BEFORE THE

PUBLIC SERVICE COMMISSION OF WISCONSIN

JOINT APPLICATION OF DAIRYLAND POWER COOPERATIVE, NORTHERN STATES POWER COMPANY - WISCONSIN, AND WISCONSIN PUBLIC POWER INC., FOR AUTHORITY TO CONSTRUCT AND PLACE IN SERVICE 345 kV ELECTRIC TRANSMISSION LINES AND ELECTRIC SUBSTATION FACILITIES FOR THE CAPX TWIN CITIES - ROCHESTER - LA CROSSE PROJECT, LOCATED IN BUFFALO, TREMPEALEAU, AND LA CROSSE COUNTIES, WISCONSIN	Docket No. 5-CE-136

EXAMINER MICHAEL E. NEWMARK, PRESIDING

TRANSCRIPT OF PROCEEDINGS

MARCH 5, 2012

VOLUME 2

TECHNICAL SESSION

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HEARING HELD:

March 5, 2012

Madison, Wisconsin

9:30 a.m.

TRANSCRIPT PAGES:

1 - 259, Incl.

EXHIBITS:

Hahn 5, Kline 3, 4, Stevenson 15, 16, 17, 18, 19

A P P E A R A N C E S

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(FOR INDEX SEE BACK OF TRANSCRIPT.)

TRANSCRIPT OF PROCEEDINGS (9:30 a.m.)

EXAMINER NEWMARK: Off the record.

(Discussion off the record.)

EXAMINER NEWMARK: For the record, this is 05-CE-136, Application for the -- application for the CapX 2020 transmission line project.

My name is Michael Newmark, Administrative Law Judge for the PSC, and this is our first day of the party session. So -- I forgot to mention. Okay. We have everyone who has appeared in writing; is that right? So just in a second, we'll go off and just do some introductions, but -- let's do that now, I guess, get that out of the way.

So off the record.

(Discussion off the record.)

EXAMINER NEWMARK: Back on the record. Some of the outstanding things to deal with is a filing we have from NoCapX CETF; is that right?

MS. OVERLAND: Right.

EXAMINER NEWMARK: And it's basically their exhibit, which is a listing of items that we described at the last meeting. And I guess one thing that stood out and Mr. Cullen had pointed out to me before the hearing was Exhibit --

MR. CULLEN: 13.

EXAMINER NEWMARK: 13. Right. We want to make sure that's only the WIRES report, and I'm not sure if that link -- where that link that you have there goes to but -- go ahead, yeah.

MS. OVERLAND: Right. And the link is to the entire ERF docket, and I will have to -- well, the link that I sent this morning and the link to this is probably the three, so I would probably have to change that.

EXAMINER NEWMARK: Okay. And just in a more broader sense, I think what I probably should have done is, because you have actually ERFed most of these documents, what we can do is treat -- treat your Exhibit 1 like we've done with, say, like the application, EIS, which is just a listing of the ERF numbers. So I apologize for that because it looks like you put a lot more into this.

But so the only difference would be item 13, you'd want to -- can we ERF just the WIRES report for that?

MS. OVERLAND: Right. We can do that.

EXAMINER NEWMARK: And items 8 and 9, I don't know if we can ERF those or not.

MS. OVERLAND: No.

EXAMINER NEWMARK: Okay. If you could

just put links -- in the list, if you could just put the links in for those items. So the rest can just be ERF numbers, you already have the documents. Is that right?

MR. CULLEN: Your Honor, and I see that item 17, and I think the title should say item numbers rather than exhibit numbers, doesn't have a link. There is a public link to the entire report --

EXAMINER NEWMARK: Okay.

MR. CULLEN: -- which we could provide Ms. Overland. It was in one of our data responses.

MS. OVERLAND: Right. And that was used in the list that I sent this morning.

EXAMINER NEWMARK: It's on ERF, right?

MS. OVERLAND: Right.

EXAMINER NEWMARK: So just use the ERF number for that one.

MS. OVERLAND: Right.

EXAMINER NEWMARK: Item 18 --

MS. OVERLAND: Right, it's not there. It's not been ERFed. Can I do that tonight?

EXAMINER NEWMARK: Oh, yeah. That's not a problem. I just want to make sure we get that. But in terms of cross today, is there anything that we

don't have -- can parties get to all these documents today? Is that -- anyone who can't get to those documents today?

MR. DAY: Your Honor, I have a question about Exhibits 8 and 9 of NoCapX.

EXAMINER NEWMARK: The item numbers.

MR. DAY: Yeah. Those are in-depth reports, tremendously long; and if you include all the attachments and appendices, are all those to be included?

EXAMINER NEWMARK: Yeah. I think that's what we decided on Friday. And Ms. Overland will just include the links on her exhibit document, so it will be all brought in for availability for citation.

Okay. So any corrections to the witness and exhibit list that we didn't go over on Friday?

(No response.)

EXAMINER NEWMARK: And there's just one other thing that I have. Just let me know if this helps or not, but there's a couple of tables on staff Sirohi -- no, I'm sorry, Rineer has one, it's on page 2 of his rebuttal. It's a table that deals with the routes. And I was just curious, is that basically the naming, the phraseology we can use for

all these routes or is there a better example of what we can kind of -- how we summarize the routes? That looked like a good table, but are there any other ideas about that? So if we could -- we can refer to the route alternatives as they are listed here, does that make sense, just for convention sake?

And then -- I guess that's -- that's good. So, all right. Is there anything else?

MS. AGRIMONTI: We had talked about witness order on Friday, and part of that was dependent on the scope of our sur-surrebuttal. I will represent that there's nothing in the sur-surrebuttal that relates either to Mr. Burmester or to Mr. Hahn, so I believe that we can proceed with the order of the witnesses who had a date certain.

EXAMINER NEWMARK: Okay. So we were going to take Mr. Hahn first. All right. I think we're ready to go. So let's call Mr. Hahn.

RICHARD A. HAHN, CUB WITNESS, DULY SWORN

EXAMINER NEWMARK: Have a seat.

DIRECT EXAMINATION

BY MS. LOEHR:

Q Good morning. Mr. Hahn, did you prepare direct and

surrebuttal testimony and four exhibits in this proceeding?

A Yes.

Q Is the information contained therein true and correct to the best of your knowledge?

A Yes, it is.

Q I just wanted to talk to you a little bit about Ms. King's second supplemental direct testimony in this proceeding. Have you reviewed that testimony?

A Yes. This is the testimony that suggests some additional 161 and 69 kV facilities?

Q Yes.

A Yes, I have reviewed that.

Q It was filed on February 29th. You mention that testimony discusses a 161/69 kV transformer and a 69 kV transmission line. According Ms. King, are those items necessary to address overloading of the Briggs Road Mayfair line at load levels approaching 750 megawatts?

A That's my understanding of the testimony, yes.

Q In your testimony, did you analyze the Applicants' load forecasts?

A Yes.

Q Do you recall the Applicants' load forecast's load in the La Crosse area was expected to reach 750

megawatts?
A Under the Applicants' I believe it was January 12 -- January 2012 load forecast, I don't think the load in the La Crosse area reaches 750 megawatts 'til somewhere in the neighborhood of year 2050.
Q 2050?
A 2050.
Q Do you know what the load forecast for the La Crosse area was in 2050 under the load forecast you prepared?
A Approximately 650 megawatts. 652 might be the exact number, but --
Q Do you happen to know under your load forecasts what year the La Crosse area would reach a 750 megawatt load level?
A I actually didn't do that calculation, but it's well after the year 2050.
Q Ms. King states that the 69 kV connection should be built at the same time as their proposed project. Do you have an opinion on that?
A Well, given that the -- these incremental 169 -- I'm sorry, 161 and 69 kV facilities are needed as the load level in the La Crosse area approaches 750 megawatts, it would seem that they would not be needed at this point, but perhaps some subsequent

point well down the road.

MS. LOEHR: Thank you. Mr. Hahn is available for cross.

EXAMINER NEWMARK: Okay. Cross.

CROSS-EXAMINATION

BY MS. AGRIMONTI:

Q Thank you. Good morning, Mr. Hahn.

A Good morning.

Q My name is Lisa Agrimonti. I represent the applicants, and I have a series of questions for you this morning. I'll ask you, do you have copies of your testimony before you?

A I do.

Q Thank you. This is the first time you've appeared before a proceeding in Wisconsin on a CPCN matter; is that right?

A I believe that's correct. I've appeared before this Commission on authorization -- certificate of authority to build environmental upgrade equipment; but my recollection was that that was not for CPCN. So I think this would be the first time.

Q In your Exhibit 1 to your direct testimony, you provide a resume and list of projects. Could you please turn to page 1 of that exhibit? The second bullet references a study --

A Can I have a moment?
Q You sure can.
A Well, as luck would have it, I didn't bring my own resume, so maybe I could borrow. You can start asking, maybe I'll remember, but --
Q You may. I'll let Ms. Loehr bring a copy to you.
A Sorry about that. Page 1 you said?
Q Yes. I'm interested in the second bullet under selected experience.
A This is the Lewiston-Auburn area study?
Q It is.
A The second bullet?
Q That is correct. You're where I am. I am interested in the scope of your involvement in that study.
A The Central Main Power Company was seeking to build a fairly large transmission upgrade basically across the entire State of Maine. It was referred to as the Maine Power Reliability Program or MPRP; and this project involved several hundred miles of new transmission and upgrades to certain local areas, such as the Lewiston-Auburn area. And in the original application, the Commission, the Maine Public Utilities Commission, denied the facilities for upgrading the Lewiston-Auburn area and directed Central Maine Power to refile. We were retained to

do an alternative of a study of non-transmission alternatives to the company's proposed transmission solution, and we were retained to do that for the entire MPRP project as well, but that predated this particular bullet item.

Q Were you the lead author of that report?

A I co-authored that report with Mr. Peaco, P-E-A-C-O, who's the president of La Capra Associates.

Q And that was published in June of '08; is that correct?

A I believe that's the date.

Q On page 1, line 16 of your direct testimony, you reference experience in forecast of wholesale market prices. And my question to you, has it been your experience that increased transmission capacity in an area has the effect of reducing wholesale energy costs?

A The addition of new transmission facilities can reduce locational marginal prices in various parts of the system, obviously depending on the configuration. But if the system is congested and you build transmission across that congested interface, can you reduce prices, yes.

Q You also mention on page 2, 19, you talk about the Maine Power Reliability Program. You represented

Central Maine Power Company for a bulk power system upgrade. What was your opinion in that representation with respect to the need for those facilities?

A Well, La Capra was not retained to offer an opinion on the need. As I said previously, La Capra Associates in general and myself in particular were retained to perform an analysis of non-transmission alternatives. The Maine Public Utilities Commission has a requirement that companies filing for the equivalent -- actually, in their case, it is -- they do call it a CPCN. For new transmission facilities, they need to prove to the Commission that's what's referred to as non-transmission alternatives, local generation, demand response, other things that might be considered solutions but not transmission facilities. So our role was to come up and analyze, to develop and then analyze non-transmission alternatives to the proposed transmission solution.

So we -- we were not asked to analyze the need. That was done by another company called RLC Engineering.

Q Let's turn to page 4, lines 10 and 11 of your direct testimony. You state that the proposed 345 project would resolve reliability concerns in the La Crosse

area. When you state that, what are the reliability concerns you are addressing?

A Well, the company did -- actually, to be more precise, the applicants in their filed case performed what I would refer to as a needs assessment. And they looked at the loads and they looked at not only what the actual or the projected loads would be in this La Crosse area, but they also developed what was referred to as a critical load, which is the amount of load that the existing system or an upgraded system can reliably support. And it -- the -- without consideration of the French Island units and the existing system configuration, I think the critical load level was 430 megawatts according to the applicants; and even under my adjusted load forecast, the 2011 --

Q Mr. Hahn, I'm sorry. You've answered narratively to a few of my questions, and I'm trying to be narrow and I'll try to do a better job to ask a specific question. But you reference here reliability concerns, and I'm just asking you for your definition of a reliability concern in your testimony.

A Well, I'm referring to the reliability concerns identified by the applicants. That's why I was trying to explain what it is. I'm sorry if I was

long-winded about that, but --

Q So you agree that there's a 430 megawatt reliability concern?

A Based on my review of the company's load flow studies, I have accepted that, yes.

Q Thank you. Your testimony, however, is that the 345 project, although it would address this concern, is not the right alternative; is that correct?

A I believe -- well, my testimony says that it's more of a solution than you need to address reliability and that there is a lower voltage solution that works in my opinion.

Q Which lower voltage solution are you recommending?

A Well, I think the hybrid solution that I recommended in my testimony, which is bring the 345 kV solution to Alma and then go 161 kV down to a Briggs Road station, is one that I believe will resolve the reliability issues and at a lower cost. There's another alternative -- or there's lots of other alternatives; but the company in somebody's supplemental testimony, I believe it was Ms. King, analyzed three additional 345 kV/161 kV solutions that were similar to the one I recommended, and they concluded that at least one of them would work to 600 megawatts. So that's an alternative that I think

works.

And there was one alternative that I asked the company to analyze, which was similar to my -- my hybrid alternative, instead of bringing a 161 kV line from north La Crosse up to a new 345 161 kV station at Alma, what would happen if that was tied into the existing 161 kV bus at Alma. Unfortunately, there wasn't enough information to understand or for me to determine whether that alternative would work, but that's another possibility.

So even if you ignore that last one, the others that I mentioned I believe would be reasonable solutions to this reliability need.

Q Okay. So let's start with the Alma to 161. You say that that would be a better solution. What benefits do you attribute to that alternative?

EXAMINER NEWMARK: Just a second. Ms. Agrimonti, are we talking about additional testimony to what's already been prefiled, or do you just want him to review what he's already said?

MS. AGRIMONTI: I am trying to understand how he concludes that this 161 is a better alternative, which is a recommendation made in his testimony; so I'm trying to cross-examine him on his cost/benefit analysis, which he does not detail in

his testimony, which I believe is missing.

EXAMINER NEWMARK: Okay. Great. Thanks. So you want him to limit it to cost/benefit analysis?

MS. AGRIMONTI: Yes.

EXAMINER NEWMARK: Okay.

MS. AGRIMONTI: I'm asking about this alternative of his, what benefits did he attribute to it to reach his conclusion that it is a better solution.

THE WITNESS: Okay. Could we have that question read back, please.

MS. AGRIMONTI: I can restate it for you, Mr. Hahn.

BY MS. AGRIMONTI:

Q When you were evaluating alternatives, you do a cost/benefit analysis; is that right?

A Normally, yes.

Q Okay. For this Alma to La Crosse solution that you are -- have identified as a possible alternative to the project, what benefits did you attribute to that alternative?

A Well, it solved the reliability problem.

Q And when you say it solves the reliability problem, that's the problem in La Crosse?

A In the La Crosse load pocket, yes.
Q Did you look at any other benefits that that alternative might provide?
A I did not, but --
Q Thank you. With respect to cost, what costs did you attribute to that alternative?
A I believe the -- I believe that cost would be comparable, but slightly less than the -- I'm sorry, slightly more than the alternative than the company studied, which was going from -- a 161 kV line from north Rochester all the way to La Crosse.
Q Did you consider losses in your analysis of costs for your 161 recommendation?
A I did not, but the company provided an estimate of those.
Q Did you consider any regional or local reliability concerns in Minnesota in your analysis of cost and benefits?
A Well, my alternative is basically the same facilities in Minnesota that have been approved; so I believe they would address the reliability problems in Minnesota. I didn't change them, so I saw no reason to believe that they wouldn't.
Q Let's talk about French Island. Have you had an opportunity to review the testimony, surrebuttal

testimony, Mr. Sirohi?
A That's a staff member?
Q Yes.
A Yes.
Q And this rebuttal testimony of Mr. Webb?
A On behalf of MISO?
Q On behalf of MISO.
A Yes.
Q Is it still your opinion that running French Island Unit No. 4 is a reasonable alternative to the project?
A I would not agree with that wording. My testimony was that the French Island, I believe is the No. 4 unit that's still operable, is, at least in the last two years of data we received, ran at the time of the peak. So in the company's analysis -- or in the Applicants' analysis, they had assumed that that unit was unavailable. And I think that that's a decision that results in a greater reliability need. So, I didn't look at it as an alternative to the project. I looked at that time as an assumption that led to the company's needs assessment that I thought maybe should be re-looked at.
Q But earlier this morning you agreed that we have a reliability need at 430 megawatts in La Crosse,

right?
A But that's without counting for French Island 4. Even under the company's analysis, it goes to 500 if you count French Island 4.
Q Okay. So let me understand. Are you suggesting that French Island should be assumed as an operating facility under all peak load conditions and therefore you believe that critical load level is 500, or do you agree that it's 430?
A I believe that it could be either depending on the status of the French Island unit. In my analysis, I looked at it both ways.
Q Do you agree that generation is less reliable than transmission?
A You'll have to define "less reliable" for me.
Q Available.
A Generating units, like all pieces of equipment, break down once in a while; and that's measured by something called an equivalent forced outage rate. Transmission outages do occur; but since there's no moving parts, they occur less. So if you strictly looked at availability, a transmission asset has a higher availability in most cases than a generation asset.
Q With respect to looking at whether you should assume

French Island in operation or not, would that also require a cost/benefit analysis?

A I think it depends, and it's somewhat of a complicated answer. I'll try and answer it as best I can.

If that unit is online at the time of peak and the only thing that needs to be changed is the assumption that it's either online or offline, then, no, I don't think you need a cost/benefit analysis for that. If you are going to consider this as a -- an asset to be dispatched -- assume it's not on, which is not the case, but assume that's the case and you were going to look at it as a dispatchable addant of a system contingency, then you might want to look at the benefit/cost analysis under that circumstance, but that's not what I did.

Q Let me go back to your assumption. You said when you looked at the French Island operation, it was generally on at peak; did I represent that correctly?

A That's based on the data the company sent me, yes.

Q Can you sit here and testify that French Island was always on when load was above 430?

A No, I don't have that data in front of me.

Q You mentioned forced outage rate, the French Island number 4 has a 70 megawatt rating. Would you agree

that if you were counting on that generation, that you would only be able to count on some number less than 70 megawatts to give a count for that forced outage rate?

A No, not necessarily. I mean, the company assumed it was 70.

Q You understand that French Island isn't a black-start unit, right?

A I believe I read that somewhere in testimony in this case.

Q So if French Island were not on at the time of peak and it needed to be turned on, there would be some delay of about 30 minutes; is that right?

A That's possible. I don't recall that number, but a 30-minute start time for a combustion turbine unit that's not an arrow derivative is not unusual.

Q And there's a chance it wouldn't go on when you called it?

A I guess that's a possibility.

Q Are you familiar with the Cross-State Air Pollution Rule, the CSAPR regulations?

A Yes.

Q Did you give any consideration to the CSAPR regulations on how they might impact the operation of generators like French Island?

A Specifically, no.
Q Would you agree that if French Island were assumed to be on, that over time it would need to be assumed to be on for a greater number of hours per year as load grows?
A I'm not sure I understand that question.
Q You agree that load is expected to grow in the future, right? You give a 1 percent estimate?
A That's my best estimate, yes.
Q And if you believe that French Island should be on when load is above 430, more load -- more hours of the day and of the year will be above 430 as load in the area grows?
A Well, I don't think I said the unit should be on above 430. I think you said that. What my testimony is, is that it's normally on at the time of the peak, which is the conditions under which the company is testing the unit. So as -- as load grows and no other changes are made, it's possible that that unit could be dispatched more than it was last year. That's a possibility.
Q Well, I guess I'm really struggling with what your assumption is about French Island being available above 430 if under modeling we assume it's on so that we have a higher critical load level.

To obviate the reliability need, I have to have French Island on above 430; wouldn't you agree?
A If you wish to extend the critical load level, as the company has done from 430 to 500, that unit would have to be on.
Q Okay. So it has to be on; and if load grows in the area over time, wouldn't you agree that there will be more hours where the peak load or the load which -- let me back up.

There are a certain number of hours that you assumed in your analysis that French Island would have to run. I think you had about 60 hours in your testimony; is that right?
A I think that's about right.
Q Would you expect that number of hours to increase as load in the area increases?
A Yeah, I think that's true.
Q Okay. And would you agree that the CSAPR regulations may have some impact on the ability of that unit to operate at higher levels than 60?
A I think they could, but I don't know that they would. I mean, a unit doesn't run very much to begin with, so -- I'll grant you that's a possibility. I don't know whether it will occur or not.
Q CSAPR provides certain allowances to utilities and

they can't exceed those allowances without penalties or purchasing additional ones; isn't that right?

A Well, true, but I don't know whether this particular unit would or would not be above its allocated share of the allowances now. So I don't know. I mean, you're asking me if it could happen, I'm saying yes. I just don't know if it would.

Q Do you know if under the current Clean Air Interstate Rule there would be any potential limitations on operation of French Island if the number of hours it were operated were increased?

A Again, that's a possibility; but I don't know whether it will occur or not.

Q Okay. Did you consider additional air emissions that would occur if French Island were operated more for system support?

A You mean measure the increased emissions? No.

Q Would you agree that if in an N minus 1 condition with load above 430, the failure of French Island Unit No. 4 would result in load shedding?

A Not necessarily.

Q What would be the alternative fix?

A Well, I think your assumption assumes two other contingencies. Implicit in that question is that there are two other contingencies that have to occur.

One is that you've either lost generation at general -- I believe the other station is Madgett. And the outage of one or two other 161 kV lines. So if those didn't occur, then I don't think you'd need anything.

Q Mr. Hahn, doesn't NERC require you to take action in advance of the second contingency?

A NERC asks you to design a system that can withstand two contingencies; and there's -- in most cases they permit an adjustment within 30 minutes between those two contingencies. So they're asking you to design a system that can withstand that; but my only point is that between the first and second contingencies, NERC allows you to do certain things.

Q Okay. So, if my solution here up to 500 megawatts is that French Island operates and I lose Genoa and my load is above 430, what other options do I have other than load shedding to bring --

A Well, again, the question assumes that there are no facilities built, and I'm not recommending that. My point is, is that with or without French Island 4, a 161 kV solution, of which there may be several variations, but a 161 kV solution will add enough relief to the existing system to increase that critical load to something to the neighborhood of 550

or 600, even if French Island 4 disappears off the face of the earth.

Q So let me be clear. You are not suggesting that only French Island operate. You do believe that there's at least a 161 facility that needs to be built?

A I have said that in my testimony. I'm sorry if I wasn't clear about that. I've acknowledged that there is a need. I believe that need is less severe than the company has identified, but I'm not proposing a no-build option.

Q Let's move on to coincident/non-coincident load. You provided some analysis in your testimony where you estimated the peak load in 2011; is that right?

A Yes.

Q And that was an estimate that was not an actual measurement of load flows on the 161 line serving La Crosse; is that correct?

A Well, I'm not sure about the reference to load flows. They were bus loads. It may have been used in a load flow, but they're not power flows themselves, they're the loads of the busses.

Q But you didn't have actual flow information for a number of NSP substations, right?

A Well, that's the part that confuses me. Flows occur over lines and loads are at substations.

Q Well, let me ask it a different way. The applicants have put in testimony of an actual peak load for 2011 that differs from what you estimated in your testimony. And I guess I'm going to ask you to tell me if you can explain why those are different or whether they should be the same. And I understood it as yours being an estimate and the Applicants' being the actual flows on the lines. And I understand that your estimate is coincident substation loads. I'm just trying to reconcile those two numbers, and maybe I don't have the best question before you; but I just didn't know how to reconcile the 442, and I believe applicants have 450 for an August 2011 load flow. It was an actual peak number.

A Well, it's my understanding that -- and maybe I'll not use the words load flow --

Q Okay.

A -- because that means something different to me than maybe it does to you in your question. But it's my understanding that the applicants presented actual data that showed measured bus loads in the area that total something in the neighborhood of 451 megawatts at the time of the 2010 peak and 465 megawatts at the time of the 2011 peak. And those numbers are shown on Exhibit Hahn-2.

So we looked at those, and it appeared that they were based on the coincident peak at each of those buses regardless of the time of day that it occurred. And when we asked for hourly data for the same measured loads but not just at the highest load in the season, we noticed that there was some -- it's referred to as diversity between loads. In other words, not all the leads hit their peak at exactly the same hour. But the load on the transmission system is determined by what's called the coincident peak. And when we tried to adjust for that, we wound up that the 465 megawatts in 2011 was reduced to 442. I hope that answers your question.

Q So let me -- and I think I've asked this, but let's just be consistent, that your 442 is a calculation based on your review of substation load data?

A That's correct, yes.

Q Okay.

A But that load data was actual load data provided by the company. I'm sorry, the applicants.

Q Let's go to page 13. On lines 22 through 24, you provide that 1 percent is a reasonable level of growth to assume over the entire study period. What is the study period you're referring to?

A Well, the applicant had projected the -- the loads

and the critical load-carrying capability with different solutions up to 2030. We extended that to look out as far as 2050, which I think is a very long time, but most transmission projects that I'm familiar with look out only 10 to 20 years.

Q Okay. Do you think it's reasonable to assume a flat 1 percent rate of growth over that entire period?

A Absolutely, yes.

Q In your experience, have you seen growth rates spike and decline over a period like that?

A Oh, sure. I mean, the actual loads from year to year will fluctuate from a perfect straight line due to weather and things like that, economic activity. But what we're projecting here, as well as what the company was projecting, was a long-term trend, so years. There may be years when it's above and below; but if you're projecting out to the year 2030 or 2040 or 2050, it's pretty hard to capture every one of these little cycles that you referenced. So typically utilities look at sort of a long-term trend growth, and that's what the applicants did and that's what I did.

Q This area has seen growth far above 1 percent in the past, hasn't it? Double that? Triple that? Using 1 percent, 2 or 3 percent.

A Well, the historic growth rate from 2001 to 2011 was 1 percent; so there could have been some above and some below, but that's also a long-term trend as well.

Q But if your average is 1 percent, you would have to stay pretty close to that for the next 35 years for that growth rate to be accurate, right?

A I mean, in theory, no. If you had a 2 percent growth in one year and a 1 percent decline the next year, that's 1 percent growth over time. Again, I don't -- I don't mean to be -- I don't wish to sound flip because forecasting, you know, is difficult to catch these cycles you're referencing, which is why for transmission planning purposes, a long-term trend number is generally used.

Q Let's move on to page 18 and 19 of your direct. On lines 10 through 12, you conclude that the proposed project is excessive relative to local reliability needs it is intended to address. I believe what you meant to say there was that the cost of the proposed project is excessive; is that right? Or are you just saying that the size of the project is excessive?

A Are you referring to page 18?

Q I'm referring to page 19, lines 10 through 12.

A Those lines refer to the amount of reliability

relief, not costs.
Q Okay.
A And what I mean by that is, you know, I don't believe there's a need to extend the critical load all the way to 750 megawatts, given that that will occur a long time into the future.
Q Okay. When you look at the cost/benefits in your testimony, are you looking at only costs and benefits to Wisconsin ratepayers?
A Well, I -- we looked at sort of the total project costs, and I tried to allocate that or estimate what Wisconsin's share of that would be, yes.
Q Okay. Did you look at the cost or benefits to other ratepayers in Wisconsin or MISO?
A Well, I did look for Wisconsin. I did not look for other ratepayers in MISO that were not in Wisconsin.
Q When you --
A Because it's my -- my belief that the subject of this proceeding was the benefits of Wisconsin.
Q Okay. So you did not evaluate the entire Hampton to La Crosse project in terms of its overall benefits or overall costs to let's use society for lack of a better general term?
A Well, I think in -- the total project costs are going to be borne by somebody. So -- and MISO has a

formula for that, depending on the type of project that it is. In my analysis, I did focus on the Wisconsin share because that's what I believe this hearing was about.

Q Okay. And did you look at benefits beyond the local reliability in La Crosse?

A Well, I accepted the company's premise that there would be benefits due to increase transfer capability and reduced losses. Those would certainly be MISO-wide, if you will. In fact, I think the company answered data requests says that those savings applied to a much broader area, even outside of MISO, but -- so I mean, did I consider them? Yes. Did I come up with my own independent estimate? No.

Q Okay. But your testimony is that the costs of the project outweigh the benefits of the project in Wisconsin; is that right?

A Yes.

Q Okay. Please identify for me what benefits you weighed against the costs in that analysis.

A Well, my primary benefit was the solution to a local reliability need that's in Wisconsin. I think that's first and foremost what I looked at. And then, again, to the extent that there were other aspects of this project, reduced -- I'm sorry, increased

transfer capability and reduced losses, those were additional benefits, but those would not be shared or experienced just by Wisconsin. They would be shared by a much broader area.

Q Okay. And there would be some reliability benefits in Rochester as well, right, for the project as a whole?

A Well, yes, but that's why I looked at this hybrid alternative which would allow the facilities in Minnesota to be built and meet those reliability needs.

Q Mr. Hahn, what I'm struggling with and I'm trying to elicit testimony about is, the columns that you put together to say the project costs X dollars and the benefits are valued at some amount so that you could conclude that the costs outweighed the benefits, because that's your testimony.

So what did you weigh against what to reach that conclusion? And there are some things that are in Wisconsin, some things that are out. So I'll ask it again.

What costs did you look at -- and I believe it's project costs, and you told me you've done an allocation for Wisconsin. And I'm asking what benefits did you weigh those costs against to reach

your conclusion that there weren't enough benefits?

A Well, primarily the reliability benefits because if you have a 161 or a lower voltage alternative that solves the reliability problem, but it also results in a significantly lower cost to Wisconsin, that's what I looked at.

Q Okay. So you did not give any particular weight to the increased transfer capability that would be a benefit to the -- Wisconsin and Minnesota; is that right?

A Well, yes. Because the alternative that I suggested would allow those -- those benefits -- those benefits are largely due to a 345 kV link from an MVP project, multi-value project in the west, to a multi-value project in the east. You could build a 345 kV line even if had you no local reliability problems in La Crosse and you could achieve those benefits.

So what I tried to do is say, gee, is there a different solution here that solves the local reliability problem at a lower cost and still allows those benefits to occur, and that's what I came up with.

Q Okay. Wouldn't you agree that, and I think Applicants' testimony bears this out, that really the regional benefits are achieved when the 345 system is

connected to the east, right? Do you agree with that premises?

A Well, it's also going to be connected to the west.

Q That's -- it is connected to the west with a project that's already going to be beginning construction, the Brookings project?

A And eventually it needs to be connected to some 345 kV project in the east.

Q Okay. So if -- if a 345 as part of this project ended at Briggs Road versus ending at Alma, wouldn't you agree that that would have some impact on costs of how much the project to the east would be? Let's use La Crosse/Madison, for example. If this project ends at Alma, you're going to have to build more 345 from the east to connect to it than you would if this project went all the way to Briggs Road; wouldn't you agree with?

A Well, I would agree that -- and I'm not sure where exactly the closest point to the east of La Crosse is; but the line that comes from Madison works its way west, and I -- I do believe that if you were to go straight to a new Briggs Road 345 kV, that would be less miles than going all the way up to Alma. Whether that would cost less or more, I don't know.

Q Thank you.

A And the reason why I don't know is I haven't looked at -- I think you refer to it as the Badger Coulee Project or the MVP project to the east, but I've not looked at that.
Q So you've given no consideration to the potential impacts on cost to the La Crosse/Madison project; is that your testimony?
A I have not looked at that. I mean --
Q Thank you.
A -- that project will have to stand on its own two feet.
Q You reviewed Mr. Lehman's testimony about cost allocation in your Exhibit 3; is that right?
A Yes.
Q And he believes that the costs that would be allocated to Wisconsin are a lower percentage than the 30 percent you have attributed; is that also correct?
A That's what his testimony says.
Q And you haven't provided any new calculations to counter that, have you?
A No. But I did state in I believe it's my surrebuttal testimony that it appears that that statement is based just on sort of an allocation of capital costs and not the implementation of the MISO cost

allocation methodology, which is what I think should be done and what I tried to do in my testimony.

Q If -- if the allocation were something other than 30 percent, is there a number at which you would change your mind about whether the costs of the project outweigh its benefits? And I'm speaking of the allocation to Wisconsin customers.

A Well, I think that you'd want to look at -- I don't know -- no, there's no specific number. But based on the MISO cost allocation methodology and figures that were available to me as a baseline reliability project, I think I came up with something like 150 million out of the 507 million go to Wisconsin.

Q Is this your first time doing a cost allocation under the MISO tariff?

A For a specific project, yes.

Q Thank you.

A We did -- can I answer that or --

Q I don't have another question pending. Thank you.

A Fair enough.

EXAMINER NEWMARK: Let's move on. Yeah.

BY MS. AGRIMONTI:

Q Would you agree as a general principle any economic evaluation of transmission upgrades with non-transmission alternatives must consider more than

a comparison of capital costs of those alternatives?
A I'm sorry. Did you say non-transmission alternatives?
Q Uh-huh. That would be a French Island question, which I believe before you agreed is not your recommendation, but just as a general principle.
A Well, if you are -- if you are going to not build transmission and install some non-transmission alternative, new generation, for example, then you would need to look at lifecycle costs, yes. And you'd also need to compare it, too, because transmission has costs beyond the initial capital investment. There's O&M costs, likely property taxes. There's a bunch of other things. So if you're going to do a lifecycle cost analysis, you should do it as an apples-to-apples comparison and include all costs.
Q Would you agree that both transmission upgrades and non-transmission alternatives have impacts on the cost providing electricity that extend beyond the improvement of system reliability?
A They could. That's a possibility. I don't know that they will, but they could.
Q Mr. Hahn, I have gotten to you some excerpts from the June 30, 2008, report in Maine. Are these true and

correct --

EXAMINER NEWMARK: Let's mark that Hahn 5.

(Hahn Exhibit No. 5 marked.)

BY MS. AGRIMONTI:

Q Do you recognize these pages as true and correct copies from that report?

A They certainly appear to be.

Q Turn to page 45.

A That's the last page of this exhibit?

Q It is. In the second sentence, it says, "Both transmission upgrades and MTAs, which are non-transmission alternatives, have impacts on the cost to provide electricity that extend beyond the improvement to system reliability."

Is that right?

A Yes.

Q Do you agree with this statement?

A Yes.

MS. AGRIMONTI: I'd move admission of Hahn Exhibit 5.

EXAMINER NEWMARK: Any objections?

MS. LOEHR: No.

EXAMINER NEWMARK: Okay.

(Hahn Exhibit No. 5 received.)

BY MS. AGRIMONTI:

Q Let's move to page 33 of your direct. You start at the top, lines one through three, you're talking again about this hybrid alternative with the 161 connection between Alma and La Crosse, and you say that you expect that Wisconsin's share of the cost of the hybrid solution would be comparable to or less than Wisconsin's share of the 161 alternative analyzed by the applicants.

Did you do any analysis of the cost sharing that may occur for your hybrid alternative?

A No, I did not have a capital cost estimate for this alternative; but I surmised that it would be, as I said previously, somewhere between the company's 161 kV solution and the proposed 345 kV project.

Q You also testified that you didn't see any significant disadvantages to this alternative, but you didn't do any engineering studies of your own for that, right?

A Gee, no. I wish I had the time to do that, but we didn't.

Q When you were analyzing costs and benefits of the project, did you give any consideration to the Dairyland Power Cooperative's need to rebuild the Q1 line?

A I'm sorry, can you read --

Q Are you familiar with the Alma to La Crosse Q1 line?
A That's the route that goes along the river.
Q There's a 161 line that goes down there.
A Yes.
Q And did you consider the cost of the rebuild in the analysis of your hybrid?
A Well, because that would be in -- let me step back. It's my understanding that that would be required for any of these alternatives, so it would be required for the company's 161 kV and the 345 kV as well. So to the extent that my project came in the middle of those, that would be included, yes.
Q Have you been asked to provide any analysis of costs as those costs differ by route?
A I've looked at what the company did, but I did not do an independent assessment, no.
Q And you haven't provided any opinion on route that's relative to difference in costs; is that right?
A I've not analyzed the routes. I utilized the costs that the company provided for those routes, but I did not analyze the routes specifically. That was not one of my three assignments.
Q What were your three assignments? Are they listed in the beginning of your testimony?
A They're on page 3 of my testimony from lines 7

through 25. I won't read them again.
Q Thank you. I've got it.
All right. I'd like to ask you a couple of questions on the supplemental needs study which is Exhibit 2 of Ms. King's study. You've reviewed that. I think you've made some mention of that today; is that right?
A I have reviewed that document, but I don't have a copy with me.
Q Do you agree that there's transmission constraint between Minnesota and Wisconsin?
A I believe that there is based on my reading of the MISO Transmission Expansion Plan or MTEP, M T E P. And by the way, that's my understanding is that's why they're building these MVP projects, to address that.
Q You're referencing MVP projects and saying that I'm building them or my applicants are building them. This is a non-designated -- this is a baseline reliability project, and I just want to be clear when we're talking about the La Crosse project that it's not misrepresented.
A Fair enough. I appreciate the clarification.
Q Would you agree that 345 facilities are needed between Minnesota and Wisconsin to alleviate this constraint?

A If you wish to increase the transfer capability across that interface, you need to build some high voltage lines, and 345 would seem like a good candidate. I mean, in theory, they could be higher; but what has been planned is a series of 345 kV lines; and so I would say that, yes, that's -- that's -- I won't say a requirement, but it seems to me that that will address the -- increase the transfer capability.

Q Would you agree that a 161 wouldn't increase that transfer capability?

A Well, it would, but to a lot lower degree. I mean, 345 kV lines carry a rated, you know, 1200 megawatts, a 161 kV line maybe a couple hundred or less. So I think if you're trying to build -- I would not recommend nor did I recommend building a 161 kV across that interface for the purpose of increasing transfer capability.

Q You mention Mr. Noeldner's wind capacity factor analysis. Do you agree with his conclusion that 345, specifically the project, would provide access to high capacity factor wind from the west?

A I'm sorry, whose testimony?

Q Mr. Noeldner.

A Did I reference that in my testimony? I don't think

so. If I did, you need to help me out here.
Q I'll find it for you here. Give me just a moment. Page 24. This must be --
A Oh, thank you.
Q Yeah. You reference it, but you don't offer any opinion as to whether you agree with the analysis or not. And I'm trying to find out if you agree with the analysis.
A Well, I think if -- if you were to build generation in the western region of MISO and you wanted to transmit a lot of that to the load serving centers in the eastern region of MISO, you'd have to check to see whether there was a transmission constraint. There appears to be one. And so if you build facilities that increase that transfer capability, you would allow perhaps more wind to be built. So I think I -- I agree generally with the premise. I've not studied that -- I've not looked at which wind projects in particular, but I think I agree with the premise.
Q Let's turn to your surrebuttal. On page 3, you state that you still conclude that the 161 kV option from north Rochester to Briggs Road better matches the costs and benefits to Wisconsin. That's on lines 4 through 6. Do you see that?

A I'm on page 3 of my surrebuttal at lines 4 through 6?
Q Uh-huh. Are you there?
A Yeah, I am, but I'm reading.
Q Okay.
A Well, what it states there is that the revision in the capital costs did not change my opinion.
Q Okay. So, I want to clarify because we've had some testimony that you say you're not recommending a 161 across the river, yet this alternative is a 161 from North Rochester across the river. So are you supporting the North Rochester/Briggs Road alternative?
A I think that alternative, which would address the reliability need to 550 megawatts without the use of French Island generation, is a reasonable alternative because it produces -- it addresses the reliability solution adequately far out into the future at a much lower cost. So that is -- that is a viable alternative to the company's project.
Q Okay. That would provide none of the 345 across-the-interface benefits?
A Which is why I went to my hybrid, if you will, which was trying to sort of capture the best of both of those alternatives.
Q So are you still suggesting that rather than the

project, the North Rochester to Briggs Road solution ought to be selected by this Commission?

A I think that's a viable alternative. I really do.

Q So are you recommending it?

A That's one option that the Commission should consider, yes.

Q Is it your first recommendation or is the Alma to La Crosse recommendation your first priority?

A Well, I think -- again, what I tried to do here was come up with a solution that addressed the reliability needs in La Crosse, but also addressed the need to create this high voltage path across Minnesota and Wisconsin, and that's why I think my hybrid solution would be -- would be better than that, but I think they both address the local reliability problem.

Q But this Briggs Road/North Rochester alternative would not provide the regional benefits, including the transfer capability nor market benefits; would you agree with that?

A Not as -- not to the same degree that the 345 kV would, yes, I do agree with that.

Q Okay. In the supplemental need study that Ms. King did, did you review the analysis that showed that if the 345 system is connected to the east, that a 161

connection for this CPCN proceeding would degrade the overall transfer capability across the interface?

A I don't recall that. That may be there or not. I don't have a copy in front of me to check; but I think that document will speak for itself, whatever it is.

MS. AGRIMONTI: Okay. Just a moment. I have no more questions. Thank you.

EXAMINER NEWMARK: Mr. Hahn, I just want to interject because I had some question about that figure 1 in your surrebuttal, and I guess I see that you've corrected or you mean to correct the 408 for the 161 kV north Rochester Briggs Road alternative. Is that -- so that 408 that's highlighted should be 98 million?

THE WITNESS: Yes.

EXAMINER NEWMARK: Okay.

THE WITNESS: I believe that was confirmed by the company.

EXAMINER NEWMARK: But there's no change to your La Crosse 161 alternative, the Wisconsin portion? That's still 408?

MS. LOEHR: Your Honor, those are two different alternatives.

EXAMINER NEWMARK: Right. Yeah. So the

Rochester to North Briggs Road, that goes all the way to -- that's in Minnesota, right?

THE WITNESS: Yes. It's 161 kV from somewhere near Rochester, Minnesota, to a new Briggs Road substation somewhere near La Crosse.

EXAMINER NEWMARK: Okay. But the Wisconsin share will only be 98 million. The La Crosse 161 alternative goes from where to where?

MS. AGRIMONTI: Your Honor, I might be able to help. I believe that the red box here is reversed. CUB called us and let us know that we had our numbers wrong, and that box did have 98 in it, and I believe we corrected it to be 408.

MS. LOEHR: Flip that.

THE WITNESS: If I might --

EXAMINER NEWMARK: Hang on. Just let him answer.

THE WITNESS: If I might. If you look at the first line on figure 1, it's the fourth line of the table, the first line below the shaded top three lines. And what you have is you have under the category of fully loaded and escalated costs, you have 230 million in Minnesota.

EXAMINER NEWMARK: Uh-huh.

THE WITNESS: You have a total of 328.

The difference is 98, not 408. So what I believe happened is that there was a spreadsheet and this formula just got carried down. I think it was an inadvertent omission. We drew it to the company's attention or the Applicants' attention; and they said, yeah, it should be 98.

So the whole purpose of this was to show that that number was later changed and then I testified on those numbers.

EXAMINER NEWMARK: Uh-huh, uh-huh.

THE WITNESS: So the line above it, which is the third line in the table, I'm not changing any of those. The 248 plus the 408 gives you 650 million.

EXAMINER NEWMARK: Okay. And where does that line run? I just got to get it in my head, La Crosse, 161 --

THE WITNESS: Somebody -- the company might have to explain that to you. My understanding is that there was a number of new facilities and re-conductoring and upgrades, because the purpose of that alternative, as I understand it, was to get -- using only 161 kV alternatives, to get the load, the critical load level to 750; and so you had to do a lot to get it to 750. My testimony is you don't

need to go that far.

EXAMINER NEWMARK: Oh.

THE WITNESS: But if you did, that's what the numbers would show; and I believe that it was a fairly extensive alternative. It was -- it was more than just, you know, Point A to Point B. There was a number of facilities that had to be replaced.

EXAMINER NEWMARK: Okay. So this isn't the Alma to Briggs Road --

THE WITNESS: No.

EXAMINER NEWMARK: Okay.

THE WITNESS: No, no, no. That's a separate project.

EXAMINER NEWMARK: And is that on this table?

THE WITNESS: I don't believe so.

EXAMINER NEWMARK: All right.

MS. AGRIMONTI: Your Honor, an actual picture of the Briggs Road alternative, both the 750 and not, is on page 7 and 8 of Exhibit 2 of Ms. King's testimony.

EXAMINER NEWMARK: Oh. Let's go off the record.

(Discussion off the record.)

EXAMINER NEWMARK: Let's proceed. Do we

have more cross? No one else?

MS. OVERLAND: No one else?

EXAMINER NEWMARK: Doesn't look like it.

MS. RAMTHUN: I have some cross, but you go first.

EXAMINER NEWMARK: Uh-huh.

MS. OVERLAND: One moment. I'm pulling it up.

CROSS-EXAMINATION

BY MS. OVERLAND:

Q Good morning, Mr. Hahn.

A Good morning. You are Ms. Overland?

Q Yes.

A Nice to meet you.

Q Representing NoCapX 2020 and CETF. I'm getting a nonresponding error. This is not good.

Start at page 1 of your testimony. And I will also be bringing in some things that you had responded to some discovery requests, and so we'll be going a little back and forth with that. And I also will be winnowing to not duplicate what Ms. Agrimonti was asking.

Now, a lot of your testimony is regarding 161 kV lines between Alma and La Crosse options, and do you know if any generators are closing at Alma?

A Any generators are what?
Q Closing. Shutting down.
A I believe that I did hear that Dairyland Power Company is considering the shutdown of some generators at Alma. I don't know the details, but I do believe I have heard that as a possibility.
Q And did you then weigh that in your consideration of alternatives or your offering of alternatives for 161 lines from Alma?
A Well, we relied on the load flow files that the company had provided us, and I'm trying to recall, but I think there were -- there may have been, I just don't recall given the volume of the data, but there may have been some assumed -- that some of the generators, the existing generators at Alma, were offline. I think there were two. But from a load flow point of view, it doesn't matter whether they're assumed offline because of an outage or because they're not dispatched versus they're retired forever. It doesn't matter to a load flow program.
Q For -- keeping in mind your distinction about load flow and power flows, what type of power flow were you presuming for your 161 options?
A Well, if --
Q Expressed in MVA, let's say, or megawatts.

A I didn't assume a specific number. Again, if you look at the alternatives I looked at, the company's proposal is a 345 kV from Rochester all the way down to Briggs Road. I don't recall what the assumed line rating for that is. It's in the company's load flow and so it's a matter of record. My experience is that 345 kV overhead lines have 1,000 to 1,200 megawatts of transfer of current carrying capability, but I did not come up with an independent estimate. I used what was in the company's analysis.

Q Okay. Well, first you were talking about for the company's 345 configuration. Are you aware that they are using the ACSS conductor?

A I believe I read that in the application.

Q And are you aware that that's a high capacity conductor?

A Yes.

Q Are you aware that they are using bundled conductors?

A I believe I also read that in the application.

Q Would you agree subject to check that a single circuit bundle would be -- have a summer emergency rating of something like 2,000 megawatts, MVA?

A I don't recall that number, but it's a number that can exist in fact somewhere. If it's in the filing, it's in the filing. I just don't recall it.

Q Does that seem reasonable to you?
A Seems high, but it's possible.
Q Okay. And then same type of issues regarding the 161 that you're promoting. Were you thinking of, you know, ACSS conductor for that, a high capacity conductor?
A I did not assume a different conductor for the 161 kV facility than the company assumed in its analysis. I assumed the same.
Q Okay. And then would you also be assuming a bundled or not bundled conductor?
A I don't recall what the company assumed -- because if you think about it, whatever size conductor or whatever configuration conductor you choose, that's going to be input into the load flow program as an MVA rating for the line. And in these contingency analyses, when a line is overloaded to a certain level, that's considered to be a criteria violation. So I looked at what was in the load flow, I didn't necessarily look at per se what the bundled configuration was or the size. If -- if, in fact, you went to a bundled configuration of a particular conductor and it changed the rating from 1,200 to 2,000, that would be reflected in the load flow analysis.

Q Okay. Do you have any knowledge of the Applicants' experience with, say, bundled 115 lines in projects in Minnesota that they have done?
A You mean whether they've used it before or not? No, I don't know.
Q No. So then you would not have any idea of, say, the capacity or the summer rating of the Chisago Project 115 kV line? Chisago, C-H-I-S-A-G-O, project.
A I don't believe I've looked at that project, ma'am, so I would not have an opinion.
Q And do you have any knowledge of the Applicants' conductor summer rating for the Hiawatha project in Minneapolis?
A It would be the same answer.
Q Okay. Why did you pick 161 and not, say, a 115?
A Well, because the rest of the company's -- I'm sorry, the rest of the -- the rest of the existing transmission system in this area has 161 and 69 kV facilities. I don't recall seeing any 115. If you introduced -- I mean, I would not recommend introducing a single 115 kV line into a system that has 69 kV and 161 kV. I mean, you try to standardize on a certain transmission voltage at different levels. So 161, 345, I did not look at a 115 kV solution.

Q Okay. So essentially you picked that because that's what's here in the area?
A Yes. And to make a change couldn't require more than you need than if you just stick with 161.
Q Okay. Would you agree that it could potentially be accomplished with a lower voltage?
A I don't think so. I've not analyzed it, but I don't think so. I mean, your only other alternative voltage in this area is 69 kV. And the way the system is configured now, I don't think that would work.
Q Okay. Let's see. Do you have any opinion of the need for the Q1 rebuild if generators are indeed closing in Alma?
A I did not offer an independent opinion on the rebuild. I assumed that that would be required as part -- I mean, the company stated it in its application. I accepted that. I did not go look at the structures to see if they need to be rebuilt, no.
Q Okay. And your alternative -- you analyzed some alternatives for ones that actually had a substation in Alma and did not, correct?
A I'm sorry, can you --
Q You analyzed 161 kV alternatives that had -- both had a new substation in Alma and then did not connect in

the substation in Alma; is that correct?
A The -- let me try to be a little clear about this. The hybrid solution that I referenced in my testimony had a 345 to 161 kV stepdown substation somewhere near Alma just on the Wisconsin side of the river and then a 161 kV line down into La Crosse. The other alternative that I -- I discussed, but was not able to fully thresh out, was just connect at the existing 161 kV system, that there's 161 kV buses in the Alma area, and connect to one of those. But I couldn't -- couldn't get to the bottom of that.
Q Okay. And you're aware that the project as proposed now does not have -- does not connect in a substation in Alma, it's just a passthrough?
A That's right. It has no -- not even a switching station, as I understand it.
Q Right.
A It just comes across the river on structures and then heads down along the -- along some route --
Q Okay.
A -- to be determined.
Q Okay. Thank you. Now, in your direct online 4, you don't really need to refer to it, but you're stating that you're -- the need would be deferred to 2024, but then you're proposing a hybrid solution on the

other hand. So is it your testimony that a solution is needed now despite that it's deferred to 2024?

A Well, what I said in my testimony is that -- is that if you utilized the load forecast that I've developed, and assumed the French Island 4 unit was on, then you need to defer it. But what I'm saying is that there is a need now, and so I'm not recommending a no-build solution as I testified a few minutes ago in response to Ms. Agrimonti's questioning.

Q Okay. And on page 5 -- but I think Ms. Agrimonti might have clarified this, and you're referring to the MVP. And what is your understanding of the line -- the Brookings to Hampton line and the categorization of that -- no, no. I'm off here.

This line here, the Hampton to La Crosse, is that to your knowledge different types of categorization for MISO or is it all one type?

A It's my understanding that the project that we're looking at in this proceeding, excuse me, which is a 345 kV line from Hampton County to Rochester to La Crosse with some associated 161 kV facilities also included in Minnesota and in Wisconsin, that that has been designated as a baseline reliability project by MISO. And I believe that during MISO's approval

process, at the time this project was designated as a baseline reliability project, the concept of a multi-value project had not yet been placed into effect.

Q And so it's your understanding that the entire project is a baseline reliability?

A I believe that's correct.

Q Okay. And it's your understanding that no part of it is an other?

A Not sure what you mean by "other".

Q Okay. I just wanted to check and see if --

A There may be some costs that are borne locally. I think -- I'm trying to recall, but I think in order for transformation -- transformers to be eligible for cost allocation, both terminals, the high and the low, have to be above 100 kV or something like that.

Q Uh-huh.

A So it's possible there could be some costs that are not allocated but are directly assigned.

Q Okay. Now, in your testimony on page 7, figure 4, you're talking about the total cost of 507 and Wisconsin costs at 215, and what is the source of that number in that figure?

A That came directly from the company's file.

Q Is that consistent with the MISO tariff and

allocation of this project?
A I'm not sure I understand the question.
Q Well, it came from their numbers, but is that also consistent with the MISO tariff or cost allocation?
A Well, this is a -- this is the Applicants' cost estimate.
Q Oh. This is not -- okay. This is not attributive to the ratepayers' cost. Okay, I understand. Got it.
A You would need to take this cost and apply MISO's allocation methodology for a baseline reliability project to attempt to get the actual amount of this that Wisconsin ratepayers would have to pay, and it's certainly possible. In fact, I think it's the case that Wisconsin ratepayers will pay for some of the facilities in Minnesota.
Q Right. And that was where I was heading and -- but I was misunderstanding your use of cost there. I was off. So let me go back.

So what is your -- when you talk about Wisconsin ratepayers' cost, are you referring then to the costs of the entire project for Wisconsin ratepayers from Hampton all the way down to La Crosse?
A It's my understanding of the MISO cost allocation process for a baseline reliability project is that

there are some components that would be directly assigned, and there are other components that are allocated by different methods. And what I tried to do in Hahn Exhibit 3, and this -- this cost allocation was taken from a MISO example from a prior study, and it showed how this cost allocation of a baseline reliability project would work. When MISO did this, and it was done some time ago, it was a lower cost estimate.

So I used the same methodology percentages but applied it to the 507 million that was in that other figure in my testimony that you showed. And so there's certain costs that are going to be allocated based on load ratio share, and Wisconsin would get a piece of those.

Q Uh-huh.

A And then there are other costs that are going to be allocated based on what's called a line outage distribution factor method.

Q Uh-huh.

A And Wisconsin's going to get a share of those. And the way the line outage distribution factor method works is that MISO takes the project from Hampton to La Crosse and all the facilities, but they look at each individual component of it, the lines and the

transformers, and they use a program called MUST, M-U-S-T, I think.

Q Uh-huh.

A And so you basically take each facility out, and you determine if -- whether that affects the flows on neighboring facilities, and that's how you allocate it. So it could be that an outage of a line in Wisconsin -- I mean, in Minnesota has an effect on lines in Wisconsin and, therefore, they would be allocated to share those costs.

Q And has that been addressed, to your knowledge, in this proceeding as far as cost to Wisconsin ratepayers?

A Well, that's what I tried to do in my testimony, and, you know, I did the best job I could with it. You know, is it a perfect estimate, no. I'll admit that to you. But I -- I think I'm the only one that may have introduced the subject.

Q Uh-huh. And then would you agree that the Brookings to Hampton line is connected to this line coming from the west to the east?

A I would agree with that.

Q And has the cost to Wisconsin ratepayers of that project been addressed in any way in this proceeding?

A No. Because they will -- first of all, that's a

multi-value project.
Q Uh-huh.
A So it will be allocated mainly on load ratio share as opposed to the line outage distribution method. And so, if that project is built, and it's my understanding that it's under construction.
Q Uh-huh.
A Wisconsin's going to pay that whether the project we're looking at in this proceeding gets built or not. So I considered it -- I don't want to say a sunk cost, but a cost that was not avoidable by anything we did here today.
Q Uh-huh. And to your knowledge, has that cost been addressed anywhere in the Wisconsin proceeding?
A I'm not aware of it. And I guess I would say maybe it's not necessary to do that because those costs are going to be allocated no matter what we do here.
Q I have some concerns about your statements on page 5 about La Crosse to Madison to Dubuque.
A Page 5 you said, ma'am?
Q Page 5. You're talking about La Crosse to Madison to Dubuque. Maybe not.
A Yeah, you're right. This is page 5.
Q Yeah. It's page 5. Okay. And what is your understanding of the power flow direction on the

piece from Dubuque to Madison, or Madison to Dubuque as you say?

A The piece from Madison to Dubuque?

Q That extends between Dubuque and Madison. What is your understanding of the power flow direction?

A I don't know that I recall the specific flows on that particular segment, but generally, you know, power flows west to east in MISO.

Q Okay.

A I mean, you have the load centers in the east, and you've got some generation in the west. So it does tend to go west to east.

Q And so would you agree that maybe a more accurate statement on that would be La Crosse to Madison and Dubuque to Madison?

A Again, I did not really analyze this project in detail, so I don't know the answer to that question. I just wish to point out that at some point, in order to make this portfolio of MVP projects work, you need to connect the dots in the middle.

Q Uh-huh.

A So somehow, some way I think you need to do that.

Q Okay. I'll leave that there. Now --

A I just want to be clear. I did not analyze the La Crosse to Madison to Dubuque project, if that's

also called Badger Coulee. I did not look at that in detail. I offer no opinion on that. I just want to note that at some point, which I think it's already been confirmed by the testimony of others, it's got to connect somewhere.

Q All right. But it's all connected?

A Yes.

Q Thank you. Now, on page 7, your Figure 3 shows potential ownership percentages. Now, to your knowledge, have the applicants agreed to any specific -- agreed -- committed to any ownership percentages?

A It's my understanding -- my recollection from discovery responses is that the precise terms of the ownership agreement are yet to be finalized.

Q Okay. Then if you look at your page 6, line eight, and I notice that owned is past tense. Should that be some other word?

A Well, this -- this data was from the company's filing, so it wasn't numbers that I came up with. This is what the company has estimated in the CPCN filing. But then under discovery, you know, we asked for more details about that, and that's when I think we got the answer that the final detail's to be worked out.

Q And that's why I'm asking about this, because your Figure 3, that does state potential ownership percentages; but your testimony states owned, as in past tense, as if it is owned, and it seems your testimony is right now that it is not owned, it is potential ownership.
A I'll accept that clarification.
Q Thank you. Do you know if -- so to your knowledge, they have not declared the ownership of this project?
A That's my understanding. Again, I think this may be a preliminary estimate, final details to be worked out.
Q Okay. On page 7, line 14, you're referring to reduced production costs, and could you be specific about what that -- those reduced production costs are?
A Well, that's what Ms. Agrimonti and I were discussing. If you have a system -- a transmission -- a system of transmission lines and generators, and there are transfer limits or constraints, and we talked about the transfer limit somewhere near the Wisconsin-Minnesota border, what -- if you have lots of load in the east, your generators are in the west, and you'd like to send it all to the east but you can't because there's a

transmission constraint. And what happens is you run higher cost generation in the east and so it's available in the west, and that's what I understood the company's claim benefit in terms of lower production costs to be.

Q And what type of generation is that that's in the west?

A Oh, could be lots of things. I mean, there's wind being developed. There's coal. I couldn't list all the sources. I think somewhere in the details of the MISO reports that data exists, but I don't have it at the tip of my tongue.

Q Online 15 you also talk about lower system losses, and would you agree that the Applicants' -- the application's system losses are -- range from, like, 4 to 11 megawatts, that that would be their loss savings?

A They did cite a number. I don't recall what it was, ma'am, and I believe that number was for a fairly broad area of the electrical grid.

Q Would you agree it's the eastern interconnect?

A I believe that's what they said.

Q Okay. And if there's a four -- if you assume that it's a 4 to 11 megawatt loss savings when compared against the megawatts in the eastern interconnect,

what kind of percentage would that be, roughly?
A Oh, a very small one.
Q Infinitesimal?
A Well, I don't know if I can characterize it that far. I mean, MISO's a big system, and there's a lot of load everywhere, but there's a lot of load in the east. What it is, again, it's not a number that I carry around in -- on the tip of my tongue, but it's generally available within the MISO documents.
Q Would you agree the eastern interconnect would also include PJM?
A The eastern interconnect is everything east of the Rocky Mountains. So, yeah, it's a big system.
Q Right. So it's not just the MISO system, correct?
A That's my understanding.
Q Okay.
A And I believe that's what the answers to discovery responses were.
Q Right. We want to get it in the record. Thank you.
Let's see. On page 8, line one. Well, actually, it starts on the bottom of page 7, but you're stating that much of the analysis was conducted prior to 2008. Would you agree, subject to check, that the majority of the analysis for this project was done 2004, 2005?

MS. AGRIMONTI: Objection to form.

EXAMINER NEWMARK: Overruled.

THE WITNESS: I'm generally -- by the way, am I to answer that?

EXAMINER NEWMARK: Go ahead.

THE WITNESS: Yes. Thank you. I'm aware that the analysis for this project began somewhere back around 2005. I don't know whether I can characterize it as majority or not, but there was some work in -- a fair amount of work done on this project back then, yes.

BY MS. OVERLAND:

Q Okay. And have you reviewed the October 2005 technical update, the CapX vision plan?

A I'm actually not sure. I don't think so.

Q Okay.

A I mean, I read a lot of documents in this case. I focused mainly on the ones that were more current, so I don't recall whether I read that or not. I'm sorry.

Q Would you agree that much has changed in the world of load forecasting since 2004 or even 2008? Let me rephrase that.

Would you agree that much has changed in demand for electricity since 2008?

A Yes.
Q And what types of changes have you observed?
A Well, if you look at page 15 --
Q 15?
A Sorry. Figure 15 of page 28 of my direct testimony, this graph would show that since 2008 the projections of loads at certain points in the future has declined.
Q That's a no. Since we're on page 15, let's turn to the next page, page 16. And you touched on this with Ms. Agrimonti, but I wanted to clarify. Your testimony was that it would be -- the French Island unit would be run, like, 54 hours and 61 hours, and is it correct that you did not do any cost estimate of what that would cost?
A That's correct.
Q And so then also you did not do any comparison of what running those would cost versus building this project?
A That's correct.
Q Okay. Thank you. And on page 17 -- and you discussed this a bit with Ms. Agrimonti as well. Where you're talking about outages of -- where both the Madgett Unit and Badger Coulee line would be out. Did you do any probability analysis of that scenario?

A No.
Q Did you check to see if the applicants had done a probability analysis of that?
A I didn't see one in the filing, and I didn't ask for one. Although, you know, it is -- and I'll say common transmission planning practice to look at two elements out. So I was not surprised at that, but I did not ask for a probability, and I don't recall seeing one anywhere in the record.
Q Okay. Thank you. And there was also some discussion of associated projects with 161, and I want to check on this. I think I know the answer. The cost of the Q1 upgrade integrated into the total project cost, you did include that in because it was assumed?
A Yes.
Q Okay. Okay. You're talking about the reduced and lower production costs in your testimony, which we also discussed a bit. And did you review Mr. Beuning's testimony and Exhibit 2 of his testimony?
A I'm sure I did at one point.
Q Would you agree that the PROMOD modeling that they did, it is dependent on the 345 kV eastward expansion?
A It's my understanding that when analyzing the production cost benefits, they assumed the MVP

projects were in service in addition to the baseline project being studied here.

Q Okay. And would you agree that they estimated that when comparing the 345 and 161, the cost savings would be roughly $57 million of production cost savings, roughly?

A That number sounds about right. But again, it's a number that's in the record.

Q It's there right. Why don't I get your opinion of some of these concepts.

MS. AGRIMONTI: Your Honor, I am going to interpose an objection here. It appears that would be a bit beyond the scope of his testimony if Ms. Overland wants to use Mr. Hahn to critique Mr. Beuning's analysis. And in fact, I didn't ask anything in my questioning about Mr. Beuning's analysis either.

MS. OVERLAND: Your Honor, we were asked to, like, file our interrogatories, and this is going back to just a bit of that regarding Mr. Beuning's analysis, and that was filed.

EXAMINER NEWMARK: Your interrogatories were filed and ERF, that's what you're referring to?

MS. OVERLAND: Right. And we were instructed to file those so there wouldn't be any

surprises.

EXAMINER NEWMARK: Uh-huh. And you asked that question in interrogatory to Mr. Hahn?

MS. OVERLAND: Yes.

EXAMINER NEWMARK: Okay. Proceed.

MS. OVERLAND: I'll keep it very limited.

EXAMINER NEWMARK: Okay. Great.

BY MS. OVERLAND:

Q Do you recall that there was a column regarding -- do you recall that in the cost savings, different types of generation were addressed? Say there was -- like, it did not include wind and there were hydro, gas plant, mine cycles. Do you recall that there were those types of --

A And I just don't recall that level of detail. I'm sorry, I don't.

Q Okay. And do you remember that -- do you recall whether the greatest production cost savings was labeled as steam cost?

A Again, I don't recall those -- that level of detail, ma'am. I'm sorry.

MS. OVERLAND: Okay. I'll discuss this then with the Applicants' witness.

BY MS. OVERLAND:

Q To clarify, too, regarding -- there was some

questions earlier regarding some costs and benefits that you looked at, and have you seen any estimate of regional benefits of this project on its own without the La Crosse to Madison extension?

A I don't believe so, no.

Q Regarding your 1 percent load growth estimate, on page 12 and 13 of your testimony, you're referring to the business as usual and the high load growth, and would you agree that your estimate of 1 percent is higher than the business as usual scenario of .78 percent?

A I would agree that 1 percent is higher than .78, absolutely.

Q Okay. Why would you pick a load growth estimate higher than business as usual?

A Well, the 1 percent that we -- that I picked as a load growth -- as a growth rate to apply to the 2011 actual peak loads as I saw them was based on historical data for this particular load area. So if you looked at the La Crosse area that we are all talking about here, I believe it was from 2001 to 2011. The actual numbers are in my testimony.

Q Uh-huh.

A It was 1 percent. The other load forecasts are for a bigger region. And so, you know, we looked at it.

We discussed it back at the office, and I decided that I would go with the 1 percent because it was -- it was more directly applicable to the area we're looking at. I did cite these other load forecasts as evidence that there's a lower number, but the number I chose was for that reason.

Q In that, did you take into account any policy changes regarding energy efficiency, conservation, load management that may reduce the load growth?

A Well, I think that could likely and probably is likely embedded in the historical data as well. So in order for that growth rate to be, you know, projected going forward, again, as a long-term trend as I discussed earlier, I felt it was reasonable. Could massive deployment of energy efficiency make that number lower, yes. I guess that's possible, but that's not something that I considered in my testimony.

Q Okay. Could a modicum of conservation and energy efficiency also reduce that?

A I didn't do the analysis that way. As I explained, I relied on historical data.

Q And you used the term massive, so would you agree that --

A Well, actually I thought you used the term massive.

But whoever used it, okay, it's here.
Q I don't think I did.
A All right. If I did, then I'm guilty.
Q Okay. Thank you. We'll accept that subject to check.

Okay. And on page 19, lines 17 through 18, going back to that excessive notion, and then you're comparing the costs right below that. If a project is excessive, would not any -- wait. First -- no. Let me do this a different way.

If a project reasonably exceeds the Applicants' probable future requirements, then you're calling that excessive, correct?
A But not on a -- yes. But not on a cost basis, on the magnitude of the reliability solution.
Q Okay. But if a project is excessive on the reliability basis, isn't any cost excessive to meet a reliability -- if the project is excessive, isn't any cost for that project also excessive, spending too much money for what isn't needed?
A Which is -- generally that's true, which is why I believe that the lower voltage alternatives, the 161 kV solutions that we talked about that have a lower capital cost are, you know, a good solution. But what I was asked to do was look at the proposed

project, 345 kV project, and say in your opinion, Mr. Hahn, do you think those numbers are reasonable for that project, and I looked at some other projects. I looked at the cost segments per line, and I concluded that it was reasonable. That does not mean that that's the solution you want, it just means that the solution for -- the cost for the proposed project in my view is reasonable.

Q And so you're limiting that to the costs for the proposed project is reasonable in comparison to similar projects, but -- correct?

A Yes.

Q But it is not necessarily reasonable to spend this cost on a project that is not needed?

A Well, I think there's a -- as I said earlier, there's a lower voltage solution that addresses the reliability concerns in the La Crosse area adequately that does cost less, yes.

Q Okay. On page 20 you note that -- at the bottom on page 14, line 14, you're comparing different line segments, and your testimony, am I to understanding correctly, that the 7.1 million is the cost estimate at the river crossing, the segment of the river crossing; is that correct?

A Yes.

Q And did you take a look at the comparison of the cost of undergrounding on that section and this 7.1 million estimate for the above-ground construction?
A Not specifically, no.
Q Okay. So do you have any information about that?
A No, ma'am.
Q Okay. Now, there was some question earlier about the Cross-State Air Pollution Rule. Do you recall that, moments ago?
A Yes, ma'am.
Q Is that in effect now?
A Well, it's my understanding that -- that fines aren't actually being assessed for 2012, but that because the -- the legitimacy of the rule, if you will, was challenged, and that that has sort of set it into limbo. But, I mean, when you say it's in effect, I mean, I think it's a law that exists that's subject to challenge, so I think you could argue that it's in effect. I just don't think they're going to, you know, assert penalties in 2012.
Q So maybe it would be characterizing that that enforcement is delayed at this point?
A I think that's fair.
MS. OVERLAND: Okay. I'm winnowing down. I do believe we're almost done. Okay. I have no

further questions.

EXAMINER NEWMARK: Okay. Other cross?

CROSS-EXAMINATION

BY MS. RAMTHUN:

Q Mr. Hahn, I'm Diane Ramthun for the Public Service Commission. I'm going to refer to your direct testimony, and I'm going to ask a couple questions in two areas: the load forecast and the regional benefits. Would you -- I'm going to refer you to your direct testimony, page 12, starting with line 13.

A I have it.

Q In this -- in this testimony, you're talking about the forecasted peak load growth, and you're talking about Ms. King's testimony, correct?

A I think primarily Ms. King's testimony, although the load forecast was used in lots of other analyses.

Q As I understand, the historical growth between 2002 and 2011 is -- was 1 percent annually, correct?

A That's correct.

Q And the Applicants' forecast assumes 2011 through 2020 growth of 1.46 percent?

A That's my understanding, yes.

Q And that is an issue for you, correct?

A Yes.

Q And as I understand what you're saying there is at least part of the issue is no adequate explanation was given by the applicants for that acceleration and load growth?
A Well, that's one of the reasons stated. But also these other forecasts that have been referred to that have growth rates of less than 1 percent would be used as, quote/unquote, a benchmark.
Q But I wanted you to explain what you meant by no adequate explanation has been given.
A I don't recall seeing, you know, a detailed explanation of the load forecasting process that would result in that 1.46 percent growth rate, which you need to -- probably should look at, but I didn't think it was available in this case.
Q And who would you have expected that from?
A Well, I mean, in an ideal world, it becomes part of an application. Applications are fairly large and complex already, so -- but, I mean, if -- in an ideal world, I would think that the applicants would justify that assumption.
Q Do you think that 1.46 percent assumption is unsupported?
A I believe so.
Q Going now to your page 24 in your direct testimony,

and in -- starting at about line 11 you talk about regional benefits. Do you recall when you were asked -- answering questions from Lisa Agrimonti that you said to the effect that if we build -- if generation is built in western Minnesota, if facilities are built, it will increase transfer capacity and that will allow wind projects to be built. Do you recall -- not those exact words --

A Words to that effect.

Q Yeah.

A Yes, ma'am.

Q When we're talking about wind capacity that is to be built, we're talking about future projects, correct?

A Yes.

Q Or were you also referring to existing projects that had been targeted as needing transmission?

A Well, I think the system is somewhat congested now. In other words, if you were to look at location of marginal prices in MISO, they are -- and look at the congestion component as opposed to the loss component, you would see that in the eastern end of the MISO system, they're higher than they are in the west. That would imply a transfer limit somewhere in the middle because in an un -- in an unconstrained transmission system, the congestion component theory

is zero. Now, that's an ideal, is almost never achieved because there are always transmission constraints in the system. But as a general rule, power wants to flow from west to east in MISO. And if you look at the LMPs, there's some congestion there.

Q But what does it mean in this context to you as an expert in terms of future wind projects and this will facilitate them? What are we talking about? How many or what level?

A Well, to be determined, I guess. I'm generally aware of wind projects being proposed for places west of here, but I can't -- I can't cite chapter and verse as to what these projects are and exactly which ones will exacerbate congestion or not. To me, it's more of a general conclusion that the system does have some congestion now, and that if you were to build more projects now, not connect the dots, if you will, for this MVP system, you could likely exacerbate that congestion.

Q And what's the time frame?

A Oh. Well, it would obviously depend on the timing of the completion of the transmission projects and the timing of the installation of the generators. But I mean, in general -- well, maybe I can perhaps give

you an example.

My hometown, Boston, was a heavily congested area, and they did build some transmission projects. They added some generation, and congestion in New England is much, much smaller than it was four or five years ago. So I don't dispute that that can occur. What I question is, you know, who should pay for that, I guess is my testimony.

MS. RAMTHUN: Okay. All right. Thank you. No further questions.

EXAMINER NEWMARK: Oh. Go ahead.

MR. THIEL: Yeah, DOT, a question. Jim Thiel from the Department of Transportation.

CROSS-EXAMINATION.

BY MR. THIEL:

Q You said -- I believe your testimony was that the estimates provided and that you used were that the project proposal by the applicants included an upgrade of the 161 kV system on the Q1 line?

A The rebuild?

Q Yes.

A Yes.

Q And do you know if that particular upgrade uses the same poles that exist today, or were they hung on the new poles, or would any of your 161 hybrids just use

the same poles that exist today?

A Boy, I don't recall the details of the rebuild, whether they would replace or repole, or just certain portions of them. But my assumption was that the 161 kV alternatives that I looked at would take the same place, if you will, of the company's 161 alternative, whatever that was. And from a solution to reliability program, -- solution to reliability problem, the load flow doesn't recognize that level of detail. So I did not get into it in as much detail as I did some of the other aspects of the load flow.

Q All right. So basically you didn't look at changes of the poles or size of poles or location of poles?

A Not that level of detail. I do recall reading that this work had to be done and that it would be done for several of these alternatives. But, again, I did not go out and examine each product and say this one needs a new crossarm and this pole has a rotten base. I did not do that, no, sir.

MR. THIEL: Okay. No further questions.

EXAMINER NEWMARK: Okay. Redirect.

MS. LOEHR: Just a couple questions, Mr. Hahn.

REDIRECT EXAMINATION

BY MS. LOEHR:

Q Going kind of way back now. Ms. Agrimonti asked you about cost allocation analyses you've done with respect to the MISO tariff, and you were beginning to mention another one which you might have done. Do you recall that?

A Yes. La Capra Associates was retained by the Arkansas Public Service Commission to review Entergy Arkansas' withdrawal from the Entergy system agreement, and which -- or what Entergy Arkansas should do next. They are leaving the system, so they need -- Entergy Arkansas needs to decide whether they become a standalone balancing authority area, whether they join SPP, Southwest Power Pool, or whether they join MISO. And I believe that the company's option is to join MISO.

And in looking at this, the allocation of transmission costs became a very important component of the benefit/cost analysis of whether it's worth it, whether the benefits of Entergy Arkansas joining MISO outweigh the cost. So we looked at this -- sort of the entire cost allocation process in its entirety, not just the MVP projects, but the baseline reliability projects. So we have looked at similar type activities than was looked at here.

Q Thank you. And do you also still have Exhibit 5 in front of you, the -- your consultant report for Central Maine Power Company?
A Yes.
Q And the sentence I believe Ms. Agrimonti referenced, both transmission upgrades and MTAs have impacts on the cost of providing electricity that extend beyond the improvement of system reliability. Do you have any additional comment regarding that?
A Yeah. Well, I would like to clarify that in this particular study we looked at constructing non-transmission alternatives, building new generation that doesn't exist today that would say, okay, if I build enough generation of the right type and the right location, then I don't need to upgrade the transmission system. And obviously those generators have a capital cost that's recovered over time. They have O&M costs. They may or may not have fuel costs, which may be significant.

And so we did do a lifecycle cost analysis of that particular alternative, and we also did a lifecycle cost analysis of the transmission assets, because the transmission lines that were going to be built had ongoing O&M, some cases you're going to pay property taxes or personal property taxes to local

communities in Maine. So we captured all those costs in a lifecycle analysis.

And I just want to draw a distinction, that's different from what I've been asked to do here because I've not been asked to look at non-transmission alternatives to this particular project, and I just wish to offer that clarification.

MS. LOEHR: Thank you. No further questions.

EXAMINER NEWMARK: All right. Sir, you're excused.

THE WITNESS: Thank you very much, Your Honor, for accommodating my schedule.

EXAMINER NEWMARK: Absolutely. Not a problem.

(Witness excused.)

EXAMINER NEWMARK: So we're starting back up with the applicant witnesses.

MS. AGRIMONTI: I believe we have Mr. Burmester.

EXAMINER NEWMARK: Okay. What do we have in store for him exactly?

Off the record a second.

(Discussion off the record.)

EXAMINER NEWMARK: All right. Let's call

him.

DALE W. BURMESTER, ATC WITNESS, DULY SWORN

EXAMINER NEWMARK: Have a seat.

DIRECT EXAMINATION

BY MR. CULLEN:

Q State your name, title, and business address.

A My name is Dale Burmester. I'm manager of the economic planning group for American Transmission Company. My address is 2 Fen Oak Court, Madison, Wisconsin 53718.

Q And are you the same Dale Burmester who has filed direct and surrebuttal testimony in this matter?

A Yes, I am.

Q And is the information contained in your answers to those questions true and correct to the best of your knowledge?

A Yes, they are.

EXAMINER NEWMARK: Okay.

MR. CULLEN: The witness is available for cross-examination.

EXAMINER NEWMARK: Cross.

MS. OVERLAND: I'm next?

EXAMINER NEWMARK: Go ahead.

MS. OVERLAND: Good morning, Mr. Burmester.

THE WITNESS: Good morning.

CROSS-EXAMINATION

BY MS. OVERLAND:

Q On page 5 of your testimony, your direct, line six, you're referring to -- you have CapX 2020 listed there. What's your perception of what CapX 2020 is?

A CapX 2020 is the coalition of companies that are proposing to construct this line.

Q Are you aware that there's no business entity called CapX 2020?

A I don't know.

Q You don't know, okay. On page 5, line 14, you're talking about the western Wisconsin transmission reliability study and that that's part of a larger combination of benefits analysis. What benefits are you referring to there, with specificity?

A The western Wisconsin reliability study took into account a number of benefits for various projects within this general area, including reliability benefits, loss savings, transfer capability improvements.

Q Would you agree that the -- part of what the -- the one thing that the study revealed was that the benefits -- that an extension from La Crosse to Madison is necessary to achieve those benefits?

A The benefits that were outlined in this report did, yes.
Q And on your testimony, page 6, you're stating that all of the studies presumed that this project, the Hampton-Rochester-La Crosse Project was in service. If it were not in service, would there be any need for an extension from La Crosse to Madison?
A Under that hypothetical, we'd have to reevaluate the benefits of a 345 kV line further to the west.
Q Further to the west?
A Namely the Badger Coulee Project.
Q You mean from the Badger Coulee -- from -- west from La Crosse or west from Madison?
A I'm sorry, yes. It would be east -- east of this project. It's essentially the Badger Coulee Project would need to be reevaluated.
Q And is that because it would need to connect to a 345 line?
A The benefits of Badger Coulee do rely in great part on the connection to a 345 kV line, yes.
Q Okay. And essentially a radial 345 would not do it, is that it?
A Like I said, we would have to reevaluate the benefits, yeah.
Q Now, you state though on page 6 that you support the

Applicants' position that a 345 kV line from the west that terminates in the La Crosse area would provide significant reliability usage and service benefits to Wisconsin customers. Can you explain that?

A Which part would you like me to explain?

Q What -- okay. First, what significant reliability benefits would this Hampton to Rochester-La Crosse Project provide to Wisconsin customers?

A Well, I think my statement is that we haven't conducted our own studies. We generally support the project, so I don't have specific details on each one of these.

Q Okay. So you're just supporting it generally, but you don't -- you can't testify as to what specific reliability usage or service benefits it would provide to Wisconsin?

A That's correct.

MS. OVERLAND: Okay. I have no further questions.

EXAMINER NEWMARK: Okay. Other cross?

(No response.)

EXAMINER NEWMARK: Redirect?

MR. CULLEN: No.

EXAMINER NEWMARK: Okay. You're excused.

THE WITNESS: Thank you.

(Witness excused.)

EXAMINER NEWMARK: Now who's supposed to be next? Is it Applicants' witnesses? So let me ask my question again, how does it look for him and for cross?

MS. AGRIMONTI: Mr. Noeldner is our first witness.

MS. OVERLAND: He's here?

MS. AGRIMONTI: Yes.

TIM NOELDNER, APPLICANT WITNESS, DULY SWORN

EXAMINER NEWMARK: Okay. Have a seat.

DIRECT EXAMINATION

BY MS. AGRIMONTI:

Q Mr. Noeldner, would you please state your name and address and what your current position is at WPPI Energy.

A Sure. My time is Tim Noeldner. I am the assistant vice president of special projects at WPPI Energy, and our address is 1425 Corporate Center Drive, Sun Prairie, Wisconsin 53590.

Q Did you file direct testimony with three exhibits in this case?

A Yes.

Q And were they prepared by you or at your direction?

A Yes.

Q Did you have a correction that you identified this morning that you wanted to make to your direct testimony on page 7?
A Yes.
Q Line five?
A On page 7, line five, there should be a completion of that sentence that says --

EXAMINER NEWMARK: Okay. Let's go off the record and do that.

(Discussion off the record.)

EXAMINER NEWMARK: Okay. Back on.

MS. AGRIMONTI: Mr. Noeldner is available for cross-examination.

EXAMINER NEWMARK: Questions?

Go ahead.

MS. OVERLAND: We'll have a few.

CROSS-EXAMINATION

BY MS. OVERLAND:
Q Good morning.
A Good morning.
Q I'll try to keep this brief. Much of your testimony is about facilitation of wind generation into transmission; is that correct?
A That's correct.
Q Would you agree that most wind projects -- well,

first, this will be regarding wind projects west of Wisconsin coming into Wisconsin; is that correct?

A Your question is about that?

Q Well, your testimony is regarding wind projects and transmission, and you would be referring to bringing into Wisconsin wind generation that is occurring outside of Wisconsin; is that correct?

A The model that I ran is customized to that situation, yes, or a transfer from Minnesota wind to Wisconsin load.

Q Okay. I will let you know I worked on the Bent Tree Project that brought Minnesota wind into Wisconsin, and that was a PPA with a Wisconsin utility, but it was built in Minnesota. Is that the scenario you're speaking of?

A Did you say Bent Tree?

Q Bent Tree Project, correct.

A That would be an example of one -- one possible transaction could fit in this category, yes.

Q Okay. Now, do wind projects that fit in that category, are they then the ones with PPAs with Wisconsin utilities?

A This is a general study that just looks at what is the value of higher capacity factor wind outside the state of Wisconsin and Minnesota versus what we have

in Wisconsin. So it could be a PPA that brings that energy into the state, or it could be a Wisconsin utility that actually owns wind turbines in Minnesota.

Q And WPPI does own two projects, right?

A We own two wind turbines.

Q Two wind turbines?

A At Worthington, Minnesota.

Q And the other in Iowa?

A The ones in Iowa, Barton and Top of Iowa are PPAs.

Q Do you know of any instance where wind projects are available on the General Electric -- you know, wind generation, wind energy, would be available in the general market as opposed to PPAs?

A Not sure what you're asking. Do you mean whether you can buy it in the LMP market?

Q Right.

A If -- if a project is not fully subscribed and congestion is zero between Minnesota and Wisconsin, it is true that you could get wind energy off from the LMP market.

Q Based on my experience with wind projects in Minnesota, I don't know of any wind project that's ever gone forward that didn't have a fully -- full PPA allocated to some utility. Do you know of any

instances where that's the case where a project goes forward without a PPA?

A I don't know in detail the Minnesota projects, but I am aware of some projects in Wisconsin where part of the project has been without a PPA.

Q And that's in Wisconsin?

A Yes.

Q Do you know of any instances of utilities in Wisconsin purchasing power, wind power, on an LMP basis rather than a PPA?

A No, I don't. I'm not saying that there aren't any. I just am not aware of it.

Q Do you know what percentage -- let's take this back. Do you have any idea what percentage of wind -- no. What the percentage of the eastern interconnect transfer capacity would be estimated to be wind?

A No.

Q And to clarify, on your direct page 4, or 130 -- it's 130 for me. Direct page 4, lines 21 to 23, you're noting that the project is designed to provide an essential 345 link that will enable approximately 1,200 megawatts of transfer capacity. But it states, when a 345 connection is made further to the east. So would it be your testimony that that 345

connection further to the east is necessary for that 1,200 megawatts of transfer capacity?

A What I'm talking about here is transfer capability from Minnesota into Wisconsin, and I'm relying on Ms. King's testimony. I believe that's what her testimony is, but you should ask her when she's up.

Q I will. I will. And in your modeling, how did the modeling address the -- address the capacity factor of the project and then line losses resulting from the -- well, let me go back.

First, would you agree that line losses are -- a function of line losses is distance?

A I agree that line losses are caused or dependent on a number of factors.

Q Uh-huh.

A One is the resistance of the power line, so the conductor size matters, the voltage matters, and the distance matters.

Q Right. And would you agree that it is a longer distance from Wisconsin to Wisconsin, generally, depending on where it was -- where it is located, but that it's farther from Wisconsin -- from Minnesota to Wisconsin than it would be from Wisconsin to Wisconsin? It would be increased distance in transmission from, say, Minnesota?

MS. AGRIMONTI: Objection. I beg you to rephrase.

MS. OVERLAND: I'll rephrase it.

BY MS. OVERLAND:

Q Would you agree that it is further from Minnesota to Wisconsin than it is from Wisconsin to Wisconsin?

A Depends where in Wisconsin.

Q Would you agree that most of the wind is located in the southern part of the state?

A Which state?

Q Wisconsin.

A I don't know that. We're in a project up by -- well, the Forward Project, and that's not really southern Wisconsin.

Q That's true.

A But I think what you're trying to get at is there would be losses between Minnesota and Wisconsin, right?

Q Right.

A And, yes, I would agree with that.

Q And how did your modeling address the line losses of a wind project that's, you know, say 30 percent capacity factor?

A The capacity factor of the project isn't really relevant there. What the model does is it compares

building wind generation, in this case Minnesota where the capacity is higher, and moving that wind energy to Wisconsin, where typically the wind capacity factors are lower. And it looks at or makes an assumption about what losses are. So if you build a project in Minnesota, you have -- the model assumes as a base amount 5 percent additional losses. If you site it in Wisconsin, you assume zero percent incremental losses. So the Minnesota projects in effect are penalized by 5 percent for transmission losses.

Q Now, didn't the Burns & McDonnell report state that there are thousands of megawatts potential at a 30 percent capacity factor in Wisconsin?

A Can you direct me to where it says that?

Q Let me take that back. That's in your footnote, in Exhibit 3 in your footnote. It's in NREL. Would you agree that NREL, footnote six in your Exhibit 3, states that there is wind potential of 103,000 megawatts at or above 30 percent capacity factor?

A That's what the NREL report states for -- let's see. This is -- I believe this is 80 meters height, and you have to keep in mind that what does Minnesota have. Minnesota has almost four times that amount at above 35 percent. So the two states are vastly

different in the capability of wind.
Q But do you think that given WPPI's requirements for their RES, that of that 103,000 megawatts potential in Wisconsin at 30 percent capacity, you might be able to find some in Wisconsin?
A Are you assuming that the 30 percent capacity factor makes it economic?
Q That was your -- I believe your presumption that the 30 percent factor was a threshold.
A No. That was not my presumption. I looked at what is the average wind capacity factor in Wisconsin for all sites above 30 percent capacity factor and used that to compare with Minnesota to find a differential. It's the differential between the two states that is important.
Q That's your testimony. That's not necessarily -- that's your testimony. But would you agree that there's 20,000 megawatts potential in Wisconsin at above 35 percent capacity factor?
A That is what NREL says, yes.
Q Right. And this was also all on land wind projects; is that correct?
A That's correct.
Q And does not include any potential development in Lake Michigan?

A It does not include development in Lake Michigan --
Q Okay.
A -- which would be a higher cost.
Q And that would also be a higher -- and would you agree that would also be logically a higher capacity factor?
A When one looks at the economics of wind, you have to consider not only the wind speed but the capital costs, too.
Q Uh-huh.
A And I served on some committees in the Eastern Interconnection Planning Collaborative, and those committees developed assumptions for the capital costs of wind onshore and offshore, and the offshore assumption or cost, capital cost for wind, was more than twice the onshore. So I would not consider that to be a very reasonable alternative in Wisconsin until that capital cost would come down.
Q Well, you're referring to eastern offshore projects, and would you agree that most of those are, like, say, the Bluewater Wind Project out in the ocean?
A I don't know about the project you refer to, but the Eastern Interconnection Planning Collaborative used a base offshore wind component or capital cost estimate that the group agreed to, and then they apply a

regional multiplier to that. And so for Wisconsin, there's a regional multiplier that brings it down to what it would -- is expected to be in the Great Lakes, where on the East Coast there's a different regional multiplier that adjusts it to the East Coast and ocean.

Q And would you agree that costs in Lake Michigan would be lower than -- predicted to be lower than for offshore in the Atlantic Ocean?

A I don't know that.

Q Is the multiplier lower?

A I don't recall that either. So it would be available on the Eastern Interconnection Planning Collaborative website.

Q You used the words bring the cost down for Wisconsin just moments ago. Did you -- were you saying that the costs for Wisconsin for offshore, meaning in Lake Michigan, are lower?

A Than what?

Q Than East Coast ocean construction.

A I don't know.

Q Okay. You used the words bring -- bring the costs down. Do you recall that?

A I don't recall exactly how I used that. Maybe we could go back and read the transcript on that.

Q I think the transcript will be okay. I'll leave it.
Oh. In your testimony on page 9, you refer to the Eastern Interconnection Planning Collaborative, and you did just now. Did you provide that Burns & McDonnell wind economic study and model to any EIPC work group?
A No.
MS. OVERLAND: Thank you. No further questions.
EXAMINER NEWMARK: Okay. Other cross.
CROSS-EXAMINATION
BY MS. RAMTHUN:
Q Mr. Noeldner, I'm Diane Ramthun from the Public Service Commission. I have a couple questions relating to your direct testimony. If you look at page 5 where you talk about the effort that WPPI made to quantify the value and transfer capability.
A Yes.
Q In that answer you talk about the December 15, 2011 MISO generation interconnection queue. Do you see that?
A Yes, I do.
Q Can you explain the relationship between what you talk about as the value of the transfer capability and what that queue means?

A I was referring to the queue to show that there's a real-life interest in developing wind generation to the west of Wisconsin.
Q What is the -- what does the queue represent?
A It represents projects that have applied for transmission interconnection in MISO.
Q Going to your last page. And as I understand, you did an analysis to upgrade the study, the earlier study, that was done on the value of transfer capacity?
A Yes.
Q And your results were in the range of 130 to $250?
A Yes. Per kilowatt of power transfer capability from Minnesota to Wisconsin. The study was more generic than that. It applied to other states as well.
Q The earlier study?
A Yes.
Q Is there any significance to the fact that there -- that you have this range of 130 to $250?
A I think you're probably asking where the range comes from?
Q Well, I was going to get to that, too, but --
A Okay.
Q Tell me about the range.
A Sure. Exhibit 3 lists a number of sensitivity

analyses that I did. Let's turn to Exhibit 3 so you can watch it as I describe it here. The first line on the actual data on the table shows what the model produced before I customized the assumptions for the latest NREL wind data to 80-meters height, and that came out at a $480 per kilowatt value number from Minnesota to Wisconsin for transfer capability. The second line then goes into the base case for this after I customized it and used NREL's at that time, or fairly recently, produced 80-meter height data. And it made quite a difference for Wisconsin -- Minnesota to Wisconsin. It dropped to $180 per kilowatt. So that then served as my base case for the analysis that I did here.

And below that line are some sensitivities where I tried to show how sensitive the results of this analysis are to different assumptions that are made. So I looked at things like what about the spread and capacity factor between Minnesota and Wisconsin, how does that affect the results. That's the next packet.

The one right below that is sensitive to capital costs, and then I used different capital cost assumptions that are available out in the planning world to try and give it some credibility to where

these are coming from.

And then I looked at sensitivity to fixed-charge rate and sensitive to transmission losses and used the whole range produced by those sensitivity analyses then to -- to come up with the 130 to 250 per kilowatt range.

Q And where is the 130 to 250 kilowatt shown on Exhibit 3?

A If you look at the column that's in the box, 130 on the low end is under sensitivity to capacity factor.

Q Okay.

A And it uses the EIPC wind data comparing -- the comparison there is made between MISO West and MISO WUMS. So it's not quite a Minnesota to Wisconsin type of analysis, it's more the regions that were modeled in EIPC, but these were the closest hits that I could find in that analysis.

And then on the high end, the 250 is also from that category of sensitivity to capacity factor, and it compares what would happen if you pick the best wind sites in Minnesota, in other words, that are at or above a 35 percent capacity factor, and compare that to above a 30 percent capacity factor in Wisconsin. It widens the spread of it.

Q Just so the record's clear, what's -- what's MISO West? And also what does WUMS stands for?
A Okay. WUMS stands for Wisconsin-Upper Michigan System. So it includes Upper Michigan in addition to Wisconsin, and probably excludes western Wisconsin. And then MISO West is everything west of that. There is still a MISO.

MS. RAMTHUN: No further questions. Thank you.

EXAMINER NEWMARK: Okay. Redirect?

MS. AGRIMONTI: No, Your Honor.

EXAMINER NEWMARK: Okay. You're excused.

THE WITNESS: Thank you.

(Witness excused.)

EXAMINER NEWMARK: We'll break for 45 minutes, which will bring us to about -- well, about quarter to 1:00 let's get back.

(Break taken from 12:09 p.m. to 12:45 p.m.)

(Change of reporters.)

STEPHEN BEUNING, APPLICANT WITNESS, DULY SWORN

DIRECT EXAMINATION

BY MS. AGRIMONTI:
Q Mr. Beuning, will you please state your name and address.
A My name is Steven Beuning. Last name is spelled

B E U N I N G. And my address at work is 1800 Larimer, Suite 1000, Denver, Colorado, 80202.

Q What is your current position and responsibilities at the company?

A I'm director of market operations for Xcel Energy. In that role, I work on wholesale market design as a customer of the wholesale markets, and I also procure our transmission service and interconnection rights for our generation portfolio.

Q Did you prepare or have prepared at your direction direct and rebuttal testimony in this matter?

A Yes.

Q And were there also five exhibits with your testimony?

A Yes.

Q And are those true and correct copies of your testimony and exhibits?

A Yes.

MS. AGRIMONTI: Mr. Beuning is available for cross.

EXAMINER NEWMARK: Who do we have? Ms. Overland.

MS. OVERLAND: No one else before me?

EXAMINER NEWMARK: I don't think so.

MS. RAMTHUN: I might have a few.

CROSS-EXAMINATION

BY MS. OVERLAND:

Q Good afternoon.

A Good afternoon.

Q Okay. So to clarify, the focus of your position is, like, on wholesale markets?

A Yes.

Q Okay. And you're here today to talk about regional market benefits, that's one of the aspects, correct?

A In part, yes.

Q Now, you also testify at page 3 that -- let me make sure I got this right.

EXAMINER NEWMARK: We're on his direct?

BY MS. OVERLAND:

Q In your direct, right, page 3 -- or page 110, which is page 3, that this project and future high voltage upgrades from La Crosse to the east will reduce regional energy production costs. And so then would you agree that this Hampton-Rochester-La Crosse is one part of a larger project necessary to provide these benefits?

A Yes.

Q And the regional plan, when you say regional plan, does that mean like the CapX 2020 vision plan or what is the regional plan?

A As I used the term, I intended the Midwest ISO transmission expansion plan, or MTEP as it's called, and that's a forward-looking tenure plan that's performed periodically by the Midwest ISO and stakeholders.

Q And when you use that then, are you referring to a particular MTEP like '08 that was regarding this one or is it all of the iterations?

A Generally all of the iterations.

Q Okay. Thank you. And does it include any transmission plans that are not a part of the CapX 2020 vision plan or the MTEP?

A Not for the purposes of my testimony.

Q Okay. Let's see, on page 3, you state that with the 345 project development in place -- let me get the line here. Starting on line 14, "With this project development in place, future high voltage upgrades from La Crosse to the east will reduce regional energy production costs."

Now, would you agree then that it is necessary, with the future high voltage upgrades, that that is necessary to reach those benefits of lower production costs?

A Well, I like the characterization that Witness Hahn made earlier this morning where he indicated that to

be part of the broader regional plan, you have to connect the dots. And so in my view of his statement, I'd characterize it this way. Having the 345 kV project that's advocated by the applicants here is the -- is that process of connecting the dots part of the integrated regional plan which includes in the long run further developments to the east into Wisconsin.

Q So then you would also join him in testifying that it's all connected, it's one of the themes?

A I'd say that's the characteristics of the bulk electric system, yes.

Q Thank you. And has any modeling been performed to determine whether the 345 kV project alone without future high voltage upgrades from La Crosse will reduce any production costs?

A I don't know. It was not part of my modeling.

Q So what you don't know is that you don't know that there is any --

A I don't know if any other studies were run of that characterization.

Q And it's not a part of your testimony here?

A No.

Q But your testimony is about this project specifically, is it not?

A Well, the study I performed or that was performed at my direction for this testimony makes a comparison between a 161 kV scenario, I guess it's characterized as the alternative project, and a 345 kV that integrates with the long-term regional transmission plan including 345 kV capability further eastward than Wisconsin.

Q When you looked at the 161 kV option, how specific did you get? Meaning, like, what were the characteristics of that line as far as, you know, capacity, design, that you looked at?

A Just to clarify, are you talking about like a load serving level under the 161 kV?

Q Well, what the normal rating would be, summer rating.

A I don't -- I don't know.

Q So you -- did you make any presumptions about what the capacity of the line would be?

A My recollection is in the 161 kV base case, we modeled the alternative scenario. So I would indicate that the ratings would be consistent with the project development proposed for the alternative scenario. I don't recall specific line ratings personally.

Q Would that be something Ms. King would --

A Possibly.

Q One second. Now, on page 4, you're testifying regarding market efficiencies and you said least cost resources. Can you be specific about what the least cost resources are?

A Yes. I'll try. In this context, I'm not talking about the least cost integrated plan that might include capital decisions. So what I'm talking about is given a system of resources established in an operation, what's the least cost economic dispatch associated with that operation.

Q You have some caveats as to what was not included, so I want to get into that. Are you referring to, like, then a bus bar cost or are you referring to things that are added in including, you know, reactive power or line loss? What all is included in your cost as you use it?

A The PROMOD analysis takes whatever input conditions are given as part of the case under analysis. So for the given generation portfolio model, it does a least cost economic dispatch of those resources. It doesn't make the determination of which resources should be constructed. So when I say least cost, I'm only talking about least cost operation for the given portfolio. It's not least cost in the sense of what some people under traditional integrated resource

plan might consider that lifecycle cost analysis associated with plant installations.

Q So it's a more narrow view of cost?

A Yes. It's an assessment of operating costs for a given portfolio instead of the determination of which portfolio was appropriate.

Q Okay. And I still want to get at would that include things like line loss?

A Yes.

Q And would it include reactive power?

A Reactive power generally doesn't get characterized in the production cost. So when we talk about the least cost dispatch, I would tend to answer that question no.

Q Okay. Are there other things that are not included that I'm missing?

A I don't know how to answer that question.

Q All right. As far as things that are -- that could be included, things that would be an inherent cost in shipping power from Point A to Point B, like line loss and the reactive power, are there tariff issues that are excluded?

A Well, this does not cover the tariff cost associated with delivery of the energy. The embedded cost of the transmission system is a cost to be recovered

somehow, and that's considered applicable in both cases.

Q Okay. So would a way to characterize it be that it's all the cost in the production side, but it doesn't include what it takes to get it from here to there? Is that --

A I'd say it this way. It characterizes the cost associated with running generation to meet load given the physical limitations of the transmission system. So when you have congestion represented in the grid, the model does capture those impacts and shows a difference in production costs that could be associated with difference in transmission delivery capability.

Q Okay. That helped. And then you raise congestion. What's the impact -- would you agree that there has been a decrease in demand from the, say, 2007?

A Of -- ?

Q Of peak demand.

A I believe by having seen testimony of other witnesses that that was their information. I did not get involved in the load forecasting decisions or testimony.

Q If demand goes down, what's the impact on congestion generally?

A It depends on which side of the constraint the demand is. If the demand is on the low cost side of the constraint, then a reduction in demand could increase congestion costs because the export from that region would be increased. So you have to look at which side of the constraint the demand is occurring.

Q So if the demand goes down, then there is more to export, so more could be exported?

A Unless there were congestion in which case that would not be able to be exported.

Q Right. So, in essence, if demand goes down, that frees up capacity to be exported?

A Only in the condition where that were -- where the demands were on the dispatch down side of the constraint. If the demand were on the side of the constraint where additional generation was needed to relieve congestion, a reduction in demand would relieve the congestion.

Q Thank you. That helped. Okay. Moving right along.

Okay. On page 5, you're talking about -- the question is why is an energy efficient market beneficial for consumers? Now -- and you're testifying that it reduces the average cost of wholesale energy supply. For who does it reduce that cost? Who are the beneficiaries of that?

A Purchasers in the wholesale market.
Q And then that would be in this case somewhere to the east, would it not?
A As it relates to the 345 kV alternative combined with the eastward expansion under the MISO MTEP, then yes.
Q Okay. Thank you. And would you agree that the line is coming from Wisconsin, right -- I mean Minnesota into Wisconsin, correct? It's just a basic --
A When you say the line --
Q Okay. This line is coming from Minnesota into Wisconsin, correct?
A Oh, yes.
Q And would you agree that Minnesota is one of the lowest cost states in the midwest?
MS. AGRIMONTI: Objection, lowest cost what?
MS. OVERLAND: Lowest cost electricity.
A I don't know.
Q Do you know how Minnesota costs compare with, say, costs to the east with those extensions?
EXAMINER NEWMARK: So can you clarify? The wholesale costs?
MS. OVERLAND: Wholesale costs.
A Wholesale costs? Yes. Generally the wholesale costs in the MISO footprint tend to be lower in the west

and higher in the east. So I'd agree with Mr. Hahn's characterization that the general wholesale market transaction pattern in the Midwest ISO was a west-to-east delivery path.

Q Thank you. Looking at page 7, you were talking about your analysis and that it was based on an adjusted production cost analysis and that it captures -- it does capture system loss reductions.

Now, is that where you're referring to the losses of -- loss savings of about 4 to 11 megawatts?

A Could you help me with what line that is in?

Q Sure. Page 7, line 13 and 14.

A Okay. And I'm sorry, what was the question?

Q Okay. About system loss reductions, would you agree that system loss reductions would be in the vicinity of 4 to 11 megawatts?

MS. AGRIMONTI: Hold on. I'm going to interpose an objection. This is the second time this has come up, and I don't believe it accurately reflects what's in the record. So if Ms. Overland could point to where she gets the 4, 7 --

MS. OVERLAND: I'll try to remember. It's in the application. Shall I take the time to dig out the application?

MS. AGRIMONTI: This is an important

point. I think we should have the loss calculations accurate.

MS. OVERLAND: Just a minute. I'm going to have to open up the application here.

EXAMINER NEWMARK: Why don't we go off the record while we do that.

(Discussion off the record.)

EXAMINER NEWMARK: Let's get back on.

BY MS. OVERLAND:

Q This would be from the SNS study, the Supplemental Needs Study, August 2011, PSC number 152526 from King Exhibit 2. And do you have that?

A I do not have a copy of that with me. (Document tendered to the witness.)

Q Looking at this chart, it's figure S, losses performance comparison, and you have that now?

A I see that.

Q Okay. I'm not seeing, though -- just a minute.

MS. AGRIMONTI: Could we go off the record for just a minute.

EXAMINER NEWMARK: Sure.

(Discussion off the record.)

EXAMINER NEWMARK: Let's get back on the record.

BY MS. OVERLAND:

Q Do you see the 10-megawatt savings listed in the top line of that chart?
A Yes, I do.
Q Is that -- when you're talking about system loss reductions, is that the number you're referring to or some number near that 10 megawatts?
A Yes. But let me characterize the production cost analysis that I made as opposed to this losses performance comparison that you're referring to. In my PROMOD analysis work, we did not attempt to characterize the volume of losses; but you see the impact of that inherent as a total in the difference between adjusted production cost in the case with the 345 kV line in service compared to the 161 kV alternative. So whereas I -- so in the PROMOD analysis, there is no evaluation of a megawatt number of losses. But in the one-year simulation, you do have inherent in the adjusted production cost numbers a difference where that difference value includes the value of loss reduction.

So, for example, I see in this analysis here, it has a $45 million present value on the top column right-hand side for the loss reduction. So this is -- in the PROMOD analysis work that I did, this indicates one year's worth of that present value

in the difference between the two cases.

Q So you're focused on the dollar amount rather than a megawatt value?

A Correct.

Q And it's a one-year --

A The PROMOD analysis was a one-year simulation, yes.

Q And I'll deal with the rest of this with Ms. King when that comes up. Thank you.

Now, on that same page, lines 18 through 20, you testify that this project and future upgrades, his word, will facilitate development of wind generation resources in an area with relatively strong winds on behalf of parties with RPS.

Now, first, how will this project facilitate development of wind generation resources as opposed to any type of generation resources? How is it that wind generation resources are specified here?

A I think inherent in your question is a good point, which is the 345 kV project as proposed creates the option for Wisconsin utilities to access many different types of generation resources. The reason it was phrased this way in the testimony is in recognition of the fact that they do have an RPS obligation; and given the fact that they need to

invest in order to satisfy that obligation, it would make sense for them to invest an in area where their per unit cost was the lowest.

So like Mr. Noeldner characterized, if you invest a dollar in a wind generator where the wind blows stronger and steadier, your per unit cost for the wind energy is cheaper. And so I did phrase this, as you point out, specifically for wind. But in addition to enabling potential benefits to Wisconsin utilities associated with wind investments, the project as proposed does enable options for other resources as well.

Q And those would be low cost resources?

A They would be for uncongested access to the western portions of the MISO footprint.

Q Okay. And what fuel sources would those generation resources be?

A I don't know. I would have to be speculating on that. Having a transmission line that gives you the delivery capability doesn't ordain what generation portfolio decisions the individual utilities themselves might make.

Q Would you agree that roughly 50 percent of the generation was coal, generally?

A Generally? Do you mean in the MISO footprint or --

Q Coming from the -- west of the Minnesota/Wisconsin border.
A You know, as a broad-brush number, that may be reasonable. I guess to me the question is ambiguous enough. I hesitate to just give that a flat-out yes. But, you know, that's fair.
Q That's fair.
A Base load coal comprises a pretty good percent of most utilities' portfolios in the midwest.
Q Okay. Well, speaking to that, let's turn to your Exhibit 2, particularly the first page of it -- no, page 2 of 3. Let's go to page 1 first. This was done by -- well, sent to you by Greg Woodworth. Is he the same Greg Woodworth that was at RPU?
A Yes.
Q Rochester Public Utilities. Looking at page 2 at the bottom of the printout here, and would you agree that these wind units are not in the base case?
A Yes.
Q Okay. So then when we turn to page 3, this is not including any wind generation then; is that correct?
A On page 3?
Q Page 3 of 3, yes.
A Page 3 is a comparison between the base case which does not include the wind and the incremental case

which does.
Q Okay. Now, if you look at the types of generation, they're listed as -- I see steam cost, nuclear cost, turbine cost and hydro cost. Now, would you agree that hydro cost, that would be for hydro production cost, is that -- and cost savings?
A I see pumped hydro maintenance cost, is that --
Q No, no, down below, underneath --
A Hydro cost, there we are. I'm looking at it. What was your question again?
Q That that would be hydro cost savings?
A There is no change between the two cases.
Q Right. But that's -- the data item, I want to know what that means, hydro cost. That would be representing hydro cost savings, correct, or hydro costs for hydro generation, correct?
A You said savings. There is no savings in the sense of a delta between the two cases.
Q Correct. There is no delta there.
A Right.
Q That's not my question.
A Okay.
Q I want to get into what these terms mean that are listed under data item. So I'd like to know under hydro cost, what does that mean? That's -- hydro

generation is what you're referring to, correct?
A I would characterize it as the volume of hydroelectric production in megawatt hours multiplied by the locational marginal price for resource output.
Q Good. Okay. Then if we move to turbine cost, would that then be that same definition except for, say, gas turbines, combined cycle or single cycle, whatever?
A No.
Q What is it?
A You said combined -- gas turbine, combined cycle, single cycle. The turbine cost does not include the combined cycle. The combined cycle resources include steam production, and the steam cost component captures the combined cycle operation.
Q Because they're producing steam?
A Right.
Q Okay. Then we go to nuclear cost. Okay. Wait, wait. Turbine cost then is not combined cycle, just single cycle; is that correct?
A Yes. Simple cycle, single cycle, yes.
Q Okay. Now, moving up to nuclear costs then, that would be nuclear plants, nuclear generation?
A Yes.
Q Then we move up to steam costs then, would that be

then both combined cycle and coal combined?
A Yes.
Q And what are the percentages there?
A I don't know.
Q Would you agree that there is more -- well, first, combined cycle, is that typically in the midwest peaking power or intermediate?
A I would characterize it as intermediate.
Q Intermediate? And it's not base load technically in the midwest; is that correct?
A Generally not.
Q Okay. And the coal is not typically base load; is that correct?
A Yes.
Q And that would run more often than the gas; is that correct?
A Yes.
Q And would you agree that the majority of the savings we're discussing in that line item would be coal savings as opposed to gas, it would be combined, but it would be primarily coal?
A No. Actually, I'd say it's just the other way around in fact. The savings in a regional wholesale market come by dispatching down the highest priced units first. So the combined cycle units generally operate

at a higher cost than the coal and would tend to be dispatched lower first rather than the coal.

Q So the idea is to not dispatch the higher priced gas --

A Yes.

Q And so if you're not dispatching the higher priced gas, doesn't that mean that you are dispatching the lower priced coal?

A No. In -- as it relates to this case here -- do you mean as it relates to this case here or just in general?

Q Just generally, whichever will give me a yes.

A Okay. Let me give you a yes qualified in the following way. The Midwest ISO's energy market operates in general to reduce economic dispatch cost. So that the -- you know, the most efficient optimization lowers the high priced generation first. So that's a general characteristic of regional wholesale markets. In this analysis that we've done here where we've added wind, the wind displaces higher cost generation, and that displacement occurs first with the highest cost resources.

Q And so that would then occur more with gas?

A Yes.

Q And what about the coal, the coal -- how does the

coal relate in your analysis to wind cost?
A Higher.
Q Coal is higher?
A Yes.
Q Is that because of fuel cost?
A Once you've invested in wind, the generation output is essentially treated as a zero cost energy supply resource, and so the whole resource with a fuel cost associated with burning the coal would be backed down prior to curtailing the wind output.
Q Then in your model, is that included under, like, variable O and M cost or fixed O and M cost, fuel cost? Let me rephrase that. Are the fuel costs included in variable O and M and fixed O and M?
A Not -- no, not generally. As I understand this analysis, that's not the case. This would relate to costs associated with generating plants that would be incurred on the basis of their volume of production. So, for example, the maybe seals or gaskets that might wear out faster on a per megawatt hour per hour use basis. The cost associated for the fuel with the steam plants would be in the steam bucket.
Q It would. And even like a long-term 20-, 25-year contract for coal?
A This reflects the operating costs for the production

cost simulation. It doesn't reflect the committed costs for a long-term fuel supply contract. So to the extent the O and M -- I'm sorry, to the extent the fuel cost at the plant for that hour that it was operated will reflect it, it would be shown here. This -- it wouldn't reflect the long-term 25-year costs.

Q So that would not be in the fixed O and M costs?

A That's not my understanding.

Q And would you agree that the majority of these cost savings are in the steam cost category?

A Yes, about $44 million of the 50 -- approximately 58 million total were in the steam category.

Q Okay. Now, let's see. Now, on page 8, you're again testifying, line 12 --

A Excuse me, is this on my direct?

Q Page 8 of your direct, yes. You're again testifying about the 345 project combined with future eastward grid expansion. So was there any analysis of the 345 project alone?

A No.

Q So you can't say and you're not testifying about what benefits this project alone might provide; is that correct?

A That's correct.

Q Now, on page 1, you're testifying about transfer from the west in furtherance of Wisconsin -- I'm sorry, page 1 of your rebuttal, about furtherance of Wisconsin's renewable energy policy goals. Are you aware of any policy considerations for purchasing wind energy outside of Wisconsin for Wisconsin?
A No.
Q Did your -- I'll leave it at that. Okay. That's self-explanatory. Just a minute.

Oh, okay. Looking at the La Crosse plant and oil storage capacity, page 4 of your rebuttal. If the oil storage capacity at the plant is at 3 million gallons, how long a time period would that last of constant running of that plant?
A I'm sorry, I don't have a calculator here, but if it were --
Q I'm a math idiot, I'm sorry.
A The consumption --
Q Would you agree that if the storage capacity is around 3 million gallons, that you could run this plant for, say, a couple hours in a day without depleting that storage capacity?
A Well, you would deplete it to the extent you consume the fuel, yes.
Q So would you agree that if it's used for the 60 or 50

hours a year, that it would not require two truckloads every 70 minutes or 40 truckloads of fuel per day, that it would -- if it's used for -- let me rephrase.

If it's used for peaking, that the storage capacity could handle that such that it would not put a strain on truck traffic, delivering the loads every 70 minutes, that would not be necessary?

MS. AGRIMONTI: Objection, vague and ambiguous.

MS. OVERLAND: I can rephrase.

Q Would you agree if it's only used for peaking power, given the storage capacity that there is, that there would be no need to schedule trucks every 70 minutes for that peaking power, that it could be scheduled over a more -- a longer time?

A I think your question is asking about buffering.

Q Thank you, that's a good word.

A To the extent the fuel is consumed, it has to be replaced. For each gallon you consume, you have to truck a gallon in. So it's a given that you'd have a similar amount of truck traffic to replace the consumption. I think you're trying to make the point that with some storage capacity, could there be some modulation to the truck deliveries? Potentially.

Q And would you agree 3 million gallons is a storage capacity that would allow some buffering?
A Yes.
EXAMINER NEWMARK: I just wanted to ask a follow-up there. The comment that you referred to in page 4 of your testimony, does that account for any buffering, any capacity of storage, or is this like an as-needed delivery of the oil?
THE WITNESS: It's a trucking at the rate of consumption analysis. And it assumes both units.
EXAMINER NEWMARK: So if you're starting on 3 million gallon capacity, you'd want to keep -- is it the company's policy to keep it exactly at 3 million or is there an amount that you would let it fall?
THE WITNESS: I don't know enough about our fuel storage policies to answer that question.
EXAMINER NEWMARK: Okay.
BY MS. OVERLAND:
Q Do you happen to know if there are any of the witnesses who would?
A I don't believe so.
Q Okay. Here is another -- just a simple question. On page 4 on line 25, you do reference 60 garbage trucks. Do you know if those are literally garbage

trucks or if those are those semis full of garbage?
A I think when we were drafting this, we didn't draw a distinction between that. I don't know the answer to your question.
Q Because the second one follows 15 semi trucks with wood waste, I just wanted to -- don't know?
A No. I think the point there is to characterize the wood waste separate from the garbage, not necessarily the style of truck.
Q Okay. Are you aware that garbage is trucked in with semis to La Crosse down 61 through Red Wing?
A It's my understanding they have a refuse-derived fuel processing facility there.
Q But you're not familiar with what types of trucks?
A I've seen trucks hauling material to refuse-derived facility processing places before. But I -- in the case of French Island in particular, I'm not familiar with what style of trucks are used there.
Q Okay. I think we're almost done.

Okay. I have no further questions.

EXAMINER NEWMARK: All right. Other cross?

CROSS-EXAMINATION

BY MS. RAMTHUN:
Q Mr. Beuning, I have a question relating to your

Exhibit 3. Do you have that in front of you?
A Yes.
Q If you look at the bottom of page 3, you have a sentence there stating that NSPW has allocated 1.9 million in 2015 for the repair of the rotor. Do you see that sentence?
A Actually, excuse me, I don't. I thought you meant Exhibit 3 on my direct, which is just a one-page spreadsheet. Am I looking at the wrong document maybe?
Q I'm looking at Exhibit 3 which is the NSPW's responses to CUB's first set of discovery --
A Sorry, let me catch up to you here.
EXAMINER NEWMARK: Is there another number on there? An ERF number?
THE WITNESS: I see it on Exhibit 5.
BY MS. RAMTHUN:
Q Oh, I'm sorry, Exhibit 5.
A I'm with you now.
Q Wrong glasses.
A What page are you on?
Q I was on page 3.
A Okay. I'm catching up. Got it.
Q Do you see the sentence on the bottom NSP is constantly forecasting?

A Oh, no, I guess I was on the wrong page. Sorry.

EXAMINER NEWMARK: What page?

MS. RAMTHUN: It's Exhibit 5, page 3.

EXAMINER NEWMARK: Thanks.

A Now I have it. There is more than one page 3. That threw me for a loop. Okay. NSP is constantly forecasting, is that the sentence?

BY MS. RAMTHUN:

Q Yes.

A Yes.

Q What's the 1.9 million referring to, which unit?

A That's French Island 3 with the field rotor.

Q So does that mean French Island 3 is under consideration for repair?

A Yes.

Q And does that mean it may not necessarily be mothballed indefinitely?

A Yes.

MS. RAMTHUN: No further questions.

EXAMINER NEWMARK: Okay. I just had a quick question for you, sir. You mentioned, we just saw in Ms. Overland's questions sentences about using the project to transfer or to bring in wind generation into Wisconsin. And that's related to Wisconsin's RPS requirement. So the -- and I guess

what I gather from that is that there is a demand in Wisconsin for utilities to purchase wind power because of the RPS and this would have helped that?

THE WITNESS: Exactly.

EXAMINER NEWMARK: Okay. And I was just wondering, do you know if -- as it exists right now, can Wisconsin utilities satisfy the RPS through purchasing Manitoba hydropower?

THE WITNESS: I'm not familiar with the details of that.

EXAMINER NEWMARK: You don't know that?

THE WITNESS: No.

EXAMINER NEWMARK: Let me see if I can ask somebody else that. But basically the idea is it's the demand for RPS requirement energy that would help in this line?

THE WITNESS: Yes.

EXAMINER NEWMARK: Okay. Go ahead.

REDIRECT EXAMINATION

BY MS. AGRIMONTI:

Q Mr. Beuning, Ms. Ramthun just asked you a couple of questions about French Island and budgeting. Do you recall that?

A Yes.

Q Are you familiar enough with the budgeting process at

NSP to provide some information about how the budget process relates to commitments to capital projects?

A It's not necessarily a given. So to the extent we're forecasting reconstruction activity to take place on the mothballed unit doesn't necessarily mean that it would occur. And as I indicated in the testimony, we do plan to revisit that decision and forecast around the end of this year.

Q And so when the company is looking at its generation units in its current status, it may forecast out a couple of years in budgeting, but there still continues internal review about whether to change the status of that unit?

A That's a good point. These units are 38 years old and very expensive. I know there is the question of whether it's throwing good money to uses that could instead be put somewhere more efficient in terms of budgeting and expenditure for refurbishing these units.

Q And that analysis is something that will be done in the future?

A That's correct.

MS. AGRIMONTI: Thank you. That's all I have.

EXAMINER NEWMARK: You're excused.

Thanks.

(Witness excused.)

EXAMINER NEWMARK: Is Ms. King next?

MS. AGRIMONTI: Yes.

AMANDA KING, APPLICANT WITNESS, DULY SWORN

DIRECT EXAMINATION

BY MS. AGRIMONTI:

Q Ms. King, would you please state your name, your address and describe what you do for NSP.

A I'm Amanda King, K I N G. My address is 414 Nicolet Mall, Suite MP08, and that's in Minneapolis, 55044. And I am a senior transmissions planning engineer in the transmission planning department at NSP.

Q Did you prepare or have prepared at your direction prefiled testimony in this case?

A I have.

Q And do you have copies of your direct supplemental, direct -- second supplemental direct and rebuttal in front of you?

A I do.

Q And were those prepared by you or at your direction specifically?

A They were.

Q And Exhibits 1 through 14, are those also your exhibits?

A They are.
Q And are true and correct copies of what was filed in this docket?
A They are.
MS. AGRIMONTI: Ms. King is available for cross-examination.
EXAMINER NEWMARK: Okay. Who has cross?
CROSS-EXAMINATION
BY MS. OVERLAND:
Q Good afternoon, Ms. King.
A Hello.
Q Okay. If you look at page 11 of your direct where you're discussing Dairyland's plan to rebuild the Genoa-La Crosse line.
A Line 22?
Q Right. And that's the same as the Q1, right?
A No, it's not.
Q No, that's a different -- Genoa-La Crosse, never mind. Let's go somewhere else.
MS. AGRIMONTI: I know that you moved the mic, Your Honor, and it doesn't appear to be working. Is it about proximity to the mic and the speaker or what can we do --
EXAMINER NEWMARK: Let's go off the record.

(Discussion off the record.)

EXAMINER NEWMARK: Let's get on the record.

BY MS. OVERLAND:

Q All right. I'm trying to narrow this down to things we haven't covered already in the last few years, so...

And I have Mr. Noeldner's testimony filed in with yours. Just a minute. Oh, I have a question about the -- I'm thinking it's the same as an operating guide for the Keen Eau Claire Arpin (phonetic) that you testified about. But it's not called an operating guide. So I'm looking for that. Just a minute.

EXAMINER NEWMARK: Let's go off the record for a minute.

(Discussion off the record.)

EXAMINER NEWMARK: Let's get on the record.

MS. OVERLAND: I have no questions. This speaks for itself.

EXAMINER NEWMARK: So you have no questions?

MS. OVERLAND: I have no questions. I'm happy with the studies.

EXAMINER NEWMARK: All right. Any other cross?

CROSS-EXAMINATION

BY MS. RAMTHUN:

Q Just give me a second. Ms. King, I'm Diane Ramthun from the Public Service Commission. I have a couple questions about your load forecasts.

First of all, I understand that you use non-coincident peak load in making the forecast for the La Crosse area?

A Yes. The distribution planners put together the actuals for the years in the past for the non-coincident peak loads.

Q And do you disagree with using coincident peak loads to make the forecast?

A It's standard practice for us when we're setting a small area to look at what could be the absolute highest peak that could be to be sure for NERC compliance that we're able to meet those levels. The potentials levels.

Q Are you saying you disagree with the use of coincident peak load for load forecasting purposes?

A It would depend on the scope of the study you were doing. For a small area, and we have some numbers in my testimony, I can find it here, where the 2010

coincident peak level that was recorded on a peak day in 2010 was within one megawatt of our actual non-coincident, so it was less than a percent difference. We feel it was pretty accurate.

Q So depending on the area, the scope of the study, the geographical area being studied, you might use coincident peak load?

A As we stated, La Crosse, the peaks happen at a similar time. It's an area that peaks together generally. So for this area I belive it was the correct thing to do.

Q Did you hear my questioning of Mr. Hahn about the historical load growth rate between the year 2001 and 2010?

A Generally, yes.

Q Do you recall that the historical rate between that time was one percent?

A Yes. I recall him saying that.

Q And as I understand, the applicants have forecast a 1.46 percent growth rate for the La Crosse area for the years 2011 to 2020?

A Yes, in the way that's developed, the distribution planning engineers have a very local area that they work on and they're very familiar with the area, and it was not a 1.46 uniformly across all the

substations. That's the average. And each sub was forecast based on the distribution planners' knowledge of that location, where one sub they notice some growth coming or development in the area, where some other ones may have lower. So there is a lot of individual work put into each substation. For Dairyland, they do that by co-op.

Q So is that your explanation for the bump-up in the forecast?

A It is. It's to the best of their knowledge of what was currently happening and will be happening in that specific area by substation.

MS. RAMTHUN: I don't have any further questions. Thank you.

EXAMINER NEWMARK: All right. Any other cross? Okay. Redirect?

MS. AGRIMONTI: No, Your Honor.

EXAMINER NEWMARK: You're excused.

(Witness excused.)

MS. AGRIMONTI: Mr. Kline.

DANIEL P. KLINE, APPLICANT WITNESS, DULY SWORN

DIRECT EXAMINATION

BY MS. AGRIMONTI:

Q Mr. Kline, what is your full name and where do you work and what are your job responsibilities?

A My name is Daniel Kline and I work for Xcel Energy Services. Did you ask about my job responsibilities?
Q Yes, sir.
A My job responsibilities are primarily I deal with tariff administration and compliance across all three operating companies, and that includes working in the regional stakeholder processes in all three operating companies including MISO in the NSP region and southwest power pool and then also west connecting in the west.
Q Did you prepare rebuttal testimony with two exhibits for this proceeding?
A I did.
Q And do you have copies of those with you?
A I do.
Q And are those true and correct copies of what was filed in this docket?
A They are.

MS. AGRIMONTI: The witness is available for cross.

CROSS-EXAMINATION

BY MS. OVERLAND:
Q Good afternoon, Mr. Kline.
A Good afternoon.
Q Let's see, looking at your rebuttal, starts out

talking about the large planning work that you've been working on. Have you been involved with the JCSP or the -- well, the JCSP planning?

A The -- by JCSP, I'm assuming you mean Joint Coordinated System Plan.

Q That's correct.

A It was a plan that was done by a number of planning authorities a few years ago. I did attend a couple of stakeholder meetings; but primarily most of the work, quote/unquote, in that study was performed by the MISO SVP, the New York ISO, those, and the individual utilities' input was through just a normal stakeholder process.

Q And then have you done any work with EIPC which is the Eastern, what, Interconnect --

A Eastern Interconnection Planning Cooperative. Again, I have attended a small number of stakeholder meetings. I am not the primary person in my company responsible for that effort, though.

Q Thank you. Now, on page 3 -- no, on page 3 in the middle of the page, lines 15 through 17 of your rebuttal, you state that moving the interconnection point a considerable distance could be inconsistent with the regional transmission plans. Can you explain that.

A The purpose of this particular statement is to outline that MISO has a regional transmission planning process that considers input from a variety of stakeholders. And interconnecting the proposed project in this docket with a future extension to the east at some other location would be inconsistent with that -- with what that process has identified to date.

Q Who cares? Why does it matter?

A Why does --

Q Why does it matter to -- well, to you in your testimony, why does it matter where it connects?

A Where --

Q Are you talking a -- is it an electrical reliability problem? Is it a geographic issue? What is the -- is it a jurisdictional issue? Why does it matter where the connection eastward happens?

A Well, I would say there are a number of reasons why it matters where it happens. But to be general, the benefits of -- the benefits to the system of the proposed project have been studied and detailed based upon a certain configuration. And to the extent that configuration changes, it's going to affect the benefits that are actually received from the project.

Q I'll come back to that as we go forward. On page 5,

you're talking about years of joint planning work for a second Twin Cities to Madison transmission path. So let's go way back in history, and were you involved in the WIRES project -- the WIRES report?

A I personally was not.

Q So you're bringing that up as company perspective that the company was involved in that?

A Yes.

Q And at that time, was the plan during the WIRES report, was that a step towards a second Twin Cities to Madison transmission path? Is that how we're viewing WIRES?

A WIRES was a survey and included some detailed study work of a number of transmission alternatives intended to address constraints between Minnesota and Wisconsin.

Q And so it had many options; is that correct?

A There were several options that were studied.

Q Okay. And as you testify, one of those was from Prairie Island going east; is that correct? That would be on page 6, line 12 specifically.

A Yes.

Q And so is it your testimony then that that -- the Prairie Island line to Columbia is essentially the same electrical function as Hampton to Madison?

A A line from Prairie Island to Columbia from -- it would not serve exactly the same electrical function because it would not take into account the reliability benefits to the La Crosse area. However, from a regional perspective, the line from Prairie Island to Columbia would be substantially similar to the Hampton to La Crosse line in combination with a line from La Crosse to the Madison area.

Q Okay. And would you agree that the Hampton to Rochester to La Crosse connects with the Prairie Island to Blue Lake line near the Hampton substation?

A Could you repeat the question.

Q Sure. I might be able to give you a little geographic help here.

Would you agree that the Hampton to Rochester to La Crosse line as presented connects with the Prairie Island to Blue Lake line near the Hampton substation or at the Hampton substation?

A The Hampton to Rochester to La Crosse line has as its western or northernmost endpoint, depending on how you view it, a termination that is near Prairie Island that connects to an existing line from the west and an existing line that extends from Prairie Island into the Twin Cities network.

Q So would that be the Prairie Island-Blue Lake line or

am I misidentifying the substations?
A I believe you may be misidentifying. However, there are -- there's -- basically there's the Brookings line, which is about to commence construction, and then an existing -- today existing transmission line from Prairie Island into the Twin Cities network.
Q And it connects with that, correct?
A Yes.
Q And then would you agree that the Hampton to Rochester-La Crosse line also connects near Zumbrota with the Prairie Island-Byron line going to the south?
A Yes.
Q So it is electrically connected to Prairie Island in two ways; is that correct? Both --
A Yes.
Q -- of the... In your testimony on page 6, you reference the CapX 2020 vision -- let me go back a second. The WIRES report, is the WIRES report the same report that we've been referring to in the NoCapX Exhibit 13?
MS. AGRIMONTI: The witness doesn't have Exhibit 13.
A I don't have Exhibit 13.
MS. OVERLAND: Right, doesn't have it.

Q Well, we've been talking about a WIRES report that was included with the FERC complaint, and I want to know if that is the same -- let me rephrase.

NoCapX has an Exhibit 13 that originated in -- that came from the FERC filings of which an affidavit of yours was one of the things and another thing was the WIRES report. And so is that WIRES report the WIRES report you're referring to? Does that make sense?

A I think it does.

EXAMINER NEWMARK: If you can give a citation that he can confirm possibly. Is that a way to go with that?

MS. OVERLAND: Well, then -- Xcel's FERC filing is where I took it from. Do you mean like in docket EL-12-128?

EXAMINER NEWMARK: Well, he cites to it in his testimony.

MS. OVERLAND: Right. He cites to it in his testimony on page 6, lines 11 through 12, and also references the concept, but not the specific WIRES elsewhere. But page 6, lines 11 and 12.

EXAMINER NEWMARK: And you intend for Exhibit 13 to be that document that he's referencing?

MS. OVERLAND: Right. And to my knowledge it is, it was taken from the Xcel --

EXAMINER NEWMARK: So to the extent it isn't, people can -- parties can object when they see it. So we'll just -- we'll leave it there, or do you need more verification?

MS. OVERLAND: Well, I'd just like -- well --

EXAMINER NEWMARK: Unless he sees it, I don't know how he can verify it. So --

MS. OVERLAND: Okay. I'll just leave it.

Q And in page 6 further down, you reference 2005 CapX 2020 vision study. Would -- do you agree that another name for that is the CapX 2020 technical update identifying Minnesota's electrical transmission infrastructure needs, October 2005?

A Yes, I believe that is the longer, perhaps more formal name for it.

Q Okay. Thank you. That is what we have in NoCapX item 5.

On page one of that study -- off the top of your head, will you agree that -- 2005 CapX vision study, will you agree that the CapX vision study was predicated on a 2.49 percent annual growth rate?

A I can't recall the precise growth rate number.

Subject to check, sure.
Q Sounds about right. Okay. And do you agree that the vision study, CapX vision study included many of the lines that were developed in WIRES?
A I think I need you to be more specific.
Q Okay. Well, would you agree that the CapX vision study takes the WIRES report without Arrowhead and Chisago, which are already built or being built, and utilized those -- some of the projects proposed in WIRES? Let me go back.
Would you agree that the CapX vision study includes many transmission lines, or a number of?
A There were a number of transmission alternatives investigated in the vision study, the CapX vision study.
Q And would you agree that Phase 1 and subsequent phases includes many transmission lines that were conceptually included in the WIRES study?
A No.
Q Is the hang-up many? Let me try this again. Would you agree that there are -- some of the lines in the CapX vision study were conceptually part of the WIRES study?
A In aggregate, there were common facilities between the WIRES study and the CapX vision study. I do not

believe that Phase 1 aligned with any of the specific facilities in the -- Phase 1 of the vision study aligned with any of the specific facilities in the WIRES study.

Q And so you're thinking it was subsequent phases of the vision study that might have had some overlap?

A I think that in aggregate there was some overlap.

MS. OVERLAND: Okay. That's good enough. I have no further questions.

EXAMINER NEWMARK: Okay. Other cross? Go ahead.

CROSS-EXAMINATION

BY MR. LORENCE:

Q Mr. Kline, John Lorence from the Commission. A couple of questions with respect to your testimony. In your testimony, particularly at page 5 -- I'm sorry, on page 4, you I guess take task with ATC's suggestion of various interconnection points. And if I read your testimony correctly, it -- primarily because you state it was not part of the planning process to have these alternative interconnection points. Is that accurate?

A Yes, that's correct.

Q You're not testifying, or are you, that there is an engineering or an electrical reason why these

interconnection points would not work?
A My testimony is that there is an engineering/electrical reason why the current interconnection points were designated. But without having -- without the suggested new interconnection points having been through the regional process, it would be premature for me to pass judgments on them specifically.
Q When you say the current interconnection points have already been approved, where were they approved specifically?
A The Hampton to Rochester to La Crosse 345 kV project has been designated to end at -- well, at the time it was designated to be North La Crosse substation, that has since taken on the name Briggs Road substation, and the La Crosse to Madison line was designated to begin at Briggs Road substation.
Q In what report or in what study?
A In the Midwest ISO transmission expansion plan for 2011.
Q And do they specifically identify the Briggs Road substation in there or do they just say north of La Crosse?
A They include termination equipment at Briggs Road substation that's necessary to terminate the line in

the La Crosse area. So by my estimation, that's a designation of Briggs Road as the termination point.

Q And in your exhibit, you have the summary from the MTEP 08, but you don't have any information from MTEP 11; is that correct?

A Yes, I believe that's correct.

Q Do you know specifically where in MTEP 11 that endpoint is designated?

A It is in -- it would be in Appendix A to MTEP 11.

Q And at this point if a different -- if a route -- one -- if -- I'm sorry. If one of the eastern routes were chosen as opposed to the one down the Q1 line in its variations, you're testifying that the interconnection point would still be the Briggs Road substation, correct?

A Yes. Based on the work performed to date, Briggs Road is and remains the appropriate termination point for a line between La Crosse and Madison.

Q But that's not to say that there could not be a different interconnection point; is that correct?

A It is certainly possible for the interconnection point to be moved.

MR. LORENCE: Thank you.

MS. AGRIMONTI: Your Honor, applicants would request a late filed exhibit for Appendix A to

MTEP 2011 based on the questioning from Commission staff.

EXAMINER NEWMARK: Is that not something that's coming in?

MS. OVERLAND: Well, it's item 10.

EXAMINER NEWMARK: Okay. That may not be part of the record precisely, and you'd like it part of the record, the appendix itself?

MS. AGRIMONTI: I would like it -- let me rephrase that. The excerpt pages from Appendix A that Mr. Kline will identify as relevant to his testimony about the interconnection point of Briggs Road.

EXAMINER NEWMARK: Okay. And do we do that now, the page numbers or -- ?

MS. AGRIMONTI: I can't identify the page numbers right now. I can do so tomorrow.

EXAMINER NEWMARK: Okay. Well, that's fine with me. Any objections to that?

MR. CULLEN: So we're just talking about putting in as a delayed exhibit the specific portions of Appendix A of MTEP 11 that relate to the Badger Coulee MVP, the western termination point for that project?

EXAMINER NEWMARK: That's my

understanding.

MR. CULLEN: For the La Crosse to Madison line?

EXAMINER NEWMARK: That would be my understanding. Is that --

MS. AGRIMONTI: I'm sorry, I was having two conversations.

MR. CULLEN: I think we're talking about putting in as a delayed exhibit just those parts of Appendix A that relate to the western termination point of the La Crosse to Madison project, correct, since that's what Mr. Lorence asked about?

MS. AGRIMONTI: Yes.

MR. CULLEN: Okay. With that clarification, we're fine.

EXAMINER NEWMARK: Okay.

MS. OVERLAND: Your Honor, I was thinking it might be useful to have the same narrow pages of Exhibit A in the MTEP 08 that refer to this project coming in to La Crosse.

MS. AGRIMONTI: We can certainly provide that.

EXAMINER NEWMARK: Okay. That's fine. And so will Mr. Kline be able to identify those pages tomorrow then?

MS. AGRIMONTI: (Nodding.)

EXAMINER NEWMARK: Any objections? Well -- well, I guess we can hold off on that and see what he brings. But we'll mark that Kline 3. Any idea how many pages we would be considering?

MS. AGRIMONTI: I'm sorry, I do not. Mr. Kline, do you have a sense of how many pages that would be?

THE WITNESS: It would be probably, depending on how it's excerpted, no more than two pages per year.

EXAMINER NEWMARK: Okay. Well, you can probably just do that all in one exhibit then.

MR. LORENCE: Your Honor, could I ask actually that it be two exhibits because I only asked about MTEP 11 which was -- I think we agreed would be Exhibit 3. I didn't ask anything about MTEP 08. Ms. Overland has asked for, but it wasn't part of my discussion. So I'd like to reserve seeing it before agreeing that it be put in as a delayed exhibit.

EXAMINER NEWMARK: Okay. We can separate those. So make it 3 and 4. So 3 will be MTEP 11, those various pages, and 4 will be MTEP 08.

(Kline Exhibits 3 and 4 designated as

delayed exhibits.)

EXAMINER NEWMARK: Okay. More redirect?

MS. AGRIMONTI: No, Your Honor.

EXAMINER NEWMARK: No? Okay. You're excused.

(Witness excused.)

MS. AGRIMONTI: We call Mr. Lehman.

PAUL J. LEHMAN, APPLICANTS WITNESS, DULY SWORN

DIRECT EXAMINATION

BY MS. AGRIMONTI:

Q Mr. Lehman, what is your position and responsibilities at Northern States Power Company?

A My name is Paul J. Lehman, L E H M A N. And my title is manager of regulatory administration. My job duties entail regulatory requirements for transmission projects for Xcel Energy.

Q Did you prepare rebuttal testimony and Exhibits 1 through 3?

A I did.

Q And do you have those before you?

A I do.

Q Are they true and correct copies of what was in the record?

A They are.

MS. AGRIMONTI: Mr. Lehman is available

for cross-examination.

EXAMINER NEWMARK: Okay.

CROSS-EXAMINATION

BY MS. OVERLAND:

Q Good morning, Mr. Lehman -- afternoon.

A Afternoon.

Q Here we go. On your page 3, you are talking about percentages of ownership interest. Would you agree that all these -- any percentages or claims of ownership interest are prospective and are not in existence at this time?

A The percentages that are in place right now are development percentages. They are not final ownership percentages, that is correct.

Q Right. And so then the company has not declared what -- the companies have not declared what the ownership interests will be when this is built, correct?

A To the best of my knowledge, they have not for this project, that's correct.

Q And would you agree that the Minnesota Public Utilities Commission as an order point for the certificate of need require that the utilities declare ownership interest in the projects, the three projects that were included in that certificate of

need?
A That is a compliance requirement of the certificate of need that was granted for the project in the other CapX 345 kV projects, that's correct.
Q And was that 2009?
A It was I believe spring of 2010. But I lose track of time, so it may have been '9, but it comes to mind '10, but...
Q Okay. And as of today, that's not been identified?
A What has not?
Q The ownership interest has not been identified?
A The ownership agreements have not been signed to my knowledge.
Q Okay. I wanted to be clear about that. On page 4, you were talking about -- I want to be clear whose testimony this is. You're referring to Mr. Hahn's testimony. And you're stating that the Hampton project as well as the 161 lines are classified as participant funded or other in Mr. Hahn's figure 13. Now, is that a correct classification?
A To my knowledge, that is correct, yes.
Q So they are other, and then the balance of this project is the BRP; that's correct?
A The balance of the project referring to the 345 kV line from the North Rochester substation to the

Briggs Road substation.

Q So -- my brain is not working well. The Hampton to North Rochester 345 is other and then the rest of it is BRP?

A The Hampton to North Rochester as well as the 161 kV lines from North Rochester into the Rochester transmission system are participant funded or other under the MISO cost allocation classification. Continuing from North Rochester into Wisconsin and onto Briggs Road is the portion of the project that has been given baseline reliability designation.

Q Why the difference in the way Hampton to Rochester and then Rochester to La Crosse are treated? What's that about?

A I was not involved at the time in this project. I was not involved in this project at the time those were designated. My understanding is that the first portion of the project that's been labeled as participant funding was primarily identified as serving the local load-serving needs of the Rochester area and therefore qualified for participant funding status.

Q Okay. To your knowledge, does Mr. Hahn in his evaluation of this take that into account in determining ratepayer impacts in Wisconsin?

A He did not take -- to my knowledge, my understanding in reviewing of his exhibit, he did not take into account a portion of the project not exceeding baseline reliability status beyond those owners of the project who were at the time not MISO members.

So in other words, he didn't attempt to categorize part of the project as being not eligible for baseline reliability treatment by identifying those entities who were not owners separately -- excuse me, not MISO members separately.

MS. OVERLAND: I have no further questions.

EXAMINER NEWMARK: Okay. More cross? Anyone?

CROSS-EXAMINATION

BY MR. THIEL:

Q Do any of the cost -- I'm Jim Thiel from the Department of Transportation. Do any of the cost estimates include the possibility of figures for undergrounding on the Q1 line or the Q1-35 line?

A I'm not familiar with any of the cost cal -- or determination numbers. That wasn't my area of responsibility, so I don't know if any cost estimates have been provided that included underground costs.

MR. THIEL: Thank you.

EXAMINER NEWMARK: Okay. Redirect?
MS. AGRIMONTI: No, Your Honor.
EXAMINER NEWMARK: You're excused. Thanks.
(Witness excused.)
MS. AGRIMONTI: Mr. Thompson.
EXAMINER NEWMARK: Just keep them coming.
MS. AGRIMONTI: At some point I will beg for a five-minute break.
EXAMINER NEWMARK: You can try.

CHARLES THOMPSON, APPLICANTS WITNESS, DULY SWORN

DIRECT EXAMINATION

BY MS. AGRIMONTI:

Q Mr. Thompson, would you please state your name, position and responsibilities.

A My name is Chuck Thompson. I work for Dairyland Power Cooperative. I am responsible for getting regulatory permits in four states where we operate for transmission lines, substations, communication towers.

Q And did you prepare direct testimony and an exhibit for this proceeding?

A Yes, I did.

Q And do you have copies of those in front of you?

A I do.

Q And are they true and correct copies of what you filed here?
A They are.
MS. AGRIMONTI: Mr. Stevenson is -- Mr. -- one of the Mr. Thompsons is available for cross.
EXAMINER NEWMARK: Cross-exam. Go ahead.

CROSS-EXAMINATION

BY MS. OVERLAND:
Q And is it correct that -- I want to make sure I have all the exhibits. Do you only have the Exhibit 1 which is the Dairyland Power Q1 rebuild technical memorandum exhibit?
A That's correct.
Q That's it. And there's no 2, 3, 4, 5, 10 --
A No.
Q -- 20? One second. I want to clarify. Is it correct that if the Q1 rebuild is not completed, that Dairyland would not be a part of this project?
A No, that's not correct. We initially got involved in the beginning of the project back in 2005 and 2006. Dairyland originally had started the planning study back then. And so we have been a member of the project since it started.
Q Is it correct that three of the units at the Alma plant will be shutting down?

A That's correct. The three smallest units.
Q Okay. And as it stands now, the project as proposed, there is no substation -- it does not connect at the Alma area, correct? It just goes through?
A That's correct.
Q So if the three -- if three of the units may be shutting down, what is the need for the Alma rebuild?
A The Alma rebuild, the Q1 line goes from Alma to Genoa, it was built back in 1950. We divided it up in three segments based on trying to rebuild that project. The line from North La Crosse with the Briggs Road substation to Alma, that line serves the City of Winona. There is a substation called Marshland, it is a primary source for that. It also serves Riverland Electric. They have customers off of that substation also.
Q But the Q1 line extends from Alma through Marshland down to La Crosse, correct?
A Correct.
Q And if there isn't the power coming out of Alma, the plant, where is the power coming from that will be on that line?
A The Alma plant actually has five -- well, take that back, there is six power plants at Alma. Three of them that are being proposed to be retired are 20

megawatt units each, they were built back in the late '40s, so there's three other power plants at the Alma site.

Q So 60 megawatts will be taken offline?

A That's correct.

Q And how many megawatts are left?

A Let me do some math here. I believe approximately 580 megawatts.

Q And so the line as it exists now is currently handling the 580 plus the 60, correct?

A There are five 161 lines out of the Alma site. So it's a combination of all five lines.

Q So the Q1 is only one of five?

A The Q1 is only one of five.

Q So it's handling a lot less than that. Does it matter how those are configured as far as what power is assigned to what lines?

A I don't know.

Q Well, okay. But if the Q1 line is handling the power generate -- its share of the power generated at Alma, if the -- if we lose 60 megawatts, won't there be less power coming out of Alma?

MS. AGRIMONTI: Your Honor, I'm going to object at this point. Mr. Thompson's testimony does not relate to engineering considerations.

EXAMINER NEWMARK: Sustained.

BY MS. OVERLAND:

Q In your technical memorandum attached as Exhibit 1, and you had earlier talked about the line being divided into three sections, and the 3.1, 3.2, 3.3 sections of the technical memorandum, would that be the same as the three sections you were describing? You had used the term Marshland, but I don't see that.

A Which page are you on?

Q Okay. If you look -- I'm just looking at the table of contents now of your technical memorandum where Section 3, Q1 rebuild options, we have 3.1, 3.2, 3.3. And you had mentioned that it's divided into three segments, but here they're, like, slightly different. And you had mentioned Marshland. So here we have Alma to Milton, Milton to Trempealeau, Trempealeau to Holmen.

A If you go to page 5 in our introduction, second paragraph down, it talks about the three segments that make up the total of 70 miles.

Q Page 5. Oh, page -- you mean page 5 of 102?

A Right, correct.

Q Okay. So it --

A The three segments that you're referring to, 3.1,

3.2, 3.3, those are the segments for the north 40 miles from Alma to La Crosse.

Q The north 40 only?

A Yeah.

MS. OVERLAND: Okay. I have no further questions.

EXAMINER NEWMARK: Okay. Other cross?

CROSS-EXAMINATION

BY MR. THIEL:

Q The Department of Transportation, Jim Thiel. Good afternoon. The Q1 line that's referred to that Dairyland Power Company has an easement for, where exactly does the Q1 line run?

A Could you repeat that again, please.

Q Yeah, what is the -- the three geographical endpoints of the Q1 line?

A The Q1 starts at the Alma substation; it proceeds south to a substation called Marshland where it interconnects; from there it goes to La Crosse; and it interconnects with a couple of NSP lines in La Crosse; and then continues on down to Genoa, Wisconsin.

Q Okay. But for purposes of this proceeding, we're just talking about Alma to La Crosse; is that correct?

A Correct.
Q And are you aware of the size of the easement for your existing line?
A Sure. Yes. The existing lines, they were purchased back in 1950, I believe the majority of those easements are blanket easements. And -- but we have been maintaining approximately an 80-foot right-of-way.
Q When you say a blanket easement, what do you mean by that?
A Those were easements that were generally purchased which took over a larger area than just the right-of-way, but those were typically types of easements that were gotten back in the early days.
Q So your testimony is that your right-of-way is not 80 feet, it's more than that; is that correct?
A That's going a little bit beyond what I can get into. I'm not a right-of-way expert.
Q When you talk about rebuilding the Q1 line from Alma down to La Crosse, when you say it needs rebuilding, do you have a precise cost estimate for rebuilding it exactly as it is now as a 161 kV line?
A We have done some generic numbers for that.
Q In the absence of this project, would you rebuild the 161 kV line in the same place it is now?

A Yes, we would.
Q And would you put the towers in the same place as they are now?
A That would probably be something we'd negotiate with the landowners. We would stay on the existing rights-of-way. Where the actual location of the poles would be, it may -- it may change.
Q Would you -- generally do you know whether you would replace them with the H-type poles?
A We can do either. We can do the existing H frame, they could be wood or steel, or you could go to a single structure, a single pole. So you could build it either way.
Q Are you aware that some of the easements are restricted to H-frame poles?
A I am not.
Q Have you looked at all of the easements along the line?
A Some of the folks in our right-of-way department have, yes.
Q You have no direct personal knowledge of what they state?
A No, I don't.
Q Approximately when would you proceed to reconstruct the 161 kV line in the absence of this initiative by

CapX?

A Well, we would need to wait until the Commission order comes out to know which route they've selected. Anticipating that they have chosen possibly the Arcadia route, we would begin work on doing the engineering, rights-of-way contacts and that type of thing. We would probably have to wait until the CapX line is constructed before we could take that line of service to rebuild it. So we're probably looking at starting construction in late 2015.

Q And I take it that would require a separate application to the Commission?

A Under Wisconsin law, if Dairyland stays on the existing rights-of-way, we do not need to get a CPCN.

Q And when you say on the existing right-of-way, does that mean the 80-feet right-of-way?

A Correct.

Q And is your application for funding to the RUS for the -- just the Wisconsin portion of the 345 kV project or is it broader than that?

A The Dairyland at this point has not applied to RUS for funding. The 345 project itself would be a separate what they call a work plan. We'd have to file a separate work plan for that project, and that would take in the whole projects in -- for the cost,

both the Minnesota and Wisconsin part.

Q So you do not have an application pending before RUS for funding?

A No. Under RUS rules, you have to put a project in a work plan, they have to approve that work plan. We've included in -- generally we submit two- to three-year work plans with RUS. This project has been included in that. The only funding we have put into that document is for the permitting phase of it. The next part of it is that they actually have to approve the Federal EIS. Unless the environmental documents are approved, it's at that point they decide whether they will or will not give you funding. So the application comes in after the project is probably built.

Q So it's a reimbursement of your share of the cost of the -- I guess I don't understand. What exactly is under consideration by RUS?

A The -- Dairyland has indicated that we're -- we planned on 11 percent ownership of the 345 kV project. The funding for that 11 percent we would put in an application to RUS to cover those costs.

Q Okay. So there is nothing for strictly improving the 161 kV line on the 80-foot right-of-way?

A That would be a separate document. Separate loan

request.

MR. THIEL: Thank you. I have no further questions.

EXAMINER NEWMARK: Okay. Other cross? No? Redirect?

MS. AGRIMONTI: Yes, Your Honor.

REDIRECT EXAMINATION

BY MS. AGRIMONTI:

Q I just wanted to clarify something with Mr. Thompson. You testified about the existing right-of-way for the Q1 and that's the existing 80 feet that TPC maintains for the Q1; is that right?

A That's correct.

Q And then you also testified that you are not in a position to be able to opine about whether the easements might allow TPC to maintain a right-of-way greater than that 80 feet; is that also correct?

A That's correct.

MS. AGRIMONTI: Thank you. That's all I have.

EXAMINER NEWMARK: Okay. You're excused.

(Witness excused.)

MS. AGRIMONTI: This is when I start begging.

EXAMINER NEWMARK: Okay. We'll take ten

minutes. We'll start at quarter to.

(Recess taken from 2:35 to 2:45 p.m.)

EXAMINER NEWMARK: Let's get on the record. Okay. Well, the applicants have offered written surrebuttal and exhibits for the next two witnesses, Stevenson and Hillstrom. And I guess the question is really how are we going to handle these? I've already decided for sake of time we can -- you know, if they go in, they go in as read. We have the paper version. We don't have to read it into the record.

However, I guess I'd like to hear from the parties about this. Because there is substantial information in here. So I mean, one thing I can offer is to give people more time, we could take these witnesses tomorrow. But I don't know if that's really going to solve our timing problems because of the order of witnesses we need to have. If it would help to have more time right now to review these, I could take -- we can go off the record for this.

(Discussion off the record.)

JEFFREY R. WEBB, MISO WITNESS, DULY SWORN

DIRECT EXAMINATION

BY MR. DAY:

Q Sir, would you state your name and company address for the record, please.
A My name is Jeffrey R. Webb. I work for the Midwest ISO. My address is 701 City Center Drive, Carmel, Indiana.
Q Mr. Webb, did you prepare testimony, direct and rebuttal testimony for this proceeding?
A Yes, I did.
Q And subject to any corrections you may have, would your answers be the same today as when you prepared them?
A They would.
Q Could you briefly -- or highlight the corrections that you have I believe on page 19 of your direct testimony?

EXAMINER NEWMARK: We can do that off the record.

(Discussion off the record.)

EXAMINER NEWMARK: Let's get back on.

MR. DAY: Mr. Webb is here for cross-examination.

MS. AGRIMONTI: Do we get to ask questions?

EXAMINER NEWMARK: Yes, you do.

MS. AGRIMONTI: Thank you.

EXAMINER NEWMARK: You need to be a little more...

MS. AGRIMONTI: I do when I need breaks.

EXAMINER NEWMARK: Right.

CROSS-EXAMINATION

BY MS. AGRIMONTI:

Q Mr. Webb, I had just a couple of questions for you. Mr. Hahn provided some testimony and you also provided testimony regarding the cost allocation method under the MISO tariff based on its designation under the MTEP. Do you recall all that testimony?

A For the most part, yes.

Q Mr. Hahn in his surrebuttal suggests that there might be an opportunity to re-submit the project to the MISO process and have it redesignated as an MVP. Do you believe that this is a reasonable possibility?

A No, I don't think that would happen at all.

Q Why not?

A Well, when a project comes through the MTEP process, it's classified based on the need driving the project at the time of its approval. And then the cost allocation is done based on the FERC approved methodology associated with the particular project designation which again is based on its need.

If the project were to be altered that was

designed to serve the same needs as the original project here, which I think would be the case here, whatever alternative project or configuration of the existing project, reconfiguration, that would be newly considered, would be considered the same project as a variation to the same needs. So we would really consider it a baseline reliability project in any case.

Q Would you agree that all of the MISO studies to date are based on an interconnection between the La Crosse-Madison line and the La Crosse -- excuse me, the Hampton-La Crosse line at Briggs Road substation or North La Crosse substation?

A Yes. All of the projects that have been through the Midwest ISO stakeholder process and have been approved by the board have -- and particularly the one we're talking about here -- has been presumed studied and approved at the regional level to be terminating at the North La Crosse substation, Briggs Road substation.

Q And those are just across the street from each other, is that correct, to your understanding? Briggs Road and North La Crosse?

A We have always designated the project in our listings as North La Crosse and have understood that to be a

substation at North La Crosse or right about there which I believe now is called the Briggs Road substation.

Q You said that that would be the result of the stakeholder process. Can you just briefly describe what the stakeholder process is in designating projects under the MTEP?

A Yes. When a need on the system is identified, a project or various projects are considered as to how that need can be met. Those -- either the need or the project is identified in a series of stakeholder meetings throughout either an annual or a multiyear planning process, which -- where we hold meetings around the system with -- that are open meetings where stakeholders can come and understand what the various needs are and what the various proposed projects are. That process, as I said, can last as short as a nine- to 12-month cycle or it can last considerably longer than that, over several years, as solutions are fully developed.

These -- this process involves numerous open meetings with Midwest ISO stakeholders in various locations around the system, at our central offices and at three separate subregional locations which vary from place to place, but generally in the

three different subregions that we've designated.

So there is quite an extensive exchange of information between project -- those that propose projects and stakeholders and MISO staff to determine what the appropriate solutions are. Once that -- those solutions are selected, after that vetting process, the MISO staff then presents all of those -- the proposed projects in aggregate through the MTEP report and it goes through another round of review by the planning advisory committee, which is the stakeholder group at MISO, and the advisory committee as well. It's a higher level group. And then finally they're presented as a recommendation to be a part of the regional plan to the Midwest ISO board of directors, and they take action on that recommendation.

Q And the MTEP reports are the result of that process, that's sort of the end report that comes out of that stakeholder process?

A That's correct. The report contains a number of discussions and analysis that may not pertain to a particular set of project recommendations, but a key part of the MTEP report is the listing of the recommended projects and the discussion surrounding them. And those listings are in what has already

been I think referred to here once as Appendix A to the MTEP report which again lists the recommended and approved contracts.

Q And it is correct that the MTEP 08 approved and recommended the La Crosse -- Hampton to La Crosse project and the MTEP 11 recommended as part of the MVP portfolio the La Crosse to Madison line; is that correct?

A That's correct.

MS. AGRIMONTI: I have no other questions. Thank you.

EXAMINER NEWMARK: Okay. Any other cross?

CROSS-EXAMINATION

BY MS. OVERLAND:

Q Good afternoon, Mr. Webb.

A Afternoon.

Q First question, do you happen to have a Post-It in your pocket regarding how much wind is in queue for Wisconsin?

A I have that Post-It in my head.

Q That will do.

A Which, as I recall, the amount of wind in the queue in Wisconsin is about 500 megawatts or a little less than that.

Q And is there any offshore in Lake Michigan --

A No.
Q No. What about Illinois?
A How much is in Illinois?
Q Right.
A That's not on my Post-It.
Q How about in your head?
A Nor there at the moment. But I can tell you how much is in Minnesota and Iowa.
Q No, no, we want to go east. What about Indiana? Would you agree that quite a bit of wind has been installed in -- well, first, Illinois?
A Yes. There's a fairly active queue in Illinois and in Indiana.
Q And in Indiana. Okay. Well, let's move on to your testimony. First, on page 7 --
A Direct?
Q Of your direct, right. At the bottom starting on 25, you're talking about projected power flows. And what is -- can you quantify what that means, projected power flows? What are you referring to here?
A These -- that just refers to the expected flows on the systems in a planning study.
Q That's more of a general reference and not specifically regarding this project?
A I think that's correct in this part of the testimony,

yes.
Q And have you done any analysis of what is projected for this project?
A Yes.
Q And that would be -- for this project? Expected capacity?
A Yes. We did analysis for the needs for this project back in 2008 and also refreshed it for this docket here.
Q Would the expected capacity be reflected in the appendices, the project lists?
A Appendices to the MTEP?
Q Right.
A Would the -- could you repeat that question.
Q Sure, yeah. Would you agree that the -- like I said, the summer ratings, the rating of the lines as proposed would be within the appendices of the MTEP, in the spreadsheet?
A No, I don't think so. You said of the spreadsheet. But I mean, yes, the appendices are in spreadsheet form, but they wouldn't include line ratings and things like that. Those would be included in the planning power models. We don't list out the ratings of lines, specifically in the appendices to the MTEP.
Q Are you sure? I'll check it out. I do believe that

they're there, we'll -- it will be in the documents.
A Sure.
Q Now, I'd like you to take a look at page 13 where you're talking about the thermal results summary in Table 1. Do you have that?
A Yes.
Q Now, did you also submit testimony in the Minnesota certificate of need docket regarding similar results?
A Yes.
Q And would you agree that they're different now than they were there?
A Somewhat, yes.
Q And why is that?
A Different vintage of planning study. Back then we were looking forward to the system as projected from 2007's vantage point, and I think we were analyzing a 2011 system. Here when we did our refresh, we looked out to our current 2016 forecast planning year. And so the 2011 system as viewed back in 2007 might be expected to look a little different than the 2016 system from today's vantage point.
Q Okay. Now, Your Honor, I need to check and see, the TSSR report, is that in the record here? Is that included?
MS. AGRIMONTI: It's in the application,

it's Appendix E.

MS. OVERLAND: Appendix E? Okay. Thank you.

Q And would you agree, Mr. Webb, that in Table 1, there are no Alma 161 lines showing contingencies --

A No.

Q -- of the current? Page 13 with the 2016 summer peak, would you agree that there are no Alma lines in that listing?

A I see Alma-Marshland listed as a contingent on it.

Q Under critical facility.

A Oh, that's true.

Q Okay. And would you agree subject to check that two of them, two Alma lines were listed as critical facilities in the 2008 filing that is included in that TSSR report, subject to check?

A It's possible.

Q Okay. And it will say what it will say. And you had some corrections to your testimony on page 19. And can you explain why on lines 10 and 11 the numbers of contingencies conditions were lowered from 20 to 17 and from 26 to 24?

A Yeah. Generally, that was a matter of our engineers, when they rolled up the list of events and facilities impacted, sometimes they can appear duplicated

because it may -- you may end up -- you may see the same contingent -- same overload for different contingencies and that sort of thing. And so when we eliminated any double counting, the numbers changed a little.

Q And then is that list a part of the record somewhere in your testimony?

A It wasn't provided in my testimony.

Q Okay. Do you know if that's provided in the record anywhere?

A I think the list was provided in an interrogatory.

Q Do you remember whose?

A I think it was CUB.

MR. DAY: Your Honor, if I may, the list that Ms. Overland is looking for is in our Midwest ISO discovery provided to CUB. I don't know if that's been part of the record. I think those answers were provided to you.

MS. OVERLAND: Right. They would -- okay. I have no further questions.

EXAMINER NEWMARK: Okay. Other cross?

CROSS-EXAMINATION

BY MR. CULLEN:

Q Good afternoon, Mr. Webb. Lee Cullen representing ATC. Are you familiar with the Midwest ISO

transmission owners' agreement?
A Yes, I am.
Q And that document provides, does it not, that the approval of the MTEP plan is subject to any applicable approvals by state authority, correct?
A That's correct.
Q So that would include approval by Public Service Commission of Wisconsin of the CPCN for this project?
A Of course.
Q So it would also be fair to say, would it not, that the Midwest ISO does not have routing and siting authority for projects in Wisconsin?
A Also true.
Q And finally, I think it's also the case that the owners' agreement recognizes that the final design of projects may vary from what is included in the MTEP depending on changing circumstances, correct?
A Yes, if necessary.

MR. CULLEN: That's all I have.

EXAMINER NEWMARK: Staff?

CROSS-EXAMINATION

BY MS. RAMTHUN:
Q Mr. Webb, I'm Diane Ramthun for the Public Service Commission. I'm going to refer to your rebuttal testimony starting on page 4. On that page, you talk

about the 78 percent growth rate that's provided in Module E of the MISO tariff; am I correct?

A You say --

Q On page --

A I understand.

Q On page 4 of the rebuttal testimony you're talking about the growth rate of 78 percent that's stated in Module E of the MISO tariff?

A Yes. Well, it's .78.

Q I'm sorry, .78 percent.

A I think 78 would be high.

Q Yeah, you're right.

A But --

Q I didn't see the point.

A Very big point.

Q Well, it's just -- I brought the wrong glasses. They're kind of a problem today.

A Yes. There is a relationship between that and Module E. I could explain that if you...

Q Please explain. You said there is a relationship between the .78 and Module E?

A Yes. Module E is the part of the MISO tariff that requires load serving entities to report their load forecasts to Midwest ISO for planning purposes.

Q And apparently that reporting under Module E has

resulted in a projected growth rate of .78 percent?
A For the aggregate market, yes.
Q And according to your testimony, MISO uses this particular forecast that includes a .78 percent growth rate, you say primarily to develop resource forecasts to support comparative analysis of congestion and production costs between different possible future policy scenarios. Am I correct that you're saying that's one use of these -- this type of forecast?
A That's our primary use of it.
Q What are other uses of it?
A That's the only one I can think of that utilizes the aggregate system forecasts. Resource forecasting -- also I guess consideration of reserve margin into the future.
Q Does MISO in any way state that the use of this type of aggregate forecast is limited to the uses you just described?
A I'm not sure I completely understand that question. Limited by -- for MISO's use or for anyone's use?
Q For anyone's use.
A No, we don't make that explicit exclusion, of course.
Q So could this aggregate type of forecast be considered in transmission planning?

A You would not use -- we do not use that forecast in transmission -- well, let me clarify this. There is different types of transmission planning. I believe my testimony in that regard here was for transmission reliability planning, which is different than, say, projecting what transmission may be needed over the longer term to meet various, again, long-term objectives, again, where you are using those kinds of forecasts to set up production cost models, for example, and to compare one transmission portfolio if you will to another from the standpoint of various benefits, in particular, production cost benefits.

So a scenario analysis between various conceptual transmission plans for the long-term is more the use of those forecasts when we -- and the distinction is that when you're doing transmission reliability planning, you really have to bring your focus in closer to the particular area of the system that you're seeking to ensure maintains reliability. And then when each of those areas are looked at, then in aggregate you can establish that you have a reliably planned transmission system.

Q Am I correct that the recently issued MTEP 12 uses a forecasted aggregate load growth rate of .78 percent?

A I thought the .78 was MTEP 11. MTEP 12 I think is

actually somewhat higher than that, but I don't think that that's been locked on yet.

Q Okay. Referring to page 5 of your rebuttal testimony, your first question-and-answer series, line 6, you talk about a 39,000 megawatts load at MISO. Is that the 2011 load?

A The reason I'm hesitating is because I believe that the -- in the creation of the MTEP 11 aggregate system forecast rates of .7 that we've been talking about here, I think that those are rolled up from the Module E reporting for 2010 because it's a, you know, it's a sequential process.

Q So you're not sure if it represents load in 2010 as reported in the MTEP 11?

A Well, it's on the same basis as the .78. It's load that was reported that yielded the .78, and I'm just not a hundred percent sure of whether that was Module E reporting for year 2010 or '11. I think it was 2010.

Q And what's the -- what is the geographical area represented by the 30,000 -- 39,000 megawatt of load?

A Well, it was a wide area that included -- this area tended to be in the western side of our footprint. We don't normally -- the information that's reporting in Module E is confidential on an LSE basis, and so

we tend not to aggregate it. But -- and disseminate that information. But it was in an area that is in the La Crosse area and to the west of that.

Q In that same answer, page 5, you talk about 234 areas over which the loads are aggregated for reporting purposes with 116 of those areas reporting growth rates of more than one percent. Do you see that answer?

A Yes.

Q Am I correct that -- does that mean that 118 areas have growth rates of less than one percent?

A That would be true, you could surmise that.

MS. RAMTHUN: No further questions.

EXAMINER NEWMARK: Okay. Redirect?

MR. DAY: None, Your Honor.

EXAMINER NEWMARK: All right. You're excused. Thanks.

(Witness excused.)

EXAMINER NEWMARK: So should we move on to applicants' final witnesses or is there any reason to take Mr. Holtz next?

MR. CULLEN: Applicants.

EXAMINER NEWMARK: In your opinion, correct?

MR. CULLEN: Yes.

EXAMINER NEWMARK: Let's start Mr. Stevenson. Let's get off the record.

(Discussion off the record.)

MS. AGRIMONTI: Mr. Stevenson.

GRANT STEVENSON, APPLICANTS WITNESS, DULY SWORN

DIRECT EXAMINATION

BY MS. AGRIMONTI:

Q Mr. Stevenson, will you please state your name and work address.

A Grant Stevenson, S T E V E N S O N. I work at 250 Marquette Plaza, Minneapolis, 55401.

Q And what are your responsibilities with respect to this project?

A I am project manager. I have overall responsibility for the project from start to finish from the time the project leaves the planning studies until final implementation.

Q And you've provided a number of prefiled testimony exhibits; is that right?

A Yes. Several.

Q I'll read them off and you tell me if I've got the list right. I have you as filing direct, supplemental direct, second supplemental direct, third supplemental direct, rebuttal, surrebuttal and sur-surrebutal. Did you prepare all that testimony?

A Yes, I did.
Q And do you have true and correct copies of that before you?
A I do.
Q And did you also prepare Exhibits 1 through 17?
A Yes.

MS. AGRIMONTI: The witness is available for cross.

EXAMINER NEWMARK: Okay. We need to move in his exhibits.

MS. AGRIMONTI: Oh, sorry, move in sur-surrebutal.

EXAMINER NEWMARK: And his Exhibits 15 through 17.

MS. AGRIMONTI: 15 through 17, yes, sir.

EXAMINER NEWMARK: Any objection?

(Stevenson Exhibits 15 through 17 received.)

MS. OVERLAND: I had a question. I'm noticing no one's being sworn in. Is that normal?

EXAMINER NEWMARK: Let's go off the record.

(Discussion off the record.)

EXAMINER NEWMARK: Back on the record. So we have cross, right?

MS. AGRIMONTI: I'm sorry, do you need to rule on my request to admit sur-surrebutal?

EXAMINER NEWMARK: I guess so. It's all in. Anybody want cross then?

MS. NEKOLA: I have a few questions for Mr. Stevenson.

CROSS-EXAMINATION

BY MS. NEKOLA:

Q Good afternoon, Mr. Stevenson. I am Katie Nekola and I represent Clean Wisconsin.

A Okay.

Q In your direct testimony on page 23, you provide a general project schedule. Do you have that? It's pretty broad. It doesn't have a lot of detail in it. But it does note that the actual dates may be changed based on various factors. Is that correct?

A Yes, that's true of all projects.

Q Right. Okay. So can you explain what factors might modify the construction schedule as you're proceeding?

A There's a number, ones that come to mind: Outage constraints, we have an idea of when we want to schedule outages. Most every route in Minnesota and Wisconsin contemplates rebuilding an existing line, and that outage must be scheduled with MISO.

Construction seasons can change schedules. For example, there are areas where we may have to work only during the winter or only during the fall, during low water periods because there is water crossings, those sorts of things.

Q Is that an exhaustive list or are there other factors that you can think of?

A That's two examples.

Q Right. Are there others?

A I imagine there are others, sure.

Q Would flooding in the river bottoms be likely to delay construction?

A If there are -- I guess -- do you have a specific example? It sure could be possible, yes.

Q Okay. Is your summer construction schedule affected by the availability of outages more than other times of the year?

A It's generally accepted that we won't get any line out June, July and August. During those times, we would be working someplace else.

Q Okay. Thanks. In your experience, and I know you've done a number of these, managed a number of these projects. When you construct transmission projects, how do you decide where to begin? I mean is it fair to assume that you would start regardless of which

line route is selected for this project, at the river crossing, for example?

A No, not necessarily. There are a number of factors. Generally the first one is area of first need identified by transmission planning engineers. But that can modified by a number of factors, conditions that either commission places on construction regarding timing for a number of things, wetlands, endangered species. There's a number of factors that could modify that general starting point of the order in which the planning engineers say they'd like to see the segments energized.

Q Okay. And so when you do construct, do you construct one contiguous segment after another or would you move along the line route?

A We will endeavor to start a segment and stay there. It's more efficient, less costly if you don't re-deploy the troops. That said, on this project, I expect that there will be times when we have more than one segment under construction at a time.

Q Okay.

A And I also expect that there will be times when we have no choice but to do a little bit of jumping around.

Q Is your December 2015 in-service date a hard-and-fast

date or is that subject to change as well?
A Many project managers will tell you dates are always hard and fast, but I'm not one of those. There are a number of factors that we've been discussing that all could influence ultimate completion date.
Q And just a couple more questions about ice roads. You referred to those in your testimony. Are they ever constructed in the summer or fall months in anticipation of winter construction?
A I'm not sure I understand, because in my mind, ice means winter. It would only start once ice is beginning to be established.
Q Would you ever --
A Or frozen conditions.
Q Would you ever prepare the construction area for an ice road before winter?
A If we could do so without damaging the sensitive area that -- ice roads almost by definition are to protect a sensitive resource. If we can prepare it before it's frozen, we do so. But that might also indicate that we would be driving or traveling in areas that aren't sensitive. So it's kind of a bit of a loop.
MS. NEKOLA: Thank you. That's all I have.
EXAMINER NEWMARK: Department of

Transportation, I skipped over you by accident. Did you have any questions?

MR. THIEL: Yes, we do.

CROSS-EXAMINATION

BY MR. THIEL:

Q Would you describe the Q1 route alternative as basically the Dairyland, existing Dairyland Power line route?

A The Q1 Highway 35 route?

Q No, just the Q1.

A The Q1 route is essentially the Dairyland route, but we made choices to vary from their existing right-of-way.

Q So you're saying the Q1 route is off the table?

A I've been advised that the Q1 route, if you talk about the original Q1 route, includes a -- the final three miles or so on the very southeastern end of that route, is -- the Fish & Wildlife Service has opined that that segment is not permitable.

Q Would you describe the Q1-35 route then? What is the Q1-35 the route alternative?

A You want me to describe what the route is?

Q Yes. Does it follow the Great River Road national scenic byway and does it follow the Dairyland easement, or does it get off the Dairyland easement?

MS. AGRIMONTI: A compound question. I also object in that Mr. Stevenson is our cost and project manager witness. Mr. Hillstrom is really the appropriate routing witness. Not that Mr. Stevenson doesn't have some knowledge, but the detailed questions about the routes should be directed to Mr. Hillstrom.

EXAMINER NEWMARK: Be a little bit more specific, Mr. Thiel, and if it's a routing question, make sure you have the right witness.

BY MR. THIEL:

Q Well, I believe Mr. Stevenson has already testified to -- if you refer to your direct testimony, Mr. Stevenson, PSC reference 158011, page 79, line 16 to page 80, line 2, published January 9th, 2012, you state that the Q1-Highway 35 route is the least cost option. Is that correct?

A Can you tell me which testimony you're referring to?

Q I'm talking to your direct testimony, PSC reference number 158011.

MS. AGRIMONTI: I believe Mr. Thiel is citing the page number as originally filed, and we'll need to do some correlation. We had sequentially numbered the pages.

MS. CORRELL: You said page 79. It should

be page 23 in the re-filed.

MS. AGRIMONTI: Thank you.

BY MR. THIEL:

Q So that would be page 23, line 16 to page 24, line 2; is that correct?

A I have PSC reference number 158309 before me.

Q I believe your direct testimony was number 158011, and that was re-filed under a different number; is that correct?

EXAMINER NEWMARK: Yes. He's got the right one.

BY MR. THIEL:

Q You have the correct one before you there?

A I have 158309.

MS. AGRIMONTI: Yes.

BY MR. THIEL:

Q You state there that --

A Sorry, which page?

Q Page 23 and page 24; page 23, line 16 to page 24, line 2.

A Okay. I'm there.

Q And you state that the Q1-Highway 35 route is the least cost alternative?

A Yes, that's correct. Line 1 on page 24.

Q How do you reach that conclusion?

A Through estimating practices.
Q In your estimating practices, did you consider the fact that the right-of-way requirements that are a 345 kV line are larger than 80 feet wide?
A Yes, I did.
Q And what costs did you attribute to that additional right-of-way requirement?
A I don't have the specific number. It's part of the number of line items that add up to estimates for each and every of these line segments or routes.
Q Talking about the segment to the -- down where you're avoiding the area of which the U.S. Fish & Wildlife Service said was unacceptable. Won't you have to go off existing Dairyland right-of-way to construct along Highway 35 as the alternative under Q1-35?
A In segment 8, yes.
Q And do you have a cost estimate for that?
A I'm sorry, for that segment?
Q For that segment.
A It's in the application. I don't have it memorized segment by segment.
Q And what portion of that is on the Highway 35 right-of-way, if any?
A The -- we've shown two alignments in this proceeding. The original CPCN filing had some -- my recollection

is this is an area where the highway right-of-way is quite wide, maybe 350 feet either side of the centerline. And if that recollection is correct, we were overlapping in the original CPCN application.

In one of my testimonies, I don't remember which one, we showed one alignment that shifts it a little bit farther north. So there is no overlap.

Q So that would require acquiring additional right-of-way for that installation; is that correct?

A For that segment, correct.

Q And do you have a -- know how many property owners that are there in that area?

A I don't have the number of property owners committed to memory, but I do know that no new property owners are affected by that shift.

Q How could that be if they're -- you're on entirely new right-of-way there?

A It's a shift, my recollection of something on the order of 40 feet. And I know because when we contemplated discussing that shift, I pulled the maps of landowners that were noticed previously and we superimposed the new line and it's all the same property owners.

Q Now, in that particular location, do you know whether there is any objection from the Department of Natural

Resources to cutting trees in order to clear that right-of-way for your 150-foot width?

A I don't recall any specific objections to cutting trees, but I'm not the lead for permitting, so I don't recall specific objection to cutting trees.

Q You said you just moved it 40 feet north. But if you have a 150-foot right-of-way requirement for 435 kV line, don't you have to move it farther north than that?

A The original application alignment overlapped DOT right-of-way -- my recollection, we have to check the exact number, by some 40 feet. The width of right-of-way has not changed. The entire area from the highway north -- not the entire area, but it's wooded. So the strip of right-of-way is the same width shifted 40 feet farther north or some number close to 40.

Q 40 feet beyond the 350-foot conservation easement area owned by DOT?

A Our original alignment -- our proposed right-of-way overlapped DOT right-of-way by some 40 feet in the original alignment.

Q So you're at the very far northern edge of the DOT right-of-way; is that correct?

A We were outside -- the poles were outside the DOT

right-of-way.
Q Were they outside of the DOT scenic easement?
A I believe in that area, the scenic easement and the right-of-way are the same width and strip.
Q Well, that's not correct. But... We can clarify that later.
A It's a matter of fact. We can...
Q Yeah. And -- but it is correct you need a 150-foot width for your blowout area for your lines; is that correct?
A It's specifically called out in the application, I believe in that area it's 155 feet.
Q Now, do you know how many crossings of highways under the Department of Transportation's jurisdictions you would have to cross for the Q1-35 route?
A Again, that's in the record.
EXAMINER NEWMARK: Is there a particular part of the application we can be directed to or photographs of the route that might clarify a lot of these questions?
MR. THIEL: It has to do with his original statement that this is the least cost option.
EXAMINER NEWMARK: I'm not doubting that. But if we can get the best information maybe just by referencing a part of the application instead of

testing his knowledge on the stand. We're not disputing -- I don't think he's disputing what's in the application. So if we can just have, you know, the application information, it would be more conducive.

MR. THIEL: The point is they have not considered what it cost to underground those crossings at all.

MS. AGRIMONTI: Your Honor, it sounds like argument rather than questioning.

MR. THIEL: Well, that's what I'm getting to asking that question --

EXAMINER NEWMARK: Okay. Well, then get to those questions because we're just testing his knowledge of the --

BY MR. THIEL:

Q Assuming that there are seven highway crossings under the Department of Transportation's jurisdiction, have you made an estimate of what it would cost to underground a 345 kV line through those seven crossings?

A Other than providing data on typical per mile cost and cost of transition stations, no.

Q And do you know that as a condition of issuing permits for crossing those lines, the Department of

Transportation will also require you to underground in all scenic easements affected?

A We learned that late I believe in surrebuttal of Mr. Fasick.

Q Have you got an estimate of what that would cost to underground lines in those areas?

A I believe you're talking about the same area, the seven crossings sounds about right, I believe --

Q No, I'm talking about the scenic easement areas now, not the right-of-way.

A No, forgive me. I -- other than providing the per mile cost and cost of transition stations, no.

Q So is it true to say that you don't know whether the Q1-35 route is the least cost option of all alternative routes?

A It is my understanding that the scenic easements have as a permitted use transmission lines, and I think we do not agree that we can't cross the road overhead. Those two issues -- in our opinion, the Q1-Highway 35 is still least cost.

Q Well, how can that be if we're not going to issue a permit to cross any of those highways, assuming there are seven of them, unless you also bury within our scenic easements?

MS. AGRIMONTI: Objection, argumentative.

I think we have an issue for briefing, Your Honor.

EXAMINER NEWMARK: Sustained.

BY MR. THIEL:

Q Well, do you have an estimate for the cost of undergrounding in those scenic vestments?

MS. AGRIMONTI: Objection, asked and answered.

EXAMINER NEWMARK: Sustained.

MR. THIEL: Did he say no?

MS. AGRIMONTI: It's in the transcript. He says he has a per mile estimate for undergrounding and he has information about transition structures.

BY MR. THIEL:

Q Isn't it a fact you don't know what the least cost option is?

MS. AGRIMONTI: Objection, argumentative.

EXAMINER NEWMARK: Sustained.

BY MR. THIEL:

Q Have you read the Department of Transportation's typical requirement for a memorandum of understanding and a constructability report prior to issuing any permits to a utility?

A No, sir.

Q So you're not aware of the fact that that is a

typical part of the Department of Transportation's requirement for any utility crossing of any highway?

A I learned of that late for the first time, I believe it's Mr. Fasick's testimony or surrebuttal testimony. I did not learn that until sometime during prefiled testimony.

Q But I believe you've been discussing this matter with the Department of Transportation for several years; is that correct?

A That's correct.

Q And did you talk with Mr. Fasick on a number of occasions?

A Yes, several.

Q Are you at all familiar with ATC's Dane County reliability project?

A I know the name. Is that the beltline project?

Q Yes.

A That is what I know about it, sir, it's the beltline project.

Q What steps would you take to enter into such an MOU and constructability report in order to say that the Department of Transportation would even issue a permit for crossing these seven assumed highway crossings on the Q1 route? Correction, Q1-Highway 35 route.

A The Department of Transportation would have to tell me what those requirements are, and they haven't been discussed previously.
Q I'm not sure I got the right reference here; but in your rebuttal testimony at page 4, lines 5 and 6, you state, "I wish to note that applicants do not believe any approval from WisDOT is required for construction of the transmission facilities in the scenic easements." Is that correct?
A That's correct, that's my understanding.
Q Are you also aware that DOT will not release any scenic easements unless the line is constructed underground?
A I seem to recall that in some of the later filed testimony.
Q You say your -- in the same rebuttal statement, I believe you say that your figures and costs are based on the assumption that 1.1 miles of longitudinal installation in scenic easement remains an issue.
MS. AGRIMONTI: Is there a question?
BY MR. THIEL:
Q Is that correct?
A Can you direct me to a page.
Q Actually, I cannot, but I think it's right in the same area as the other one. It's where you put in

your undergrounding cost figures amount.

MS. AGRIMONTI: I can be helpful. It's page 7 rebuttal.

MR. THIEL: Thank you.

A So I'm not sure if you had a question, or would you repeat it, please.

Q Well, the -- have you provided costs to the Commission based upon WisDOT's position regarding the scenic easements and WisDOT's permitability, not just your statement that it's an issue?

MS. AGRIMONTI: Objection, vague, I don't...

A Can you restate --

MR. THIEL: I'll rephrase it.

Q You have major cost estimates on the assumption that DOT's position on this is, how should I say, not taken into consideration?

A No, sir. My estimates are based on overhead construction which until -- there was no indication until surrebuttal that the department had a position that things needed to be underground. In fact, we -- I seem to recall communications that specifically called out crossings could and would be overhead.

Q I think the Department of Transportation's position is that the only way the Q1-Highway 35 route would be

permitable is if they went underground. It's not that we're insisting that you take the Q1-35 route, just saying if you want to take that route, you have to put it underground. But you don't have -- the fact of the matter is, you have no cost estimates for that?

MS. AGRIMONTI: Objection --

MR. THIEL: I'm just confirming that.

MS. AGRIMONTI: Objection, asked and answered. We've been over this several times.

EXAMINER NEWMARK: Sustained.

BY MR. THIEL:

Q Are you aware of where WisDOT may allow above-ground installation on the Q1-35 route?

A I recall a description of underground in Mr. Fasick's testimony. So I guess the rest of the places would be overhead.

Q So you're not aware of the alternatives and where DOT would allow overhead alternative routes; is that correct?

A Prefiled testimony indicated in places where in WisDOT's opinion the line should be placed underground. So I presume the remaining parts of the line could remain overhead. If you have a -- I don't mean to be cute about it, but I don't recall any

testimony that says these are the places you can go overhead. To the contrary, in surrebuttal, there were places listed where the Department of Transportation believes the line should be underground.

Q Have you examined Mr. Fasick's direct testimony?

A Yes, sir.

Q Are you aware that on page 8 of that direct testimony, which is now PSC reference 160638, Mr. Fasick describes exactly where above-grounds would be allowed and where underground would be required?

A I believe a copy is being provided for me.

EXAMINER NEWMARK: What was your page number again?

MR. THIEL: Starting at page 8. And concluding at the top of page 10, line 3.

A The top of page 8?

Q Actually, it starts on -- the question is on line 5.

A And in the interest of time, is there one of these segments you'd like me to read?

Q The Q1-Highway 35, since you say that's the least costly option.

A Okay. I've read it.

Q And is your testimony still that that is the least

costly option?
A Applicants believe that the scenic easements allow as -- in the permitted use section of the scenic easements overhead installation. So it's our belief, as I've stated before, that we respectfully disagree and overhead transmission lines are allowed in those scenic easements, so the cost estimates are still as they are.
Q But do you disagree that the DOT would only issue a permit for crossing the assumed seven crossings of highways under our jurisdiction if you place the lines underground in those scenic easements?
A I understand that that is your position.
Q Are you aware that we have unilateral authority to make that decision at the DOT?
A I am not an attorney nor a real estate agent. But I can tell you what I've been advised, which is what I've been told, that WisDOT's -- this is my understanding from my project team and my counsel, you have permitting authority for highway right-of-way and your interest in scenic easements are of a landholder. And I've been advised that -- and the easements that I've read as not an attorney are -- seem pretty clear to me, they call out permitted use lines -- and this isn't a quote, but

lines to carry heat, light and power, et cetera, those sorts of things.

Q But you're not aware that the DOT's responsibility under its highway utility accomodation policy is not to issue permits to cross highway right-of-way in any area where -- of the scenic and natural beauty? You're not aware of that?

MS. AGRIMONTI: Object to how he's characterizing the accommodation policy, facts not in evidence and argument.

EXAMINER NEWMARK: Did we already ask if you assume that you're not going to permit overhead, what the cost would be? I think you already asked that question, right?

MR. THIEL: Yes, and he said he had no estimate.

EXAMINER NEWMARK: So let's move on to a different topic because we're just going over this.

MR. THIEL: Well, it's very important, Your Honor. I mean we have seven crossings --

EXAMINER NEWMARK: I think we have the answers we're going to get here. Otherwise you have your testimony of your witnesses in evidence.

MR. THIEL: I have no further questions.

EXAMINER NEWMARK: Okay. Other cross?

CROSS-EXAMINATION

BY MS. OVERLAND:

Q Good afternoon, Mr. Stevenson.

A Good afternoon.

Q Just a quick -- you just had some discussion about the Fasick direct, page 8, regarding the Q1 and Highway 35, and there are also discussions there about other options. So I wanted to clarify if it is your understanding that the DOT's permitting authority also extends to the Q1-Highway 35/88 Options A and B?

A I'm on page 8. And would you repeat that again, please?

Q 8 and 9. Right. I just wanted to know is it your understanding that the DOT's permitting authority also extends to the Highway 88, Options A and B? Their permitting authority, not, you know, the statement that they will not issue a permit, but the permitting authority.

A Permitting authority specifically regarding Highway 88?

Q Right, the 88 options, which is 88 Option A and B.

A Highway 88 is a state highway, and I assume they have similar permitting authority over that state highway as well, yes.

Q Just wanted to clarify that.

Okay. The question regarding ice roads in winter. We've had a winter where not much is freezing. How would -- would ice roads be effective if we have a winter like this winter?

A It depends on location. It depends on the wetland. It depends on the makeup of the wetland and whether there is water flowing or not flowing. So it's more or less site specific.

Q And about construction schedules, in your sur-sur on page 3, you're saying that you were too optimistic in estimating six years of construction. It would be page 3 of your sur-sur.

A Yes.

Q Now, do you have, like, a Gantt table, Gantt chart anywhere here that shows how it stretches out over time?

A No, I do not.

Q Because I was looking at Exhibit 15, which has permit duration months, and it's listing months, and construction duration, which lists months, but it's totaling 67 months, but you construct serially?

A What we do know in the investigation we have done recently on the reconductor alternative is specific to the construction durations. We know -- we knew

previously, and when I reassembled the team of system operators, they affirmed the -- no two of those projects can be rebuilt simultaneously.

Q Okay.

A So the construction part of it will have to proceed on a serial basis. I made no attempt here in a Gantt chart format to tell you how the permitting would go together and when any of those segments could start. That would be further work, and logic would say could and probably would further lengthen that schedule.

Q So essentially you're saying that these are too connected to be removed more than one at a time?

A That is very clear from our system operators, yes.

Q Okay. Regarding undergrounding. Now, you're the cost guy on undergrounding; is that correct?

A I am the cost guy.

Q Okay. The estimate that you provided, was that for a Mississippi River crossing, or was that an estimate applicable anywhere?

A There is a Mississippi River crossing undergrounding in our application. The number that we're referring to here in prefiled testimony is a different study that is for your typical over-the-ground open trench style of underground construction.

Q And you just said that's a different study. Is that

a different study here somewhere that I'm missing? I'm missing a lot right now I know, but is that in the record?

A I am not sure.

MS. AGRIMONTI: The actual study is not in the record.

BY MS. OVERLAND:

Q Would that study be similar to, say, like, the undergrounding study for the middle of the Brookings-Hampton route where it was just a cross-country kind of undergrounding?

A I'm aware of two underground studies that CapX utilities did. One was on the Brookings Project. It focused on the Lakeville, Minnesota area, if I recall, and the Fargo -- second one was the Fargo underground study, similar type construction in the Avon, Minnesota area.

Q Are the cost estimates for -- that you have in this proceeding in the same range as, say, the Brookings-Lakeville study?

A It's been a number of years, but I remember at one time laying those two studies both on my desk, and I recall that the costs were in the same general range. Two different studies, two different engineering firms, and they arrived at approximately the same

cost.

Q Is that a study that could be produced?

EXAMINER NEWMARK: The one that he's referring to in his testimony today?

MS. OVERLAND: Right.

EXAMINER NEWMARK: In the sur-sur?

MS. OVERLAND: Not the Lakeville one, but the one for this project where it seems to be very needed.

MS. AGRIMONTI: We can provide that as a late filed exhibit, Your Honor.

EXAMINER NEWMARK: All right. So what's his next number here? 18? We'll mark it as 18 and --

MS. OVERLAND: 18.

EXAMINER NEWMARK: Stevenson.

(Stevenson Exhibit 18 designated for delayed receipt.)

MS. OVERLAND: Stevenson 18 was that?

EXAMINER NEWMARK: Yes. Now the undergrounding cost study, good enough?

MS. OVERLAND: Yeah. Although I would suggest it might incorporate more than just cost. It might incorporate techniques, if it's anything like their past studies.

EXAMINER NEWMARK: Well, just for

reference.

MS. AGRIMONTI: I will note it's a study not specific to this project. It was for the CapX Fargo line in the Avon area that Mr. Stevenson is testifying about as a general cost assessment for underground --

MS. OVERLAND: Actually, I was referring to the -- more the Lakeville one than the Avon one. There's a difference because Avon is like this, and Lakeville is pretty flat.

MS. AGRIMONTI: Mr. Stevenson, which reports did you base your cost estimates on?

THE WITNESS: Fargo or Avon, Minnesota.

MS. AGRIMONTI: We can provide them both if Your Honor would like.

MS. OVERLAND: Your Honor, what I recall he just testified about was he took the Lakeville side by side and looked at them, and they were just about the same.

EXAMINER NEWMARK: Okay. So 18 is Avon, and 19 is --

MS. OVERLAND: Lakeville.

EXAMINER NEWMARK: Lakeville. Okay.

(Stevenson Exhibit 19 designated for delayed receipt.)

EXAMINER NEWMARK: Any other questions?

MS. OVERLAND: Yes. I'm just waiting for him to finish.

EXAMINER NEWMARK: Okay.

BY MS. OVERLAND:

Q Okay. I've got your full attention. Regarding the cost estimates for aboveground construction, I notice, you know, Mr. Hahn in the application, and I don't remember where, but the highest segment, highest cost segment was deemed to be the Mississippi River crossing at, like, 7 million a mile. Does that sound --

A Are you referring to all the -- the entire project?

Q No, no, no. That's the thing, I'm not. I'm referring to the segment about the Mississippi River crossing where Mr. Hahn pointed out that it was roughly 7 million per mile for that area, that it was the most expensive part to construct. Do you recall that?

A I don't recall Mr. Hahn's statement, but the Mississippi River crossing is the highest cost segment.

Q Okay. And when you're considering undergrounding and a comparison of the cost of undergrounding with the comparison of building the segment, what kind of ratio do you end up with? Rather than considering

the average cost per mile, which is much lower. When you're looking at the Mississippi River crossing with that higher cost, how does undergrounding and the cost of undergrounding compare with that higher cost segment?

A I want to make sure I'm answering the right question. Are you asking me what's the comparison at the river crossing, overhead and underground?

Q Right. Now we're on river crossing, right.

A The entire river crossing, including both Minnesota and Wisconsin, because it was studied as one segment since it's unique construction.

Q Right. And to cross it goes from one --

A Is on the order of -- the number's in the application. I recall $12 million. I don't remember if that's per mile or for that segment. The Mississippi River underground was $70 million. Again, I don't remember if it's that segment or per mile. We presented the information in two -- it's 1.3 miles in the segment that I define as the Mississippi River crossing. So what I'm confusing is my cost for 1.3 or one mile.

Q And that will be reflected in the record in the documents, correct?

A The underground Mississippi River crossing is, I

believe, an appendix to the application.
Q Right.
A And then in that appendix, I believe we call out overhead costs and underground costs and describe the length in the preamble section to the study.
Q And you're saying that -- well, it'll say what it says. That's okay. Just a minute.
Oh. Your Exhibit 4 says AC electromagnetic study. I don't necessarily want you to refer to it, but I'm going to -- are you the EMF guy? I don't think you are. Is that Mr. Hillstrom?
A I'm not the EMF person, but this exhibit isn't necessarily about EMF.
Q Right. It's not, and that's what I was wondering about.
Okay. Let's see. However, if you look at page -- I think it's number 9. I've got 65, but I think it's page 9 where it talks about the specs for the line.
A I'm sorry, page 9 of --
Q Page 9, I believe, of your direct.
A My direct. Okay.
Q Sorry. Actually, before we get to the specs, above that on page 9, you're talking about the double-circuit capable. Why aren't you doing it that

way here -- proposing to do that here in Wisconsin?
A Specifically what are you asking about?
Q You know, we got -- you got the CPC -- the certificate of need for double-circuit capable. Why aren't you doing that here in Wisconsin?
A Well, there's a number of factors. We didn't propose a double-circuit capable in Minnesota as you recall. Neither did the intervenors. Two intervenors proposed higher-capacity lines than what we proposed, and the end result was a double-circuit capable line.

We, the Applicants, and our member utilities considered whether we should continue that into Wisconsin. And for a number of reasons they elected not to. It got to -- or the criteria and the approvals that would be necessary to propose something like that. That's my recollection, but we had a specific conversation with our owners about whether that should be proposed, and we elected not to, other than some short segments depending on route.
Q Meaning planning ahead for it just in case. You mean, like, for the river crossing or -- is that what you mean?
A Well, if you recall in Minnesota, we proposed a single-circuit 345, and we were overtaken by

circumstances. And we exited that proceeding with a double-circuit capable line. The utilities considered whether we should propose double-circuit capable into Wisconsin, and what we decided was, for a number of factors, we would propose double-circuit capable a short distance to some place where it could -- a substation might one day be built and -- because there are five 161 lines in the area. So carrying the double-circuit capable far enough into Wisconsin that would give future options to planners was deemed the prudent step, and that's what we put in our application.

Q So essentially you're crossing the river to some land where -- is that essentially it?

A Where some planners could --

Q Throw a substation in?

A -- devise some solution at some day in the future, yes.

Q Okay. Then moving down there on page 9 to the next part, you give the specs of the conductor for the 345 first. And in this part, would you agree that the summer rating would be, like, 2,050 for the single circuit and 4,100 for the double, which for the most part isn't considered here?

A 2,050 and --

Q 2,050 MVA for bundle.
A Yes. The conductor that we called out here, a double bundle of 954 ACSS is nominally thermally rated at 2,000 megawatts. 2,050, 2,000, in that vicinity.
Q And it is definitely bundled? Because it doesn't say that here.
A Yes. We proposed two conductors per phase. Pretty standard design for 345.
Q And that's standard for you, but it's not been stated here in this.
A Okay.
Q So you're talking 2,000 MVA. And then did I miss the 161, what that summer rating is?
A I don't have it committed to memory, that 795 ACSS rating.
Q Is that bundle also?
A No.
Q No? Just one second. I want to throw a subject to check. That's ACSS also, correct?
A Correct.
Q 161 single circuit. Would you accept, subject to check, that it would be around the order of close to 500 MVA?
A That sounds about right.
Q Okay. Thank you. And on page 68 -- that doesn't

help. Just a minute. That would be page 12. We're talking about the substations and the layout of the substations. I think it would be page 12. It might be page 13. Should be page 12, your direct.

A Yes, I'm there.

Q And is any vegetation proposed around the substation?

A As screening?

Q Visual and audio.

A Are we proposing to install any?

Q Yeah.

A Not to my recollection, but Mr. Hillstrom would be --

Q Hillstrom's the one --

A -- better informed.

Q Okay. And so he would also address sound?

A Yes, I believe so.

Q Okay. And on page 15, you're talking about helicopters, and I know that you've been using helicopters a lot for just the general construction. And is it correct that in Wisconsin it looks like the use of helicopters is going to be a little less -- less used than in Minnesota?

A Is there a specific line number?

Q Yeah, lines 21 and 22.

A Okay.

Q It seems that you're restricting use of helicopters

to areas without ground-based construction access, and in Minnesota you've been using them pretty regularly.

A These lines of testimony specifically talk about heavy lift in some sensitive areas, which is an offer we made to the Department of Natural Resources. Its use of helicopters in the stringing operation is becoming more and more one of the standard techniques available to constructors of transmission lines. So it's possible that helicopters might be used in some of those stringing operations. Particularly, we have some spans from ridge to ridge, hill to hill, that are fairly long and otherwise difficult to get between.

Q So this is just here because you're talking about specific places, but you may use it generally as well?

A There's two types of helicopters. Heavy lift is different than the small helicopter that's used for stringing operations. This talks about heavy lift to carry in poles, and it's also in the same section where we're talking about ice roads. So that's in relation to construction in sensitive areas. There is another type of smaller helicopter that's used for stringing operations.

Q And would that also then be something more for Mr. Hillstrom, or is that also your department --
A Depends on what the --
Q -- because it's construction.
A Depends on what the question is.
Q Oh. The question would be construction techniques in sensitive areas. That's you?
A It's probably an overlapping area.

EXAMINER NEWMARK: Let me just inject because I'm curious. Ms. Overland mentioned in her perception there are more helicopters used in Minnesota, or seems to be more of a general practice, and you -- but you would relate that to the stringing operations, the fact that you would see more helicopters than just --

THE WITNESS: I believe -- and she could tell us because she's referring to the first phase of the CapX Fargo Project. We used both type of helicopters there. The lighter helicopters for stringing, and we used the heavy-lift helicopter to install three poles in a wetland area in lieu of ice roads. So we used both there, and it's a standard -- it's becoming a standard technique that I would expect that we may employ as well.

EXAMINER NEWMARK: Thanks.

BY MS. OVERLAND:

Q I thought of that going down the beltway today watching them stringing the lines this morning, where they're doing it manually on the ground rather than helicopters.

Okay. Page 18 where you're talking about railroad -- permission from railroads, BNSF and Chicago Northwestern on page 19.

A Yes.

Q I have a question about permission to cross. Is that through an easement, or are you leasing the land?

A My understanding is through permit.

Q Through permit. Is that permit from the company, correct?

A From the railroad company, yes.

Q From the railroad. Do you get paid for that?

A My understanding there is some nominal fee that's involved. I don't recall what it is.

Q Is it an annual fee or just a one-timer?

A I don't recall, but I do know that we have a programmatic agreement or some sort of agreement with Burlington Northern Santa Fe that covers a lot of what we do, and it also speaks to the permit cost, which I understand are pretty -- actually quite small. I don't know if they're one time or annual.

Q Okay. I think we're almost done. Oh, okay. Would you agree that in Minnesota there was also an issue regarding the DOT and scenic easements?

MS. AGRIMONTI: Objection. Outside the scope of this proceeding. Different easements, different agencies.

MS. OVERLAND: Your Honor, the reason I raise this is that it was an issue, and there seems to be a pattern of not paying a lot of attention to what the DOT is -- their policy of accomodation.

EXAMINER NEWMARK: I'm going to sustain the objection. I don't see how we can combine those things at this point, but --

MS. OVERLAND: Okay. I'll find a way to do it on the brief.

Okay. No further questions.

EXAMINER NEWMARK: Other cross?

CROSS-EXAMINATION

BY MS. CORRELL:

Q I just have a quick clarification. Thank you, Mr. Stevenson. I'm Megan Correll from the DNR, and I would like to refer you to page 19 of your direct testimony. Let me know when you get there.

A I'm here.

Q Are you set?

A Yes.
Q You testified that during construction the most effective way to minimize impacts is to avoid wet areas, streams, and rivers; is that correct?
A That's correct. When possible.
Q And I just want to clarify for the record. When you refer to wet areas, given the context of your question regarding environmentally sensitive or wetlands, would it be fair to say that you're including wetlands in your description of -- strike that.

Would it be fair to say that when -- you stated that you were including wetlands within types of impacts that you would try to avoid first?
A Is there a specific line number I should refer to?
Q Well, yes. It's the lines 11 and 12. I just read that same sentence, and you refer to wet areas. Can you clarify what you mean by that?
A Sure. I just --
Q I assume, is it fair to say that it includes wetlands?
A Yeah. If you give me a moment to just reread.
Q Oh, yeah.
A The first sentence, during construction the most effective way to minimize impacts --

Q Okay.
A -- is to avoid wet areas, streams, rivers?
Q Right.
A Yes.
Q Okay. So -- because I wasn't sure the way you answered. You did clarify that that includes wetlands, the wet areas, correct?
A Yes. When possible, yes.

MS. CORRELL: Okay. That's all I have. Thank you.

CROSS-EXAMINATION

BY MS. RAMTHUN:
Q Mr. Stevenson, I have a couple cost-related questions. I guess, as you know by now, I'm Diane Ramthun of the Commission.
A Yes. Good afternoon.
Q Referring first to Exhibit 11.
A I'm there.
Q If you look at the columns under estimates, the Minnesota column under estimate, the Minnesota column under cost, and I'm looking at the reconductor only row -- the two rows I'm concerned with are reconductor only and reconductor only with Minnesota 345 kV. Do you see those rows?
A Yes, I do.

Q Am I correct that the -- and again, I'm referring to the Minnesota estimates. The Minnesota estimates and costs include connecting an existing 161 kV to the new CapX 345 kV line?
A Under reconductor only and reconductor with Minnesota 345?
Q Well, actually my question before I get to those specific rows is, does the -- do the estimates and costs include connecting an existing 161 line to the proposed 345 kV line?
A I'm -- some of the alternatives that are on this table include connecting to a 345 and some do not. So that's why I was asking for a clarification about which of the alternatives.
Q Well, does the reconductor only include -- reconductor only with Minnesota 345 kV, does that include connecting to an existing 161 kV line to the new Minnesota 345 kV line?
A In Minnesota, the reconductor with Minnesota 345 costs assume building 345 as approved in Minnesota to satisfy the Rochester area load into the existing network, which is 161 in the Rochester area. Is that --
Q And then the costs include connecting to the 161 network there?

A In Rochester, yes. The Minnesota costs do, yes.
Q And just one other question. Does your Exhibit 13 -- I think you stated this, but I want to make sure. Exhibit 13 does not include the various undergrounding costs that you just talked about on cross-examination with the parties?
A That is correct.

MS. RAMTHUN: No further questions. Thank you.

EXAMINER NEWMARK: Redirect?

MS. AGRIMONTI: Your Honor, none.

EXAMINER NEWMARK: None? Okay. We have one more witness for the Applicants?

MS. AGRIMONTI: We do, Your Honor.

EXAMINER NEWMARK: We can take ten minutes and get back. And if we can finish up the Applicants today, that would be great.

MS. AGRIMONTI: May we go off the record for a moment?

(Discussion off the record.)

(Recess taken from 4:35 to 4:45 p.m.)

(Change of reporters, 4:45 p.m.)

(Discussion held off the record.)

VINCENT MOSCA, CLEAN WISCONSIN WITNESS, DULY SWORN

EXAMINER NEWMARK: Okay. Let's go ahead.

DIRECT EXAMINATION

BY MS. WHEELER:

Q Mr. Mosca, can you please state your full name and place of employment for the record.

A My name is Vincent J. Mosca. I'm with Hey and Associates, Inc., 26575 West Commerce Drive, Volo, Illinois 60073.

Q Thank you. And did you prepare direct and surrebuttal testimony in this proceeding?

A I did.

Q And did you also prepare, I think, 13 exhibits in this proceeding?

A I believe that's correct.

MS. WHEELER: Mr. Mosca is available for cross.

EXAMINER NEWMARK: Okay. I have 11 on my list.

MS. WHEELER: I'm sorry, 11.

EXAMINER NEWMARK: All right. Cross-exam?

MS. HERRIG: Yes, Your Honor. I just have one quick question for you, Mr. Mosca.

CROSS-EXAMINATION

BY MS. HERRIG:

Q I'm looking at your resume, which is Exhibit 1 to your testimony. Am I correct that you've never been

involved in a CPCN proceeding before?
A That is correct.
MS. HERRIG: That's all I have.
EXAMINER NEWMARK: Okay.
MS. OVERLAND: I do have some.
CROSS-EXAMINATION
BY MS. OVERLAND:
Q Let's see. Page 5, line 15.
EXAMINER NEWMARK: Of direct or --
MS. OVERLAND: Of direct. I don't think I'll get past direct. Let's see.
BY MS. OVERLAND:
Q You're pointing out some inconsistencies and uncertainties in this regarding wetlands, and it's been established you haven't worked on a CPCN proceeding before, but in the work that you've done, is this -- are you accustomed to finding this level of inconsistency or uncertainty, or is that something different?
A Actually, the nomenclature that's used in this application is not conventional to most other projects that would have wetland impacts.
Q How so?
A The easiest answer is that generally an applicant that would propose wetland impacts for either a

highway project, a sanitary sewer project, or a retail mall would have essentially categories that would say preserve wetland or impacted wetland. This application had other nomenclatures in it like permanently modified habitat, temporary impacts, permanent impacts, affected habitat, those kind of things in various documents, both the applicant and the EIS. So it was hard to compare apples to apples on what would be an impact or not.

Q And do you think there are ways that that could be altered so that you could compare apples to apples, or are you stuck -- are we stuck here with apples and semantics?

A The application has what the Applicant has considered, permanent and temporary impact. My point in my testimony was that that didn't seem to accurately reflect potential other impacts that in other -- other documents in the application seem to indicate that there would be additional impacts, including forested wetland impacts.

Q Do you think that the application deals adequately with representing, like, forest, which will have a permanent impact, compared to some other kind of terrain or feature where it can recover over time because you can't grow forests underneath the lines?

A I think that the application has done a reasonable job in documenting the acreage that may be impacted, but I'm not convinced that the application is as thorough in considering that as a true impact and what mitigation measures would be used.
Q And so you're talking about more not just the numbers, but the qualitative aspects of the impact; is that what you're saying?
A Well, actually what -- under the regulatory climate of needing compensatory wetland mitigation or true apples-to-apples comparison between routes on how much impact would be, I'm not so sure that the application is clear to most readers on what actually is going to be impacted and not.
Q Okay.
A And also given that some of the routes are on private property and have not been thoroughly documented yet, so -- and I understand that the Applicant can't get access to that. But from a review standpoint, if some of the routings have not even been thoroughly bedded from a resource standpoint, it's hard to tell how much would actually be impacted or not.
Q Isn't that something that where a lot of the information is available through agency records and even Google Earth?

A Yeah. The Applicants' very clear on their methodology, which I'm actually quite comfortable with --
Q Okay.
A -- from an overall documentation standpoint, but it's the interpretation and how that information is then used as an impact analysis that I have more issues with.
Q Okay. Does it appear to you that they've done everything they can do to minimize construction impacts?
A The easiest answer is no.
Q Okay. I'll take that. What kinds of things do you think could be done or suggested to be done that have not been addressed?
A Well, I think that the application -- and I'm sort of sympathetic to the Applicant, they can't have everything figured out ahead of time.
Q Uh-huh.
A But access to wetlands, whether it's perpendicular to the right-of-way or you're perpendicular or parallel, depending whether you have access from upland areas, et cetera, construction season, depth of the water, all those things. You know, it's easy to say we'll minimize impacts when practicable, but if it's not

practicable, you're never quite sure what's going to happen. And then also some of the impacts, whether they're going to actually restore them to their original quality and that are very -- not well documented in the application at this point.

Q So is some of that throwing things into a catchall -- when it's practicable, just throwing it into a catchall and not going beyond that?

A Right.

Q Okay.

A I'm comfortable that the Applicant and their contractors know how to conduct their work, but on any given day in certain types of wetlands, it's more important to have the A-Team on that crew than just a run-of-the-mill level.

Q Okay. Looking at page 11, starting at lines four, in that first paragraph -- well, actually, say, page 11, that question. First question, one through 11, now, given the inadequacies that you've described, are you aware of any documented route alternatives that might have potentially acceptable or manageable mitigatable -- mitigatable impacts on wetlands?

A In some ways all of the routes are equal, that they will all have wetland impacts. They will all have forested wetland impacts, both -- or permanent and

temporary impacts. The Q1-35 route, which I think is becoming clear that has other issues besides natural resource issues that some of the agencies have talked about. So, from that standpoint, all of the routes have issues from an environmental standpoint, which is to be expected.

So the easy answer is, that if you avoided the Van Loon Bottoms or the Q1-35 routing, that almost by definition would probably have the least environmental impacts because that's more of an upland route and going away from sort of the identified highest quality wetlands in the corridors.

Q Okay. That helps. Let's see. If you go to line 15 -- page 15, I mean. Down at the bottom, and you've talked about this somewhat, I think, where you're saying the process -- typical process wasn't followed. Is it an issue of they can't accurately state the impacts, or just it just hasn't been said?

MR. ZIBART: Objection. Outside the scope of the witness's knowledge.

EXAMINER NEWMARK: Well, can you rephrase that? I'm not sure --

BY MS. OVERLAND:

Q What I'm wondering is, in your testimony where it says accurately -- just a second. Let me see where

that is. That's in that part. You're testifying regarding what additional studies are required in order to accurately determine wetland impacts. So I'm wondering if that's, like, something that can be done with, like, you know, more study, or if it's not within the realm of possibility to do?

A In general, in normal wetland delineation-type projects, you would actually have a boundary flagged in the field. It would be surveyed into a project document and then verified by the agencies. In this case the scope of the project, access, they've all been mostly estimated, either visually estimated from the field, aerial photography interpretation, and those types of things. So I think that the Army Corp. has indicated that if in fact they believe that a boundary needs to be more defined in the field, they may require that at some point in the future, but right now the boundaries are only estimated, maybe conservatively, but still only estimated.

So on any given spot on any given structure or access route, one of the agencies could require that a field boundary is placed so that silt fencing or access routes can be determined more definitively in the field.

Q And you testified that the Army Corp. won't consider

wetland permanent application complete unless the impacts are adequately stated. Is it clear from what you've seen what areas are affected and necessary for an Army Corp. permit?

A It's relatively clear where the impact will be necessary.

Q Okay. Where the -- or where the permit would be necessary?

A Well, it's relatively clear -- the routings are set. So whichever routing is chosen, the wetlands have been documented, at least to type and to size. So if the Applicant is proposing a structure in a certain area, an access route or a conversion of forested wetland, you will know where those impacts will be. But I'm not confident that they're all fully documented or labeled as such in the current documentation.

Q Okay. I think I get that. Do you know, to your knowledge, has there been an avian protection plan developed?

A I'm not aware of that.

Q Okay. Is that within your realm?

A I did not necessarily focus on a lot of the -- a lot of documentation outside of the -- those most directly related to the wetland areas.

Q Okay. Typically in wetlands, is that a bird attractant? Is there a nexus between wetlands and birds?
A Certain types of birds, certainly.
Q Let's see. Page 19, line 13 -- well, that paragraph starting at 13 and then particularly lines 22 through 24, and that's page 19 of your direct. And you testified that you have concerns about whether the overall category of environmental cost has been grossly underbudgeted. Do you think it has been? Are you're saying there's concerns? Well, that's kind of iffy. Is it -- do you think they have been grossly underbudgeted?
A In rebuttal or surrebuttal testimony of the Applicant, they've indicated that was incorrect, that the environmental category of the budget does not include things such as right-of-way restoration and wetland mitigation, so that the category that I specifically spoke of on page 19 here did not include that. So I may have been incorrect that they have underbudgeted in that category; however, I still have issues that they didn't adequately budget under their right-of-way prep category, which the Applicant had clarified is where that money would have been allocated.

Q Okay.
A But it's just a line item with no allocation by task, so it's hard to tease out how much had been allocated -- allocated for each individual task.
Q So meaning that, like, the way it's been presented, it's hard to tell what it all includes?
A Correct.
Q Other than, like, guess and they're wrong, and then it's really here, and then it doesn't also show that it's here in the other place, correct?
A To my satisfaction, I'm not sure that it's been adequately budgeted with what I know at this point.
Q Okay. Let's see. On page 20, lines 23 through 26, you express a concern that there isn't enough time for the DNR approvals. Well, there's not much time to review and that it might be difficult to do an adequate analysis. Does that remain a concern?
A Yes.
Q Is it -- could information be provided -- how do you avoid that? Is it, like, built into the process?
A I believe that it's a requirement under Act 89 that the DNR is required to give a permit application. I guess -- I say approval. I guess I don't know that they automatically have to approve the application, but they may have to.

Q Uh-huh.
A But they have a 30-day review period to render their opinion, which I believe generally will end up in an approval. So they have 30 days from the time the PSC gives the order.
Q And 30 days for any project, no matter how large?
A For these types of projects, which is not -- which is not a requirement for a fill for a drug store.
Q To your knowledge, has the DNR ever denied a permit?
A Not to my knowledge.
Q Let's see. And your bottom line -- well, it's not at the bottom, but on page 22 you state that given the insufficient field level -- insufficient level of field verified data, blah, blah, blah, you would not be comfortable recommending any of the proposed routes for approval by the PSC. Have you seen anything since then in any of the testimony that changes that opinion?
A No.

MS. OVERLAND: No further questions.

EXAMINER NEWMARK: Other cross?

(No response.)

EXAMINER NEWMARK: Okay. Redirect.

MS. WHEELER: Yep. I've got just a couple of follow-ups.

REDIRECT EXAMINATION

BY MS. WHEELER:

Q Mr. Mosca, you stated you've never been involved in a CPCN process before in Wisconsin. Can -- have you been involved in any other types of corridor work?

A I've worked on electrical transmission corridor projects in Illinois. I've done sanitary sewers, highway corridors, recreational drill projects that have spanned 20, 25 miles.

Q Okay. I also just wanted to clarify from an answer you gave earlier. At this time do you believe there's enough information about wetland impacts for the Army Corp. of Engineers to issue a permit?

A No.

Q And then finally, about -- about some of the budget questions that Ms. Overland had asked you about, can you state specifically what types of budget items you're concerned that they've omitted from the right-of-way prep item on their budget?

A There's two main categories. The Applicant has indicated that they believe that they will need to do wetland mitigation for conversion of forested wetland to open wetland. I've not seen any budget figure or any kind of real mitigation plan that would address that, so -- and then also there's an expectation, and

the Applicant has indicated that, that there will be some several year follow-up management monitor reporting plan and implementation to restore temporary impacts along the corridor. And at this point I don't know that that's been budgeted for.

MS. WHEELER: Thanks. I have no further questions.

EXAMINER NEWMARK: Okay. I was just curious. I note that there was an issue about the Army Corp. of Engineers, and in that exhibit of yours, I think it's Exhibit 9, there's talk about jurisdictional determinations. Do you know where the Army Corp. is asserting jurisdiction in the project?

THE WITNESS: I do not. They -- I don't know that they've been asked for a jurisdictional determination at this point, but in a simple standpoint, anything that -- any wetland that will flow to a navigable water would be under their jurisdiction, which would probably be the majority in this part of the state.

EXAMINER NEWMARK: Okay. So they would have the potential to -- they would have the opportunity to have to permit most of these wetland impacts or --

THE WITNESS: That's my expectation.

EXAMINER NEWMARK: But they'd actually have to start that process, or how do they --

THE WITNESS: They would have to -- I think at some point, once the corridor has been chosen, if one is, then an application will be submitted under 404 of the Clean Water Act to the Army Corp., and then the expectation is there's an individual permit that would be required with the public notice period and alternative's analysis as a part of the federal requirement under the Clean Water Act.

EXAMINER NEWMARK: Okay. Does that relate -- how does that relate to the DNR permits? Do they overlap, or are they distinct?

THE WITNESS: They overlap, but the Wisconsin DNR is sort of the water quality certification under the Clean Water Act. That's the 401, that's Code NR3 in Wisconsin. But they overlap. There's similar parts of it, but the Army Corp. is the lead agency when it comes to the wetland impacts.

EXAMINER NEWMARK: Okay. Thanks.

Okay. Anything else?

(No response.)

EXAMINER NEWMARK: Okay. You're excused.

(Witness excused.)

EXAMINER NEWMARK: So is that all we have for today? You hope.

All right. Anything we need to deal with on the record before we go? Outstanding issues? No.

Okay. Let's go off the record then.

MS. OVERLAND: What time tomorrow morning?

EXAMINER NEWMARK: 9 o'clock. Let's see you tomorrow.

(The hearing adjourned at 5:10 p.m.)

* * *

STATE OF WISCONSIN)
MILWAUKEE COUNTY)

We, JENNIFER M. STEIDTMANN, RPR, CRR, Registered Professional Reporter, Certified Realtime Reporter, Notary Public, and LYNN PEPPEY BAYER, CM, Certificate of Merit, Notary Public, with the firm of Gramann Reporting Ltd., 710 North Plankinton Avenue, Suite 710, Milwaukee, Wisconsin, do hereby certify that we reported the foregoing proceedings had on March 5, 2012, and that the same is true and correct in accordance with our original machine shorthand notes taken at said time and place.

_____

Jennifer M. Steidtmann
Registered Professional Reporter
Certified Realtime Reporter

_____

Lynn Peppy Bayer
Certificate of Merit

Dated this 6th day of March, 2009.
Madison, Wisconsin.

I N D E X

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E X H I B I T S

NUMBER	DESCRIPTION	MRK'D	RECV'D
No. 5	(Hahn)	42	42
No. 3	delayed exhibit (Kline)		161
No. 4	delayed exhibit (Kline)		161
No. 15	(Stevenson)		197
No. 16	(Stevenson)		197
No. 17	(Stevenson)		197
No. 18	delayed exhibit (Stevenson)		223
No. 19	delayed exhibit (Stevenson)		224