMMISSIONER FEDORCHAK: Well, but those were  
8 already done. Those models were -- those had already  
9 been run and they were just pulling from stuff. I'm  
10 assuming. I don't know but --  
11 CHRIS HANSON: But I think they did note that  
12 the 2.1 on the current tranche, that they had taken into  
13 account the current Ellendale and the projected plans  
14 from Ellendale into the 2.1 so --  
15 COMMISSIONER FEDORCHAK: Yeah.  
16 CHRIS HANSON: So they do -- they do update  
17 them. But as we've noted before, they don't go  
18 retroactive on these. They don't go back to Tranche  
19 1 --  
20 COMMISSIONER FEDORCHAK: Yeah.  
21 CHRIS HANSON: -- and say, "Relook at it" so...  
22 COMMISSIONER FEDORCHAK: Yeah.  
23 ADAM RENFANDT: And you also have to realize  
24 that those contracts could be renegotiated after five  
25 years.

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1 UNIDENTIFIED SPEAKER: True.  
2 COMMISSIONER CHRISTMANN: Good point.  
3 COMMISSIONER HAUGEN-HOFFART: So, Adam or Julie,  
4 have you talked within MISO that looking at Tranche 1,  
5 if one of the legs is not approved, what that means?  
6 COMMISSIONER FEDORCHAK: Unh-unh.  
7 COMMISSIONER HAUGEN-HOFFART: Can you --  
8 ADAM RENFANDT: I haven't.  
9 COMMISSIONER FEDORCHAK: It's a package.  
10 ADAM RENFANDT: Yeah.  
11 COMMISSIONER HAUGEN-HOFFART: Okay.  
12 COMMISSIONER FEDORCHAK: They put it through as  
13 a package and that's the risk of all of these, you know,  
14 projects, is they go to the states then.  
15 COMMISSIONER HAUGEN-HOFFART: Okay.  
16 COMMISSIONER FEDORCHAK: And the states --  
17 COMMISSIONER HAUGEN-HOFFART: I was just --  
18 COMMISSIONER FEDORCHAK: -- where they're --  
19 where they're being built. Now we won't have any say on  
20 any of the other --  
21 COMMISSIONER HAUGEN-HOFFART: Correct.  
22 COMMISSIONER FEDORCHAK: -- ones, but this one  
23 is in our territory and with our utilities so yeah. And  
24 it's happened before. It happened. It's -- there's a  
25 line in -- what's the first? I lost the acronym for the

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## ND PUBLIC SERVICE COMMISSION

		<u>CERTIFICATE OF TRANSCRIPTIONIST</u>
<p>1 first build-out. What was it? 2 ADAM RENFANDT: The MVP. 3 COMMISSIONER FEDORCHAK: MVPs. MVP, the first 4 one or -- I don't -- anyway, one of those MVP lines is 5 still in court in Wisconsin. So it's not unprecedented 6 that these projects get tangled up. 7 COMMISSIONER HAUGEN-HOFFART: Okay. Did we 8 receive the information that was requested from MDU? 9 CHRIS HANSON: Otter Tail responded for both 10 Otter Tail and MDU on the questions. 11 COMMISSIONER HAUGEN-HOFFART: Okay. Thank you. 12 Anybody have anything else? Our legal counsel 13 has been prepped for the questions that have been asked 14 so... I know that with certainty. So -- 15 COMMISSIONER FEDORCHAK: So in terms of next 16 steps, maybe we can look at getting -- well, we can -- 17 I'll do what I need to do and talk to you guys about my 18 thoughts on next steps. And then we can all do the same 19 and you guys can decide what the next steps are, I 20 guess. I do think we should try to get this moving, 21 though, and not dilly-dally too much longer. So I will 22 try to do my part to make that happen. 23 COMMISSIONER CHRISTMANN: Anything else? 24 COMMISSIONER HAUGEN-HOFFART: No. I think I've 25 already directed staff.</p> <p style="text-align: right;">PAGE 37</p>	<p style="text-align: center;">STATE OF NORTH DAKOTA ) ss.</p> <p style="text-align: center;">I, Lisa A. Hulm, CET-783, a certified electronic transcriber, do hereby certify that the foregoing is a correct transcript from the electronic sound recording of the proceedings in the above-entitled matter, to the best of my professional skills and abilities. I further state that I was not present during these recorded proceedings, and I am only the transcriber of the recorded proceedings.</p> <p style="text-align: center;">I further certify that I am not a relative or employee or attorney or counsel of any of the parties hereto, nor a relative or employee of such attorney or counsel; nor do I have any interest in the outcome or events of the action.</p> <p style="text-align: center;">Dated this date of September 8, 2025.</p> <p style="text-align: center;">----- LISA A. HULM, CET-783</p> <p style="text-align: center;">The foregoing certification of this transcript does not apply to the reproduction of the same by any means, unless under the direct control and/or direction of the certifying transcriber.</p> <p style="text-align: right;">PAGE 39</p>	
<p>1 COMMISSIONER CHRISTMANN: Okay. 2 COMMISSIONER HAUGEN-HOFFART: And I've talked to 3 legal counsel. So we're moving forward. 4 COMMISSIONER CHRISTMANN: Anything else from 5 staff? 6 Okay. This work session is closed. Thanks, 7 everyone. 8 ----- 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25</p> <p style="text-align: right;">PAGE 38</p>		

# Otter Tail Power Co./MDU Co. 345kV Line, Case No. PU-24-91

## October 17, 2024, Work session ND PUBLIC SERVICE COMMISSION

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# Otter Tail Power Co./MDU Co. 345kV Line, Case No. PU-24-91

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# Otter Tail Power Co./MDU Co. 345kV Line, Case No. PU-24-91

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# Otter Tail Power Co./MDU Co. 345kV Line, Case No. PU-24-91

## October 17, 2024, Work session ND PUBLIC SERVICE COMMISSION

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