

**Appendix A Public and Agency Comments**



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

PUBLIC COMMENTS - FEBRUARY 9, 2010  
CLEARWATER TOWNSHIP - 2:00 and 6:00 p.m.  
STATE OF MINNESOTA  
OFFICE OF ENERGY SECURITY  
Monticello to St. Cloud 345 kV Transmission Line Project  
Draft EIS  
PUC DOCKET NO. 09-246

## I N D E X

	SPEAKER	PAGE
3	AFTERNOON SESSION	4
4	Ron Schabel	4
5	Jack Gallagher	9
6	Bud Stimmler	10
7	Felix Schmiesing	12
8	Nancy Riddle	16
9	Karl Samp	17
10	Lynn Waytashek	23
11	Jane Korte	24
12	Mary Jansky	26
13	Mike Hayes	26
14	Bud Stimmler	27
15	Kelly Neu	28
16	Felix Schmiesing	29
17	Jerry Finch	30
18	Purves Todd	31
19	Debbie Schabel	35
20	Catherine Meyers	36
21	Phil Bautch	37
22	Jeff Schlingmann	40
23	Nancy Riddle	41
24	Unidentified	42
25	Felix Schmiesing	43

1	John Golly	43
2	Lynn Waytashek	45
3	Al Witte	46
4	Joe Kenning	47
5	Joe Helget	49
6	Jerry Finch	50
7	Mike Aune	51
8	EVENING SESSION	53
9	Donald Cox	53
10	Unidentified	56
11	Donald Cox	57
12	Scott Tellegen	58
13	Julie Blomberg	59
14	Felix Schmiesing	61
15	Donald Cox	62
16	Heidi Cox	64
17	Donald Cox	64
18	Heidi Cox	64
19	Rose Thelen	65
20	Brad Zadow	68
21	Kevin Gohn	68
22	Scott Tellegen	70
23		
24		
25		

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

(Afternoon session.)

MR. BIRKHOLZ: All right. Who wants to go first?

MR. RON SCHABEL: My name is Ron Schabel, S-C-H-A-B-E-L, and I'm from Clearwater Township, Fish Lake area.

I've submitted some comments, but I've had a lot of people say they get confused when they're looking at the DEIS. And so one of my comments was 40 CFR 1500.4(h), it's under summarizing, and in the DEIS abstract it just says the primary purpose of this Draft EIS is to summarize the potential impacts of the project and help the Commission make an informed decision on the best route.

This 40 CFR is the rules under the federal council and environmental quality. And they've laid out 1500 to 1508 on EIS structure. And summarizing is only allowed for the EIS if the entire EIS is larger than -- is unusually large. So what they do is they send out a summary, and then if you want you can get a detailed EIS. But in this DEIS, the whole thing is basically a summary that's not really presented as a detailed, concise scientific analysis.

Comment 1

1           So I just wanted to present that because  
2 a lot people are confused when they're looking at  
3 this DEIS because it's summarizing and apparently it  
4 was intentional to do that.

5           MR. BIRKHOLZ: Thank you.

6           As a bit of a response, this EIS that  
7 we're doing is a -- it's called an alternate --  
8 alternative form of review allowed under the  
9 Minnesota Environmental Protection Act and applied  
10 specifically to reviewing high voltage transmission  
11 lines, power plants, and whatnot. We are not doing  
12 a federal EIS, which would fall under those statutes  
13 and rules from the feds. So we are not doing the  
14 NEPA, the National Environmental Protection Act.

15           So, you're actually right, we do not do a  
16 lot of -- we mostly, in the time allowed, review  
17 available data sets and summarize the data. Yes,  
18 that's what we did. That's what we have time to do.  
19 And we looked as closely as we could to find out  
20 what we could to balance each of the routes and what  
21 we could find just for information for the routes.

22           But it is decidedly different than the  
23 typical EIS that you would find even at a state  
24 level typically under MEPA, which can sometimes take  
25 two, three years to complete, like for a steel plant

1 up there, I think it took three years to complete  
2 from start to finish.

3 So it is a slightly different process. I  
4 understand that the goal is to reach some of the  
5 same information. So we have, as you mentioned, a  
6 satisfactory amount of reliable information to  
7 inform a decision. So that's the goal. It's a  
8 slightly different process than some, but your point  
9 is well taken.

10 If you want to respond, you can come up  
11 and respond.

12 MR. RON SCHABEL: In the ER, after the  
13 certificate of need, it said that the full review  
14 process would be used. In the scoping document it  
15 said the full review process is going to be used.  
16 So I'm confused at your comment that it's an  
17 alternative review, 'cause alternative is mostly for  
18 like an EA.

19 MR. BIRKHOLZ: No, no. And you may have  
20 another response to this. No, that's an excellent  
21 question. I wasn't clear enough on the pieces that  
22 I'm referencing. It's an alternative form of  
23 environmental review, that it is. Now, what you  
24 reference is, there's a full process and a  
25 alternative process. And when you said we'd do this

1 under the full process, that is correct, and that's  
2 what it is.

3 The full process in a high voltage  
4 transmission line case does the full -- does a  
5 year-long review process with an environmental  
6 impact statement and a contested case hearing.  
7 That's what the full process is. The alternative  
8 review process is a six-month process that does an  
9 EA, an environmental assessment, and holds a public  
10 hearing, not a contested case hearing. So those are  
11 the alternative review process and the full review  
12 process, which we're in for this one. Alternative  
13 environmental review references how it would be  
14 different from a MEPA or a NEPA EIS. And that's way  
15 too many acronyms and I understand it's confusing.

16 MR. RON SCHABEL: So we're going with the  
17 full on this?

18 MR. BIRKHOLZ: This has been a full  
19 review process.

20 MR. RON SCHABEL: Okay. And then to add  
21 to that, in the CapX fact sheet they said they would  
22 be following MEPA and there would be federal  
23 agencies reviewing documents.

24 MR. BIRKHOLZ: Okay.

25 MR. RON SCHABEL: Thank you.

1 MR. BIRKHOLZ: I don't know what  
2 reference you're making, of what the company said  
3 they would be doing. There are potentials in this  
4 case to trigger environmental review at the federal  
5 level. Depending on what kinds of decisions need to  
6 be made, for instance, on exceptions to policies and  
7 procedures for MnDOT.

8 For instance, if they have to change some  
9 of the policies that MnDOT has for running lines  
10 along the highway, then they have to get exception  
11 from the feds. And if the feds have to make a  
12 decision, then, of whether or not they need to do an  
13 environmental review. And if that would go beyond a  
14 couple of those decisions, then you would be getting  
15 into that process. The feds do have to make  
16 decisions in certain circumstances if it comes to  
17 that.

18 I don't know the reference that you're  
19 making. I'm sure I'm not explaining it well enough.  
20 And as I say, I didn't see it. But there at this  
21 time has not been any federal environmental review  
22 and we're not anticipating that it would be required  
23 except under certain circumstances. But it would  
24 fall outside of the state permitting process at this  
25 point.

1                   Thank you for raising those questions.  
2                   It's a really confusing set of different rules and  
3                   statutes and federal law and Minnesota law and  
4                   Minnesota rules, and I'm glad for the opportunity to  
5                   help straighten that out, and I'm sorry for any  
6                   additional confusion that I add to the process as I  
7                   make this explanation.

8                   Please, come up. Can you come up,  
9                   please?

10                  MR. JACK GALLAGHER: I was just wondering  
11                  if we could have a question and answer session for a  
12                  bit here, to familiarize ourselves with what is  
13                  taking place. It's pretty hard to make a comment  
14                  without knowing.

15                  MR. BIRKHOLZ: Well, I guess we can do  
16                  this a little bit. We can do that, but let me bring  
17                  the mike and let me have you introduce yourself and  
18                  give your name for Janet.

19                  MR. JACK GALLAGHER: Jack Gallagher with  
20                  Clear Lake Township.

21                  And I guess one of the questions would be  
22                  I'm concerned with the alternate route on the other  
23                  side of the river, and if they will follow the  
24                  existing order that's there and replace the power  
25                  line poles and so forth, if they decide to take that

Comment 2

1 route, or would they expand it, and what would the  
2 width of the easement be on something like this?

3 MR. BIRKHOLZ: The width of the  
4 easement -- thank you, Mr. Gallagher. The width of  
5 the easement is going to be 150 feet regardless. So  
6 wherever that goes. It may not be clear at this  
7 point in time whether those lines would be replaced  
8 or how far away they would have to be.

9 When it comes down to it, the Commission  
10 is still going to issue a 1,000 foot route,  
11 probably, and then at that point in time, if that  
12 were the route that was decided, then the company  
13 would come out and they would negotiate with the  
14 landowners within that to find the final 150 feet  
15 that they needed. So that would be the final amount  
16 that would ever be used anywhere along any of the  
17 lines, is 150 feet. Except for temporary easements,  
18 perhaps, for construction that would have to be  
19 restored to their original condition.

20 MR. BUD STIMMLER: Bud Stimmler from  
21 Clear Lake, S-T-I-M-M-L-E-R.

22 I've got two items I'd like to bring up  
23 concerning Route D, the alternate. Section 5-47  
24 states that there are no parks along Route D, when  
25 actually there is a Clear Lake Township park within

Comment 3

1 1,000 feet of the existing line there. And we  
2 missed the -- I missed the scoping meeting. How do  
3 we get that put in there?

4 MR. BIRKHOLZ: You just did.

5 MR. BUD STIMMLER: Okay.

6 MR. BIRKHOLZ: That's why we get these  
7 comments, by the way. If there's something that's  
8 missed, we need to know it. So from your comments  
9 we'll go back and we'll evaluate things exactly like  
10 that.

11 MR. BUD STIMMLER: The second item is in  
12 2006 MnDOT did a study, they were proposing to put a  
13 bridge across, a corridor across, in order to cross  
14 this Route D. And in that process there was a  
15 burial, a pioneer burial family that was located,  
16 which is very close to a set of poles on the  
17 existing line on Route D. And that's not mentioned  
18 in the impact statement either. And I'd like to  
19 have -- there's a report that MnDOT published, and  
20 I'd like to have that put in that statement, too.

Comment 4

21 There's a picture of the burial site with  
22 a set of poles in the same picture. And when MnDOT  
23 was going to do the proposed corridor, they were  
24 going to protect the burial site. And I would like  
25 to have that noted in here, too.

1 MR. BIRKHOLZ: And do you have a copy to  
2 leave with us or did you want us to reference it?  
3 Can you leave that with us?

4 MR. BUD STIMMLER: Yes.

5 MR. BIRKHOLZ: Thank you.

6 MR. FELIX SCHMIESING: Thank you. Felix  
7 Schmiesing, Sherburne County, S-C-H-M-I-E-S-I-N-G.

8 I have a letter -- I'm on the county  
9 board. I have a letter that was drafted by the  
10 county board that I will leave here today. It has a  
11 number, a number of issues that we have with the EIS  
12 as it stands now.

13 We also have a county park that is in  
14 this draft. And we have staff here that may want to  
15 comment further, but we have a number of irrigators,  
16 there's 36 irrigators that would be affected,  
17 there's a considerable amount of problems as we see  
18 it with this, with this route.

19 Now, I'll leave a copy of that letter for  
20 you folks to look at.

21 My main concern at this point is really  
22 with your process. You selected a route that came  
23 across the river, crosses the river twice. You had  
24 a committee that was involved in selecting that  
25 route. Generally, when things are done, we bring

1 together the folks that are potentially impacted,  
2 the local officials that could be impacted. That  
3 did not occur in this case.

4 You came into Sherburne County, as far as  
5 I understand there was -- no commissioners were  
6 invited to participate in that, no township  
7 officials and no city officials. So I really -- I  
8 don't know how this process works. I think someone  
9 has to figure out a way to back this up. Generally,  
10 you would have the affected people involved. We  
11 don't site landfills in other counties, we are  
12 careful that we do our homework in our own county.  
13 And I think with the absence of our input to this  
14 point that we really need to reconsider where we're  
15 going here.

16 MR. BIRKHOLZ: Thank you. Did you want a  
17 response or just leave your comment on the record?

18 MR. FELIX SCHMIESING: I can leave my  
19 comment. I certainly would like a response as to  
20 why we didn't participate in an alternative route  
21 that comes across the river.

22 MR. BIRKHOLZ: Because I wanted to ask,  
23 because I don't want to -- you know, I want people  
24 to just be able to say what they want to say without  
25 me trying filter it or redo it.

1           But, yeah, I can answer for what we did.  
2           If that's the best way it could have or should have  
3           been done, that's certainly open to interpretation.  
4           I mean, because at the time the proposals were in  
5           for Wright and Sherburne County -- Wright and  
6           Stearns County, so there was no Sherburne on the  
7           initial.

8           Now, it's not quite exactly the same as a  
9           county doing something into another county, because  
10          obviously this is a dozen counties from Fargo to  
11          Monticello and finding the best way to get there.

12          But one of the alternatives that the  
13          group came up with, that was made up of local  
14          government officials in this area, did come up with  
15          a possibility for us to look at going along an  
16          existing 115 kV line that would spill over in  
17          Sherburne County. That was entered into the Draft  
18          EIS for review. It's not a proposal, it's not the  
19          Applicants' preferred route, it's a route that was  
20          entered in.

21          So I think your point is well taken in  
22          that we've done several advisory task forces, in the  
23          current one I think we're making good use of your  
24          advice, and we're being very consistent about  
25          requiring that group to make recommendations within

1 its own box and sphere of influence. So I see your  
2 point quite well.

3 I think one of the things is that we do  
4 have to look at all the possible choices and if  
5 there is a good possible choice we go there. The  
6 idea of going backwards is tricky because in any  
7 case, any time along the line, we try to get as much  
8 information into the scoping process so that all can  
9 go forward. But there is always times in every case  
10 where some other alternatives of short bits come up.  
11 And this is more than a short bit, but it's one of  
12 the alternatives that have come up for review.

13 And the law requires due process. And  
14 due process is a chance to participate and make your  
15 comments on the record for the decision-makers. So  
16 you'll have time forward to do that.

17 Again, I do not belittle your comments in  
18 any way, I totally understand where you're coming  
19 from.

20 MR. FELIX SCHMIESING: The makeup of your  
21 group is the administrator from Clearwater City; the  
22 chairman is from Clearwater Township; the supervisor  
23 from Lynden Township; the city engineer from  
24 Monticello Township; chairman from Monticello  
25 Township; administrator from Rockville City;

Comment 5

1 chairman of Silver Creek Township; the mayor from  
2 St. Augusta City; developer, City of St. Cloud;  
3 supervisor, St. Joseph Township; Commissioner Leigh  
4 Lenzmeier, who I spoke to today, Stearns County;  
5 planning coordinator, City of Waite Park;  
6 Commissioner Rose Thelen, Wright County.

7 I would guess that if you give us the  
8 same opportunity on the other side of the river,  
9 with the folks that are in the same capacity there,  
10 we might find another route that would be out of our  
11 area also.

12 MS. NANCY RIDDLE: I have a couple  
13 questions. Nancy Riddle, R-I-D-D-L-E, and I'm also  
14 from Sherburne County.

15 I just want to elaborate on Felix's  
16 comments. On the accuracy of the data in the EIS,  
17 since the Sherburne County route was sort of an  
18 afterthought, you know, when we went through the EIS  
19 it's very clear that a lot of the data is missing  
20 and it's just not very accurate. An example, the  
21 parks that were missing, there were several roads  
22 that were missed that weren't identified.

23 Normally, when someone is doing a  
24 document like this, they would contact the zoning  
25 office where I work and ask us for information

1 because we can easily get it to whoever is putting  
2 the document together. And we were never ever  
3 contacted on that.

4 So I guess that's a comment that I have,  
5 that whoever put the document together probably  
6 should have made more of an effort to contact the  
7 locals in Sherburne County to get accurate data for  
8 the document.

9 MR. BIRKHOLZ: Thank you.

10 MR. KARL SAMP: Thank you. Karl Samp,  
11 Karl with a K, S-A-M-P. I'm here representing the  
12 Minnesota Mississippi River Parkway Commission, and  
13 I happen to be the citizen rep that represents the  
14 area from Brainerd to Elk River.

15 The mission of the parkway commission is  
16 to promote, preserve and enhance the resources of  
17 the Mississippi River Valley and to develop the  
18 highways and amenities of the Great River Road.  
19 That includes protection of the intrinsic qualities  
20 necessary for National Scenic Byway status, which it  
21 has, and archaeological, cultural, historical,  
22 natural, recreational and scenic qualities.

23 Potential impact from the St. Cloud to  
24 Monticello transmission line is of concern along the  
25 overall cumulative impact of multiple transmission

1 lines to the Great River Road and Mississippi River.  
2 And then there's several other areas in the state,  
3 but we won't talk about that today.

4 In 1938, the concept of a  
5 transcontinental Great River Parkway along the  
6 Mississippi River was developed by the governors of  
7 the 10 river states. Wishing to conserve resources  
8 it was decided that rather than building a new  
9 continuous road, the existing network of rural roads  
10 and then-fledgling highways that meandered and  
11 crisscrossed the river would become the Great River  
12 Road. This is exactly the case with Stearns County  
13 Road 75 and Wright County Road 75, which are  
14 currently included in the preferred transmission  
15 line route.

16 For decades, the volunteers of the MRPC  
17 have coordinated efforts in federal, state, and  
18 local levels to leverage millions of dollars for  
19 highway improvements, recreation trails, bikeways,  
20 scenic overlooks, and historic preservation.

21 The Great River Road is one of the  
22 oldest, longest and most unique scenic byways in  
23 North America, hosting millions of travelers. The  
24 Great River Road is nearly 3,000 miles long,  
25 starting here in Minnesota, the headwaters state.

1 We have the longest stretch of the Great River Road  
2 than any other state, 575 miles. It's a significant  
3 part of our state's history and the future.

4 A 2007 study of Minnesota's leisure and  
5 hospitality industry noted gross sales of 268 plus  
6 million in Stearns County and 134 million plus in  
7 Wright County. The Mississippi River generates  
8 significant economic impact from tourism along the  
9 Great River Road.

10 Our concerns and recommendations.

11 The proposed transmission lines will have  
12 significant impact on the scenic value of the river  
13 and Great River Road along with impacts on  
14 recreation, birding, boating, biking, and tourism.

15 As noted in the EIS, the current  
16 preferred route would have negative effects on the  
17 intrinsic qualities of this National Scenic Byway,  
18 especially natural and scenic qualities, and could  
19 also reduce the area's opportunities for National  
20 Scenic Byway funding in the future.

21 The transmission lines would  
22 substantially change the landscape and the overall  
23 experience for byway travelers, impacting future  
24 tourism in the region.

25 The transmission lines would also impact

1 the Wild and Scenic River designations of this area.

2 The Minnesota MRPC has a map available  
3 showing the preferred transmission line route and  
4 the Great River Road with its intrinsic qualities  
5 and amenities in the area clearly marked. I'll  
6 leave that with you as well.

7 MRPC requests that the applicant pursue a  
8 modified Route D, which would be a greater distance  
9 from the river and Great River Road and located  
10 along Highway 10. This would protect the Great  
11 River Road's intrinsic qualities as well as the Wild  
12 and Scenic River designation. The current preferred  
13 route would run along the Great River Road for six  
14 miles. Route A would run along the Great River Road  
15 for four miles. These stretches involve Stearns  
16 County Road 75 and Wright County Road 75.

17 And, finally, the Great River Road  
18 National Scenic Byway was designated along the west  
19 side of the Mississippi in the Monticello to  
20 St. Cloud area for specific reasons. The east side  
21 of the river had and continues to have a pattern of  
22 existing highway, utility and rail corridors that  
23 detract from a Scenic Byway. The west side of the  
24 Mississippi offers a byway experience in a more  
25 rural landscape close to the river.

1 Thank you.

2 MR. BIRKHOLZ: Were there any  
3 particular -- before you go, were there any  
4 particular comments that you were trying to make  
5 that would change how the Draft EIS evaluated it?

6 MR. KARL SAMP: Well, we want to  
7 reinforce statements in your EIS that did say that  
8 impacts generally include the conversion of existing  
9 undisturbed land uses to transmission line  
10 right-of-way and intrusion from the existing water  
11 view shed. And you do have the six miles noted.  
12 Substantial changes to the existing landscapes from  
13 the addition of new single steel poles into the  
14 existing natural landscape. Well, you list several  
15 other impacts, which we want to, you know, make note  
16 are significant to the scenic value of the Great  
17 River Road.

18 And then your mitigation, areas of  
19 mitigation that we feel are very important.  
20 Consideration made to preserve the natural  
21 landscape, construction and operation would be  
22 conducted to prevent unnecessary destruction,  
23 scarring or defacing of the adjacent natural  
24 settings in the vicinity of the project. River  
25 crossings would occur at the same location as

1 existing transmission lines, we feel that's very  
2 important. Underground versus aerial river  
3 crossings should be considered. And to the extent  
4 possible, transmission lines would parallel the  
5 existing transmission lines and existing  
6 right-of-ways without violating sound engineering  
7 principles for system reliability criteria.

8 So, emphasizing those points.

9 MR. BIRKHOLZ: Okay.

10 MR. KARL SAMP: Thank you.

11 MR. BIRKHOLZ: What we want to do is, any  
12 of the routes that are under consideration, we want  
13 to make sure that we're analyzing them correctly and  
14 as fully as possible.

15 The other point. One should keep in mind  
16 that any arguments you wish to make are probably  
17 going to be really critical to make before the  
18 judge. Because we're trying to do an analysis so we  
19 have all the information.

20 The one thing that we get to not do along  
21 the way, or we don't get to do or we get to not do,  
22 I prefer to think we don't get to do, is make  
23 preferences and decisions and recommendations until  
24 all the record is complete. So all of this is an  
25 analytical process, as far as we're dealing with it.

1 But next month it will be a different thing  
2 altogether.

3 MS. LYNN WAYTASHEK: Hi, my name is Lynn  
4 Waytashek, I'm with Sherburne County. The last name  
5 is spelled W-A-Y-T-A-S-H-E-K.

6 I'd like to clarify the statement that  
7 the gentleman previous to me made with the Minnesota  
8 River Parkway Commission. He stated that the  
9 proposed Route D would be going along Highway 10 and  
10 along the existing railroad tracks. The existing --  
11 or excuse me, the proposed Route D would be going  
12 along County Road 8 in Sherburne County. If you're  
13 going through the Wild and Scenic River District, it  
14 would not be -- I don't think you could even see it,  
15 probably, from Highway 10. It would not be next to  
16 the railroad, it would be very near to the river.

17 The second comment I wanted to make was  
18 regarding the security. The existing line, 115 volt  
19 line, if the new line went in next to it, Sherburne  
20 County has concerns with regards to security and  
21 also for natural disasters. All the lines feeding  
22 St. Cloud, as we understand it, come up through  
23 either Sherburne County or through Benton County.  
24 The proposed line on the other side of the river  
25 would provide the St. Cloud area with an alternative

1 route for energy and not, so to speak, put all of  
2 our eggs in one basket. So I think that's something  
3 that should be looked at and should be a concern for  
4 everyone.

5 MR. BIRKHOLZ: Thank you.

6 MS. JANE KORTE: Thank you. Jane Korte  
7 from Haven Township, K-O-R-T-E.

8 And we've lived in Haven Township for  
9 about 49 years. I'm also the citizen representative  
10 from the Haven Township Board for the Wild and  
11 Scenic portion, or the scenic portion of the  
12 Mississippi River, the 10 miles from St. Cloud down  
13 to Anoka.

14 And I guess I find it inconceivable,  
15 after all of the years working on this, Haven  
16 Township has been adamant that we protect the river.  
17 We have not seen your fact book up there that you  
18 have. I have not looked at it. When I did call,  
19 when you first came out with these lines, you said  
20 it's not going to affect you, so you don't -- we'll  
21 no longer -- we'll take you off the mailing list, so  
22 I didn't get any more notices or I would have been  
23 there.

24 Haven Township definitely protects the  
25 river, the Mississippi River, and we would like to

Comment 8

Comment 9

Comment 9

1 have been consulted in this. So I'm with Nancy and  
2 with Felix Schmiesing in that we feel that was an  
3 affront to us.

4 Thank you.

5 MR. BIRKHOLZ: I would just like to  
6 differentiate myself one more time, if possible,  
7 from the company. We would have never told you go  
8 away. The company probably told you, and I can't  
9 speak for them, but this is where we're coming with  
10 our preferred route and our alternative routes, it's  
11 not going down there, so the company came in without  
12 that.

13 I don't know why they would tell you not  
14 to be on the list anymore, because during the  
15 process, as we go along, it's all about -- the  
16 scoping process is all about looking at possible  
17 alternatives that might offer a reasonable  
18 alternative to the proposed project. And the Draft  
19 EIS is a chance to reevaluate each of those lined up  
20 next to each other and balance some of those  
21 impacts. So I'm sorry you were taken off the list.  
22 It was never off of our list.

23 MS. JANE KORTE: Okay. Well, it was one  
24 list, because the addresses did not apply, they  
25 said.

1 MR. BIRKHOLZ: I'm not questioning you.

2 MS. MARY JANSKY: I'm Mary Jansky,  
3 J-A-N-S-K-Y, from Clear Lake Township.

4 We live off of County Road 8 in a housing  
5 development. And our big concern is, also, that a  
6 majority of us there, or all of us, have under three  
7 acres of land. Our land butts up against the high  
8 lines that are presently there, so we're very  
9 concerned about the 150 feet that might be taken.  
10 Most of our homes are in the middle of our acreage,  
11 also. So that's all I have to say.

12 MR. BIRKHOLZ: So as a comment, what  
13 would I take back? Look more closely at the impact  
14 on smaller parcels, perhaps? Does that fairly  
15 represent what your comment is?

16 MS. MARY JANSKY: Right.

17 MR. MIKE HAYES: Mike Hayes, H-A-Y-E-S.

18 We do have one power line over there now  
19 that is a hardship, it makes it hard to irrigate the  
20 fields. Another power line is going to make it that  
21 much harder. We also have some high value crops  
22 that need aerial application, that's going to make  
23 that quite more difficult. Plus, it's going to add  
24 a lot of expense for the power company to come  
25 through that way, they're going to have to, more

1 than likely, move a lot of irrigators, a lot of  
2 buried pipe, a lot of buried wire, a lot of  
3 perimeter wire, and that's going to be pretty  
4 expensive.

5 MR. BIRKHOLZ: So have you had a chance  
6 to read the --

7 MR. MIKE HAYES: I did not realize it was  
8 ready yet.

9 MR. BIRKHOLZ: I understand you weren't  
10 on any notification list so you wouldn't have. The  
11 other thing I recommend people do, of course, is  
12 maintain an eye on our web site, as we post  
13 everything on our web site and also on the eDockets,  
14 so everything that comes along. But there's always  
15 an opportunity for people that don't get the notice.  
16 So I just want to make sure that we're evaluating  
17 the impacts, but I know we did, on center pivots,  
18 things like that, but we can take that back and make  
19 sure we have a complete set of information. The  
20 other chance you'll get, of course, again, is a  
21 chance to come back next month and tell the judge  
22 what's important to you and why.

23 MR. BUD STIMMLER: Bud Stimmler from  
24 Clear Lake.

25 I don't understand how you could know

1 what the impact on a center pivot would be unless  
2 you know where the exact poles are going to be, the  
3 new set of poles. Because that's going to make a  
4 big difference on the impact of the center pivots  
5 out there.

6 MR. BIRKHOLZ: You are correct.

7 MS. KELLY NEU: Thank you. Kelly Neu,  
8 N-E-U, with the City of Becker, and also  
9 representing Becker Township.

10 If we hadn't received notice from the  
11 Sherburne County zoning staff we wouldn't know about  
12 this route even at this point. And we just received  
13 that and we are working with our city council and  
14 the town board to get a written comment back on the  
15 Draft EIS. But I would like to thank Felix and the  
16 zoning staff for notifying us. And really express  
17 concern in that public information process and how  
18 it's very -- this is a huge project, and it's very  
19 disappointing and upsetting from a staff  
20 perspective, as well as a resident perspective, to  
21 not know that this is even a potential to come  
22 through our community.

23 MR. BIRKHOLZ: I understand. And you can  
24 go back to Lynn, and as I forward it to her, a copy  
25 of the notice that we made, as soon as the -- as

1 soon as this was on the table as an alternative for  
2 review in the EIS, my office sent a notice to all  
3 affected landowners along the potential route, the  
4 new route, and sent out a notice at the end of  
5 October to everyone on that line that they were now  
6 potentially impacted by the project. But a good  
7 point to be taken is that doesn't necessarily mean  
8 that all the municipalities got notice and that's a  
9 good point to be taken.

10 MR. FELIX SCHMIESING: And your notice  
11 came out October 27th. Which leads me to believe  
12 that, you know, you absolutely did not envision  
13 coming across the river prior to this -- the three  
14 meetings that were held with the township officials  
15 and the city that was on the other side of the  
16 river, is that correct?

17 MR. BIRKHOLZ: Number one, ultimately,  
18 yes, that's correct. The reason being, because  
19 that's why we do reviews, is to find out about  
20 possible alternatives.

21 MR. FELIX SCHMIESING: And I would  
22 suspect that had you known that you had potential to  
23 come across the river, you would have invited some  
24 of the local officials to be involved in that, is  
25 that correct?

1 MR. BIRKHOLZ: Yes.

2 MR. FELIX SCHMIESING: And I think in  
3 light of that, I think that you certainly should  
4 reconsider and extend that invitation and either  
5 change your route or go back and begin again.

6 MR. BIRKHOLZ: Well, it would take people  
7 at a much higher pay rate than mine to make a  
8 decision like that. And I understand, I understand  
9 your anxiety about this. Because everybody in a  
10 transmission line has an anxiety about it. And I  
11 understand your position because of how this came  
12 down as an impact on yours, on your community.

13 We can also see as a point of an  
14 ever-evolving ripple and circle of the next piece  
15 that didn't get noticed. The really important part  
16 of the process is, coming up, did we do an adequate  
17 review of the options. And next month you have an  
18 argument to make before the judge of pros and cons  
19 for the part that might affect you, or pros and cons  
20 of anything else you want to say to the judge. So  
21 everybody has an equal opportunity before the law,  
22 and that is it.

23 MR. JERRY FINCH: I am Jerry Finch,  
24 F-I-N-C-H, Lynden Township supervisor.

25 I'd like to call attention to one small

1 segment west of Clearwater on the preferred route.  
2 It is heading northwest up 94, approaches the rest  
3 area and then makes an abrupt turn to the north over  
4 township property, over private property, goes north  
5 until it intersects, I think, County Road 75, goes  
6 back to the west. We find that alternative not only  
7 unreasonable, objectionable, but we call attention  
8 to, apparently, the objection of MnDOT to have the  
9 power line go near the rest area where it might  
10 interfere with transients taking a rest stop for  
11 five minutes and moving on, rather than running it  
12 down a township road to a county road when the area  
13 to the west of the rest area is almost completely  
14 undeveloped.

15 MR. BIRKHOLZ: I will note that my  
16 office, the Office of Energy Security, has requested  
17 that we're able to call a representative from the  
18 Minnesota Department of Transportation as a witness  
19 in our proceeding coming up. Where certainly people  
20 can make those points, but certainly, also, the  
21 MnDOT would be able to perhaps explain their  
22 thinking as well. But that will be the place to  
23 carry out the discussion.

24 MR. PURVES TODD: I'm Purves Todd from  
25 St. Cloud. My first name is P-U-R-V-E-S, Todd is

1 T-O-D-D.

2 I think I've heard today quite a few  
3 stories as to why the line shouldn't go across  
4 somebody's property, because you probably bought  
5 that property 40, maybe 50 years ago, and you've  
6 enjoyed it and you don't want to be disturbed.

7 And I'm in favor of the power line from  
8 Monticello to St. Cloud because it's going to give  
9 us much more reliable service in St. Cloud. Right  
10 now St. Cloud is fed with one line and basically  
11 comes from the Sherco power plants, which are fine,  
12 but nobody likes coal anymore. So I think that what  
13 we've got to do is use the nuclear energy that we  
14 have here right now for a better use and get this  
15 line up there.

16 And basically I think that I'd like to  
17 see it run within 1,000 feet of either side of  
18 Highway 94, unless there's something that you  
19 absolutely can't get and it has to go out wider.  
20 Otherwise, whatever we're doing, we're disturbing  
21 somebody's life. And if we get it in there, the  
22 highway was put in, and most of these lines should  
23 run along a major highway.

24 And if we don't do it now, I think then  
25 in two decades we're going to be doing it anyway.

1 But it's going to be a federal line, it will be a  
2 765 kVA line running right up Highway 94 out into  
3 Bismarck, North Dakota. There will also be another  
4 one coming through Minnesota, but it'll be coming  
5 through the south, that will be a 765 kVA line, and  
6 it'll be running out to Rapid City, South Dakota  
7 right along I-90 wherever it can.

8 So I think that what we've got to do is  
9 settle down, that the line is going to have to go  
10 through some area, but it doesn't have to dodge way  
11 out into farmland or other things to disturb those  
12 people, then all it's going to do is create dissent.  
13 And the more, it seems to me, that each meeting I've  
14 been in, that the more alternatives that we get, the  
15 deeper the problem goes because there's more people  
16 concerned that it's going to affect them. So we  
17 have to start to narrow it in.

18 But I believe that your group has done a  
19 very excellent job in preparing this program to  
20 where it's at because you've done it very quickly to  
21 get it up to where people can start to comment on  
22 it.

23 Now, the other thing that I want to talk  
24 about a little bit is out in St. Joe, they put in a  
25 nuclear system out there, it's a really low

1 efficiency electric farm, but it's something that's  
2 going to be good for the area because the fact of  
3 the teaching process can go with it. The actual  
4 building of this farm out there I think wasn't  
5 probably really thought out as to what it was going  
6 to be worth as being practical for generating  
7 electricity, but it's very important that it's  
8 happened. It's now up and running and I think that  
9 people should go out and take a look at it if they  
10 get the opportunity to see just what they've done  
11 out there and how it's going to work.

12 But those type of things, plus wind  
13 power, did not really fit into the existing power  
14 system that we have in Minnesota. Minnesota has got  
15 a lot of lines running a lot of places, but they  
16 can't handle either the farm like St. Joe has or the  
17 wind farms down in the southern part of Minnesota.  
18 That we've got a lot of wind farms down there,  
19 they're only producing 10 percent of what their  
20 rated power output should be. And this is just  
21 because the wind is too variable. It varies so much  
22 that our lines are not set up to do it.

23 Now, this line will be able to handle a  
24 lot of wind power both from North Dakota, and  
25 hopefully we could get some even from South Dakota.

1 And I think that the big mistake that was made was  
2 that there were a couple of utilities in this group  
3 that wanted to build a coal-fired power plant out at  
4 Big Stone, South Dakota, and it was essentially  
5 determined that, no, it got so small that it wasn't  
6 practical to build it. So now we're sitting with no  
7 backup power for all of the wind power that's out in  
8 South Dakota and in Minnesota to be able to use in  
9 our electrical system.

10 Thank you.

11 MR. BIRKHOLZ: Remind me not to stand  
12 right there in front of it. Sorry about that.

13 MS. DEBBIE SCHABEL: Debbie Schabel,  
14 S-C-H-A-B-E-L, Clearwater Township.

15 I've gone to many of these meetings and  
16 listened to a lot of people comment how the  
17 preferred route should run down on the freeway all  
18 the way from North Dakota down to Monticello. But  
19 remember, there are obstacles along the freeway that  
20 are affected too. And one major one that has been  
21 mentioned, but a tiny comment in the DEIS, is the  
22 fact that these power lines are going to run south  
23 of Clearwater through Fish Lake, Fish Creek Basin  
24 and the backwaters of the Mississippi River. This  
25 is a devastating effect on Fish Lake that is already

Comment 17

1 listed on the impaired waters. So please take this  
2 waterway into consideration as you are proposing  
3 this route.

4 MR. BIRKHOLZ: And I can only remind you  
5 to make sure you come back next week -- or not next  
6 week, next month.

7 Well, keeping in mind, I know not  
8 everybody wants to make a comment in person, but you  
9 have our contact information as well to make  
10 comments in writing, and maybe have a chance to  
11 review or glance at the EIS and see again if we're  
12 answering the questions that you have, or if we need  
13 to go deeper. So --

14 MS. CATHERINE MEYERS: Catherine Meyers,  
15 Haven Township, Sherburne County.

16 My family and I have lived next to the  
17 existing transmission line for about 20 years. It  
18 started out with a few poles, not too bad. Then the  
19 power company came in, made the poles bigger,  
20 taller, more of them, really messed up the land,  
21 tore it up pretty good. And now this reasoning for  
22 putting in this huge power line along this existing  
23 line, coming across the river, messing up the river,  
24 you know, the Wild and Scenic program has been going  
25 on for so long and it's like that doesn't even

1 matter. And it just seems ridiculous to jump across  
2 the river, go down to Monticello, and then jump back  
3 when there's an existing corridor along Highway 94.

4 And I just think it's bad planning. I'm  
5 probably not alone. But we have about 1,800 feet of  
6 property that's going to be affected by the  
7 right-of-way, especially the 150 feet wide, and  
8 we're not alone, I'm sure, but I just think that  
9 it's bad planning on the part of the company.

10 MR. PHIL BAUTCH: My name is Phil Bautch.

11 MR. BIRKHOLZ: Can you spell it, please?

12 MR. PHIL BAUTCH: Phil, P-H-I-L, Bautch,  
13 B-A-U-T-C-H.

14 One question I have for this meeting.  
15 You say there is a meeting with the judge, and is it  
16 going to be set up with maps so that people can  
17 actually see the route from point A all the way  
18 through to point B? There are no maps here today,  
19 I'm pretty disappointed about that, there's no maps  
20 or nothing depicting it.

21 At St. Joseph you had large maps, or the  
22 company did, I don't know who was in charge of it,  
23 but at least the people who attended that meeting  
24 could see the actual routes, so it's like being  
25 blindfolded pretty much again.

1                   The thing I really want to know about is  
2                   this meeting on March 8th with that judge, like I'm  
3                   hoping that if we set this up with her, it makes  
4                   most sense for me if you start from the origination  
5                   point by Monticello, working its way up through all  
6                   the affected landowners, to basically be asked if  
7                   they want, you know, any questions or comments to  
8                   this judge, work their way in route from that point  
9                   all the way up to the transfer station or as large  
10                  as you want to go through this area of land, you  
11                  know. Because otherwise you're going to be pretty  
12                  much wasting everybody's time.

13                  And then I was curious, also, what time  
14                  is this judge's meeting going to actually start on  
15                  that particular day.

16                  MR. BIRKHOLZ: Is it 2:00?

17                  MR. PHIL BAUTCH: You have a date on  
18                  there, but no time set.

19                  MR. BIRKHOLZ: We'll be sending out a  
20                  notice. It should be 2:00 in the afternoon and 7:00  
21                  in the evening.

22                  MR. PHIL BAUTCH: In my opinion you  
23                  should be starting this at 9:00 in the morning, if  
24                  you really want people to participate and have an  
25                  actual opportunity to speak to this judge and

1 comment, otherwise there's really nothing. You got  
2 a list of hopefully anticipated people, a good  
3 turnout, people are actually going to want to speak  
4 and comment to this judge, it's probably their last  
5 chance to be able to speak to her and put their full  
6 commentary in to her.

7 MR. BIRKHOLZ: Plus, in writing, of  
8 course, but I understand your point.

9 MR. PHIL BAUTCH: We have a large window  
10 of opportunity here, what I'm hoping is you'll go  
11 through each landowner, 'cause your alternate  
12 routes, in my opinion, are completely terrible. My  
13 neighbors I can see are all positioning around here  
14 right now, it's going right over the top of my  
15 neighbor's house to the right of myself. And I  
16 personally, I know for a fact that it's over a mile,  
17 a little over a mile right-of-way on my land you  
18 want to be taking away from me, in distance, a full  
19 length of a mile. Traveling along the 115 and  
20 crisscrossing through my farm to get back to  
21 Pleasant Lake.

22 All the other landowners here are going  
23 to have a mile of their land taken up with this  
24 wonderful -- I mean, I'm fully in favor of following  
25 Interstate 94 as much as possible, and that's where

1 it should be. You don't affect all the other  
2 landowners in any other direction of it, you're not  
3 affecting everybody's river that they're worried  
4 about. I mean, it makes the most sense. Yeah, I  
5 understand you need these power lines, but keep them  
6 in the right-of-way of the freeway. That makes the  
7 most sense to me. You're not affecting homeowners  
8 and landowners and farm fields and everything else.

9 Thank you.

10 MR. BIRKHOLZ: Thank you. The meeting,  
11 by the way, is March 8th, at 2:00 and 7:00, I'm  
12 quite sure. But we will be noticing that. If  
13 you're not on our notice list, you can go to our web  
14 site and make sure you are.

15 MR. JEFF SCHLINGMANN: Jeff Schlingmann,  
16 S-C-H-L-I-N-G-M-A-N-N, Haven Township supervisor.

17 And I'm going to go on record for the  
18 township, along with everybody else from Sherburne  
19 County, with the displeasure of not being part and  
20 parcel of the decision for an alternate D, I think  
21 it is, coming across.

22 The proposed crossing will be in Haven  
23 Township. We've had a history since 1973 when the  
24 state scenic river legislation came into effect  
25 protecting that corridor between St. Cloud and

1 Clearwater, and we will continue to protect that  
2 corridor until our dying breath, you can count on  
3 that. So we've got agricultural interests in our  
4 township that are going to be affected by this line  
5 along with, if I recall, several miles of the scenic  
6 river corridor itself will be affected by this line  
7 and so we're stating our opposition to that  
8 alternative right now.

9 MR. BIRKHOLZ: Which, again, you are  
10 certainly free to do in a productive way in March.  
11 We'll be using these records to evaluate what  
12 questions need to be researched deeper so that we  
13 can analyze all the alternatives. So we won't  
14 necessarily -- well, we won't be making any  
15 recommendation on what we think in the EIS, it's  
16 another difference between a federal and the EIS  
17 process in this one. This is an analytical  
18 document, it does not make any decision or  
19 recommendation or anything.

20 MS. NANCY RIDDLE: Well, I just had a  
21 question. Nancy Riddle, R-I-D-D-L-E, from Sherburne  
22 County.

23 So we have public comments on the Draft  
24 EIS, and Felix Schmiesing just gave you a letter  
25 with some of our comments. Are the comments that

1 are due for the ALJ, does the ALJ get all the  
2 written comments on the EIS or do we need to do a  
3 separate -- okay, so we need to do separate comments  
4 for that? Okay.

5 MR. BIRKHOLZ: That's a good point. The  
6 hearing starts a whole new process, the contested  
7 case hearing, and at that point all comments will go  
8 directly to the administrative law judge.

9 UNIDENTIFIED: I don't understand what  
10 she just asked. I mean, anything that we've given  
11 you in writing so far, any e-mails or anything, that  
12 will not get in front of the judge, is that right?

13 MR. BIRKHOLZ: I'll tell you what exactly  
14 is in front of the judge. Everything that came to  
15 us during the scoping process, if you made comments  
16 back then, that was all posted in eDockets, that's  
17 all part of the official record. These comments  
18 we're gathering to do the best job we can on the  
19 Final EIS. That's what this process is about. So  
20 where we miss stuff, what we need to know, what we  
21 need to answer, the questions that people have, if  
22 we haven't answered them already, that we need to  
23 know. The decision-making process and the input of  
24 people here going will all go to the Judge.

25 So comments on the Draft EIS come into us

1 through the 26th. The judge, I believe the comment  
2 period will be announced by the judge, but you'll  
3 have at least a couple weeks after the hearing to  
4 make final comments to the judge as well as being on  
5 a transcript record at the hearing.

6 UNIDENTIFIED: So the comments that are  
7 being made today do not get in front of the Judge?

8 MR. BIRKHOLZ: No.

9 MR. FELIX SCHMIESING: When was the  
10 scoping document completed?

11 MR. BIRKHOLZ: When was the scoping  
12 document completed? What was the date?

13 MR. FELIX SCHMIESING: And what routes  
14 were part of it?

15 MR. BIRKHOLZ: The routes that were part  
16 of it are all that are listed in the Draft EIS. The  
17 Applicants' route -- they're all spelled out in the  
18 Draft EIS. The Applicants' route, the Applicants' A  
19 route, the Applicants' B route, the D route, a C  
20 route segment that ran south instead of north  
21 around. So those are all laid out explicitly in the  
22 document.

23 MR. JOHN GOLLY: John Golly from Clear  
24 Lake, G-O-L-L-Y.

25 I know you've mentioned a couple times

1 that everybody will be notified. I know I've made a  
2 few phone calls today to get ahold of some  
3 landowners that it would be affected by. My  
4 question would be, is it -- it seems to me like it  
5 should be kind of your responsibility to notify  
6 somebody of something coming through their land. So  
7 my question, and you mentioned a couple times that  
8 if we're not signed up on your mailing list that we  
9 could get -- by e-mail to get on that list. Don't  
10 you guys know everybody's land that you're going to  
11 be crossing?

12 And another question. You said  
13 everything that -- what the judge was going to be  
14 notified of before she gets here and you mentioned  
15 the scoping meeting. I don't know for sure the  
16 exact date that we got a copy of the alternate  
17 Route D, but I want to say it was in October  
18 sometime, and you had the public meeting, public  
19 information scoping meeting on 7/2, so, I mean, how  
20 are any of the comments from alternate Route D going  
21 to be in front of the judge from that meeting?

22 MR. BIRKHOLZ: In two stages, if there's  
23 something we learn today that we can use to improve  
24 the document. The Final EIS will be before the  
25 judge as part of the complete record. And the other

1 option is, of course, you will have equal  
2 opportunity to make comment to the judge during the  
3 hearing and during her comment period. But you were  
4 not part of the scoping meeting probably, I  
5 understand that.

6 MS. LYNN WAYTASHEK: Lynn Waytashek,  
7 W-A-Y-T-A-S-H-E-K, Sherburne County.

8 In the Draft EIS, under the cost analysis  
9 portion, I think we'd like to see some additional  
10 information as to how you came to that cost  
11 analysis. And we're wondering whether or not you  
12 included the costs from the farmers' irrigation  
13 systems that are lost in these and if those costs  
14 were included? Sherburne County soils are much more  
15 sandy than the soils on the west side of the river  
16 so I believe there's a bigger impact when those  
17 irrigation systems are moved or removed.

18 Secondly, there's also a very large  
19 construction demolition debris landfill in Becker  
20 Township and the airspace would be affected by this  
21 proposed easement line that would go through, and  
22 have the numbers from that airspace been included in  
23 the cost analysis?

24 Thank you.

25 MR. BIRKHOLZ: We'll make sure we find

1 out.

2 MR. AL WITTE: My name is Al Witte,  
3 W-I-T-T-E.

4 And I'd like to make a comment about the  
5 positioning of plan route B on sheet 8 of 10 on this  
6 drawing that was dated on the -- it looks like 4/8  
7 of '09. In the previous meetings where they had  
8 drafts for proposals, this draft was never on there.  
9 This was never even on the radar. And our family  
10 installed an irrigator, as well as some other people  
11 here, and have a concern that, you know, we went  
12 ahead with that based on this not ever being on the  
13 scope and then it shows up.

14 So a comment to that would be, you know,  
15 why are there routes on here, either, you know, B,  
16 C, D or whatever, when they weren't originally  
17 proposed? It sounds like there's -- I don't know,  
18 if we had a show of hands how many people are here  
19 because there's a different route being proposed,  
20 you know, whether it be the preferred route or A, B,  
21 C, D or E that wasn't proposed at those meetings.  
22 Some of the comments would lead me to believe that a  
23 lot of it was not even on there.

24 MR. BIRKHOLZ: Okay. All I can say is  
25 the scoping process is designed to give us

1 alternatives to what's proposed by the company. So  
2 the company doesn't get to decide what's in the EIS,  
3 that's decided by the state. So you look at, what  
4 are potential options to look at, not is this the  
5 right one, we don't determine that beforehand. We  
6 lay out what might be possible alternatives and then  
7 we do as much analysis as we can about them to see  
8 if they can fly or not or does one have greater or  
9 lesser impact. And we make that analysis to the  
10 best as possible and then the arguments go before  
11 the judge in the Final EIS, and also goes before the  
12 judge are your arguments.

13 MR. JOE KENNING: My name is Joe Kenning,  
14 K-E-N-N-I-N-G.

15 I am wondering what is going to happen to  
16 these ground currents. That's what we got a lot of  
17 problem with. You got a transmission line through  
18 there and you people have never come out and checked  
19 where these ground currents are. We got to have  
20 equal potential playing in that melting parlor, and  
21 I was over there. And I'm on life support with a  
22 pacemaker and defibrillator. My heart stopped over  
23 50 times and that's when I got on this equal  
24 potential playing.

25 We had to quit milking over there now,

1 and then to me, this pacemaker, when I was on that  
2 equal potential playing in there, I was using it up  
3 to 98 percent. I got out of there and it dropped  
4 down to 5 percent. These are picking up the ground  
5 currents. What are you people going to do about the  
6 ground currents? You put another line through here  
7 and you haven't said anything about the ground  
8 current. You haven't even come out and shot the  
9 line down or tried to find out where the ground  
10 currents are all coming from. Are they coming from  
11 the 115 or from the grounding of the rest of the  
12 system? We need help out here. I'm angry with what  
13 you people have -- how you've treated us out here.

14 We need electricity, but by golly, we  
15 can't have all these damages. The last year, over  
16 there, 18 cows died, with all the good  
17 environmental, all the drugs and all the good  
18 veterinaries, and they just died. Nobody had an  
19 answer. And there was 24 calves that died while we  
20 were there. When I put them out in the barn they  
21 don't die, but on the ground they cannot take it.  
22 There's something wrong out there and you refuse to  
23 come out and go and examine where it's coming from  
24 and fix it. And that's my comment. And there  
25 should be a lot more.

1 MR. BIRKHOLZ: Thank you.

2 Does anybody else want to speak yet  
3 today? Or do you want to hold your comments for  
4 writing?

5 MR. JOE HELGET: Joe Helget, H-E-L-G-E-T.

6 I have more of a question than anything.

Comment 25 7 Most of this shows a 1,000 foot right-of-way. In  
8 the area that Jerry mentioned earlier, it  
9 encompasses an area a lot larger than that. I'm  
10 curious why.

11 MR. BIRKHOLZ: Well, that's a very good  
12 question. I think we spell that out in our report.  
13 Just to clarify, it's not the right-of-way. Again,  
14 the 1,000 feet would be the route. And so in the  
15 end, only 150 feet of that will become a  
16 right-of-way.

17 In some cases, the company, when they  
18 make projections in their proposals, came up with  
19 wider areas where they thought, for instance, if  
20 it's right along the highway and then there's a big  
21 lump of stuff that goes around, well, we're  
22 proposing to go right by I-94 and maybe we're going  
23 to have some real problems along this area, we might  
24 need to think of an alternative if we come out here.  
25 So that's put in there so that we can review the

1 whole section in case they want to go one way or the  
2 other.

3 They're not going to use all of that  
4 land. In the end, one way or the other, it would  
5 still be 150 feet. I think we spell that out a  
6 little bit, but that's the short answer.

7 I just want to say that the whole concept  
8 around this is to develop alternatives to look at.  
9 I think the system is designed to make sure that the  
10 company can't just come in and say, okay, here's our  
11 route, this is what you have to look at. They have  
12 to come in with a preferred and an alternative, and  
13 then the whole concept behind the state  
14 participation process is people get to say there are  
15 other ideas that need to be looked at. And we  
16 determine them and we balance them. So the process  
17 continues even after this to make your arguments  
18 before the judge. I fully encourage and expect all  
19 of you to do so.

20 MR. JERRY FINCH: Please explain the  
21 procedure and submitting the written to the  
22 administrative law judge. Please go over that  
23 again.

24 MR. BIRKHOLZ: For submitting comments?

25 MR. JERRY FINCH: Yes.

1 MR. BIRKHOLZ: Yeah. Wait for your  
2 comments until March 8th to go to the judge. Any  
3 comments that you want to make to me about the Draft  
4 EIS make to me now. This will be our last piece of  
5 the collection process. But we'll put a final  
6 together, that will be part of the final record.

7 When the judge comes out on March 8th  
8 she'll give you full directions on how she wants it,  
9 but in the notice we've said we will tell you where  
10 to send notice, and if you don't get notice or you  
11 don't -- make sure you check out our web site, we'll  
12 have everything posted there. Comments will go to  
13 the judge the same way, she'll give you an e-mail  
14 address, a phone number, a fax number, and she'll  
15 take comments any way that they come to her.

16 Does that answer your question?

17 MR. MIKE AUNE: Is that going to be a  
18 meeting that will be here on March 8th, and that's  
19 when the judge will tell us how to communicate with  
20 her?

21 MR. BIRKHOLZ: Yes, and I'll also give  
22 you the information in a notice up front.

23 MR. MIKE AUNE: Okay. I guess I'd like  
24 to make another comment. My name is Mike Aune,  
25 spelled A-U-N-E.

1                   And I represent a company up in St. Cloud  
2                   at the intersection of County Road 75 and  
3                   Interstate 94, where County 75 crosses  
4                   Interstate 94. And Route D has been proposed to  
5                   drop just south of Interstate 94 for a very short  
6                   distance, and at that point it crosses.

7                   MR. BIRKHOLZ: Is that Ziegler?

8                   MR. MIKE AUNE: Ziegler, Incorporated,  
9                   yes. So I am concerned about that. Obviously, we  
10                  rent, sell and repair high lift type equipment and  
11                  that would be a bad situation for us. So I don't  
12                  know why it takes that dip, I would like that  
13                  further investigated and determined why -- what the  
14                  reason for that is.

15                 MR. BIRKHOLZ: And I will verify that my  
16                 initial response was, again, I think that's a GIS  
17                 problem, it seems. And if that kind of thing shows  
18                 up, you should watch for it and catch it as Mr. Aune  
19                 did. Because I know you'll find this hard to  
20                 believe, but the state isn't infallible, the state  
21                 staff isn't infallible.

22                 The situation you're talking about is  
23                 probably a GIS error, where the line is designated  
24                 to run along the north side of I-94, all of a sudden  
25                 it loops over the highway and runs over Ziegler and

1           then pops right back for apparently no reason.  If  
2           it's doing that, let's make sure the record is  
3           straight.  That's what we want to do, is we want to  
4           carry a clean, appropriate record into the hearing.  
5           So any additional investigation of the document you  
6           can help us out with, that's great.

7                         Well, we're going to be here again this  
8           evening to do exactly the same thing, so tell your  
9           friends and neighbors if they want to have a chance  
10          to make some comments or ask some questions and find  
11          out.  And, of course, we're available, Raymond and  
12          myself.  So thank you for coming.

13                        (Afternoon session concluded.)

14                        (Evening session.)

15                        MR. BIRKHOLZ:  So I want to open it up to  
16          you.  This is your meeting and your opportunity to  
17          have your say about this.

18                        So who would like to go first tonight?

19                        MR. DONALD COX:  Do you want me to talk?  
20          You probably don't want to hear me.  I just want to  
21          comment --

22                        MR. BIRKHOLZ:  Can you give your name and  
23          spell it?

24                        MR. DONALD COX:  Donald Cox, C-0-X.

25                        All right.  I just want to bring up on

1 this Draft EIS -- do I need this microphone?

2 MR. BIRKHOLZ: If you would, please.

3 MR. DONALD COX: The Great River Road, I  
4 don't know if anybody is familiar with that, I don't  
5 know, all along, it goes through many states and  
6 whatever. But in here it talks about, from  
7 Monticello to St. Cloud, the Mississippi, you know,  
8 provides scenic driving opportunities for motorists  
9 in the project area. The Great River Road is a  
10 National Scenic Byway, it runs for more than 500  
11 miles along the river, including a portion -- and  
12 I'm just reading it, the project area, specifically  
13 Wright County Highway 75 and Stearns County and the  
14 construction and operation of the transmission line  
15 along these roads would likely have an adverse  
16 impact to the overall scenic nature of the Great  
17 River Road and would affect funding opportunities  
18 for the transportation enhancements. And then  
19 there's, you know, references for Appendix G, which  
20 I don't understand, I can't find Appendix G.

21 But I just want to comment on this being,  
22 you know, taking away from any opportunities for  
23 funding for, you know, the projects along the  
24 highways and whatever. And I don't think it's a  
25 good deal to lose -- you could lose merit-based

Comment 28

1 funding, you know, that are listed in here and stuff  
2 like that. And I think it's an adverse, you know,  
3 route to run the thing, because you're going to be  
4 able to see it from Fish Lake, Locke Lake, and  
5 other, like you mentioned, parks along the way. And  
6 it's going to affect a lot of people adversely and  
7 it's going to affect the real estate values. I  
8 don't know. I just want to keep it close to 94 and  
9 away from the river and the scenic byways.

Comment 29

10 Then I also wanted to make another  
11 comment. And I don't know if it has anything to do  
12 with the environmental impact statement, but I have  
13 a transmission line on the west side of my property  
14 line, and if this goes through, you're preferred  
15 route, away from I-94 along 75, you know, through --  
16 from like the Hasty up to the Fish Lake area, then I  
17 would have -- I'd be encroached from two sides with  
18 a high voltage transmission line. And when I built  
19 my place I pushed my house within 30 feet of the  
20 property line on the east side to stay away from the  
21 transmission line to begin with, and now a second  
22 one would be pushing against me. And I can't move  
23 now, you know, I'm stuck.

Comment 30

24 And I think it's going to be a big -- I  
25 don't know if I'm part of the environment or not,

1 but the electric transmission, there's been studies  
2 that there's stray voltage coming from the lines,  
3 and especially from two directions is adverse to  
4 your health. And I know you've had people speak on  
5 that here before. And I guess I have no way of  
6 proving anything, but it does bother me that, you  
7 know, you might as well put six loops around the  
8 house, as long as you're going to come through on  
9 two sides, you know. That's how I feel.

10 But, anyways, I ain't got much more to  
11 say. I guess I'll leave somebody else talk who's  
12 got something to say.

13 MR. BIRKHOLZ: Thanks.

14 UNIDENTIFIED: So are you going to talk?

15 MR. BIRKHOLZ: Just one second, sorry. I  
16 just wanted to make one explanation. The route that  
17 the public utilities is going to assign will  
18 probably for the most part be 1,000 feet wide, but  
19 what's going to be actually used in the end is the  
20 150-foot right-of-way. So the rest of that will not  
21 be considered anymore.

22 But what happens is once the Public  
23 Utilities Commission gives that 1,000 feet, then the  
24 company comes out and meets with the landowners and  
25 negotiates, is there a better place within this

1 1,000 feet that's going to work best to place the  
2 150 feet, and in some cases there's obviously not a  
3 wonderful place to put it, but I just want to be  
4 clear of what the actual impact would be.

5 MR. DONALD COX: I forgot, I was going to  
6 mention, I had talked about it before in the other  
7 meeting, that through our area from Hasty up to the  
8 hill, I'm not sure if you're familiar with the hill  
9 there before Fish Lake, there's a stretch of I-94 to  
10 Hasty. The proposed right-of-way that you guys  
11 called the preferred route, or whatever, it goes  
12 like this, and then all the way through that area it  
13 gets so wide, and then up there at the end it comes  
14 back. And there's -- I made a comment on how  
15 disgusted I was. That should have been listed as  
16 different routes. Because there's 2,000 feet there.  
17 Well, you can say, okay, they're going to okay this,  
18 and then you guys can come out and say, oh, we think  
19 we want it here because this whole route was okay  
20 and so we can put it anywhere. And I don't know if  
21 you guys commented on that after I spoke or not.

22 MR. BIRKHOLZ: No, that's a comment well  
23 taken. When we did our analysis we tried to do the  
24 best -- envision what a possible alignment might be.  
25 Obviously, again, it's a 1,000 foot route permit,

1 so, again, the negotiation takes place later.

2 But you're right, when you make an  
3 analysis, it doesn't really make sense always to  
4 say, well, there's 100 houses in this section,  
5 because they may all be here, and it's really more  
6 important if your alignment is over here of what  
7 you're trying to talk about. So we try to  
8 understand the best as possible what are likely  
9 alignments within that when we do our analysis. But  
10 your point is well taken on the width.

11 MR. DONALD COX: That's like 2,000 or  
12 3,000 foot through there just for that little area,  
13 and so we don't have -- you know, we don't know how  
14 to argue that, because everybody else has got this  
15 1,000 foot and we've got like 3,000 foot, you know.

16 MR. BIRKHOLZ: I understand.

17 MR. SCOTT TELLEGEN: My name is Scott  
18 Tellegen.

19 Well, of course, I live right in the  
20 beginning of where this is all going to start. My  
21 environmental impact question is that for years,  
22 when we lived out there, there hasn't been a whole  
23 lot of Trumpeter Swans and now they are starting to  
24 come back. Well, they fly over my place quite a  
25 bit, and they fly south right from the plant all

1 around there. I think a power line anywhere close  
2 is going to stop some of that. Monticello, I know  
3 they really promote their Trumpeter Swans. I mean,  
4 they've got pictures of them and everything like  
5 that. In Corcoran and around the Crow River, you  
6 never seen any bald eagles or anything. Well,  
7 they're starting to come back. And that aspect is  
8 usually cleaner rivers, they like to come back to  
9 that kind of stuff. I would think the Mississippi  
10 is going to get more of that over the years, and to  
11 me anything like that close to the river, following  
12 up the river, is certainly going to hinder a lot of  
13 that. Because, like he said, 75, Great River Road,  
14 I've been on a lot of Great River roads all around  
15 the state, it is a scenic byway, it's going to cut  
16 into a lot of that. That's my biggest question on  
17 that. Thank you.

18 MR. BIRKHOLZ: All right. You will have  
19 every opportunity to make comments through mail or  
20 while you're here, and while we're here we're more  
21 than willing to hear your discussions and your  
22 ideas. It's kind of helpful to hear it in person  
23 sometimes.

24 MS. JULIE BLOMBERG: Have you decided  
25 where the route is going to be?

1 MR. BIRKHOLZ: The question is, have we  
2 decided where the route is going to be. The answer  
3 is absolutely not. This is the process. The  
4 company comes in with a preferred route, and in this  
5 case it's the one along I-94, then they came up with  
6 a couple of ideas that they had for possible  
7 alignments within that route where they would put  
8 the 150 feet. They are required by Minnesota  
9 statute to come in with at least one alternative to  
10 that. And then all through the scoping process is  
11 where we try to come up with other options to look  
12 at. Are there additional options, not maybe better  
13 or not maybe worse, but other things that deserve to  
14 be analyzed in comparison to this route to make sure  
15 we're finding the possibilities with the least  
16 environmental impacts. Because, obviously, as you  
17 noted here and is obvious in the environmental  
18 impact statement, there's not a route without  
19 impact. These are fairly large structures and they  
20 come down on people's property.

21 So what we have done in the environmental  
22 impact statement is, again, lay them out, try to  
23 balance the pros and cons of each line with the  
24 environment, with human impacts, with whatnot. When  
25 we come back and bring the final, we're going to try

1 to have done that to the best possible way, but this  
2 document will in no way make a recommendation. It's  
3 really a data gathering service. We're trying to  
4 provide information so that when the judge comes  
5 down we're narrowing down where the judge makes a  
6 recommendation and where all that data gets funneled  
7 into the Public Utilities. So I think the process  
8 is designed so that a decision of where it's going  
9 to actually go is made when all the record is  
10 compiled. That's the concept.

11 MR. FELIX SCHMIESING: I was here this  
12 afternoon, Felix Schmiesing, Sherburne County  
13 commissioner, and I'll try to be a little more brief  
14 than I was this afternoon.

15 But I did want to share a few things,  
16 it's a different group, so I'm going to take the  
17 opportunity. I have a letter here from the  
18 Sherburne County Board of Commissioners. We have a  
19 number of concerns about the route on the other side  
20 of the river. And we would like for that to be  
21 considered. And we entered that into the record  
22 earlier today.

23 But beyond that, our primary concern is  
24 with this process. They came with a couple of new  
25 routes, there were three routes originally. They

1 selected a group of folks, very good folks, county  
2 commissioners from Stearns County, Rose, you were  
3 part of it, Wright County commissioners. We had  
4 folks from the cities up and down the corridor and  
5 the townships. There was one fault with it. It  
6 included no elected officials from the other side of  
7 the river.

Comment 34

8 So we really think that that is  
9 problematic, with a process that has selected a  
10 route. And I guess I would -- you're not  
11 recommending any routes, no specific routes, but you  
12 have recommended an additional route. And it has  
13 been done without the input of the local elected  
14 officials, the county officials, so I think that  
15 that is something that somewhere will have to be  
16 addressed. And I just want that entered into the  
17 record, I wanted the people in this room to be aware  
18 of what this process is.

19 So thank you.

20 MR. BIRKHOLZ: Thank you.

21 MR. DONALD COX: It was the same on this  
22 side of the river. There was meetings without  
23 information supplied to the county on this side of  
24 the river also.

25 MR. BIRKHOLZ: Instead of trying to do

1           this across purposes here, can we take off the  
2           comments that nobody wants it. The real question  
3           here is about process, not about should it be on our  
4           side or the other side. You have a system, you work  
5           it out the best you can. We did have a task force,  
6           it did make a recommendation for an alternative.

7                     A couple things. Not every -- there is  
8           no requirement in the law to have a task force at  
9           all. So we asked for local input to do that. It  
10          came up with an option that -- well, I'm not  
11          prepared to say at this time, as I said, whether  
12          that's a better one than another one, I don't know  
13          at this time. All we know is that it passed enough  
14          possible guidelines for us to consider, we should  
15          look at it. For where it goes with the judge,  
16          that's another question.

17                    The other thing is, anybody can come up  
18          with routes. And that was part of the scoping  
19          process. We asked people to give us route  
20          alternative ideas, give us a segment, give us a  
21          route, give us an answer if there's part of a line  
22          you don't like. Give us an answer, let us know what  
23          we can look at and let us at least analyze it. So  
24          the process, I will say, is imperfect, at best.

25                    But I think we've come to a set of ideas

1 that we can look at anyway, and the judge will make  
2 the final determination on, again, what she would  
3 imagine to be the least impactful decision.

4 I understand your frustration.

5 MS. HEIDI COX: So who does pick it?  
6 Does the judge?

7 MR. BIRKHOLZ: Good question. Again, if  
8 I didn't make that clear --

9 MS. HEIDI COX: You did say something  
10 about a panel, but now you're talking about the  
11 judge.

12 MR. BIRKHOLZ: The judge will be out here  
13 next week --

14 MR. DONALD COX: Next month.

15 MR. BIRKHOLZ: Thank you, next month, on  
16 the 8th, and she will make a recommendation. So  
17 she'll compile the record and she'll move the record  
18 forward to the Commission and she will give them a  
19 recommendation.

20 MR. DONALD COX: So the women have the  
21 final say.

22 MR. BIRKHOLZ: The Commissioners are a  
23 mixed gender.

24 MS. HEIDI COX: So who does she make the  
25 recommendation to?

1 MR. BIRKHOLZ: To the Public Utilities  
2 Commission. The Public Utilities Commission is that  
3 five-person panel that I talked about that makes the  
4 final decisions for all of the energy questions for  
5 public utilities, for like rate cases, they hear all  
6 the rate cases, they make the decisions on siting  
7 wind farms, they make decisions on siting power  
8 plants or any large transmission lines.

9 We feed into that. That is the process.  
10 So the judge will make a recommendation, it's not --  
11 it's a recommendation, but it's a recommendation  
12 which the Public Utilities Commission will give  
13 utmost consideration to. So, you can say it's a  
14 recommendation, but it's -- I'll make a  
15 recommendation after I look at all the data, but my  
16 recommendation is not going to be the same as the  
17 judge's recommendation in weight, I imagine.

18 Rose.

19 MS. ROSE THELEN: Thank you. I'm Rose  
20 Thelen, Wright County Commissioner, and I was on the  
21 task force.

22 And partly in response to Felix, I'm  
23 assuming that the people from the other side of the  
24 river weren't part of the task force or the advisory  
25 task force because the proposed and alternate routes

1 were all on this side.

2 And one of the issues that came up for us  
3 is that the idea of using existing corridors, that  
4 wouldn't that reduce environmental impact and cut  
5 costs, and my understanding was that if it was  
6 considered then you'd have to go through the whole  
7 process of notifying homeowners on the other side of  
8 the river and that sort of thing, too, so the  
9 process is not finished at this point, right?

10 MR. BIRKHOLZ: But we did do that. As  
11 soon as we entered that into the scope, we got all  
12 the landowners, affected landowners for that  
13 possible route and we notified all the affected  
14 landowners along the route.

15 MS. ROSE THELEN: Right. And so, of  
16 course, nobody wants it in their backyard, the way  
17 it sounds, but we're just looking to see that maybe  
18 there is less impact when you don't have to create  
19 such a big swath.

20 The other piece I wanted to add and to  
21 submit into this particular record is the study that  
22 was done by the Department of Commerce. And perhaps  
23 it's already in the record. And it was done, let's  
24 see, September 15th. And it's phase one study and  
25 phase two report for the -- how does it say it,

1 transmission, one of the things they looked at was  
2 that it's like nine times cheaper, or from the data  
3 they've collected, nine times cheaper for the  
4 consumer to use already existing corridors. And so  
5 I know that they're making much adieu about this in  
6 the southern part of the state, but I hope that that  
7 will be looked at as well and the study be consulted  
8 for its findings. Are you aware -- you must be  
9 aware of the study, right?

10 MR. BIRKHOLZ: (Nods yes.)

11 MS. ROSE THELEN: Okay. Do you want to  
12 take it?

13 MR. BIRKHOLZ: Can I just make one  
14 comment? To make it clear about the record, because  
15 you're using the word record, and so anything that  
16 you want into the official record should probably go  
17 in to the judge. What I'm doing here is collecting  
18 as much information as I can to complete the best  
19 EIS that we can. So that's what this is about.  
20 But, yeah, go ahead.

21 MS. ROSE THELEN: I'm done.

22 MR. BIRKHOLZ: Okay. So if anybody  
23 has anything, if they have comments or information,  
24 yeah. But anything, if you have anything, we may be  
25 able to use this to question whether we look at the

1 proper things in the EIS as well. So that's useful  
2 to turn in here, I'm just saying you shouldn't count  
3 that as being in the record.

4 MS. ROSE THELEN: All right. Gotcha.

5 MR. BRAD ZADOW: Brad Zadow, Z-A-D-O-W.

6 I just wanted to make the comment on the  
7 implantable medical devices. That you should look  
8 at more than pacemakers, cause she has a spinal cord  
9 stimulator in her back, and the information that she  
10 got when it was implanted, electric pencils will zap  
11 her, welders will zap her, what are the high power  
12 lines going to do?

13 MR. BIRKHOLZ: What did you say it is?

14 MR. BRAD ZADOW: It's a spinal cord  
15 stimulator.

16 MR. BIRKHOLZ: Thank you.

17 Well, I can get home, but I have someone  
18 at home to let my dogs out, so I've got time.

19 MR. KEVIN GOHN: May I ask a question  
20 about the milestones? A procedural question? You  
21 mentioned that the first recommendation and the one  
22 recommendation that will be seriously considered is  
23 coming from the judge, correct? I didn't mean to  
24 ask a loaded question.

25 MR. BIRKHOLZ: Not the one

1 recommendation, but the judge is going to consider  
2 all the information and her recommendation will hold  
3 weight with the Commission.

4 MR. KEVIN GOHN: Is that date -- or would  
5 her recommendation be made public and is that date  
6 on the milestones?

7 MR. BIRKHOLZ: No, I can't tell you when  
8 the judge -- once the process goes into the hearing  
9 process, then it's in the ALJ's time frame.

10 MR. KEVIN GOHN: Okay.

11 MR. BIRKHOLZ: So the decision, when they  
12 come out with a decision, it varies, but they  
13 understand the constraints of the process, it's  
14 supposed to take one year from application to a  
15 decision. And so once her report is released, then  
16 it will go before the Commission within 30, 60 days  
17 at the latest. But we can't stipulate when she has  
18 to have her report written.

19 MR. KEVIN GOHN: But her recommendation  
20 will be made public before it goes to the  
21 Commission, is that correct?

22 MR. BIRKHOLZ: At the same time. It'll  
23 be released as public data. So when she sends a  
24 recommendation to the Commission, we'll post it,  
25 it'll be filed in eDockets, which is the official

1 record for the system. So it will be available for  
2 quite a while before the Commission hears it, so  
3 people will have a chance to evaluate it before  
4 that. A simple answer to your question.

5 Anything else you want to tell me tonight  
6 or ask me while I'm here? I'll remind you that the  
7 comment date is the 26th. It needs to be back by  
8 then.

9 I want to discuss this with you, but I'm  
10 not going to keep you here against your will.

11 So are we good for tonight?

12 MR. SCOTT TELLEGEN: Scott Tellegen.

13 So this is really a question for you.

14 Okay. I went to the library yesterday and looked at  
15 all the numbers for all the different routes because  
16 there is lists and lists of lists, how much  
17 percentage of woodland, 1(a), 2(a), you know, every  
18 single piece of property is listed along all the  
19 proposed routes. So you take credence on all those  
20 different things? It's almost like you got to put  
21 this all in a computer and spit it all out because  
22 there's a lot of information in there. Whether  
23 there's zero woodlands, zero parks, percentage wise,  
24 that's what they're going on. So basically they're  
25 just spitting all this information out, they're

1           looking at it and everything and then deciding which  
2           way it's going to go through. Am I correct in that  
3           assumption? That's the way that I read all those  
4           different pages and the foldouts along with the map.

5           MR. BIRKHOLZ: Have you got a follow-up?  
6           That's the concept. We lay out and we research all  
7           the questions. Like people come up with ideas or  
8           impacts and we let them find the correct database or  
9           the correct information, are we going to go to the  
10          DNR information database to pull up this, and we do  
11          that for each section and it's a lot of work and  
12          it's a lot of detail.

13          Now, the problem with that is, even  
14          though you come up with these matrixes, there's not  
15          a magic number. You know, this one may have 100  
16          houses along this section, this one may have 150.  
17          But this one may have this environmental impact or  
18          this one does not. So all we can do in the  
19          environmental impact statement is tell you what the  
20          data are. Someone down the line has to say in their  
21          mind, in a judgment, you know, this is how much this  
22          weighs, and this one, we're going to say this route  
23          is the least impact. Again, obviously, not no  
24          impact, but least impact. So that's how it works, I  
25          think you have that right.

1                   Well, we're going to be hanging around if  
2                   you want to get something into us before you go  
3                   home, that's fine, too. Again, this isn't an  
4                   official record or anything. I just want to make  
5                   sure I get your comments correct.

6                   All right guys? Thanks.

7                   (Evening session concluded.)  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25

**Birkholz, David (COMM)**

---

**From:** Mike.Aune@zieglercat.com  
**Sent:** Tuesday, January 26, 2010 1:32 PM  
**To:** Birkholz, David (COMM)  
**Subject:** PUC Docket Number: E002,ET2/TL-09-246  
**Attachments:** Highlighted map.pdf

Mr. Birkholz,

Please consider this our written comment, due by February 26, 2010, as per the notice issued January 11, 2010 of the DEIS for the Xcel Energy and Great River Energy Application for a High Voltage Transmission Line Route Permit. ( PUC Docket Number: E002, ET2/TL-09-246)

We have a concern regarding the route of Xcel Energy and Great River Energy's 345 kv transmission line from St Cloud to Monticello. ZIEGLER INC. owns property and operates a business located at 2225 255th. st. in St Cloud, MN. Our concern is route "D", being recommended by the OES, puts the potential line over our property near the intersection of Interstate 94 and County Hwy 75.

**Comment 42**

We feel this needs to be investigated more thoroughly and clarified. We question why the route would change from the Utility's "preference" to the other side of Interstate, over our property, and then continue back on the Utility's "preferred" route? I want to point out that route D at the intersection of Interstate 94 and County Hwy 75 deviates from the Utility's preferred route for a very short distance. Its within that short distance that it crosses over our property. We sell, rent and service large, high reaching, construction equipment. For example we rent aerial lift booms capable of reaching a height of 135 feet putting our people in a very high risk situation.

We support the Utility's preferred route however, the short deviation from the preferred route does not seem practical or necessary. Please explain why this is being recommended and get back to me as soon as possible.

I have attached your map highlighting the areas of our concern.

Sincerely,

Mike Aune  
Director of Facilities  
ZIEGLER INC.  
952-888-4121 (office)  
612-750-0214 (mobile)



**Birkholz, David (COMM)**

---

**From:** Heidi Cox [heidianncox@yahoo.com]  
**Sent:** Friday, February 26, 2010 10:13 PM  
**To:** Birkholz, David (COMM)  
**Subject:** Comments on the Draft EIS to the OES

Public Comment,

**Comment 43**

First off, I would like to address that the preferred route being an abandoned railroad bed is nonsense, because the railroad bed is not is abandoned. It is land that has been bought back from the railroad and is owned by property owners. In many cases it has been restored and filled with houses, trees, and landscaping. There forth in our minds the notion of an abandoned railroad bed does not exist.

**Comment 44**

Secondly, we already have an existing power line (69KV) on the west side of our property. If one were placed on the south side of our property we would be encroached on two sides. We feel that this wipes out our property value and is harmful to our health.

**Comment 45**

As well, when you do your environmental impact statement we would like to know why you do not include people as part of the environment in your study. Please consider the position you are putting us in.

**Comment 46**

Furthermore, by running your line in this route you are disturbing the Protected Shorelines of Rice Lake. The Protected Shoreline prohibits commercial development within its boundaries. We would like to know why CapX has the right to work within these restricted areas.

**Comment 47**

Also, take into consideration the new fuel cell technology that is being developed. It shows great promise; eBay has five of these fuel cell cabinets on their property and they supply fifteen percent of the power needed at their main head quarters. With promise like this why are you waste your energy adding onto a grid that is possibly going to be obsolete in ten years.

Heidi and Donald Cox  
15420 County Road 75 NW  
Clearwater, MN 55320  
[heidianncox@yahoo.com](mailto:heidianncox@yahoo.com)



**Birkholz, David (COMM)**

---

**From:** jarmuzek@usfamily.net  
**Sent:** Tuesday, February 23, 2010 8:49 PM  
**To:** Birkholz, David (COMM)  
**Subject:** 345kV line

Comment 48

SIR; THIS E-MAIL IS WRITTEN TO PROTEST A FEW THINGS THAT HAVE BEEN PUBLISHED CONCERNING THE PURPOSE POWER LINE ; FIRST; USING THE TERM [ABANDONED RAILROAD CORRIDOR] THERE IS NO SUCH THING; MY SELF PLUS FIFTEEN OTHERS HIRED A LAWYER IN 1985 AND MET WITH THE BN RAIL COMMISSION AND WE PURCHASED THE LAND FOR \$650.00 PER ACRE WE GOT 2.75 ACRES AND WITH THE CUT IN THE HILLS I HAD TO HAVE HEAVY EQUIP CLEAN UP THE MESS; AT A COST \$12.000 AND LAND IS ON MY ABSTRACT SO THE TERM RAILROAD PROPERTY IS A FALSE CLAIM; AND ALSO OUR LAND COMES UNDER WILDLIFE PROTECTION AREA ; WHY YOU PEOPLE CAN'T SEE THE ADVANTAGE OF INSTALLING THE LINE JUST SOUTH OF INTERSTATE #94 IN ALL THAT OPEN LAND TO CO ROAD #8 AN THEN GO NORTH ON ELDER AVE WHERE YOU WILL JUNCTION WITH AN ESTABLISH UPA POWER LINE RIGHT OF WAY GOING EAST IN THE DIRECTION OF THE PLANT.

Com-  
ment 49

ALSO, I HAVE GONE TO A FEW MEETINGS ON THIS SUBJECT HERE IN CLEARWATER AND AFTER ASKING A FEW QUESTIONS THE ANSWER WE TEND TO GET IS "WE WILL PRETTY MUCH GO THE ROUTE WE WANT" . THE MEETING WAS MOSTLY A P.R. EVENT.

Com-  
ment 50

WE FEEL STRONGLY ABOUT THE EFFECTS THIS WILL HAVE ON THE PROPERTY VALUE OF OUR LAKE HOME AND THAT OF ALL THE OTHER HOMES THAT RUN ALONG CO.RD. 75 FROM CLEARWATER TO HASTY.

IT WOULD BE IN THE BEST INTEREST OF MANY PEOPLE TO LOOK HARDER AT RUNNING THIS BIG POWER LINE RIGHT ALONG I 94 OUT OF THE WAY OF PEOPLES HOMES . WE DON'T WANT THIS IN OUR YARD.

SO I WILL SAY THIS, I KNOW THE LINE IS NEEDED, BUT I HOPE WITH ALL OF IF THE EXPERTS INVOLVED THAT THEY HAVE ONE OZ. OF COMMON SENSE AND CAUSE US LITTLE GRIEF.

THANK YOU , MIKE AND JUDY JARMUZEK  
 15484 CO RD 75 N.W.  
 CLEARWATER, MN 55320

--- [Get FREE High Speed Internet from USFamily.Net!](http://USFamily.Net) ---



## Birkholz, David (COMM)

---

**From:** Apache [apache@lmic.state.mn.us]  
**Sent:** Sunday, February 14, 2010 8:13 PM  
**To:** Birkholz, David (COMM)  
**Subject:** Konz Sun Feb 14 20:12:47 2010 ET-2, E-002/TL-09-246

This public comment has been sent via the form at:  
[www.energyfacilities.puc.state.mn.us/publicComments.html](http://www.energyfacilities.puc.state.mn.us/publicComments.html)

You are receiving it because you are listed as the contact for this project.

Project Name: Monticello to St. Cloud 345 kV Transmission Project

Docket number: ET-2, E-002/TL-09-246

User Name: Joyce Konz

County: Stearns County

City: St. Cloud

Email: jkjk29@msn.com

Phone: 320-202-0548

### Comment 51

**Impact:** The preferred route that runs through the area from Clearwater to St. Augusta appears to be running through the Fuller Lake and Warner Lake areas, as well as the KOA campground area. These are highly visited areas in the summer by campers and tourists. By putting a power line through this area it would hamper the amount of tourists and summer travelers through the area.

**Mitigation:** By using the Alternate route B, it would go around Fuller and Warner Lakes and KOA campground. This would mitigate the impact on the amount of tourists and summer travelers that normally visit this area during the summer months.

Submission date: Sun Feb 14 20:12:47 2010

This information has also been entered into a centralized database for future analysis.

For questions about the database or the functioning of this tool, contact:

Andrew Koebrick  
andrew.koebrick@state.mn.us



## Birkholz, David (COMM)

---

**From:** apache@web.lmic.state.mn.us  
**Sent:** Thursday, February 25, 2010 9:37 PM  
**To:** Birkholz, David (COMM)  
**Subject:** 13788 Co Rd 75 NW Thu Feb 25 21:37:02 2010 ET-2, E-002/TL-09-246

This public comment has been sent via the form at:  
[www.energyfacilities.puc.state.mn.us/publicComments.html](http://www.energyfacilities.puc.state.mn.us/publicComments.html)

You are receiving it because you are listed as the contact for this project.

Project Name: Monticello to St. Cloud 345 kV Transmission Project

Docket number: ET-2, E-002/TL-09-246

User Name: Richard Phipps 13788 Co Rd 75 NW

County: Wright County

City: Monticello

Email: rick.phipps@holidaycompanies.com

Phone: 763-227-4535

Impact: Dear Mr. Birkholz,

### Comment 52

After reading throught the DEIS I believe the best route for the proposed 345V power line is route 'D'. The 'Great River Road' will not be disrupted, preserving the great scenic byway. There is already a 115V line in existence that the 345V line can be combined with or could be installed in the adjacent land. The displacement of residents would be avoided, thus providing additional power to many without any disruption to existing residents. This would also help reduce the number of businesses that would be affected, again minimizing economic impact in our communities. Running the 345V line with the route 'D' option would minimize the impact on the aesthetic appearance along I-94 and County Road 75, preserving the quality scenic way that many enjoy. Also, running the 345V line with the route 'D' option would avoid a negative impact on businesses in the city of Clearwater.

Mitigation: Routes 'B' & 'C' would be my alternate choices if route 'D' could not become reality. Those lines run away from the I-94 / County Road 75 corridor, which would also preserve the 'Great River Road' and all of the aesthetics along this scenic byway. Also, running the 345V line away from the I-94 corridor will also preserve economic growth, thus fueling our economy.

Submission date: Thu Feb 25 21:37:02 2010

This information has also been entered into a centralized database for future analysis.

For questions about the database or the functioning of this tool, contact:

Andrew Koebrick  
[andrew.koebrick@state.mn.us](mailto:andrew.koebrick@state.mn.us)



**Birkholz, David (COMM)**

---

**From:** Kirsch, Raymond (COMM)  
**Sent:** Monday, February 01, 2010 10:24 AM  
**To:** Birkholz, David (COMM)  
**Subject:** FW: Comments to the Draft Environmental Impact Statement (DEIS), Monticello to St. Cloud 345 KV Transmission Line comment submittal 1.

**From:** rondeb\_71@netzero.net [mailto:rondeb\_71@netzero.net]  
**Sent:** Sunday, January 31, 2010 10:15 PM  
**To:** Kirsch, Raymond (COMM)  
**Subject:** Comments to the Draft Environmental Impact Statement (DEIS), Monticello to St. Cloud 345 KV Transmission Line comment submittal 1.

To whom it may concern,

Comments to DEIS  
The following comments on the Monticello to St. Cloud 345 kV Transmission Line DEIS are comment submittal 1.

**Introduction**

In the following comments to the Draft Environmental Impact Statement (DEIS), Monticello to St. Cloud 345 kV Transmission Line, I reference the Council on Environmental Quality NEPA regulations 40 CFR 1500-1508. I found these regulations more clearly defined and understandable by a lay person such as myself.

**Comment 53****Comment 1-1**

40 CFR 1500.4 (h) [Summarizing], allows for summarizing the EIS if the entire EIS if the latter is unusually long. In the DEIS abstract it is quoted, "The primary purpose of this draft EIS is to summarize the potential impacts of the Project and help the commission make an informed decision on the best route." The DEIS is to also insure an informed Public by presenting concise, clear, to the point and supported by the evidence [1500.2 (b)]. Is the Draft EIS I downloaded from the PUC Website a circulated summary? If so, where can I obtain the more detailed copy of the DEIS, or will the DEIS be Supplemented so that the Final EIS is not summarized?

**Comment 54****Comment 1-2**

40 CFR 1506.5 (c) [Signed Disclosure Form], HDR Engineering Inc. is listed as a preparer of this DEIS. However, I was unable to locate their respective signed Disclosure form, insuring no conflict of interest in the preparation process. Please send me a copy of the respective signed Disclosure Form(s).

**Comment 55****Comment 1-3**

40 CFR 1500.1 (b), the information must be of high quality with accurate scientific analysis to provide for informed public scrutiny. 1500.2 (b), the EIS shall be concise, clear and to the point and supported by the evidence. 40 CFR 1502.24 Methodology and scientific accuracy referenced by footnote. 40 CFR 1506.4 Only environmental documents in compliance with NEPA may be combined with any other agency document that is declared within its' content a NEPA document. As I was reading the DEIS I began to get a feeling of dejavu. It was as though I had read the text somewhere before. Checking the Applicants route permit application document I easily was able to read text that was duplicated in the DEIS (ref: DEIS Sec 15.19.1, 20.1, and the Applicants Route Permit pages 7-51,53 and 54). At this point I have not received an opinion on whether the verbatim use of an Applicant's document text is in conflict with the intent of NEPA. What percentage of the EIS analysis data comes directly or through NRG Inc. from the Applicant, Xcel Energy or Great River Energy? What percentage of the analysis in the EIS comes directly or through NRG Inc. from the Applicant, Xcel Energy or Great River Energy?

**Comment 56****Comment 1-4**

40 CFR 1508.7 and 1508.8 (a) & (b) Cumulative Impacts-Effects direct & indirect. Cumulative impact analysis is the backbone of any EIS. MR 4410.2300 (H) Environmental, economic, employment, and sociological impacts: for the proposed project and each major alternative there shall be a thorough but succinct discussion of potentially significant adverse or beneficial effects generated, be they direct, indirect, or cumulative. My interpretation of "succinct discussion" is of "clarity" "concise" to the point under NEPA.

I believe the Applicant broke the route alternatives into segments to provide a means to clarifying their decision process. Since the PUC has presented the DEIS in a summary form, as declared in the DEIS Abstract, the route impacts are described in a non-specific format. This reader was unable to clearly understand from DEIS text the impacts of the Applicant's Preferred Route segment Segment 59. The segment process was not used by the Prepares to present the Cumulative Impact/Effects in a congruent presentation. Please send me a copy of the Cumulative Impacts and direct and indirect Effects analysis on Segment 59 of the Applicant's Preferred Route. In particular, that portion of segment 59 lying between Interstate 94 (I94) milepost 180 to 182 within the Fish Lake-Fish Creek Basin. The following elements are to be included; Fish Lake, the Fish Lake public boat landing recreational area, the residential cabins/homes, Fish Creek, the Mississippi Wild & Scenic flood plain and the Mississippi Wild & Scenic Riverway. See Appendix G sheet 6 of 9 for the boundaries of the Mississippi Wild & Scenic Riverway District. Previous Cumulative Impacts to the Basin was construction of the 1890 railroad berm and trestle, the 1930 US Highway 52 (now Gowan Ave), the CSAH road 75 and Interstate 94 in 1976.

**Comment 57****Comment 1-5**

Surface Water DEIS Section 5.16 merely mentions the three largest bodies of water that the Applicants Preferred Route impacts in Wright County. These bodies of water are within 3 miles of each other. Fish Lake, Rice Lake and Locke Lake are popular recreational areas. Fish Lake, for example, is on the impaired lakes registry and is under the watchful eye of the Fish Lake Property Owner's Assoc. (FLPOA). Fishing on these lakes is a prime recreational use of these natural wonders. Therefore, I find it difficult that the DEIS failed to analyze the visual effects a HVTL with its' imposing towers would present to the serene visible horizon of these lakes. There is definitely a different rating to the changing contrast of a HVTL presented to a traveler in a moving vehicle on a roadway than there is of a fixed contrast presented to an individual in a boat in a serene natural environment on one of these lakes.

I was unable to locate any type of a scientific visual impact analysis for these lakes or any other body of water. Please explain the methodology that the DEIS is utilizing in analyzing visual effects in this project.

**Comment 58****Comment 1-6**

40 CFR 1504, require early resolution of disagreements between agencies. Resolving the issues with the DOT and FHWA early in this process will provide a more clear understanding of the Alternatives by the public. Please provide me with an understanding where the PUC is at, in resolving the ROW issues with the DOT and FHWA.

**Comment 59****Comment 1-7**

I attended the first Public information meeting held at the Clearwater, MN. Legion. I asked Darrin Lahr, of CAPx, at his information station, whether CAPx had done an analysis of the weather history in the area of the proposed substation and route alternatives. He asked a consultant standing nearby whether there had been a weather study done. The consultant answer was no. At the first Area Task Force (ATF) meeting in Clearwater Township, I was asked by the Wright County Commissioner to present a public route alternative that the ATF could discuss and build their route analysis on. In the presentation I mentioned the lack of weather analysis and that that surprised me, since CAPx presents transmission reliability as priority purpose in requiring a totally separate and new HVTL corridor. The ATF members from Stearns County, Waite Park, St. Cloud and St. Augusta agreed that the area has a high number of tornadoes and property damaging high-energy straight-line winds. I personally witnessed a tornado that occurred on June 4, 1958 that did property damage in St. Augusta. I believe on average there has been a tornado in that area about every ten years. I was quite surprised that the DEIS did not include a weather analysis [40 CFR 1502.24]. Please provide me with the PUC's position on the importance of a weather analysis in the area of the proposed substation and route alternatives to the purpose described in the EIS Scoping document "The Project is designed to address three needs: local community reliability, regional reliability and generation outlet support."

Comment 60

Comment 1-8

The DEIS section on Displacement table 5-7 lists 199 nonresidential structures in the Preferred route. However, the map in Appendix G sheet 6 of 9 at 16517 Gowan Ave. NW does not show two of my out buildings. Does this change the count for non-residential in table 5-7?

□@

Ronald Schabel  
16517 Gowan Ave NW  
Clearwater, MN 55320

Tele 320-558-6195

[RonDeb\\_71@netzero.com](mailto:RonDeb_71@netzero.com)



**Birkholz, David (COMM)**

---

**From:** rondeb\_71@netzero.net  
**Sent:** Thursday, February 25, 2010 2:12 PM  
**To:** Birkholz, David (COMM)  
**Subject:** Monticello to St. Cloud 345KV HVTL Draft EIS Comment Submittal  
**Attachments:** Comment 2\_1 Seg 307 Mile Post 179.5\_2.bmp

Dear Mr. Birkholz,

Please accept the following comment and the attached edited map pertaining to the Monticello to St. Cloud 345KV HVTL Draft EIS as submittal 2

**Comment 61**

Comment 2-1

The section of the applicants preferred route between Interstate I-94 mile post 180 and 182 passes through the Fish Lake, Fish Creek Basin and the flood plain back waters of the Mississippi Wild & Scenic Riverway.

This area is noted on the map in Appendix G page 6 of 9 of the DEIS.

This area is an environmentally sensitive area, not to mention the Great River Road (CSAH 75) National Scenic Byway.

May I suggest that the OES consider a bypass of this area to the west.

Referencing the applicants route application document Appendix D.1 sheet 3, segment 307 at Wright County 7(near mile post 179.5 of I-94 ).

Departing from the preferred route at segment 307, following segment 307 to segment 312B of Alternatives A & B continue to the Monticello Substation on Alternatives A,B or C. Please reference the attached edited map that depicts the above suggestion.

In the PUC Docket No. E002/CN-06-1115 OAH 15-2500-19350-2 "Conclusions" page 92 item 17.

"The CapX projects will have a substantial impact on the natural environment. Routing and construction should be conducted to avoid harmful effects and, where damage is unavoidable, to significantly mitigate the impact."

I offer that the above suggested change in the Applicant's routing scheme would:

Avoid the environmentally sensitive Fish Lake Fish Creek Basin.

Avoid the placement of transmission tower within the Basin.

Avoid crossing of I94 within the Clearwater City-Clearwater Township Orderly Annexation Area (COAA).

Avoid the the FHWA/MnDOT planned I-94 Interchange between mile post 178.5 to 180.5.

Minimize the cumulative impacts to the Great River Road National Scenic Byway view.

Equally share the routing of the HVTL with the Preferred route and Alternate Routes A, B and C in Clearwater Township.

Thank you,

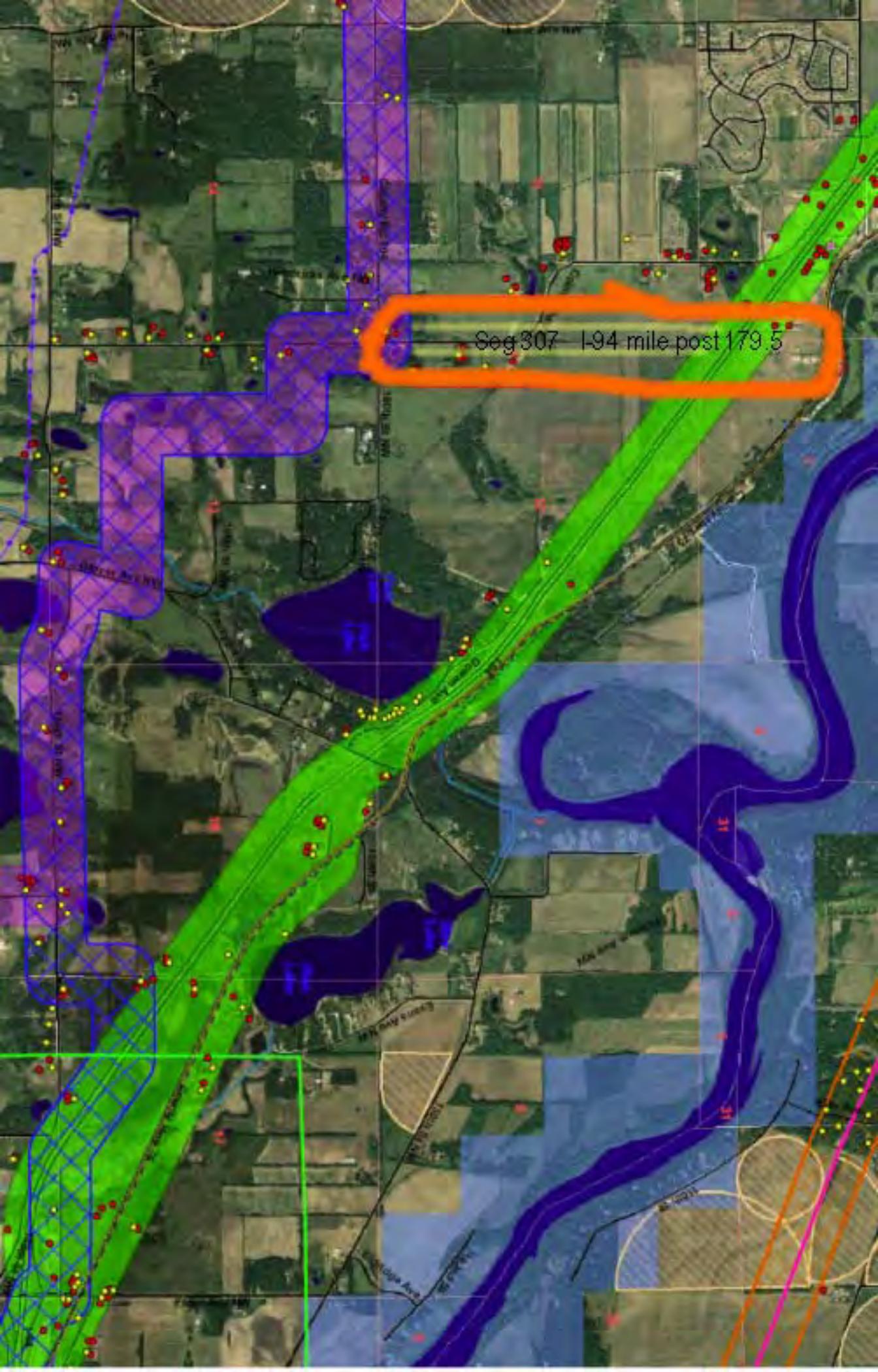
Please acknowledge receipt of this e-mail.

Ronald Schabel

16517 Gowan Ave NW  
Clearwater, Mn 55320

tele: 320-558-6195

e-mail: [RonDeb\\_71@netzero.com](mailto:RonDeb_71@netzero.com)



Seg 307 - I-94 mile post 179.5



To : David Birkholz - Project Manager  
St.Cloud to Monticello 345 KV Transmission Line Project  
Draft Environmental Impact Statement

February 25, 2010

Comment 62

As founder of the Fish Lake Property Homeowners Association, I have been involved for many years in protecting and preserving the environment in this area. The 1,000 foot wide Applicant Preferred Route slashes right through the Fish Lake basin and I would like to offer my comments on the DEIS for the proposed project and the dramatic impacts this route will have on the natural resources in the basin area.

This basin is not only home to Fish Lake, it also contains Fish Creek, the Wild and Scenic Mississippi River Corridor, the Mississippi River Backwaters, numerous wetlands and the Clearwater Township Public Access recreational area.

The DEIS admits that towers and transmission lines will have a negative impact on the scenic qualities of this area. We can all agree with that. County Road 75 sweeps down into the basin in both directions from the surrounding hills and offers a panoramic view of Fish Lake, Fish Creek and the Wild and Scenic Corridor. It has been designated as a Great River Road by the State of Minnesota and also as a National Scenic Byway by the Federal Highway Administration. This project would have a devastating impact on this scenic view and would put future funding opportunities at risk, as stated in the DEIS. Who would compensate Wright County and Stearns County residents for the loss of these funds? This economic impact needs to be fully addressed in the DEIS.

Comment 63

The National Scenic Byways Program also recognizes manmade elements of the landscape, such as Interstate 94, which runs parallel to the Great River Road as it sweeps down into and back out of the basin. Although it may not meet everybody's scenic expectations now, it surely wouldn't meet anybody's expectations if 180-foot towers and lines were installed alongside I-94.

Comment 64

The DEIS says that visual impacts will be mitigated if the towers are constructed on the western side of the route. This would bring the towers into Fish Creek, Fish Lake and the Clearwater Township Public Access

#### Comment 64

recreational area. The DEIS only mentions the lake and the creek in passing and never mentions the recreational area at all. The DEIS needs to be done over in order to address the impacts to these areas.

On the other hand, if the project is built on the east side of I-94, the DEIS offers no mitigation for the visual impacts to the basin area and especially the National Scenic Byway. Again, who will make up the lost funding for the National Scenic Byway? This is not addressed in the DEIS.

The resource maps in the DEIS depict hundreds of residences and buildings that are not within the proposed routes, yet they omit at least 40 residences and buildings around Fish Lake. The DEIS maps need to be corrected.

#### Comment 65

MNDOT's comments on this project offered compelling reasons why this environmental review process should have been done under the National Environmental Policy Act. Why wasn't this comment addressed in the DEIS?

Many of the Lake Association's members and others felt that the DEIS public meeting was totally inadequate. There was no place to sign in, no maps or displays were on view and there were only two copies of the DEIS to be shared by the 50 people who attended the meeting.

This route should not be chosen for the project because the other proposed routes have less harmful impacts.

This DEIS is totally inadequate for a project of this magnitude and should be started over and the entire process conducted in a more professional manner.

Respectfully,  
Roger Fiske  
15778 Griffith Avenue  
Clearwater, MN 55320

**COMMENTS**  
**Monticello to St. Cloud**  
**345 KV Transmission Line**  
**Draft Environmental Impact Statement**

John A. Pazik  
16415 Gowan Ave. NW  
Clearwater, MN 55320

2-25-10

Comment 66

I would like to make the following comments on the Applicant Preferred Route in the above referenced DEIS:

1. - County Road 75 (Great River Road) has been designated as a National Scenic Byway (NSB). This term refers not only to the road itself, but also to the corridor through which it passes.
  - The NSB Discretionary Grants Program has awarded many millions of dollars to the State of Minnesota on a continual basis since 1992, including \$ 515,400 dollars last year.  
*(National Scenic Byways Archive of Funded Projects)*
  - The DEIS states, "...a transmission line would likely have an adverse effect to the overall scenic nature of the Great River Road and could affect future funding opportunities for transportation enhancements"  
*(pg 5-33)*

The DEIS is inadequate because no feasible mitigation is offered for the visible impact (See #5) and no mitigation is offered to replace grant dollars lost by the State of Minnesota.

2. - National Scenic Byways attract tourists through numerous federal, state and local promotions and programs. An *Explore Minnesota Tourism Survey* states that 92% of travelers are attracted by natural scenery.
  - "The Secretary of Transportation may de-designate...National Scenic Byways...if they no longer possess the intrinsic qualities nor meet the criteria which supported their designation."  
*(FHWA National Scenic Byways Program Policy)*

## Comment 66

- If you put one section of an NSB at risk, you put other sections at risk. "An important criteria for National Scenic Byways...is continuity." (*FHWA National Scenic Byways Program Policy*)
- In addition to the "adverse effect " on the scenic nature of the Great River Road , The DEIS also states, "Landscapes would be permanently impacted visually by the placement of the proposed transmission lines and structures."

Common sense dictates that a National Scenic Byway that is "permanently impacted visually" will have an economic impact on tourism dollars spent in the State of Minnesota. No feasible mitigation is offered for the visual impact and no mitigation is offered for the economic impact of lost tourism dollars, therefore the DEIS is inadequate for failure to mitigate these impacts.

Excel Energy and Great River Energy are for-profit utilities. This project has a built-in profit that is guaranteed through pre-approved rate increases and tax breaks. They should not be rewarded with profits at an economic and environmental impact cost to the State of Minnesota without proper mitigation. This should be addressed in the DEIS.

## Comment 67

**3.** The loss of tourism dollars and grant monies was not figured into the cost of the Applicant Preferred Route. This creates a cost-analysis bias in favor of the Applicant Preferred Route that is not allowed by Minnesota Rules. Therefore the DEIS is inadequate because it does not contain a true cost analysis for each alternative.

## Comment 68

**4.** The visual impacts of this project were studied in a subjective manner that makes it impossible to make comparisons between the alternatives. Rather than use accepted standards such as vividness, intactness and unity to create comparative values that have a defined meaning, the DEIS uses subjective terms such as low, medium and high that have no measurable scale of difference.

The DEIS states that visual impacts can be mitigated by placing the lines and structures as far away from scenic resources as possible. When you are talking about a 1,000 foot wide route with transmission lines and towers that

## Comment 68

loom as high as 180 feet, this is like saying you can mitigate the visual impact of an elephant in your living room by placing him on the opposite wall.

The Fish Lake/Fish Creek Basin is arguably the most sensitive and unique area along the 28-mile stretch of this project. It contains the Great River Road Corridor, the Wild and Scenic Mississippi River Corridor, Fish Lake, Fish Creek, the Mississippi River Backwaters, the Clearwater Public Access recreational area and numerous wetlands.

The basin is too wide to span with a tower on each side. It will require a third tower somewhere in the floor of the basin, or possibly two towers, thus making the elephant larger and even more visually impacting.

The hills surrounding the basin are 60 to 75 feet higher than the Wild and Scenic River Corridor. As you travel the Great River Road from either direction and crest the hills leading down into the basin, it is impossible to hide the elephant no matter where you put him.

If the DEIS is to be believed, the intent is to be outside the Wild and Scenic Corridor... and it can't be built in the middle of I-94...or on the Great River Road...or on Gowan Avenue NW... or in Fish Lake... or in the Public Landing... so the possible sites for the tower(s) are very limited and the transmission lines and the tower(s) will have to be placed right next to one or more of these resources, thus increasing the visual impact.

It is also possible that the transmission lines may cross over I-94 in the basin area, thus creating a jagged visual experience that is even more impacting.

The DEIS is inadequate because the problem of constructing towers in this confined area has not been studied, discussed, planned, drawn up or even sketched. (*My Data Practices request came up empty*)

If the DEIS is not to be believed, it is inadequate for this reason alone.

**5.** The Applicant Preferred Route should not be selected because of the aesthetic impacts to unique and irreplaceable natural resources and the economic impact to the State of Minnesota as long as there are other alternative choices with lesser impacts, which there are.

Sincerely,  
John A. Pazik  
16415 Gowan Avenue NW  
Clearwater, MN 55320

David Birkholz  
Office of Energy Security  
85 7<sup>th</sup> place east  
Suite 500  
St. Paul, MN 55101

February 23, 2010

RE: Request for the addition to the CapX2020 Draft EIS, of an environmental impact study of the Fish Lake and Creek Basin areas.

Dear Mr. Birkholz,

Comment 69

On June 8, 2009, we, the Fish Lake Property Owners Association, Inc (FLPOA), of Clearwater Minnesota, submitted a request, for an environmental impact study of the Fish Lake and Creek Basin area regarding the CapX2020 Route Permit Application (attachment 1.) The receipt of our document is noted in the CapX2020 Draft EIS; however, **no specific analysis on these areas were included in the CapX2020 Draft EIS.**

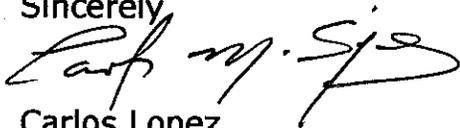
In 2007, Fish Lake, was added to the biannually updated, federally required, 303D MPCA Impaired Water List, which lists the state's lakes and stream segments not supporting standards. Our lake association, through 18 years of tremendous volunteer efforts, has been working with state, local and non-profit agencies to develop and implement land use and surface water management practices with the goal of improving Fish Lake water clarity.

Comment 70

Our 2009, Lake Management Plan, developed through Wright County Healthy Lakes and Rivers Partnership, list mitigating negative impacts from the Fish Creek Basin, due to flooding from the Mississippi River, as our number one concern. Any development in the Fish Lake and Creek Basin areas would dislodge nutrients, remove valuable land in terms of absorption and filtration, and require removal and or future restriction of tree/shrub plantings, all of which would certainly increase the nutrient loading into Fish Lake.

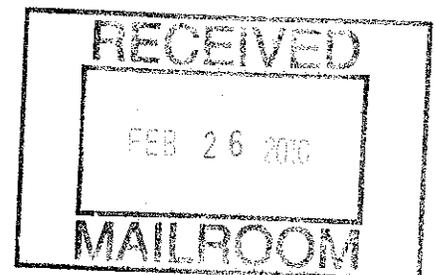
So again, the FLPOA again, submits our request for an environmental impact study of the Fish Creek and Basin areas, in regards to the CapX2020 Monticello-St. Cloud preferred route and mitigation of the preferred route, to be included in the CapX2020 EIS document.

Sincerely,



Carlos Lopez  
President

Fish Lake Property Owners Association (FLPOA)



David Birkholz  
Office of Energy Security  
85 7<sup>th</sup> place east  
Suite 500  
St Paul, MN 55101

June 8, 2009

**RE: Request for an Environmental Impact Study of the Fish Lake and Creek Basin Areas as a Result of the CapX2020 Monticello-St. Cloud Route Permit Application.**

Dear Mr. Birkholz,

We, the Fish Lake Property Owners Association, Inc (FLPOA), of Clearwater Minnesota, understand that any concerns regarding the EIS process for the CapX2020 project should be directed to you. Our area of interest is the CapX route section which would pass, along I94 between Hwy 24 (Clearwater) and Hwy 8 (Hasty), more specifically that section which would pass just North of Fish Lake; an area we identify as the Fish Lake and Creek Basin.

In September of 2007, the Minnesota Pollution Control Agency (MPCA) announced its biannual update of the federally required list of the state's polluted lake and stream segments; Fish Lake, Wright County is one of the 287 newly added polluted waters. As you know, once a waterway is listed, state and federal government agencies must provide assistance in determining how it can be restored.

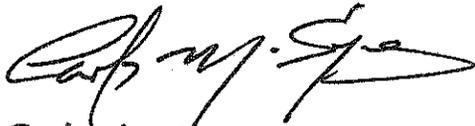
The Fish Lake and Creek Basin areas have already been critically impacted by development throughout the years. This Mississippi backwaters area, wetlands, and grasslands were first impacted with the building of the 1890 railroad berm and trestle; beginning a trend of removing important wet and grasslands which act as a filter between the Mississippi River and Fish Lake during Mississippi high water times. In 1930, US Highway 52, was the second cut through this area; constricting the flow of water and reducing the amount of wet and grasslands. The third and fourth assaults on the area were the building of I94 and CASH 75 in the early 1970's; a development that required many hundreds of thousands of cubic yards of fill and hard surface to be laid in this area.

The large wet and grasslands in the Fish Lake and Creek Basin area provided a natural filtration system as the water flowed from the Mississippi towards Fish Lake during spring and summer high water times. Typically the water flow is from Fish Lake out to the Mississippi,

but on a regular (annual to biannual) basis the water flows from the Mississippi to Fish Lake during high water times. The slashing of available wet and grasslands to absorb the Mississippi backflow along with MNDot's streamlining of Fish Creek, as a result of the I94 development, has significantly increased the negative impacts on Fish Lake water quality. The FLPOA believes better management of the Fish Lake and Creek Basin is key to improving lake water quality.

The FLPOA has several concerns about the high voltage power lines passing through this area, either South or North of the current I94, however; our greatest concern is the fatal blow such additional destruction of wet and or grasslands, in this area, would have on the water quality of an already impaired water way - Fish Lake. This area could not sustain pole "footprints" of up to eight feet in diameter and 30 feet deep without further degrading water quality. Any tree/shrub removal and or restriction on plantings by or near the basin and lake would also negatively impact water quality since they act as natural filters. We request a thorough environmental impact study of the Fish Lake and Creek Basin area.

Sincerely,



Carlos Lopez  
President  
Fish Lake Property Owners Association

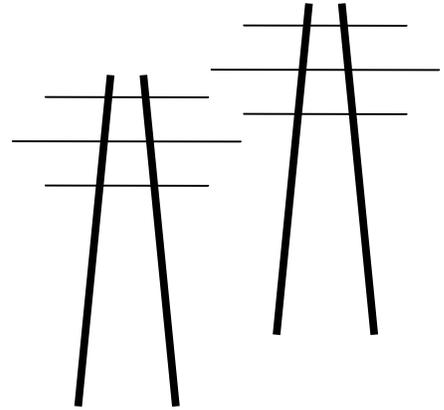


# Legalelectric, Inc.

Carol Overland Attorney at Law, MN #254617  
Energy Consultant—Transmission, Power Plants, Nuclear Waste  
overland@legalelectric.org

P. O. Box 176  
Red Wing, Minnesota 55066  
612.227.8638

P.O. Box 69  
Port Penn, Delaware 19731  
302.834.3466



February 26, 2010

David Birkholz  
Energy Facilities Permitting  
MOES-Dept. of Commerce  
85 – 7<sup>th</sup> Place East, Suite 500  
St. Paul, MN 55101

via email: david.birkholz@state.mn.us

RE: DEIS Comments  
CapX 2020 – Phase I – St. Cloud to Monticello

Dear Mr. Brikholz:

Thank you for the opportunity to comment on the DEIS for this part of CapX 2020.

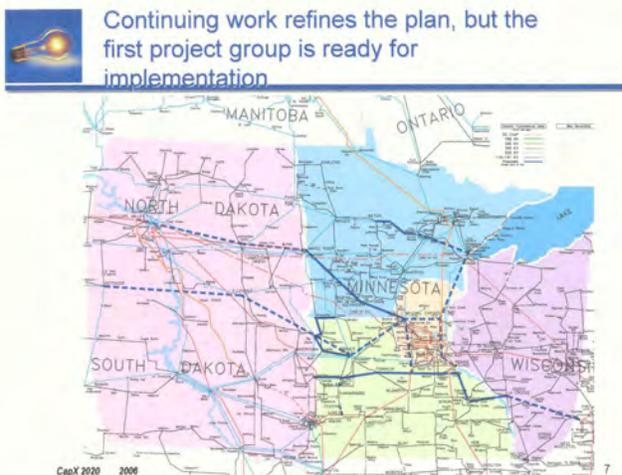
Comment 72

**The common name for this project is a misnomer – electricity would flow from St. Cloud to Monticello, not Monticello to St. Cloud – the name should be St. Cloud to Monticello.**

Elementary laws of physics belie fact that the direction of electrical flow is contrary to the name of this route. That should be corrected and public perception should thereby be corrected.

Comment 73

**The EIS must address impacts of entire CapX 2020 Phase I as granted a Certificate of Need -- It's all connected**



As you know, CapX 2020 Phase I is the largest transmission project in the history of the State of Minnesota, over 600 miles long and a cost approaching \$2 billion. It is false compartmentalization to claim that only the St. Cloud-Monticello portion of the CapX 2020 Phase I proposal is at issue for this environmental review – the entire project as proposed is subject to review as a phased and connected action, a part of a whole.

**The EIS must address impacts of entire CapX 2020 Phase I as granted a Certificate of Need -- It's all connected**

The CapX 2020 project segment granted a Certificate of Need northwest of the Metro was the Fargo to Twin Cities project, not St. Cloud to Monticello.

- The St. Cloud-Monticello EIS must address the phased and connected project that is the Fargo-St. Cloud transmission line. As you know, the application for routing of this Fargo-St. Cloud project has been received and is moving forward. It is planned, applied for, and NOT speculative.

**The EIS must address phased and connected transmission projects**

- The St. Cloud-Monticello EIS must address the “phased and connected” projects revealed in Xcel/GRE 4/3 Press Release (Attachment A) and the MTO Transmission Plan – the three projects in the Dakotas connecting with the Fargo terminus of this project have a direct impact on the impacts of this connected line. This group of projects is planned and not speculative.

**Figure 1 - Map of Corridor Upgrade and RES Update Projects**



**CapX 2020 was developed as a whole, applied for as a whole and Certificate of Need granted as a whole.**

CapX 2020 was studied and developed as a whole<sup>1</sup>. This map, Attachment A, is from a CapX 2020 power point presentation to MAPP NM-SPG planning group on June 14, 2006. The blue solid lines are “Phase I,” applied for in the Certificate of Need proceeding before the MN PUC, order granting Certificate of Need May 22, 2009. The blue dotted lines are future lines, some of which were announced April 3, 2009. Attachment B is the April 3, 2009, press release regarding those lines.

**Table 4. Summary of Vision Plan**

Facility Name				
From	To	Volt (kV)	Miles	Cost (\$M)
Alexandria, MN	Benton County (St. Cloud, MN)	345	80	60
Alexandria, MN	Maple River (Fargo, ND)	345	126	94.5
Antelope Valley (Beulah, ND)	Jamestown, ND	345	185	138.75
Arrowhead (Duluth, MN)	Chisago County (Chisago City, MN)	345	120	90
Arrowhead (Duluth, MN)	Forbes (Northwest Duluth, MN)	345	60	45
Benton County (St. Cloud, MN)	Chisago County (Chisago City, MN)	345	59	44.25
Benton County (St. Cloud, MN)	Granite Falls, MN	345	110	82.5
Benton County (St. Cloud, MN)	St. Bonifacius, MN	345	62	45.5
Blue Lake (Southwest Twin Cities, MN)	Ellendale, ND	345	200	150
Chisago County (Chisago City, MN)	Prairie Island (Red Wing, MN)	345	82	61.5
Columbia, WI	North LaCrosse, WI	345	80	60
Ellendale, ND	Hettinger, ND	345	231	173.25
Rochester, MN	North LaCrosse, WI	345	60	45
Jamestown, ND	Maple River (Fargo, ND)	345	107	80.25
Prairie Island (Red Wing, MN)	Rochester, MN	345	58	43.5
<b>TOTAL</b>			<b>1620</b>	<b>\$1,215 (\$M)</b>

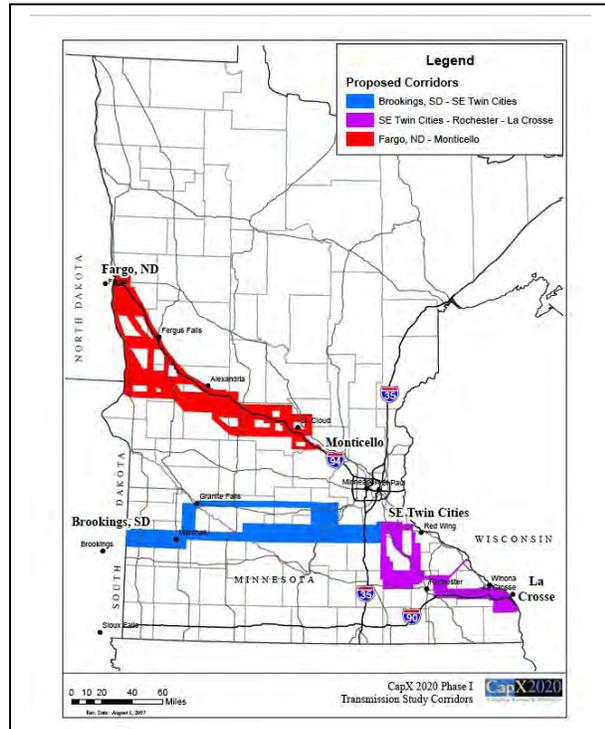
Exhibit 17, Portion of the 2005 Biennial Report Filed by Transmission Utilities, p. 36; Ex. 1, Application, App. A-1, Technical Update October 2005; see also Exhibit 12, CapX 2020 Update, June 14, 2006; Rogelstad, Vol. 2A, p. 69-74; Rogelstad, Direct Testimony p. 17; Rogelstad, Tr. Vol 2A, p. 39 et seq.

A copy of this chart above is an integral part of the Application, “Technical Report” and record in the CapX 2020 Certificate of Need proceeding before the PUC. The Antelope Valley-Jamestown-Maple River (Fargo)-Alexandria-Benton County line is listed in the 2005 Biennial

<sup>1</sup> See CapX 2020 Certificate of Need Application, Appendix A-1, available online at: [CapX2020 Technical Update: Identifying Minnesota's Electric Transmission Infrastructure Needs \(October 2005\)](#)

Report filed by Transmission Utilities (p. 36); the CapX 2020 Certificate of Need Application, App. A-1, Technical Update October 2005, and the CapX powerpoint update, June 14, 2006. Over and over and over, the Antelope Valley-Benton County line, the Minnesota part of which is Maple River-Benton Co. is presented as just one part of an inextricably linked inseparable network of transmission lines..

Comment 74



**The RUS EIS must address impacts on river crossings of the Mississippi River and National and Minnesota Scenic Byways**

As with the Brookings CapX transmission line, the Monticello routes would cross the Minnesota Scenic Byways, in this case the Great River Road.

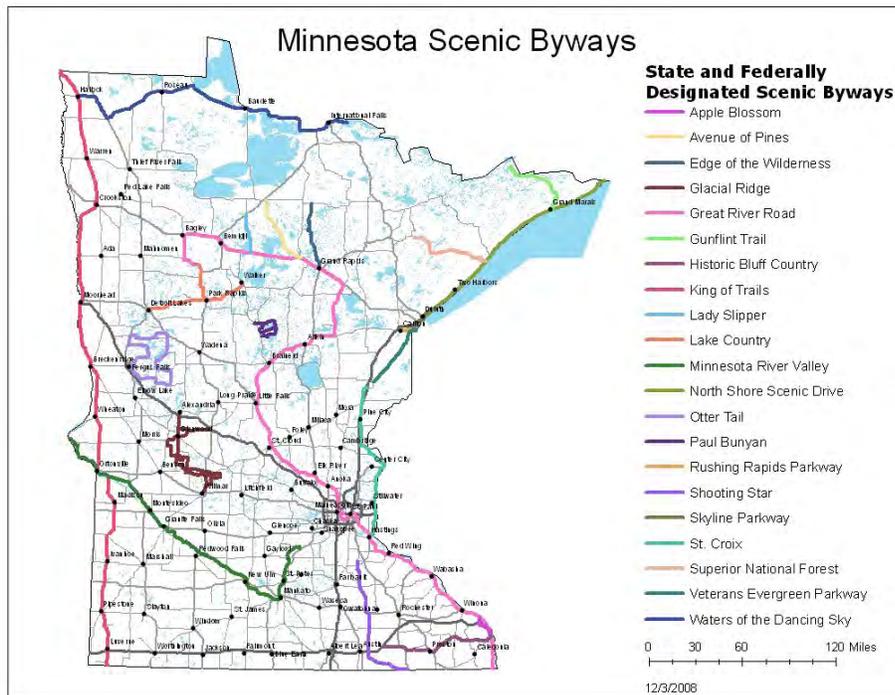
There is a likelihood that the Great River Road would lose its “Scenic Byway” designation if defaced by transmission lines.

The potential for economic impact must be specifically quantified. The state of Minnesota receives over \$10 million annually for its National Scenic Byways, and this number must be addressed not only in the section on Aesthetics, but in the Socioeconomic Impacts section. Coverage of these economic impacts

must receive separate attention in the appropriate category. **USE NUMBERS!**

The state’s Scenic Byway designation may also be at risk. This would also mean loss of an important resource and loss of funding. These impacts must be addressed in the appropriate categories, with socioeconomic impacts disclosed with specificity.

Even if routed away



from the Scenic Byways, the height of the towers would have an impact on the Great River Road, and any impacts must be mitigated.

Comment 75

### **Project Purpose**

Statements of “project purpose” such as that on p. 1-2 should state “claimed” or “purported” rather than parrot applicants statements.

Comment 76

### **Undergrounding**

Undergrounding is discussed generally on p. 63. It starts off with an unreasonable limitation:

*Underground lines are a viable transmission construction option where there are significant aboveground constraints that would make overhead transmission line construction difficult or impossible.*

- A full analysis of underground options, including location, configurations and cost, for all proposed river crossings should be included in the EIS. If there are other non-aerial options that are not underground, these should be analyzed as well.
- A full analysis of underground options, including location, configurations and cost, should be considered for all densely populated areas. If there are other non-aerial options that are not underground, these should be analyzed as well.
- Underground lines are viable independent of “significant aboveground constraints.” This statement should be corrected.
- The discussion of undergrounding does not address the Comments of US Fish and Wildlife and others regarding “non-aerial” crossings of the Mississippi River.
- Applicants repeatedly state that they cannot underground 345kV lines. This is false. Applicants could, they just do not want to underground, and will if ordered or if an agreement is reached, such as that in the Chisago Transmission Project docket. The prior undergrounding experience of applicants should be incorporated into the EIS.
- A recent report, released February 24, 2010, sheds light on underground, where undergrounding was found to be feasible and not as expensive as previously thought. This report, from the Alberta Electric Service Operator is available online<sup>2</sup>, and the findings of this report regarding undergrounding of high voltage transmission must be incorporated into the EIS. See Attachment B, p. 28-32 and Table 45, §12.2, [Technical Report by CCI: Feasibility Study for 500 kV AC Underground Cables for Use in the Edmonton Region of Alberta](#) [Posted: February 24, 2010]. Underground

---

<sup>2</sup> The iterations and comments and the full report are available on the AESO Feasibility Study for 50kV Underground Cables page: <http://www.aeso.ca/transmission/20001.html>

## Comment 76

was also considered for part of the Mid-Atlantic Power Pathway, a 500kV transmission line, since suspended by PEPCO, the project promoter.

- Section 5.6.3 Mitigation states on p. 107 and 108 that “undergrounding could be considered.” This is insufficient. Consider it, and compare impacts and costs with aerial crossings.
- In the narrative, the narrative regarding EMF, p. 5-144, states that underground lines still generate electric fields. Specifics should be disclosed in this narrative, because the amount detectable above ground is diminimus compared to above ground.

## Comment 77

### **Impacts analysis is skewed**

Because the “route” in question is but a SMALL part of the Fargo to Benton County route that was granted a Certificate of Need, impacts are skewed. For example, river crossings are viewed through a microscope rather than a larger view showing all the impacts of the full transmission line, and full range of river crossings by this one connected project are not considered, i.e., crossings of Mississippi AND Red River, etc.. This skewing must be addressed.

Because the “route” in question is but a SMALL part of the Fargo to Benton County route that was granted a Certificate of Need, costs are skewed. Undergrounding part of the route, if considered as mitigation, would have a much higher percentage of cost than if the entire line were considered. Undergrounding a small part might increase costs by 25-30% of the full line, as opposed to only 5% if the cost of the entire project were considered. This skewing must be addressed in the EIS.

### **Impacts analysis is not sufficient**

Generally, the impacts analysis is not sufficient and impossible to compare the various alternatives.

- There is not sufficient quantification to compare impacts.
- Impacts are not sufficiently specific to identify.
- Impacts should individually be labeled as temporary and/or permanent and weighted accordingly.

## Comment 78

### **Cost information and analysis is insufficient**

The narrative text and tables, cost “matrix” in Appendix I, provides only estimated totals and no detail whatsoever.

- The chart provided does not give enough information to determine why one line would cost more than another, other than apparent length.
- Other considerations add to cost, for example, turning corners requires more robust structures and hence, higher cost. Structures capable of double circuiting are more expensive. Foundations in sandy soil or wetlands could require additional engineering

## Comment 78

and materials, and cost more. Structures for large spans must also be more robust and cost more. These considerations must be addressed, the cost estimates must be itemized, etc., in sufficient detail to compare costs of the various alternatives.

- Staff analysis of project costs must also include costs such as the cost of loss of Byway funding, costs of mitigation, etc.
- Costs of mitigation must be addressed up front to determine adequacy, if not, impacts may be left unmitigated and who will pick up the tab?
- RoW acquisition costs vary widely and should be addressed.
  - Routing up against RoW means cutting RoW acquisition costs almost in half where only 75 or so feet needs to be acquired.
  - Railroad RoW use is sometimes leased. Lease cost should be factored in.
  - Buy the Farm estimate should be included in cost.

## Comment 79

### **MnDOT concerns must be considered and weighted**

MnDOT has a Policy of Utility Accomodation and statutory restrictions on sharing of Rights of Way. In the Brookings CapX environmental review and routing, the MnDOT concerns are likely determinative in routing, the issues raised such as scenic easements and Right of Way sharing constricted the range of routing alternatives. These concerns should have been addressed earlier in the process so that only realistic routes would be reviewed. In the Brookings docket, the Preferred route contained a LeSueur crossing that given DOT comments, was clearly not realistic and much time was wasted on its review. Worse, the Belle Plaine route did not get adequate attention and there were no hearings in that area. DON'T MAKE THE SAME SERIOUS ERROR IN THIS DOCKET.

- Specifically identify areas where planned route is not feasible due to DOT considerations.
- Remove infeasible routes from consideration.

## Comment 80

### **Condcutor Blowout**

Conductor blowout is a factor in DOT corridor sharing that was not adequately addressed by applicants or the EIS in the Brookings docket. A birds-eye blowout diagram, such as the one provided in Poorkers Post Hearing packet should be included in the EIS. However, the birds-eye blowout diagram was inaccurately drawn and measurements were from the centerline, not the connecting point of the conductor, and this should be corrected.

## Comment 81

### **Ozone information**

The appendix contians information regarding ozone levels and a letter from the MPCA regarding Minnesota's potential status as an attainment area. This line, the St. Cloud to Monticello line, as part of the Antelope Valley-jamestown-Maple River (Fargo)-Alexandria-Benton Conty line of the CapX 2020 Vision, will enable increased emissions in North Dakota that will contribute significantly to the ozone levels in Minnesota. This ozone impact must be addressed.

## Comment 82

### Electromagnetic field – charts in EIS are way off

Electromagnetic fields are grossly underestimated in this EIS, as they were in the Brookings EIS. Table 5-62 presumes amperage levels that are so low as to be laughable – **the project won't even be operational by 2011**, yet this is the year chosen. Of course amps are low. This issue was raised in the Brookings line, and this EIS reflects the same error. **MOES SHOULD CONSIDER ITSELF ON NOTICE THAT THE AMPERAGE VALUES PROVIDED BY APPLICANTS REQUIRE INDEPENDENT VERIFICATION AND REVIEW AND THE MODELING MUST BE PERFORMED AGAIN.** See Attachment C and D, from the SW MN 345kV project and the Certificate of Need for CapX 2020. The lines are double circuited or single circuited 345kV 954kcmil ACSS twin-bundled conductor, with thermal limit amperage range from Attachment A's 1729-1745 amps (single circuit), or Attachment B's 3700 amps (double circuit). Accepting utility information without independent verification and independent calculation based on conductor specifications is insufficient and irresponsible.

- Recalculate magnetic field levels for thermal limit amperage range.
- Recalculate magnetic field levels for a year that the project will be operational, and five years out, i.e., 2014 and 2019.
- Revise charts to include both utility provide amperage and thermal limits range.

## Comment 83

### Noise

The noise section, §5.22, does not address substation noise with any specificity, nor does the application. In the Arrowhead transmission project, a 345kV line, the substation was found to have potential to be “annoying” and although levels were modeled and expected to be just under the MPCA guidelines, mitigation was ordered in the Exemption Order.

- Establish specifications for all substation equipment, including transformers, switching gear, etc.
- Perform noise modeling based on equipment specifications
- Include chart with substation noise modeling in the FEIS
- Address substation mitigation techniques, including but not limited to a contained building, walls, berms and evergreen plantings.

## Comment 84

### Substations

Section 3.3 of the DEIS addresses substation, but contains no information about design, whether either are enclosed or open, fenced, ringed with evergreens, nothing whatsoever. There is no drawing or computer simulation.

The EIS should contain:

- Substation physical description (not just description of equipment), line drawing, plot plan, and drawing showing completed substation including fence, building, trees, etc.
- As above, noise modeling
- Review of lighting plan

Comment 84

**Substation lighting**

Light can be regarded as pollution. Frequently substations are lit up like a spacestation or refinery. There is no information in the EIS about substation or other lighting for this project. The EIS must include a lighting plan and an analysis of lighting impacts.

Comment 85

**Property Values**

Where an EPRI report states that property values could be affected by up to 20%, that report should be taken with great weight. Section 5.2.2 - It is not reasonable to mae a blanket statement that there are no anticipated effects on property values.

The EIS should contain:

- A range of property devaluation scenarios
- Socioeconomic discussion should address impacts of devaluation to individual landowners
- Socioeconomic discussion should address impacts of devaluation to tax base of local governments
- Costs above should be addressed in the project cost section of the EIS.

Comment 86

**Impingement of future development**

A transmission line can be a barrier to development. The EIS should include:

- Examine the Comprehensive Plans of affected counties, cities and townships
- Identify areas within expansion zones of cities, using maps to show impacts.
- Address impacts on existing and planned development plans
- Address costs of impingement of future development and include in cost section of EIS

Comment 87

**Inadequate Notice of Intervention window and various avenues of participation**

MOES did not provide sufficient notice to affected parties and local units of government regarding the opportunity to Intervene and rights and responsibilities of Intervention.

Thank you for the opportunity to submit this Comment.

Very truly yours,



Carol A. Overland  
Legalelectric  
P.O. Box 176  
Red Wing, MN 55066  
(612) 227-8638 and (302) 834-3466  
[overland@legalelectric.org](mailto:overland@legalelectric.org)

**Enclosures:**

**Attachment A** – April 3, 2009, press release, showing extensions from ND connecting at Fargo and to WI

**Attachment B** – [Technical Report by CCI: Feasibility Study for 500 kV AC Underground PCables for Use in the Edmonton Region of Alberta](#) [Posted: February 24, 2010]

**Attachment C** – Line Specifications including ACSS 954kcmil ACSS Conductor – SW MN 345kV Docket 01-1958, Application, Exhibit 35, Appendix 7.

**Attachment D** – Line Specifications including ACSS 954kcmil ACSS Conductor, CapX Certificate of Need, Docet 06-1115, Exhibit 76-MCEA-IR3.

## Birkholz, David (COMM)

---

**From:** apache@web.lmic.state.mn.us  
**Sent:** Friday, February 26, 2010 2:45 PM  
**To:** Birkholz, David (COMM)  
**Subject:** Miller Fri Feb 26 14:45:27 2010 ET-2, E-002/TL-09-246

This public comment has been sent via the form at:  
[www.energyfacilities.puc.state.mn.us/publicComments.html](http://www.energyfacilities.puc.state.mn.us/publicComments.html)

You are receiving it because you are listed as the contact for this project.

Project Name: Monticello to St. Cloud 345 kV Transmission Project

Docket number: ET-2, E-002/TL-09-246

User Name: Chris Miller

County: Stearns County

City: Waite Park

Email: [info@mnmississippiriver.com](mailto:info@mnmississippiriver.com)

Phone: 651-341-4196

Impact: Mississippi River Parkway Commission of Minnesota

300 33rd Avenue South, Suite 101 \* Waite Park, Minnesota 56387

Phone: 651-341-4196 \* E-Mail: [info@MnMississippiRiver.com](mailto:info@MnMississippiRiver.com)

Members of the House: Sheldon Johnson (DFL -- 67B) -- Chair; Greg Davids (R -- 31B)  
Members of the Senate: David Senjem (R -- 29), Sandra Pappas (DFL -- 65) State Agency  
Appointees: Robin Kinney -- Agriculture, Frank Pafko -- Transportation, Don Frerichs --  
Explore Minnesota Tourism, Greg Murray -- Natural Resources, Open -- Historical Society  
Regional Appointees: Jack Frost -- Lake Itasca to Grand Rapids, John Schaubach -- Grand  
Rapids to Brainerd, Karl Samp -- Brainerd to Elk River, Paul Labovitz -- Elk River to  
Hastings, Sheronne Mulry -- Hastings to Iowa Border

Member at Large: Andrew Golfis

February 26, 2010

The Mississippi River Parkway Commission of Minnesota (MN-MRPC), byway organization for the Great River Road National Scenic Byway, wishes to submit the following information into public comment on the proposed CapX 2020 Monticello-St. Cloud route, PUC Docket No. ET2/TL-09-246.

### Comment 88

The MN-MRPC has submitted recommendations and comments on the proposed Monticello-St. Cloud route on three occasions: 1) Letter to Project Manager David Birkholz on 10/22/09; 2) Letter to William Glahn and Deborah Pile, MN Office of Energy Security, on 1/11/10; and 3) Comments and recommendations read and submitted by MN-MRPC Commissioner Karl Samp at the public meeting on the draft EIS, February 9, 2010.

## Comment 88

The communications listed above all identified concerns related to significant and damaging impact of the Preferred Route on the intrinsic qualities of the Great River Road National Scenic Byway.

Regarding the testimony provided by the Applicant on February 1, 2010, we disagree with certain statements made as noted below and provide our response and concerns.

## Comment 89

Testimony stated: The Preferred Route was selected because it impacts fewer homes, makes better use of existing rights-of-way, minimizes impacts to agricultural land uses, minimizes impacts to natural resources and archaeological sites and is shorter in length which reduces costs (p. 10, lines 2 -5). The Applicants have reviewed the proposals presented by the public and ATF during the EIS scoping process and do not believe any of the alternatives is a more prudent and reasonable alternative than the Preferred Route (p. 11, lines 4 -- 6).

MN-MRPC response: The Preferred Route has significant impact to natural, recreational and scenic resources along the Great River Road, primarily the rural landscape, the wooded right of way between I-94 and the Great River Road and the Mississippi River Trail (bicycle route) which contributed to the original placement of the byway. Other existing rights-of-way should be investigated including the area along TH 10/railroad corridor and existing utility line corridors on the east side of the Mississippi River.

## Comment 90

Testimony stated: But the future of federal funding for the National Scenic Byway projects is not clear (p. 29, lines 22 -- 23); In December 2009, Congress passed the Consolidated Appropriations Act, 2010, which generally appropriated funds for transportation, but no funds were earmarked for the National Scenic Byways program (p. 30, lines 2 -- 5).

MN-MRPC response: Solicitations for 2010 grants under the National Scenic Byways Program were announced in late January 2010. According to the America's Byways Resource Center, there is no plan to discontinue the funding program. The grant program has grown from \$10M in 1992 to \$40M in 2009. And grants are only one of the many benefits National Scenic Byway designation provides. The recent solicitation noted, "In selecting projects, the FHWA will consider projects that can demonstrate a value-added livability component. In recognition that livable communities are affected at the projects level, we invite projects that integrate corridor management planning with larger transportation and community planning efforts that will improve mobility within and among byway communities; increase access to jobs, health and social services, tourism and educational opportunities; and projects that improve mobility by providing alternatives to vehicular travel along byways that enhance the visitor experience." New high voltage power lines do not enhance the visitor experience, and would clearly negatively impact the byway traveler experience, visually, emotionally, spiritually and physically by transforming the landscape from an oak savanna lined rolling rural landscape to a clear cut barren utility corridor. In addition to designating this corridor the Great River Road National Scenic Byway, the State of Minnesota designated much of the area along the preferred alignment as a Wild, Scenic and Recreation River. Clearly the state has long held this to be a special stretch of the Mississippi River and as such should not allow it to be destroyed by transforming it into a high voltage transmission corridor. Of great concern is stray voltage as a possible source of direct harm to byway travelers, bicyclists, motorcyclists, and visitors to river amenities. Further tourism employment, currently on the rise in the Mississippi River corridor, can only be adversely impacted by the preferred alignment.

Com-  
ment  
91

## Comment 92

Testimony stated: Q. Does the 2000 study reference any resources directly adjacent to CSAH 75, or the scenic qualities of the roadway? A. Not specifically, no. In fact, the road

## Comment 92

appears to be described primarily as a conduit to provide access to the destination points of the Mississippi River and various communities along the route. In addition, at pages 5 -- 35, the DEIS confirms that motorists who see transmission lines from a roadway ordinarily experience low visual sensitivity to such utilities (p. 32, lines 2 -- 4).

MN-MRPC response: The vision of the National Scenic Byways Program is to create a distinctive collection of American ROADS, their stories and treasured places. The fact that the National Scenic Byways Program is administered by the Federal Highway Administration clearly demonstrates the importance of roadways to the existence of the program. The Mississippi River is of course a main focal point, but the actual roads form the byway, carry the byway traveler and provide a major visual experience. In fact the Great River Road is itself a contributor to the historic nature of the byway experience, established in 1938 to honor and make available to our citizens the great river of our Nation: the Mississippi River. The road is a recreational resource that courses 575 miles through 21 counties and 60 Minnesota Communities, each benefitting from the critical mass of Minnesota's collection of Mississippi River places. Each place, including the stretch from Monticello to St. Cloud is unique and offers special experiences that collectively comprise the Great River Road. This stretch is marketed as Scenic Mississippi, a reference to Minnesota designating much of it as a Wild, Scenic and Recreation River. Our recreational places are, in many ways, refuges from the other world we grind our way through. Why not improve both the world we work and live in as well as protect the landscapes in which we play? Or rather why permit it to be destroyed? Attractive places do not happen by accident. Choices and decisions are made on a daily basis that have influence on the visual appearance and character of our surroundings; ...our towns, our neighborhoods, our streets, our public lands, our byways: the places we all have pride in, the places we want to recreate in. The scenic character of our natural and built resources are more important now than ever. They are part of our national identity and this corridor is one of Minnesota's most visible opportunities to offer a positive curb appeal to visitors and residents. This corridor helps define America the Beautiful. As such the MN-MRPC requests a video visual impact simulation of the proposed lines and associated vegetation impacts from the vantage point of the both car traveler and bicyclists in motion along the Great River Road prior to further consideration of the preferred alignment.

Comment 93

## Comment 94

In summary: The Great River Road is one of the oldest, longest and most unique Scenic Byways in North America. It is nearly 3,000 miles long, starting here in Minnesota, the headwaters state. Minnesota has the longest stretch of Great River Road of any state -- 575 miles. It is a significant part of our state's history and future and must be preserved. The Great River Road was designated along the east side of the Mississippi in the Monticello to St. Cloud area for specific reasons, including avoidance of existing utility, highway and rail corridors. Placement of high voltage power lines along CSAH 75 is in direct conflict with the designation of the byway itself. We also have concern about affects of stray voltage on our byway travelers, including bicyclists. The MN-MRPC requests that a route along TH 10 be investigated, along with a route utilizing existing utility lines on the east side of the Mississippi River; in keeping with current non-proliferation statutes.

For the MN-MRPC,

Representative Sheldon Johnson

Chair

Mitigation: Other existing rights-of-way should be investigated including the area along TH 10/railroad corridor and existing utility line corridors on the east side of the Mississippi River.

The MN-MRPC requests a video visual impact simulation of the proposed lines and associated vegetation impacts from the vantage point of the both car traveler and bicyclists in motion along the Great River Road prior to further consideration of the preferred alignment.

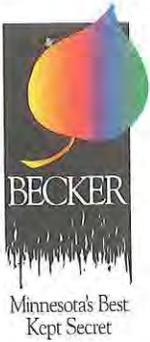
The MN-MRPC requests that a route along TH 10 be investigated, along with a route utilizing existing utility lines on the east side of the Mississippi River; in keeping with current non-proliferation statutes.

Submission date: Fri Feb 26 14:45:27 2010

This information has also been entered into a centralized database for future analysis.

For questions about the database or the functioning of this tool, contact:

Andrew Koebrick  
andrew.koebrick@state.mn.us



# CITY OF BECKER

12060 Sherburne Ave., P.O. Box 250 • Becker, Minnesota 55308-0250  
Phone: (763)261-4302 Fax: (763)261-4411 Metro: (763)262-4455 www.ci.becker.mn.us

February 16, 2010

Mr. David Birkholz  
Minnesota Office of Energy Security  
85 7<sup>th</sup> Place East, Suite 500  
St. Paul MN 55101-2198



Dear Mr. Birkholz:

Please accept this letter as the City of Becker's official comments and requests for action on the Draft Environmental Impact Statement for the proposed Monticello to St. Cloud 345kV Transmission Line.

## Comment 95

1. The DEIS Introduction states there was an advisory task force that "consisted of a 15 member committee which included five township officials, six city officials, two county officials, a program manager from the Federal Highway Administration (FHWA) and the Utilities Director from the Minnesota Department of Transportation (MnDOT)." What the DEIS fails to address is that the township, city and county officials only consist of representatives from Stearns and Wright Counties and cities and townships within those two counties.

Sherburne County, and the cities and townships within Sherburne County were never even notified of the Transmission Line, or the route along the Mississippi River through Sherburne County, much less invited to participate in a task force that ultimately located a route through its jurisdictions. In fact, even after the route (route D) was identified by the task force members, Sherburne County and its affected jurisdictions were never contacted by the Office of Energy Security and of the overall project or that there is a proposed route D running through our communities.

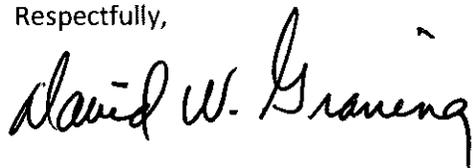
## Comment 96

2. There are existing 115 kV and 345 kV lines running through the City of Becker. From a safety and reliability standpoint it does not appear that concentrating those lines and a new 345 kV line in one location is the best option. Also, locating new transmission lines along existing transmission line routes would appear to increase the amount of electric and magnetic fields people around these high voltage lines would be exposed to. The DEIS does not address the cumulative exposure levels if new HVTL are located alongside existing transmission lines. We request these two issues be addressed within the DEIS.

- Comment 97** | 3. Natural Heritage Information System records identify 15 threatened or endangered species within one mile of Route D which is higher than any of the other proposed routes.
- Comment 98** | 4. Two segments of the proposed Route D are located within the City's Wild and Scenic River Overlay District. The south Mississippi River crossing is located within that zoning overlay district. The City has worked diligently to protect our Mississippi River resource. Because of the location of Xcel Energy's Monticello and Sherco generating plants we have one of the few areas of the river that are pristine and undeveloped. We ask that the DEIS recognize that all disturbances and impacts to the "Great River" itself negatively impact the "Great River Scenic Byway". If the Mississippi River's natural features and amenities are not protected there is nothing scenic for the byway to draw from.
- Comment 99** | 5. Section 5.10 states no additional visual impacts are anticipated where the proposed route will parallel the existing transmission line. The City questions and asks that the DEIS reevaluate this determination as the existing 115kV transmission lines are only 70 to 90 feet in height whereas the proposed 345kV transmission lines are stated to be almost twice that height at 130 to 175 feet.
- Comment 100** | 6. Section 5.5 of the DEIS addresses Land Based Economics but nowhere does the document address future economic impacts of the proposed Route D on the communities. Route D as proposed runs diagonally through land identified for future industrial development within the City (please see the attached City of Becker Land Use Map). This route location impacts future city road corridors and rail spur extension. The City asks that the DEIS incorporate the Land Based Economic impacts, both short term and long term, of Route D on our community and adjacent Becker Township.
- Comment 101** | 7. Section 5.7 states that there are no parks along Route D. Snuffy's Landing is a well used natural city park that has a DNR boat landing which is located directly abutting Route D. Please amend the DEIS to incorporate this park facility.

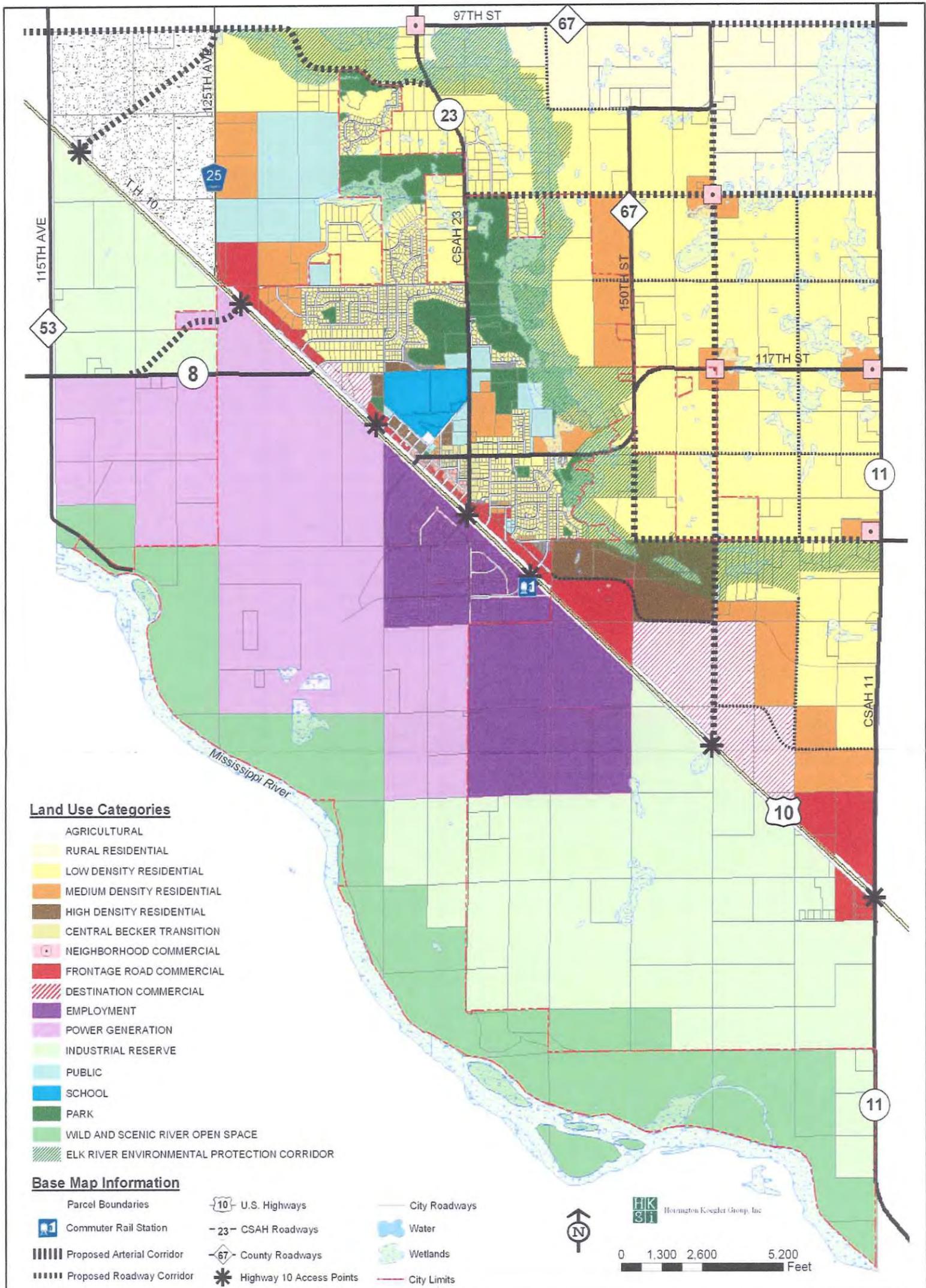
Please consider the above comments and requests for action from the Becker City Council as part of the DEIS public record.

Respectfully,



David Graning  
Mayor, City of Becker

Cc: Sherburne County Board of Commissioners  
Senator Lisa Fobbe  
Representative Mary Kiffmeyer



# City of Becker Comprehensive Plan

## Land Use Plan





## Becker Township

12165 Hancock Street  
Becker, MN 55308



February 22, 2010

Mr. David Birkholz  
Minnesota Office of Energy Security  
85 7<sup>th</sup> Place East, Suite 500  
St. Paul MN 55101-2198

Dear Mr. Birkholz:

Please accept this letter as the Town of Becker's official comments and requests for action on the Draft Environmental Impact Statement for the proposed Monticello to St. Cloud 345kV Transmission Line.

### Comment 102

1. The DEIS Introduction states there was an advisory task force that "consisted of a 15 member committee which included five township officials, six city officials, two county officials, a program manager from the Federal Highway Administration (FHWA) and the Utilities Director from the Minnesota Department of Transportation (MnDOT)." What the DEIS fails to address is that the township, city and county officials only consist of representatives from Stearns and Wright Counties and cities and townships within those two counties.

Sherburne County, and the townships and cities within Sherburne County were never even notified of the Transmission Line, or the route along the Mississippi River through Sherburne County, much less invited to participate in a task force that ultimately located a route through its jurisdictions. In fact, even after the route (route D) was identified by the task force members, Sherburne County and its affected jurisdictions were never contacted by the Office of Energy Security and of the overall project or that there is a proposed route D running through our communities.

### Comment 103

2. There are existing 115 kV and 345 kV lines running through Becker Township. From a safety and reliability standpoint it does not appear that concentrating those lines and a new 345 kV line in one location is the best option. Also, locating new transmission lines along existing transmission line routes would appear to increase the amount of electric and magnetic fields people around these high voltage lines would be exposed to. The DEIS does not address the cumulative exposure levels if new HVTL are located alongside existing transmission lines. We request these two issues be addressed within the DEIS.

### Comment 104

3. Natural Heritage Information System records identify 15 threatened or endangered species within one mile of Route D which is higher than any of the other proposed routes.

### Comment 105

Two segments of the proposed Route D are located within the Town's Recreational and Scenic River Overlay Districts. The County and Township have worked diligently to protect our

**Comment 105**

Mississippi River resource. Because of the location of Xcel Energy's Monticello and Sherco generating plants we have one of the few areas of the river that are pristine and undeveloped. We ask that the DEIS recognize that all disturbances and impacts to the "Great River" itself negatively impact the "Great River Scenic Byway". If the Mississippi River's natural features and amenities are not protected there is nothing scenic for the byway to draw from.

**Comment 106**

5. Section 5.10 states no additional visual impacts are anticipated where the proposed route will parallel the existing transmission line. The Township questions and asks that the DEIS reevaluate this determination as the existing 115kV transmission lines are only 70 to 90 feet in height whereas the proposed 345kV transmission lines are stated to be almost twice that height at 130 to 175 feet.

**Comment 107**

6. Section 5.5 of the DEIS addresses Land Based Economics but nowhere does the document address future economic impacts of the proposed Route D on the communities. Route D as proposed runs diagonally through land identified for future industrial development within the Township (please see the attached Becker Township Land Use Map). The Town asks that the DEIS incorporate the Land Based Economic impacts, both short term and long term, of Route D on our community and adjacent Becker Township.

**Comment 108**

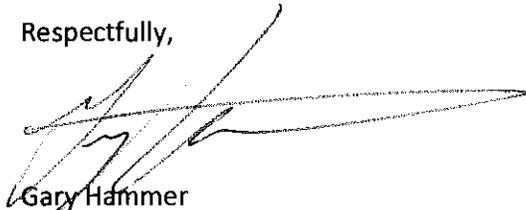
7. There is an existing farm homestead located immediately adjacent to the existing 115 kV line and directly underneath proposed 345 kV corridor. The house, farm buildings, and agricultural land of the farm would be severely impacted by the increased line voltage, height, and right of way width.

**Comment 109**

8. There is a large construction and demolition debris landfill, Vonco II, in Becker Township along 140<sup>th</sup> Avenue. The proposed Route D would impact the airspace of the landfill which would result in much less operating capacity. The cost for this impact does not appear to have been taken into consideration in the DEIS, please include this analysis in the final document.

Please consider the above comments and requests for action from the Becker Town Board as part of the DEIS public record.

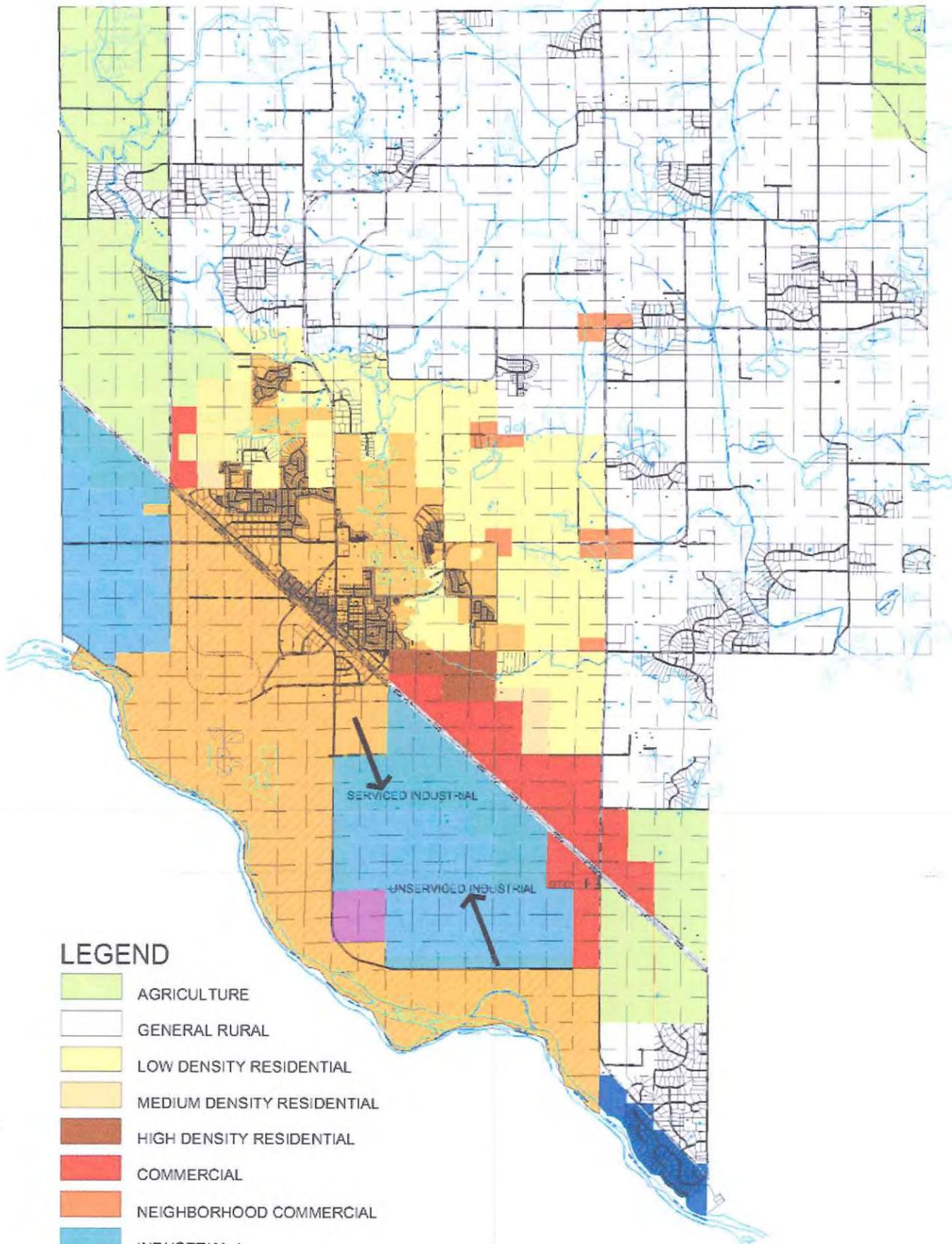
Respectfully,



Gary Hammer

Chair, Becker Town Board

Cc: Sherburne County Board of Commissioners  
Senator Lisa Fobbe  
Representative Mary Kiffmeyer



**LEGEND**

- AGRICULTURE
- GENERAL RURAL
- LOW DENSITY RESIDENTIAL
- MEDIUM DENSITY RESIDENTIAL
- HIGH DENSITY RESIDENTIAL
- COMMERCIAL
- NEIGHBORHOOD COMMERCIAL
- INDUSTRIAL 1
- INDUSTRIAL 2
- HEAVY INDUSTRIAL
- RECREATIONAL RIVER
- COUNTY PUBLIC WORKS
- BECKER CITY LIMITS
- EXCEL OWNERSHIP

BECKER TOWNSHIP  
COMPREHENSIVE PLAN

PROPOSED LAND USE PLAN

**BIKO ASSOCIATES**  
1217 N. ENJEUR'S HEAD  
 SUITE 102  
 WYOMING, WYOMING 83001-4587  
 307.433.9602 FAX  
 307.433.9603

0 2640 5280

12 SEP 2007 - F11-LUREV2

N
11



CLEAR LAKE TOWNSHIP  
P.O. BOX 305  
CLEAR LAKE, MN. 55319

David Birkholz  
Minnesota Office of Energy Security  
85 7<sup>th</sup> Place E, Suite 500  
St Paul, Minnesota 55101-2198

February 19, 2010

Dear Mr. Birkholz:

Comment 110

This letter contains comments from the Clear Lake Township regarding the proposed Monticello to St. Cloud 345 kV transmission line known as alternate route D. At our February 16<sup>th</sup> Township Board meeting the Board did pass a resolution opposing the placement of the transmission line on the east side of the Mississippi River. The following are the concerns of the Board.

Clear Lake Township is primarily a farming community which consists of crop farmers growing corn, soybeans and specialty crops such as potatoes, pinto beans, sweet corn, strawberries and blue berries. As this area has sandy soil the farmers use irrigation systems for watering the crops and can produce crops with yields that compare with the heavier soils. The township has continued to support the farmers through zoning laws that prevent housing developments from overtaking the crop producing acres. The proposed alternate D route for this transmission line goes directly through this farm land affecting 36 irrigation systems. There presently is a 115 kV transmission line running through this route which was installed in the 1950's and the farmers have designed the pivot irrigation systems to work around them. With another transmission line coming down this same route, pole settings will not align with the present pole settings and the irrigation systems will not be able to function. We are told that the proposed transmission line would require a 150 foot easement and with the 75 foot easement that is already in place for the 115 kV line there is no foreseeable way that the center pivot irrigation systems could operate. Without the water there would be no crops which would ultimately lead to farmers requesting changes in the zoning laws so as they could sell the land to housing developers. We believe this country cannot afford to continue to lose food producing acres.

Comment  
111

The alternate D transmission line would run on the easterly border and parallel to the Clear Lake Township Park which consists of 36 acres and it would run directly through the Sherburne County Park, known as Mississippi River Park, which is located in Clear Lake Township and consists of 63 acres. This alternate

Comment  
112

D route runs through the Wild and Scenic River District and the Natural Heritage Information Systems shows there are 15 different threatened or endangered species within one mile of route D.

The proposed route D would cross the Mississippi River at two locations which would not only have an affect on the Wild and Scenic River District through excavation for the pole settings, but would create added costs to the project. If the other proposed route were implemented there would be no river crossings.

Comment  
113

We as a township feel that as there presently is an 115kV transmission line running through this Township that placing new lines in this same vicinity may not be a good idea from both a homeland security perspective and/or as protection against natural events.

Comment  
114

We would like to bring attention to the fact that Clear Lake Township was never notified by either the State of Minnesota or by the power companies that a transmission line route was being considered in our township. This was learned through a newspaper article. We were not asked to participate on the Advisory Task Force which was established by the Mn. Office of Energy Security nor were we asked for any input in the discussions. None of the members of the Advisory Task Force are residents of Sherburne County.

We thank you for allowing us to provide our comments and hope you will give them strong consideration.

Sincerely

Jack Gallagher  
Board Chairman  
Clear Lake Township  
P.O. Box 305  
Clear Lake, Mn. 55319

# RINKE NOONAN

A T T O R N E Y S A T L A W

SUITE 300, US BANK PLAZA, P. O. BOX 1497  
1015 W. ST. GERMAIN STREET  
ST. CLOUD, MINNESOTA 56302-1497  
TELEPHONE 320-251-6700, FAX 320-656-3500  
EMAIL: MAIL@RNOON.COM  
WWW.RNOON.COM

February 26, 2010

Direct Dial 320-656-3512  
Email: [Dmeyers@Rnoon.com](mailto:Dmeyers@Rnoon.com)

David Birkholz  
OES Project Manager

**SENT VIA EMAIL ONLY TO DAVID.BIRKHOLZ@STATE.MN.US**

**Re: Monticello to St. Cloud 345 kV Transmission Line Project, Draft EIS**  
**Our Client: Haven Township, Sherburne County, Minnesota**  
**Our File No. 5097.060**

Dear Mr. Birkholz:

Comment 115

Attached and submitted as part of the comments on the Draft EIS is a copy of Haven Township Resolution No. 2010-02, dated February 22, 2010. Please include this Resolution as the official comment from Haven Township.

Please let me know if you have questions.

Yours very truly,



David J. Meyers  
DJM/mjr

Attachment

cc: Haven Township Board (via email - w/att.)

PFebruary 26, 2010:C2007 01 29  
F:\DATA\5097\060\Letters\Letter David Birkholz 02 26 2010.wpd mjr

RINKE, NOONAN, SMOLEY, DETER, COLOMBO, WIANT, VON KORFF & HOBBS, L.T.D.

D. Michael Noonan  
Kurt A. Deter<sup>1</sup>  
Barrett L. Colombo  
James L. Wiant  
Gerald W. Von Korff

Sharon G. Hobbs  
David J. Meyers<sup>1,2,6</sup>  
John J. Meuers  
Roger C. Justin<sup>3,4</sup>  
Igor S. Lenzner<sup>3</sup>

Gary R. Leistico<sup>4,5</sup>  
John C. Kolb  
Scott G. Hamak  
Pamela A. Steckman<sup>1</sup>  
Stefanie L. Brown

Tonya T. Hinkemeyer  
Ryan J. Hatton<sup>1,6</sup>  
Benjamin B. Bohnsack  
Tim A. Sime<sup>7</sup>  
Nicholas R. Delaney<sup>4</sup>

Adam A. Ripple  
Brodie L. Miller  
Andrew J. Steil<sup>1</sup>

1. Qualified neutral under Rule 114. 2. A Real Property Law Specialist certified by the Minnesota State Bar Association. 3. Admitted to practice law in Wisconsin.  
4. Admitted to practice law in North Dakota. 5. Admitted to practice law in South Dakota. 6. Sherburne County Examiner of Titles. 7. Admitted to practice law in Arizona. 8. Admitted to practice law in Iowa.

**HAVEN TOWNSHIP**  
**SHERBURNE COUNTY, MINNESOTA**  
**RESOLUTION NO. 2010-02**

At the Regular Town Board Meeting held on February 22, 2010, the Haven Town Board adopted the following Resolution:

1. The Haven Township Board has been informed that a Haven Township location is being proposed for an Xcel Energy power line, as part of the CapX2020 project, which includes a 345 Kv power line. The proposal is to construct the line from Fargo, ND to the Twin Cities area. The preferred route is to construct the line West of Interstate 94. Haven Township has learned that an Advisory Task Force has recommended that the power line be placed East of the Mississippi River in Haven Township, Sherburne County.

2. Properties in Haven Township already have a high voltage power line along County Road 8, and lines East to West across the Mississippi River. Haven Township understands that this existing power line is a major circuit to feed electricity to St. Cloud.

3. The proposed power line across the Mississippi River would not be consistent with the spirit of the Wild and Scenic nature of the Mississippi River. Haven Township has consistently acted to protect the Wild and Scenic characteristics of the River.

4. Haven recognizes the need for additional power lines. At the same time, Haven Township believes that constructing additional lines in Haven Township along the current power lines places the security of the electrical grid at risk. If the poles and lines in Haven Township suffer from a catastrophe, such as a tornado or other sudden event, there would be a major loss of electrical power to St. Cloud and other areas. Just as it is improvident to concentrate rail lines, roads or other infrastructure on a single route, electric power should also have independent routes to protect against a sudden catastrophe.

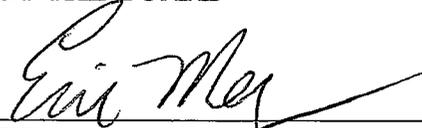
5. Placing the line in Haven Township would additionally and unfairly burden property owners in Haven and Clear Lake Townships, Sherburne County. Placing additional burdens on these properties, with the apparent sole reason of avoiding power lines on other properties in other counties, is fundamentally unfair.

**THEREFORE**, Haven Township requests that the CapX2020 power line not be sighted in Haven Township or Sherburne County. Haven Township resolves to continue to protect the Wild and Scenic Mississippi River Corridor. Haven Township believes that energy security requires a different sighting for this power line, which should be far away from the existing power lines in Haven Township. Haven Township believes that its citizens have borne a major burden with the existing power lines, and it would be fundamentally unfair to add to those burdens for the sole purpose of keeping a power line burden off of other land.

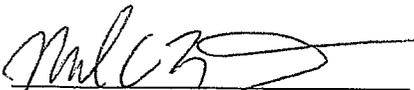
**THEREFORE**, Haven Township resolves to oppose any sighting of additional power lines in Haven Township.

Dated: February 22, 2010

BY THE BOARD

  
Eric Meyer, Town Board Chair

Attest:

  
Michael Zniewski, Town Clerk





# WRIGHT COUNTY DEPARTMENT OF HIGHWAYS

Wright County Public Works Building  
1901 Highway 25 North  
Buffalo, Minnesota 55313

Jct. T.H. 25 and C.R. 138  
Telephone: (763) 682-7383  
FAX: (763) 682-7313

February 25, 2010

WAYNE A. FINGALSON, P.E.  
Highway Engineer  
(763) 682-7388

VIRGIL G. HAWKINS, P.E.  
Assistant Highway Engineer  
(763) 682-7387

MARK JOHNSON  
Right of Way Agent  
(763) 682-7386

Mr. David Birkholz, Project Manager  
Energy Facility Permitting  
Minnesota Office of Energy Security  
85 – 7<sup>th</sup> Place East, Suite 500  
St. Paul, MN 55101-2198

**RE: CapX2020 Draft Environmental Impact Statement Comments**

Dear Mr. Birkholz:

Comment 116

We are writing to you because we have concerns over the routes being considered for the proposed Monticello to St. Cloud 345 kV Transmission Line.

Specifically, we are concerned about potential impacts to the Wright County Highway System, as some of the routes being considered would either be located along or cross several of the Wright County Highway right-of-way. We offer the following comments:

1. Right-of-Way permitting would be needed for any crossings of Wright County Highway right-of-way, or locations that there would be any airspace overhang within the County Highway right-of-way.
2. We are concerned about potential pole locations. The pole locations should be located sufficiently far enough away from existing Highways to accommodate future highway improvements/expansion, such as a potential future interchange at Orchard Road in Monticello.
3. The abandoned railroad bed, between the Cities of Clearwater and Monticello, has been discussed as a potential future route for the recreational trail systems of the two cities. Consideration should be made to avoid any impacts to this potential future recreational facility.

Comment 117

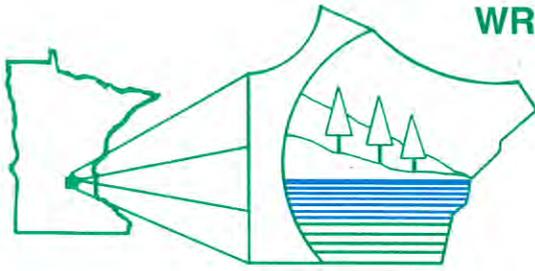
We trust that these review comments will be helpful to you, and please call me if you have any questions regarding these comments.

Sincerely,

Virgil G. Hawkins, P.E.  
Assistant County Engineer

cc: Wayne Fingalson, County Engineer  
Wright County Commissioners  
Jeff O'Neill, City of Monticello  
Jennifer Wothe, City of Clearwater





## WRIGHT SOIL AND WATER CONSERVATION DISTRICT

311 Brighton Ave. S., Suite C  
Buffalo, Minnesota 55313  
Telephone (763) 682-1933  
(763) 682-1970  
Fax (763) 682-0262

February 24, 2010

Rose Thelen  
Wright County Commissioner District 1  
10 NW Second Street  
Buffalo, MN 55313

**RE: Monticello to St. Cloud 345 kV Transmission Line Draft Environmental Impact Statement (EIS)**

### Comment 118

Dear Rose,

The Wright Soil and Water Conservation District (SWCD) has reviewed the EIS, proposed alternate routes, and comments in regards to this matter. Given the approaching deadline to submit comments in regards to the EIS the District encourages and supports the content of this letter to be incorporated with comments submitted for Wright County.

In regards to the land disturbing activity where the poles will be installed in the ground the District believes it may be of value to observe the topography of the northern part of the Wright County. The topography in these areas can visibly be seen as rolling hills. Placement of poles on these hillsides may require additional grading and excavation which increases the 55 sq ft impact being proposed in the EIS.

Impacts of introducing a transmission line into previously undisturbed areas should be addressed. Proposed alternate routes show extensive transmission line placement from the I-94 corridor. This action would severely impact areas where mature resources and wildlife have been established for centuries. Following previously constructed or impacted transmission lines, highway corridors, or railroad beds would reduce these impacts on pristine areas in Wright County.

As displayed throughout the EIS, routing the transmission line through Wright County versus Route D would cause increased impacts to the following:

1. Agricultural Land
2. Aquatic Environments
3. Archeological Sites
4. Higher Percentage of Prime Farmland
5. Municipal and Residential Land
6. Parks
7. Special Protection Agriculture Land
8. Trails
9. Woodland

## Comment 118

The permit and approval for Wetland Conservation Act (WCA) would come from the Local Government Unit (LGU) not the Board of Water Soil Resources (BWSR). The LGU for Wright County regarding proposed impacts for wetland exemptions or replacement plans would be the Wright Soil and Water Conservation District (SWCD).

The content and concerns of this letter may be utilized under your jurisdiction to express environmental concerns for Wright County. Thank you for addressing our comments and concerns if you have any questions please feel free to contact myself or the District.

Kind Regards,



Brian Sanoski  
Resource Conservationist/Urban Specialist

Rose Thelen  
15510 Huber Ave. NW  
Clearwater, MN 55320

## Fax

**To: David Birkholz**

**From:** Rose Thelen

**Fax:**

**Pages:** 4

**Phone:**

**Date:** February 27, 2010

**Re: DEIS Comment St. Cloud to Monticello**

**cc:**

Hi David

I realize it may be too late to submit this corrected version of the Wright County Soil and Water comments that I sent to you yesterday, but thought I would give it a try.

They emailed me two versions, the first of which I saved on my laptop. I failed to save the final corrected version on my laptop, though it was still in my email box.

When I re-read it last night I realized my mistake. It is a small mistake but the first draft didn't make any sense without the correction.

So the corrected sentence is the first one in the fourth paragraph. It should read:

"As displayed throughout the EIS, routing the transmission line through Wright County versus Route D would cause increased impacts as follows." If you compare it to that sentence in the version I faxed yesterday you can see that the draft version doesn't make any sense.

I am hoping I can make a case for you using this one instead of the other one because I got the comments in on time, just the wrong version.

So am faxing it to you. Along with the email from the author.

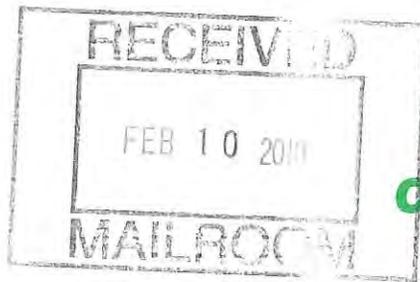
I will also forward you the email from him, so that you can see that he did have it to me on time and that it's a pdf, file which I can't doctor. Hoping this makes it legitimate in terms of submission.

Let me know what you think...you can respond to my email.

Thanks,

Rose Thelen





**Sherburne County  
BOARD OF  
COMMISSIONERS**



February 9, 2010

*13880 Highway 10 West  
13880 Business Center Drive  
Elk River, MN 55330-4601*

*(763) 241-2701 ☐ 1-800-433-5229*

*(763) 241-2707 Fax (Within Minnesota)*

*Website: www.co.sherburne.mn.us*

MN Office of Energy Security  
85 – 7<sup>th</sup> Place East, Suite 500  
St Paul, MN 55101-2198  
Attn: David Birkholz

RE: EIS Comments regarding the Monticello to St Cloud 345 kV Transmission Line

Dear Mr. Birkholz,

This letter contains the Sherburne County Board of Commissioner's comments on the Draft Environmental Impact Statement for the proposed Monticello to St. Cloud 345kV Transmission Line. Sherburne County has a number of concerns that are listed below.

**Comment  
119**

1. Sherburne County representatives were never invited to participate or notified that multiple sites were now proposed to be located in Sherburne County. The notice that the County originally received showed only that the proposed locations of the transmission line were in Wright and Stearns County. The Advisory Task Force (ATF) established by the MN Office of Energy Security did not include any representation from Sherburne County. The ATF made the recommendation that the alternative location along the Mississippi River be placed in Sherburne County.

**Comment  
120**

2. Sherburne County was never notified of the Draft EIS and only found out about the proposed project through an affected landowner. If a transmission line is proposed to be located within Sherburne County, it would seem that the local government should be notified early in the discussions to ensure all concerned entities are included in the discussion.

**Comment  
121**

3. There is an existing 115 kV transmission line already located in Sherburne County. Placing new lines in the same vicinity may not be a good idea both from a homeland security perspective and/or as a protection against natural events.

**Comment  
122**

4. As proposed there would be 36 irrigators impacted in Sherburne County. Sherburne County soils have a much higher sand concentration than Stearns and Wright County. This requires many of the farm fields to be irrigated to ensure adequate crop production. Once the irrigators are moved the property is less productive as farmland and their only option may be to create housing developments. What is the anticipated cost to the farmers if they are unable to irrigate their fields? Has this cost been included in the overall project cost?

**District 1**  
LARRY FARBER  
19404 Norfolk St. NW  
Elk River, MN 55330  
(763) 913-8809

**District 2**  
EWALD PETERSEN  
18040 Hwy. 10  
Big Lake, MN 55309  
(763) 263-3078

**District 3**  
JOHN RIEBEL  
18866 - 75th Street  
Becker, MN 55308  
(763) 263-2056

**District 4**  
FELIX SCHMIESING  
5612 - 115th Avenue  
Clear Lake, MN 55319  
(320) 743-2441

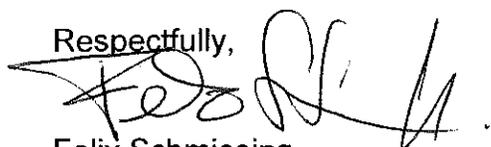
**District 5**  
RACHEL LEONARD  
27655 - 112th Street  
Zimmerman, MN 55398  
(763) 856-2497

- Comment 123 | 5. Natural Heritage Information System records show 15 different threatened or endangered species within one mile of Route D. This is higher than each of the other proposed routes.
- Comment 124 | 6. The projected cost of Route D is \$6,000,000 more than the applicant's preferred route. In the current economic times, it would seem in the public's best interest to be fiscally conservative in spending money.
- Comment 125 | 7. Proposed location in Scenic River District. Sherburne County has been proactive in protecting this river corridor since adopting the Wild & Scenic River Ordinance in 1979. The County has spent considerable time and resources protecting the Mississippi River through limited development and enforcement of our existing ordinances. As listed in Table 5-9. Wooded Areas Within Routes – Sherburne County would have the greatest number of wooded areas (292 acres) impacted. This is an additional 137 acres wooded area impacted over the applicant's preferred route.
- Comment 126 | 8. The proposed transmission line would cross the Mississippi River twice if route D is chosen. This will require footings potentially to be placed in the Mississippi River and excavation within the Wild and Scenic River District. The other proposed route would not require any river crossing.
- Comment 127 | 9. Table 5-4. Zoning Within each Route (Acres) - The table is incomplete. Wild and Scenic River District is a zoning designation in Sherburne County and should have been listed in this chart and evaluated for impact to the district.
- Comment 128 | 10. In Appendix I of the Draft Environmental Impact Statement – Effects on the Natural Environment, it does not appear that the different routes are being compared equally. It appears the Applicant's Preferred Route and Routes A – C refer to impacted acres of Wild and Scenic River District, but when discussing Route D in Sherburne County it refers to acres affected. It appears that either way a great deal more Scenic River District is being negatively affected in Sherburne County than on the other proposed routes.
- Comment 129 | 11. 5.7 Parks (City, County, State, and Federal) – This section states on page 5-47 that there are no parks along Route D. This statement is incorrect. There are three (3) parks located along the proposed transmission line route. Sherburne County has a park located along the west side of County Road 8 in Section 5 of Clear Lake Township, consisting of 63 acres known as West Mississippi River Park. This Regional Park was purchased with assistance from the MN Department of Natural Resources. The proposed transmission line would run directly through the existing park.
- Clear Lake Township also has a 36 acre park known as Riverwood Park that directly abuts the proposed transmission line. The park is located in Section 30 of Clear Lake Township. There is also a park known as Snuffy's Landing that consists of 30 acres in sections 2 and 35 in the City of Becker. This park includes a boat landing on the Mississippi River. It is located approximately 1,000 ft from the transmission line easement area.

- Comment 130
12. 5.10 (Scenic & Recreational Waterways) – This section states no additional visual impacts are anticipated where the proposed route will parallel the existing transmission line. However, Sherburne County questions this determination. The existing transmission line is 70 – 90 ft in height. The height of the proposed structure would be 130 – 175 ft. A visual impact could logically be expected from this increase. It is anticipated that the utility may place marker balls on the transmission line for safety purposes. This would be an additional visual impact.
- Comment 131
13. Table 5-29 (Average Daily Traffic for Selected Roads Parallel to Route D) The table does not include numbers or acknowledgement that County State Aid Highway 8 runs parallel and adjacent to the majority of the proposed route. No cross streets are identified as they are in the other proposed route tables. County Roads that are to be crossed with this proposed line include #53, #57 and a number of township roads. Minnesota State Highway 24 is also not shown in the table. This information all should have been included in the Draft EIS to ensure equal comparison amongst the different options.
- Comment 132
14. In sections 17 and 18 of Becker Township there is a large existing permitted Construction and Demolition Landfill. If proposed Route D is chosen this will impact the airspace of the landfill, resulting in considerably less capacity for this operation. Was this considered in the cost analysis for Route D?
- Comment 133
15. 6.0 Permits and Approvals, Table 6-1 (Potential Permits and Approvals) It is shown that Wetland Conservation Act approvals are under the jurisdiction of Board of Water and Soil Resources. The jurisdiction of the Wetland Conservation Act lies with Sherburne County. All applications for wetland exemptions or replacement plans would need to be made with the Sherburne County Zoning Department.

Please consider Sherburne County's comments as part of the public record.

Respectfully,



Felix Schmiesing  
Sherburne County Board Chairperson

Cc: Haven Township  
Clear Lake Township  
Becker Township  
City of Becker  
City of Clear Lake  
Senator Lisa Fobbe  
Senator Tarryl Clark  
Representative Mary Kiffmeyer  
Representative Larry Haws





## Minnesota Department of Transportation

395 John Ireland Boulevard  
Mail Stop 130  
Saint Paul, MN 55155-1899

Phone: (651) 366-4791  
Fax: (651) 284-0592  
[Dave.Sevkora@state.mn.us](mailto:Dave.Sevkora@state.mn.us)

February 26, 2010

David Birkholz  
Office of Energy Security  
Minnesota Department of Commerce  
85 7th Place East, Suite 500  
St. Paul, MN 55101-2198

Re: CapX 2020 Monticello – St. Cloud Transmission Line Project  
PUC Docket No. ET2/TL-09-246  
OAH Docket No. 15-2500-20665-2

Dear Mr. Birkholz:

On January 11, 2010, the Minnesota Office of Energy Security (OES) issued a Notice of Availability of Draft Environmental Impact Statement and request for public comments on the Draft Environmental Impact Statement (DEIS) relating to the route permit application by CapX2020 for a 345 kV transmission line from Monticello to St. Cloud, Minnesota. The Minnesota Department of Transportation (Mn/DOT) has reviewed the DEIS regarding the proposed transmission line project and submits the following comments in response to the Notice.

Both the preferred and alternate routes evaluated in the DEIS have a number of locations that either cross or run parallel to highways that are part of the state trunk highway system and the National Highway System. Due to the significant magnitude of the impacts on these highways, the enclosed comments provide the background on Mn/DOT's Utility Accommodation Policy. Mn/DOT's policy seeks to permit utilities to occupy portions of the highway rights-of-way where such occupation does not put the safety of the traveling public or highway workers at risk or unduly impair the public's investment in the transportation system. The enclosed comments also provide input on specific impacts associated with the proposed project discussed in the DEIS.

Mn/DOT appreciates the opportunity to comment and commends the applicants and OES for their communication efforts throughout this process. Mn/DOT wishes to participate in the development of the EIS so that it will contain a thorough evaluation of the effects various route proposals may have on the state transportation system. Mn/DOT's fundamental interest is to ensure that the EIS identifies and quantifies, to the extent possible, any impacts the proposed high voltage transmission line (HVTL) may have on the safety of the transportation system, the effectiveness of the operations or maintenance of the state trunk highway system, and any additional costs that may be imposed on the state trunk highway fund as a result of the location of the proposed HVTL.

Mn/DOT has adopted a formal policy and procedures for accommodation of utilities on the highway rights-of-way ("Utility Accommodation Policy"). A copy of Mn/DOT's policy can be

found at <http://www.dot.state.mn.us/utility/files/pdf/appendix-b.pdf> . The policy is also attached to the CapX2020 Application in Appendix I.

Mn/DOT's approach to the high voltage transmission lines ("HVTL") involved in the CapX2020 proposals is to work to accommodate these HVTLs within or as near as feasible to the trunk highway rights of way, based on an evaluation of the specific locations to ensure that appropriate clearance is maintained to preserve the safety of the traveling public and highway workers and the effective operation of the highway system now and in the foreseeable future. Mn/DOT's Utility Accommodation Policy seeks to guide the balance between accommodation of utility operations in the highway rights-of-way and preserving the safe and efficient operation of the transportation system.

The provisions of the Utility Accommodation Policy are based on the framework of several interrelated state and federal laws that led to its creation. These comments will outline the legal and regulatory structure under which the Policy was adopted, and will then discuss the types of circumstances and concerns that must be considered when applying the Utility Accommodation Policy to a specific situation as Mn/DOT works to accommodate a utility in a highway right-of-way while preserving the safe and efficient operation of the highway. The comments will provide as much specific information as is possible at this time on locations where the HVTL routes proposed by CapX2020 in this application either cross or run parallel to the trunk highway system. Finally, these comments will discuss a few specific portions of the DEIS.

### This section summarized in comment 134

#### **I. Legal Framework Applicable to Mn/DOT's Utility Accommodation Policy**

Mn/DOT's policy regarding accommodation of utilities is governed by both federal and state statutes and regulations. These comments will first describe the primary federal laws and then the state laws

##### **A. Applicable Federal Laws**

Certain highways in Minnesota are part of the National Highway System, which is established under 23 U.S.C. §103. The National Highway System and the Dwight D Eisenhower National System of Interstate and Defense Highways (Interstate System) are together known as the Federal-aid System. 23 U.S.C. §103(a). See also 23 CFR Part 470. In addition to the highways on the National Highway System, other highways also receive federal funding. Together, the highways in the National Highway System, the Interstate System, plus the other highways that receive federal funding are known as "Federal-aid highways." 23 CFR §470.103. The Federal-aid highways in Minnesota that are impacted by the Monticello – St. Cloud CapX2020 route proposal that would run parallel to the highway include I-94, MN 23, MN 24, and MN 15. The Federal-aid highways that would be crossed by the route proposals include I-94, MN 24, MN 15, and MN 23.

Congress articulated the transportation policy of the United States in 23 U.S.C. §101(b). Among other things, Congress noted that "it is in the national interest to preserve and enhance the surface transportation system to meet the needs of the United States for the 21st Century," that "the current urban and long distance personal travel and freight movement demands have surpassed the original forecasts and travel demand patterns are expected to continue to change," and that "special emphasis should be devoted to providing safe and efficient access

for the type and size of commercial and military vehicles that access designated National Highway System intermodal freight terminals." 23 U.S.C. §101(b)(3)(A), (B) and (E).

Federal law requires that "The real property interest acquired for all Federal-aid projects . . . shall be adequate for the construction, operation, and maintenance of the resulting facility and for the protection of both the facility and the traveling public." 23 C.F.R. §710.201(e). In addition, all real property that is part of the Federal-aid highway system must be devoted exclusively to highway purposes unless an alternative use is permitted by federal regulation or the Federal Highway Administration ("FHWA"). This basic proposition is stated in 23 C.F.R. §710.403, which provides:

"(a) The [State Transportation Department] must assure that all real property within the boundaries of a federally-aided facility is devoted exclusively to the purposes of that facility and is preserved free of all other public or private alternative uses, unless such alternative uses are permitted by Federal regulation or the FHWA. An alternative use must be consistent with the continued operation, maintenance, and safety of the facility, and such use shall not result in the exposure of the facility's users or others to hazards."

Similarly, 23 C.F.R §1.23 restricts use of the highway right-of-way unless otherwise permitted. This section provides:

"(a) Interest to be acquired. The State shall acquire rights-of-way of such nature and extent as are adequate for the construction, operation and maintenance of a project.

(b) Use for highway purposes. Except as provided under paragraph (c) of this section, all real property, including air space, within the right-of-way boundaries of a project shall be devoted exclusively to public highway purposes. No project shall be accepted as complete until this requirement has been satisfied. The State highway department shall be responsible for preserving such right-of-way free of all public and private installations, facilities or encroachments, except (1) those approved under paragraph (c) of this section; (2) those which the Administrator approves as constituting a part of a highway or as necessary for its operation, use or maintenance for public highway purposes and (3) informational sites established and maintained in accordance with Sec. 1.35 of the regulations in this part.

(c) Other use or occupancy. Subject to 23 U.S.C. 111, the temporary or permanent occupancy or use of right-of-way, including air space, for nonhighway purposes and the reservation of subsurface mineral rights within the boundaries of the rights-of-way of Federal-aid highways, may be approved by the Administrator, if he determines that such occupancy, use or reservation is in the public interest and will not impair the highway or interfere with the free and safe flow of traffic thereon."

(Emphasis added.)

Federal law recognizes accommodating the placement of utility facilities as a permissible exception to the general mandate that all of a highway right-of-way, including the air space above the right-of-way, must be used solely for highway purposes. Section 109(l) of Title 23 of the U. S. Code provides:

"(1) In determining whether any right-of-way on any Federal-aid highway should be used for accommodating any utility facility, the Secretary shall—

- (A) first ascertain the effect such use will have on highway and traffic safety, since in no case shall any use be authorized or otherwise permitted, under this or any other provision of law, which would adversely affect safety;
- (B) evaluate the direct and indirect environmental and economic effects of any loss of productive agricultural land or any impairment of the productivity of any agricultural land which would result from the disapproval of the use of such right-of-way for the accommodation of such utility facility; and
- (C) consider such environmental and economic effects together with any interference with or impairment of the use of the highway in such right-of-way which would result from the use of such right-of-way for the accommodation of such utility facility. “

The U.S. DOT has implemented this statutory directive by adopting the rules relating to accommodation of utilities found at 23 C.F.R. Part 645, Subpart B. These regulations require that each state transportation department submit its policies for accommodating utilities within highway rights of way to the FHWA. 23 C.F.R §645.215(a). See also 23 C.F.R §645.209(c). The FHWA will approve the policy upon determination that it is consistent with federal statutes and regulations, and any changes to the policy are also subject to FHWA approval. 23 C.F.R §645.215(b) and (c). Once a state's policy has been approved by the FHWA, the state transportation department can approve requests by a utility to use or occupy part of the right-of-way of a highway that is part of the Federal-aid highway system if the request is encompassed by that policy. Exceptions to the policy can be granted, but if a state proposes to grant to a utility an exception to its utility accommodation policy, the exception is subject to review and approval by the FHWA. 23 C.F.R § 645.215(d). This may be considered a federal action which would need to meet all requirements of the National Environmental Policy Act (NEPA), 42 U.S.C. §4321 et seq., to be in conformance with federal regulations.

## **B. Applicable Minnesota Laws**

In addition to these federal laws, Mn/DOT's policy on utility accommodation must also conform to laws of the State of Minnesota. Article 14 of the Minnesota Constitution establishes the state trunk highway system. It also establishes “a trunk highway fund which shall be used solely for the purposes [of constructing, improving and maintaining the trunk highway system].” Minn. Const. Art. 14, §5. Under Minn. Stat. §161.20, the Commissioner of the Department of Transportation is charged with the responsibility to carry out the directive of Article 14 to construct, improve and maintain the trunk highway system, subject to the directive that trunk highway funds may be used only for trunk highway purposes. All of the Federal-aid highways identified above as impacted by the Monticello – St. Cloud CapX2020 proposal are part of the trunk highway system.

Minnesota has several statutes relating to use of highway rights-of-way by utilities. Minn. Stat. §222.37, Subd. 1, provides in part:

“Any . . . power company . . . may use public roads for the purpose of constructing, using, operating, and maintaining lines . . . for their business, but such lines shall be so located as in no way to interfere with the safety and convenience of ordinary travel along or over the same; and in the construction and maintenance of such line . . . the company shall be subject to all reasonable regulations imposed by the governing body of any county, town or city in which such public road may be.”

Minn. Stat. § 161.45 provides additional obligations for utility facilities occupying portions of a trunk highway right-of-way. Section 161.45, Subd. 1 provides in part:

“Electric transmission . . . lines . . . which, under the laws of this state or the ordinance of any city, may be constructed, placed or maintained across or along any trunk highway . . . may be so maintained or hereafter constructed only in accordance with such rules as may be prescribed by the commissioner who shall have power to prescribe and enforce reasonable rules with reference to the placing and maintaining along, across, or in any such trunk highway of any of the utilities hereinbefore set forth.”

Subdivision 2 of §161.45 specifies the general rule that if the relocation of a utility placed in a trunk highway right-of-way is necessitated by a construction project on the trunk highway, the utility bears the costs associated with the relocation of its facility. However, if a utility facility is located on the Interstate System, then the cost of relocation of such facility is to be paid out of the state Trunk Highway Fund. See Minn. Stat. § 161.46.

Minnesota Rules part 8810.3100 through 8810.3600 contain rules relating to placement of utility facilities in trunk highway rights of way. Under part 8810.3300, a utility must obtain a permit for any construction or maintenance work in a trunk highway right-of-way, and special rules apply to Interstate System highways. Part 8810.3300, Subp. 4 provides in part as follows:

“Utilities along the interstate highways shall be located outside the control-of-access lines except as outlined below. Where the control-of-access lines coincide with the right-of-way lines, the utilities shall generally be located on private property. Where the control-of-access lines and right-of-way lines do not coincide, utilities may in general be located in the area between them. All utilities shall be serviced and maintained without access from the ramps, loops, and through traffic roadbeds. Utilities may be serviced from frontage roads and roads other than another interstate highway which cross either over or under the interstate highway. At aerial crossings of an interstate highway, supporting poles may be located on interstate highway right-of-way if they are a minimum of 30 feet beyond the shoulders of all through traffic roadbeds; however, in no event shall they be located in a median unless its width is 80 feet or more. . . .

There may be extreme cases where, under strictly controlled conditions, a utility may be permitted inside the control-of-access lines along an interstate highway. In each case there must be a showing that any other utility location is extremely difficult and unreasonably costly to the utility consumer, that the installation on the right-of-way of the interstate highway will not adversely affect the design, construction, stability, traffic safety, or operation of the interstate highway and that the utility can be serviced without access from through traffic roadbeds, loops, or ramps.”

In addition, Subp. 6 of part 8810.3300 requires that, except for the negligent acts of the state, its agents and employees, the utility shall assume all liability for and save the state harmless from any and all claims arising out of the utility's work and occupation of a portion of the trunk highway right-of-way.

### **C. Mn/DOT's Utility Accommodation Policy**

Mn/DOT has adopted a policy statement regarding the circumstances and methods under which it will grant permits to utilities to occupy a portion of a trunk highway right-of-way. Mn/DOT's Utility Accommodation Policy is in conformance with the federal and state statutes and regulations described above, and is also consistent with the American Association of State

Highway and Transportation Officials (AASHTO) publications, A Guide for Accommodating Utilities Within Highway Right-of-Way and A Policy on the Accommodation of Utilities Within Freeway Right-of-Way. Mn/DOT's Utility Accommodation Policy has been reviewed and approved by FHWA under 23 CFR §645.215(b). Therefore, with respect to Federal-aid highways, further review and approval by the FHWA is required for Mn/DOT to grant an exception to the general application of the Policy, but FHWA review and approval is not necessary for permits granted within the scope of the Policy.

Mn/DOT's Utility Accommodation Policy recognizes that it is in the public interest for utility facilities to be accommodated on highway rights-of-way when such use does not interfere with the flow of traffic and safe operation of vehicles or otherwise conflict with applicable laws or impair the function of the highway. The Policy applies to all utilities, both public and private. Therefore it speaks in somewhat generic terms to cover as many anticipated situations as possible.

The Policy was developed with integrated sections, and two or more sections usually need to be read together when applying the Policy to the context of a utility accommodation circumstance. Some of the provisions most relevant to the CapX2020 route applications include:

- Part I.F – articulates the general policy of accommodation of utilities;
- Part I.G – contains provisions for granting exceptions to the Policy;
- Part V – addresses the location requirements for utilities occupying a portion of a highway right-of-way that apply to most highways;
- Part VI – contains special rules for utility accommodation requests along freeways;
- Part X – contains specific requirements relating to overhead power and communication lines.

Mn/DOT is expressly required by 23 CFR §645.209(c) to include in its Utility Accommodation Policy some provisions that apply specifically to freeways. Freeways are characterized by the fact that they are subject to full control of access – i.e., preference is given to through traffic by restricting areas where any person, including vehicles that use the highway, may enter or leave the freeway. By implementing full control of access, through traffic can safely achieve higher speeds and encounter fewer stoppages or slowdowns of the flow of traffic. On freeways, all crossings at grade are prohibited, and fencing is installed along the right-of-way to prevent other persons (including snowmobilers, bicyclists, walkers, etc.) or animals from entering the freeway right-of-way. Freeways also require special design considerations, such as the wider clear zones adjacent to the roadway due to the higher speeds achieved by through traffic on freeways.

The control of access aspect of freeways is a key consideration underlying the special rules regarding utility accommodation requests on freeways. The Utility Accommodation Policy states: "The installation of new utility facilities shall not be allowed longitudinally within the right of way of any freeway, except in special cases under strictly controlled conditions." Under Utility Accommodation Policy, Section VI.C, the utility seeking to establish that special circumstances exist to justify an installation on a freeway must demonstrate to Mn/DOT's satisfaction the following:

- “a. The accommodation will not adversely affect the safety, design, construction, traffic operations, maintenance, or stability of the freeway.

- b. Alternate locations are not available or are cost prohibitive from the standpoint of providing efficient utility services.
- c. The accommodation will not interfere with or impair the present use or future expansion of the freeway.
- d. The location of the utility facility outside of the right of way would result in the loss of productive agricultural land or loss of productivity of agricultural land. In this case, the utility owner must provide information on the direct and indirect environmental and economic effects for evaluation and consideration by the Commissioner of Transportation.
- e. Access for constructing and servicing utility facility will not adversely affect safety and traffic operations or damage any highway facility.”

Concurrence by the FHWA is also required before the permit for a longitudinal installation on a freeway can be granted.

This section summarized in comment 134

## II. Overview of Transportation-Related Impacts of HVTLs on Trunk Highways

The preferred and alternate routes proposed by CapX2020 in this matter either cross over or run parallel to trunk highways in a number of locations. When a route is ultimately selected by the Minnesota Public Utilities Commission (MPUC), CapX2020 will need to obtain a valid permit from Mn/DOT in any location where the HVTL will occupy any portion of the highway right-of-way.

In anticipation of the time when CapX2020 will submit applications for permits after a final route is selected, Mn/DOT has engaged in an ongoing dialogue with representatives of CapX2020 and the OES in an effort to identify information that will be needed to assess the permit applications and, to the degree that specificity is possible at this stage of the proceedings, areas where specific concerns will need to be addressed along various potential route/alignment scenarios. Mn/DOT believes these discussions have been beneficial for all participants. The discussions have been challenging due to the large number of locations where the proposed HVTL routes and the trunk highways potentially intersect, the variety of unique circumstances that exist along each of these potential locations, and the number of unknowns and uncertainties surrounding the selection of the actual locations where the CapX2020 utilities will eventually apply for permits from Mn/DOT.

One of the concepts that has been discussed with CapX2020 and the OES is the importance of recognizing that highway rights-of-way do not have a uniform width. The width of the right-of-way, and the distance from the centerline of the roadway to the boundary of the right-of-way, varies from highway to highway, and even from mile to mile along a given highway. The reasons for this variability are many, and include considerations such as the time when the right-of-way was purchased, the topography and geology of the area, the negotiations with the individual landowners from whom the right-of-way was acquired, and the timing and nature of changes and upgrades to the highway that have occurred over the years.

Therefore, a uniform policy that an HVTL can safely be located "X" feet or "Y" feet outside the highway right-of-way boundary line generally does not work well. A two-dimensional map does not provide sufficient information to determine a suitable alignment for a HVTL. Rather, Mn/DOT's approach is to evaluate the type of activities that regularly occur on and along highways. These activities can be evaluated in three groups – (a) traffic that uses a highway, (b) maintenance, repair and related activities and structures associated with the

ongoing operation of the highway, and (c) construction activities that are likely to occur in the foreseeable future. These functions or uses of the highway each have a zone – i.e., a height and width – in which they take place either along the roadway surface or in the ditches, near bridges, intersections or interchanges where the maintenance and construction activities take place.

Once the zones of these recurring highway activities are identified, a safety buffer zone from the location of the energized wires of the HVTLs must be applied. The Occupational Safety and Health Administration (OSHA) and the National Electric Safety Code (NECS) can provide guidance on the safety clearances for activities near various voltages of HVTLs. The OSHA or NECS safety buffer should be applied between the zones of transportation activities and the location of the energized lines.

#### 1. Traffic That Uses a Highway

Minnesota's trunk highways are designed to facilitate both personal travel and the distribution of freight throughout the state. Pursuant to Minn. Stat. §§169.80 and 169.81, vehicles that do not exceed 13 feet 6 inches in height and 8 feet 6 inches in width can be operated on Minnesota's highways without a permit. Vehicles with larger dimensions, excluding farm vehicles, must obtain a permit. Over the past 5 years, Mn/DOT has issued 233,376 permits for oversize vehicles to operate on state trunk highways. These do not include oversize farm machinery (which do not require a permit) nor movements of houses or other buildings such as grain bins. The number of building moves varies between 400 and 600 per year. Of the oversize vehicle permits issued, 73 were for vehicles over 18 feet 5 inches high, with the largest reaching nearly 37 feet high. An example of the type of oversize loads frequently transported over trunk highways are the blades, base sections and nacelles used in constructing wind turbines.

In addition to freight and building moves, other traffic on the roadway portion of trunk highways includes such activities as snowplows, which operate on both the roadway and the shoulder. Snowplows are about 13 feet tall, and when their boxes are raised to distribute sand and salt, their height can reach as high as 18 feet. The relative size of snowplows on a typical highway surface is depicted in the drawing enclosed as Attachment 1.

#### 2. Maintenance, Repair and Operational Activities

In addition to the zone associated with traffic traveling on a highway, there is another zone associated with maintenance and operational activities alongside the roadways. Examples of maintenance activities performed by highway workers, and the types of equipment commonly associated with those activities, include the following:

- guardrail and fence installation and repairs, using augers, loaders and skidsteers (which commonly have raised buckets for pulling posts, etc.).
- vegetation control, using mowers, bucket trucks for tree trimming, and equipment for applying herbicides.
- cleaning ditches, culverts and drains, using backhoes and excavators of various sizes that have boom arms that are used to scoop dirt and vegetation and deposit it into a dump truck that will be parked alongside the highway. Mn/DOT's larger ditch dredging equipment has a horizontal reach as long as 60 feet and a vertical operating dimension of up to 47 feet.

- vehicular accidents on highways often require special equipment to retrieve vehicles and repair damage. For example, when large vehicles such as trucks or buses run off the road or go down large ditches or into wetlands, large equipment with booms or winches may be used to pull them out.
- bridge inspections, using snoopers which have articulating arms that can lift a worker out over the side and then underneath the bridge structure.

On the Monticello to St. Cloud route, in addition to the existing interchange locations, there are 25 overpass bridges, 5 ditches or culvert bridges, and 1 pedestrian bridge located along the I-94 corridor between the proposed Monticello substation and the proposed Quarry substation. The abutments of these bridges are generally close to the I-94 right-of-way line. The location of the transmission line could impact future maintenance and construction activities on these bridges.

Occasionally there is a need for immediate medical transport from roadside locations due to accidents and illnesses. For these situations there are a number of air medical helicopters stationed throughout Minnesota that will land in the roadside environment. These aircraft require clear approach and departure paths as well as an area large enough for the helicopter to land. Given the dimensions of the helicopters used in Minnesota, an area with a diameter of 90 feet should be considered the minimum requirement for landing. There should be two approaches to this area from different directions separated by an arc of at least 90° so that the aircraft can land and take off without a tailwind. Powerlines can be a particularly difficult obstruction for helicopter landings at night. The lines themselves are nearly invisible to the pilot, who must use the presence of poles as evidence that the lines exist. Most helicopters operating in this environment have line cutters installed on the aircraft to cut powerlines they encounter. Even so, helicopter crashes occur when powerlines get entangled in their rotor system or landing gear.

Mn/DOT also maintains a number of structures alongside highways necessary for the safe and efficient operation of the highway, each of which requires periodic installation, maintenance and repair work. Examples of these structures include:

- road signs. The largest signs tend to be on freeways. Signs that extend out over the travel portion of a freeway must have 17.33 feet of clearance to the bottom of the sign, and the top of such signs can be 30.5 feet tall and may require boom trucks, bucket trucks or cranes to install or maintain such signs. Roadside guide signs along freeways can reach 13 feet tall and tend to be located as far out in the clear zone as practical.
- light posts, traffic control signals and poles for traffic monitoring cameras exist at various locations along highways, and range in height from 20 to 50 feet.
- high mast light towers are used along some freeways, and range in height from 100 to 140 feet.
- noise walls, which can be up to 20 feet high, are becoming increasingly common along freeways.

The relative size of some of these structures on a typical highway surface is depicted in the drawing enclosed as Attachment 2.

Another type of physical item located along highways is snow fences, either structural or living. Some snow fences are in the highway right-of-way, and others are placed by agreement with adjoining landowners and may be 150 feet off the highway right-of-way. Mn/DOT is usually able to work out arrangements with a utility owner regarding height and placement of vegetation

used as a living snow fence in locations where a utility is placed. If living snow fences owned by Mn/DOT need to be removed or relocated to accommodate a utility placement, compensation for the removed vegetation is usually required as a condition for issuance of the permit.

### 3. Future Construction Activities

Mn/DOT continually evaluates the future needs for the trunk highway system and has construction projects in varying stages of development. Some have been designed and funded and are ready for construction. Others have been identified as needed or are anticipated due to development trends but have not yet been funded. The types of construction projects Mn/DOT performs that could be impacted by the location of a HVTL range from relatively minor changes to the width of a highway to major reconstruction projects. Examples of such construction projects might include:

- widening a roadway by addition of travel lanes or turn lanes, installation of a roundabout, or widening a shoulder area;
- rebuilding a highway in a way that changes the location or grade of a roadway; and
- addition of an overpass or interchange on a freeway or other highway.

In addition to changes in the configuration of a highway, consideration must be given to the equipment used during the construction process. Construction projects often involve the use of large excavators and cranes similar in size to the equipment described above which Mn/DOT uses for its maintenance activities. The equipment used in bridge work is especially large, usually requiring cranes with long booms to lift material into place. The equipment used on construction projects also needs to be refueled at the job site, which requires consideration of the safety precautions necessary for this procedure.

The activities associated with vehicular traffic using the roadway surface have a zone in which they typically occur. The drawings enclosed as Attachments 1, 2 and 3 do not depict a specific location on a specific highway. Rather, they are illustrative of the zones or areas on any given highway where transportation-related activities may take place. The lighter shaded area above the roadway surface in the drawing enclosed as Attachment 3 depicts the zone or area in which vehicular traffic on the roadway may operate. The zone within which the activities associated with maintenance work take place is depicted by the darker shaded area on the drawing enclosed as Attachment 3. In addition to evaluating these zones of activity, Mn/DOT will also consider factors such as the width of the right-of-way, the topography of the land and the geometry of the roadway in a specific location when assessing the suitability of that location for an HVTL to occupy a portion of a highway right-of-way.

Location of a HVTL in close proximity to a highway right-of-way limits future expansion or reconstruction of highways due to the complex and extremely costly nature of either moving the transmission lines or moving the path of the highway. In order for the Minnesota Public Utilities Commission to make a fully-informed selection of a route based on all the pros and cons of the various alternatives, these costs should be recognized and evaluated in the EIS evaluation of the impacts of the proposed routes. The EIS should include an evaluation of the risk of trunk highway funding liabilities, and the potential magnitude of such liabilities, that may be imposed on the Trunk Highway Fund resulting from various proposed alignments along trunk highway rights-of-way.

### III. Monticello to St. Cloud Route Proposals

In applying its Utility Accommodation Policy to a permit application, Mn/DOT must evaluate each proposed pole location individually in relation to the topography of the land, the geometry of the roadway, the width of the highway right-of-way, the design of the HVTL structures, and other factors. Given the variability of these factors and the large number of potential locations, Mn/DOT is not able to provide specific answers at this time about whether it can grant permits for the potential locations where the various route proposals intersect with highway rights-of-way. As referenced earlier, Mn/DOT's approach to the CapX2020 proposal is to work to accommodate these HVTLs within or as near as feasible to the highway rights of way, based on an evaluation of the specific locations to ensure that appropriate clearance is maintained to preserve the safety of the traveling public and highway workers and the effective operation of the highway system now and in the foreseeable future.

To the degree that specificity is possible at this stage in the process, Mn/DOT will provide additional information about a few of the locations proposed in the routes involved in the CapX2020 application.

#### A. Highway Crossing Locations Proposed by CapX2020

The Applicant's preferred and alternate route proposals contain about seven locations where the proposed HVTLs would cross over a trunk highway, as distinguished from circumstances where it would run parallel to the highway (not including the locations where the various routes propose to hop over and back on I-94 to attempt to avoid other perceived impediments).

Highway crossings generally do not pose insurmountable difficulties in issuing a permit. Mn/DOT routinely grants such permits to a variety of types of utilities. These permits usually have conditions associated with them, such as placement of the poles so that they do not become a physical obstruction that might be struck by an errant vehicle or block the visibility of traffic. Mn/DOT also does not permit utilities to run diagonally across intersections, and prefers that crossings occur as close to right angles as possible. Under Section V.G.5 of the Utility Accommodation Policy, special handling may be required for crossings of scenic byways. Mn/DOT has a long history of working with utilities, including the members of CapX2020, to establish appropriate conditions in locations where the utility seeks to cross a trunk highway. With CapX2020, Mn/DOT does not anticipate encountering such difficulties that there would be locations where it would be unable to grant permits, with appropriate conditions, for the highway crossings proposed in this matter.

#### B. Locations Parallel to Highway Rights of Way Proposed by CapX2020

Section 5.13 of the DEIS identifies the locations where each of the various potential routes under consideration run parallel to highways and roads. Many of the locations identified are roads or streets maintained by local highway authorities and are not part of the trunk highway system for which Mn/DOT is the responsible highway authority.

The highway locations identified in the DEIS that are part of the trunk highway system over which Mn/DOT has jurisdiction include the following:

- Applicant Preferred Route: I-94 and MN 23.
- Route A: I-94, MN 15, MN 23 and MN 24.

- Route B: MN 15, MN 23 and MN 24.
- Route C: MN 15, MN 23 and MN 24.
- Route D: I-94 and MN 23.

The segments of Minnesota state highways where the proposed routes would run parallel range from a half mile to two miles in length. There are some locations on these segments where signals may be added in the future, and MN 15 has a very narrow right-of-way width in the area that may be impacted by the proposed HVTL.

### C. Additional Information of Several Specific Areas

Although Mn/DOT cannot at this time state with specificity where permits might be granted for each of the locations listed above, there are a few situations where some additional information can be provided that would assist in the development of the EIS.

#### 1. Safety Rest Areas Along I-94

There are two safety rest areas located within the preferred route proposed by CapX2020. The Fuller Lake Safety Rest Area is located on westbound I-94 in Stearns County on the west side of Clearwater. The Enfield Safety Rest Area is located on eastbound I-94 in Wright County and lies 6 miles west of the junction of I-94 and MN 25.

Federal highway regulations define a "safety rest area" as: "A roadside facility safely removed from the traveled way with parking and such facilities for the motorist deemed necessary for his rest, relaxation, comfort and information needs. The term is synonymous with 'rest and recreation areas.'" 23 CFR §752.3(b). In the selection of rest area sites, the prime considerations are the "scenic quality of the site, its accessibility and adaptability, and the availability of utilities." 23 CFR §752.5(e).

Safety rest areas contribute to the safety of the traveling public by providing fatigued drivers the ability to stop and rest. They also reduce the need for stops along highway shoulders and provide an escape from driving under hazardous weather and road conditions. Though their primary value is accident prevention, they also address many needs of commercial truck operators and help promote the state and state tourism. With this in mind, Mn/DOT generally does not issue permits for alignments of HVTLs that would run between the rest area and the roadway or across the rest area property. Moreover, safety rest areas along interstate highways are considered part of the highway right-of-way. 23 C.F.R. §645.207. Therefore any permit to go through a rest area along an interstate would require an exception to Mn/DOT's Utility Accommodation Policy and concurrence by FHWA.

#### 2. Scenic Area Along I-94

Some potential alignments in the applicant's preferred route would require a waiver of Mn/DOT's Utility Accommodation Policy and federal regulations relating to areas of scenic enhancement and natural beauty. Specifically, the Fuller Lake Safety Rest Area is located in a congested location a short distance west of the I-94 and MN 24 interchange in Clearwater. Warner Lake County Park lies adjacent to the I-94 right-of-way directly opposite the west end of the rest area. It appears that alignments for the HVTL that follow the I-94 right-of-way might need to have poles placed either in the public park or in the highway/rest area right-of-way.

Comment  
136

The federal regulation governing scenic areas appears to affect Mn/DOT's ability to grant a permit to CapX2020 for this location. The regulation, 23 CFR §645.209(h), provides:

Scenic areas. New utility installations, including those needed for highway purposes, such as for highway lighting or to serve a weigh station, rest area or recreation area, are not permitted on highway right-of-way or other lands which are acquired or improved with Federal-aid or direct Federal highway funds and are located within or adjacent to areas of scenic enhancement and natural beauty. Such areas include public park and recreational lands, wildlife and waterfowl refuges, historic sites as described in 23 U.S.C. 138, scenic strips, overlooks, rest areas and landscaped areas. The State transportation department may permit exceptions provided the following conditions are met:

(1) New underground or aerial installations may be permitted only when they do not require extensive removal or alteration of trees or terrain features visible to the highway user or impair the aesthetic quality of the lands being traversed.

(2) Aerial installations may be permitted only when:

(i) Other locations are not available or are unusually difficult and costly, or are less desirable from the standpoint of aesthetic quality,

(ii) Placement underground is not technically feasible or is unreasonably costly, and

(iii) The proposed installation will be made at a location, and will employ suitable designs and materials, which give the greatest weight to the aesthetic qualities of the area being traversed. Suitable designs include, but are not limited to, self-supporting armless, single-pole construction with vertical configuration of conductors and cable.

(3) For new utility installations within freeways, the provisions of paragraph (c) of this section must also be satisfied.

Mn/DOT understands that to grant an exception under this regulation, the conditions specified in all subparts of 23 CFR §645.209(h) would need to be met. At this time, it is not clear what alignment would be used and whether an exception to this regulation will be required and requested. Therefore, Mn/DOT is not able to say at this whether it is possible to find an alignment that can be issued a permit in or adjacent to the I-94 right-of-way in the vicinity of the Fuller Lake Safety Rest Area.

### 3. New Interchange on I-94

The DEIS briefly mentions the plans to construct a new I-94 to US 10 Interregional Connection. Approximately three years ago Mn/DOT completed an EIS concerning this project, and the preferred alternative identified for construction includes a new interchange approximately 1.6 miles southeast of the existing MN 24 interchange in Clearwater. The project will also include a new highway segment to the north, which will connect with US 10 approximately 1.2 miles west of the current MN 24/US 10 intersection. The highway will be constructed to freeway standards with full access control. The EIS for this project can be viewed at <http://www.dot.state.mn.us/d3/projects/interregionalconnection/index.html>. The project is currently anticipated to be constructed in the 2015 to 2023 time frame.

The footprint of the new interchange on I-94 will be larger than the right-of-way currently occupied by the freeway in that location. If the applicant's preferred route is selected, an HTVL alignment along the current right-of-way boundary would very likely require relocation of the HTVL in the not too distant future. Therefore, Mn/DOT believes that any alignment in this location should be based on the planned configuration of the new interchange.

#### IV. Specific Comments on Matters Discussed in the DEIS

The EIS should include evaluation of all of the issues described below as part of its assessment of the environmental impacts of each proposed route.

**Comment 138** | Section 5.6.2, Aesthetics – Potential Impacts. On pages 5-35 to 5-36 the DEIS describes the relative sensitivity of various viewers of the HTVL, with motorists being classified as low visual sensitivity viewers. This observation is incomplete without including the number of such viewers. This section of the DEIS should include a cross reference to the average daily traffic counts for selected road reported later in Tables 5-25 through 5-29. In addition, as noted in the 7<sup>th</sup> paragraph on page 5-37, motorists, bicyclists and other users of the Great River Road (Wright County Highway 75 and Stearns County Highway 75) should be considered recreationalists who have a higher level of sensitivity to visual impacts.

Section 5.6.2, Aesthetics – Potential Impacts. On page 5-36 the DEIS discusses the Wright County parks that are near the applicant's preferred route. The DEIS appears to have inadvertently overlooked discussion here of Stearns County parks, and in particular Warner Lake County Park which is located immediately adjacent to I-94 about a mile west of Clearwater. We note that this park is discussed later in Section 5.7.2.

Section 5.6.3, Aesthetics – Mitigation. This section includes a partial list of potential steps that can be taken to mitigate adverse aesthetic impacts. Some of the items recognize that once a route is selected, the applicant and Mn/DOT would work together to achieve mitigation in those locations where the route would run on or near a trunk highway right-of-way. With respect to Great River Road, by virtue of Minn. Stat. §161.142 the Commissioner of Transportation participates in the construction, improvement and maintenance of the Great River Road and therefore would also be involved along with the MN-MRPC in any discussions concerning mitigation associated with the Great River Road.

**Comment 139** | Section 5.7.2, Parks – Potential Impacts. As noted above, Warner Lake County Park borders the I-94 right-of-way. The discussion of Warner Lake County Park on pages 5-45 to 5-46 notes that specific alignments have not been determined, and then discusses only the three potential alignments illustrated by the applicant when discussing the possible impacts to the park. The DEIS should include evaluation of impacts to the park if alignments other than those illustrated by the applicant were to be selected. Such an evaluation would bear directly on the conclusion stated on page 5-48 that "No impacts on parks are anticipated."

**Comment 140** | Section 5.10.2, Scenic and Recreational Waterways – Potential Impacts. On page 5-58, a statement is made in a couple places that because the proposed route travels along I-94 where it is located in the scenic district, no additional impacts to vegetation would be expected at this location. These statements are confusing. The fact that an HTVL route overlaps the I-94 right-of-way in some locations does not necessarily mean that no removal of vegetation would be required.

Comment  
141

Section 5.13, Highways and Roads. The discussion of highways and roads contains a significant amount of high quality data and description of the highway system and how it interacts with the proposed HVTL routes. Mn/DOT appreciates the attention paid to this important factor in the EIS process. There are, however, some matters that require adjustment, and some areas that appear to be overlooked in the discussion in this section of the DEIS.

- Page 5-78 includes the statement “This strategy reduces the potential of having to relocate utility poles due to future roadway plans.” This should be explained in some other way, as we do not understand the meaning of this sentence. The likelihood of needing to relocate poles due to future roadway plans rests on a variety of factors, including the nature of the changes to the roadway and the width of the right-of-way at that location.
- Pages 5-78 to 5-81 discuss highway expansion plans and improvement projects. While this is one important factor in maintaining the effectiveness of the operation of the trunk highway system, it is not the only factor. For example, depending on the topography and geology of the area in which the highway is located, the applicant may be required to use a different foundation than that described as the normal foundation in the DEIS, which in turn could impact the drainage in the ditch along the highway and require changes to highway maintenance procedures.
- Pages 5-82 to the top of 5-85 discuss some of the safety considerations relevant to locating a HVTL in close proximity to a roadway. Our discussion in earlier portions of this letter expand on those issues plus some additional safety considerations, which should be reflected in this part of the DEIS.
- The discussion of mitigation measures in section 5.13.3 focuses predominantly on temporary impacts associated with the construction of the HVTL rather than the permanent impacts the HVTL may have on the highway system. Mn/DOT considers the effects that the location a HVTL may have on the efficient operation and safety of a highway to be permanent impacts. The techniques for mitigation of these impacts merit a much more detailed discussion. The discussion of mitigation options for aesthetic considerations outlined in section 5.6.3 is an example of the scope of discussion that could be included regarding permanent highway impacts.
- We are uncertain of the meaning of the paragraph on page 5-89 that discusses “additional shielding of the transmission lines and equipment.” What type of shielding can be done? What are the expected benefits? Who is responsible for installing, inspecting and maintaining such shielding?
- The second to last paragraph on page 5-89 briefly mentions mitigation of impacts to the highway system through selection of pole location. Whatever route is ultimately selected, Mn/DOT intends to work closely with the applicant when issuing permits to select prudent alignments for the HVTL and specific locations for the poles where the route coincides with highway rights-of-way. Sufficient flexibility to assure that impacts on the highway can be mitigated is imperative.

Comment  
142

Comment  
143

Comment  
144

Comment  
145

Comment  
146

Comment  
147

Comment  
148

Section 5.16, Surface Water. It appears that the discussion of waters potentially impacted by the applicant’s preferred route overlooks Fuller Lake. Also, Table 5-47 lists three crossings of the Mississippi River by Route D. This appears to be a typographical error, as page 5-40 states that Route D crosses the Mississippi River at two locations.

Section 5.23.2, Electric and Magnetic Fields and Stray Voltage – Potential Impacts. The discussion in this section is highly relevant to highway operations. Highway workers in the vicinity of HVTLs are likely to experience induced voltage. The presence of HVTLs will likely require Mn/DOT to implement a permanent training program to ensure that workers are aware

of and operate safely around HVTLs. Equipment and structures in highway rights-of-way will need to be grounded, and inspected for proper grounding regularly. By way of example, Mn/DOT maintains wire fences all along the right-of-way boundaries of freeways, and these will need to be grounded in all locations where HVTLs are placed nearby.

Comment  
149

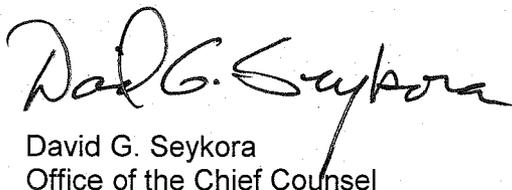
Indirect and Cumulative Impacts. Mn/DOT reviewed the DEIS for discussion of indirect impacts and cumulative impacts. For instance, we looked for evaluation of indirect economic impacts associated with changes in land use and development along highways or other indirect effects of the proposed HVTL routes which may affect the transportation infrastructure. We did not find any sections of the DEIS that focus on indirect impacts or cumulative impacts. Without such discussion the EIS appears incomplete and we recommend that such discussion be added to the final EIS.

Comment  
150

Finally, Mn/DOT wishes to underscore the importance of preserving sufficient flexibility for Mn/DOT to work with the applicant to determine an appropriate specific location for each pole to be placed along a trunk highway right-of-way. As the selection of the final route is made, in all locations where the route will cross or run parallel to a trunk highway it is imperative that the designated route be sufficiently wide so that Mn/DOT and the applicant can work collaboratively to address the circumstances at each location and determine a specific alignment that can be permitted consistent with the considerations described in this letter.

Mn/DOT has a continuing interest in working with the OES to ensure that possible impacts to highways and other transportation infrastructure are adequately addressed. We appreciate the opportunity to provide these comments. Please feel free to contact me if you have any questions regarding the information provided.

Sincerely,



David G. Seykora  
Office of the Chief Counsel

cc: Deborah R. Pile, OES  
Karen Hammel, OAG  
Lisa Agrimonti, CapX2020  
Darrin Lahr, CapX2020  
Michael Barnes, Mn/DOT  
Scott Peterson, Mn/DOT  
Jon Chiglo, Mn/DOT  
Val Svensson, Mn/DOT  
Terry Humbert – Mn/DOT District 3

Enclosures

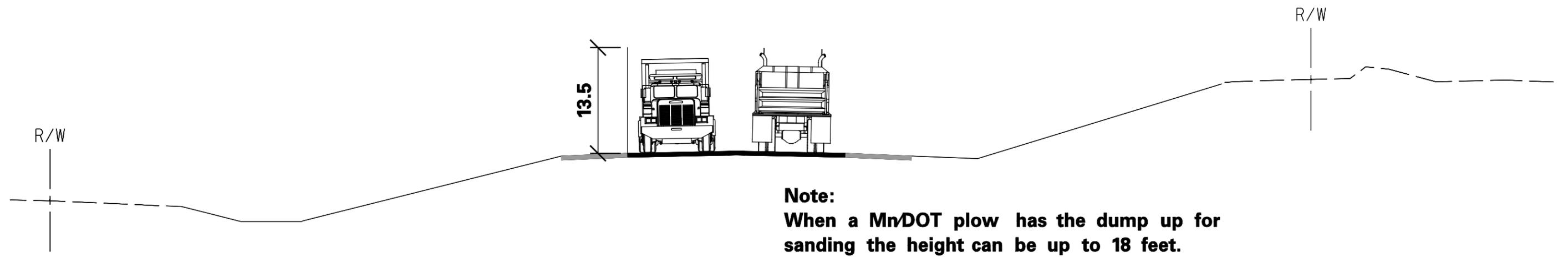
Attachments 1, 2 and 3

Federal Regulations (See [Code of Federal Regulations](#) )

2009 MN Statutes Ch. 161. (See [MN Statute 161.45](#) and [MN Statute 161.46](#) )

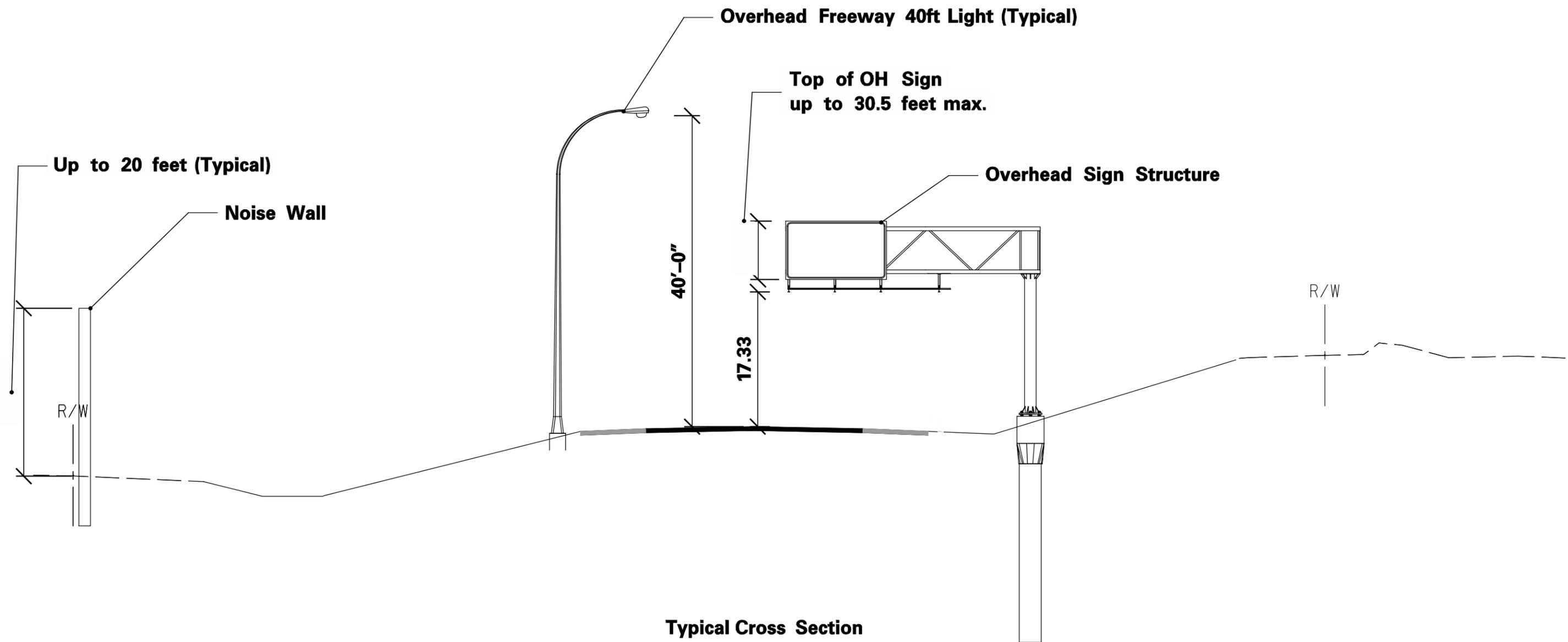
I-94 to US 10 Interregional Connection (See [D3 Interregional Connection](#))

Mn/DOT Utility Accommodation Policy (See <http://www.dot.state.mn.us/utility/policy/index.html> )



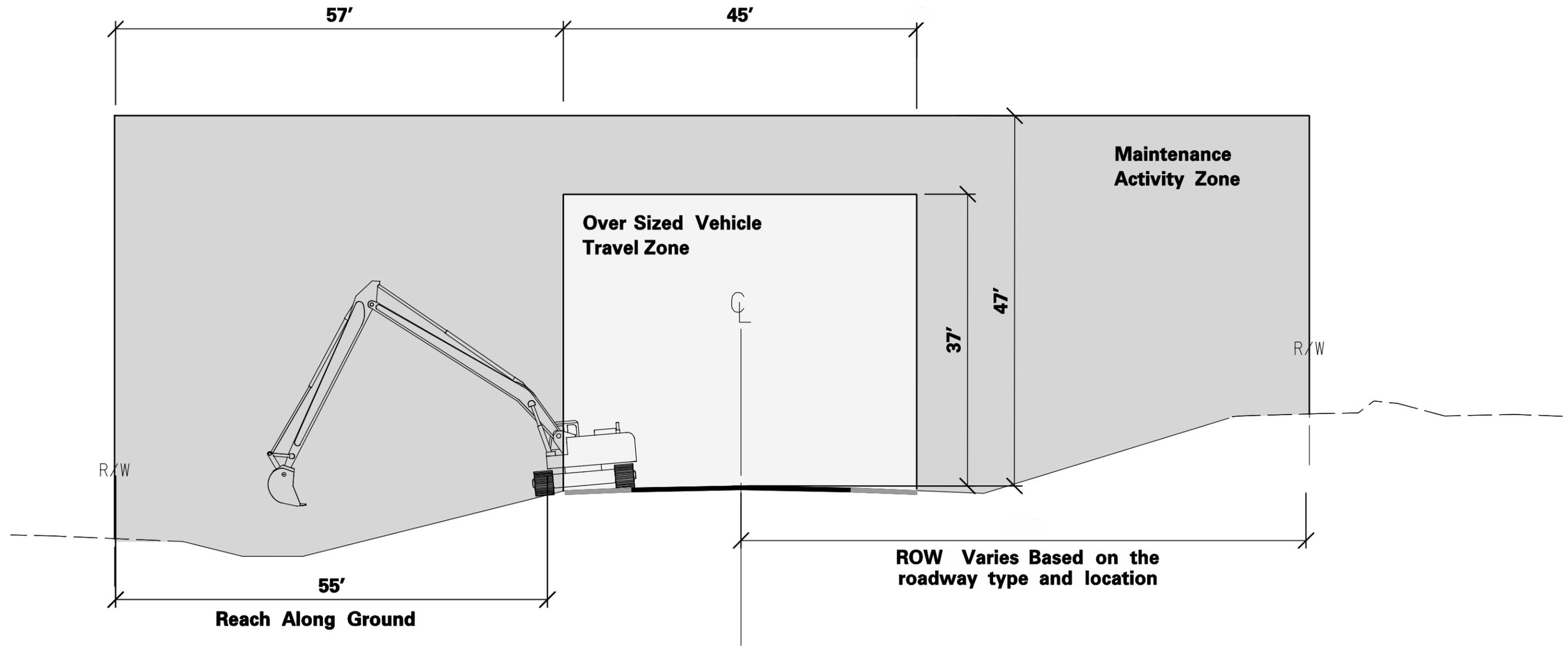
**Typical Cross Section**

**Note:**  
 When a MnDOT plow has the dump up for sanding the height can be up to 18 feet.



**Note:**

**All Zones vary based on roadway types and locations**



**Typical Cross Section**

# Minnesota Department of Natural Resources

500 Lafayette Road • St. Paul, MN • 55155-40



February 26, 2010

David Birkholz, Project Manager  
Minnesota Office of Energy Security  
85 7<sup>th</sup> Place East, Suite 500  
St. Paul, Minnesota 55101-2198

Re: Draft Environmental Impact Statement (DEIS) Comments for the Monticello to St. Cloud 345 kV High Voltage Transmission Line and Substation Project [PUC Docket Number: E002, ET2/TL-09-246]

Dear Mr. Birkholz:

The Minnesota Department of Natural Resources (DNR) has reviewed the Draft Environmental Impact Statement (DEIS) for the Monticello to St. Cloud 345 kV Transmission Line and Substation Project. The DNR appreciates the opportunity to provide the following general review and specific comments regarding identified sections of the DEIS.

The Department of Natural Resources does not favor the additional aerial transmission line crossings of the Mississippi River included in Route D. Though these utilize existing corridors, increasing the number of lines at these crossings would pose extra hazards for migrating birds, particularly trumpeter swans, bald eagles, and other waterfowl that utilize the Mississippi River as a flyway and wintering area.

Route D Mississippi River crossings may also cause visual resource impacts to a Wild and Scenic River Scenic River District and Recreational River District. The Mississippi River between St. Cloud and Clearwater is designated as a Scenic River District and the Mississippi River between Clearwater and Anoka is designated as a Recreational River District. The northern crossing of Route D crosses the designated "scenic" area and the southern crossing near Monticello crosses the designated "recreational" area. Minnesota Administrative Rules Chapter 6105, Wild, Scenic, and Recreational Rivers includes rules related to land use, vegetative cutting, and utility crossings of Wild and Scenic Rivers. The FEIS needs to explain in detail how the proposed Mississippi River crossings will comply with applicable rules and guidance included in Chapter 6105. The FEIS should also give details on structure size in this area and tree removal or other vegetative removal along river banks at crossings of the Mississippi River in areas designated as Wild and Scenic River.

Mitigation for effects to natural resources from Route D could include installing transmission lines under the bed of the Mississippi River while avoiding riparian forests. This mitigation may include an additional benefit of reduced hazards for migrating birds and reduced visual impact if existing lines were also routed beneath the riverbed. Possible impacts associated with Route D under a scenario including underground crossings of the Mississippi River would be useful to analyze in the Final Environmental Impact Statement (FEIS). The information to assess relative impacts of each alternative including a detailed assessment of the potential for burying transmission lines underground at the Mississippi River crossings is not currently included in the DEIS. For example, the Applicant Preferred Route shows fewer acres of forest impacts (7-11 acres, Table 5-11) than



Alternatives A (18-19 acres), B (34 acres) or D (33 acres), but perhaps D would have even fewer if the lines were buried below the river. This type of detailed consideration of a variation of Route D including underground Mississippi River crossings would be a useful addition to the FEIS.

#### Specific Comments

**Comment 151** Page 5-28 (Route D, Forestry, second paragraph) – Please identify the acres of forest that would be impacted at the river crossings by above-ground lines.

**Comment 152** Page 5-31 (last sentence) – The DEIS discusses coordinating with the DNR in this section. If a route permit is issued for this project, please include a condition requiring the applicant to coordinate with the DNR to minimize impacts to sensitive habitats as discussed in this document.

**Comment 153** Page 5-36 (first two bullet points) and Page 5-40 (Route D, paragraph 2, last sentence) – The DNR disagrees with the characterization of recreational users of the Mississippi River, particularly in the reach designated as a Scenic River District along a Wild and Scenic River, under the category of Moderate Visual Sensitivity. Recreational users of Wild and Scenic Rivers, for both the Scenic River District and the Recreational River District Route D crossings, should be considered High Visual Sensitivity viewers in the FEIS.

**Comment 154** Page 5-40 (Route D, paragraph 2) – This section in the FEIS should include a discussion of potential visual impacts of forest clearing where aerial lines would cross the river.

**Comment 155** Page 5-43 (Mitigation, fifth and sixth bullet points) – As discussed in the general review comments above, the concept of putting transmission lines underground versus over the river should be assessed in the FEIS. Likewise, the concept of consolidating the existing above ground lines with new underground lines should be assessed as part of the mitigation plan for this project.

**Comment 156** Page 55 (Route B Mitigation and Route C Mitigation) – The establishment of transmission lines along the boundary of Wildlife Management Areas (WMA) may negatively affect the ability to manage the WMAs using prescribed burns. The use of prescribed burns on a WMA may also interfere with transmission lines. This issue should be addressed in the FEIS.

**Comment 157** Page 5-60 (second and fourth full paragraphs) – These two paragraphs appear to contradict each other. One states that no additional visual impacts are anticipated, and the other seems to discuss potential vegetation impacts from tree removal at the river crossing. Tree removal from a Scenic River District should be characterized as a visual impact in the FEIS.

**Comment 158** Page 5-61 (Mitigation, second paragraph) and Page 5-62 (Route D, last paragraph) – Co-locating transmission lines would result in additional wires crossing the river. A mitigation plan to consolidate new and existing transmission lines underground where they cross the Mississippi River should be discussed in this section of the FEIS.

**Comment 159** The following comments apply to the section: Page 5-94 through Page 5-107 (Rare and Unique Natural Resources/Critical Habitat).

- Comment 159** Several state-listed birds have been documented in the vicinity of the potential routes. In particular, the trumpeter swan (*Cygnus buccinator*), state-listed as threatened, may be at risk for collision mortality regardless of the chosen route. Hundreds of trumpeter swans overwinter in Monticello and Fergus Falls, and often move between the two locations (overwintering sites are not included in the Natural Heritage Information System). Numerous bald eagles and other waterfowl species also winter and migrate along the Mississippi River. This section lists the state-listed birds that may occur in the area, but does not address how these species may be impacted by the proposed project. Please include discussion of impacts to these species and mitigation measures, such as the use of swan diverters, in this section of the FEIS.
- Comment 160** The Blanding's turtle (*Emydoidea blandingii*), a state-listed threatened species, may also be encountered along any of the routes. For additional information, a Blanding's turtle fact sheet is attached that describes the habitat use and life history of this species. The fact sheet also provides two lists of recommendations for avoiding and minimizing impacts to this rare turtle. For this project, please refer to the first list of recommendations. The attached flyer should also be given to all contractors working in the area.
- Comment 161** The tubercled rein-orchid (*Platanthera flava* var. *herbiola*), a state-listed endangered plant, has been documented in the vicinity of the proposed project and may occur within wet prairies and meadows, swales in mesic prairies, or the sandy or peaty habitats along the edges of marshes, swamps, or lakeshores. Only high quality habitats that show little if any impact from human activities seem to be suitable for this orchid. A botanical survey will be needed if the proposed project will impact any suitable habitat for this species.
- Comment 162** The EIS should include an analysis of the potential for state-listed species to be impacted by the proposed project. Also, given the presence of state-listed threatened birds, the EIS should include a discussion of the likelihood of incidental takings due to mortality from collisions.
- Comment 163** Page 5-105 (last sentence) – The DNR disagrees with the last sentence on this page. All of the proposed routes, and particularly Route D, have the potential to result in the deaths of state-threatened trumpeter swans due to collisions with powerlines. The potential for impacts needs to be comparatively assessed for each of the route alternatives, and appropriate mitigation measures need to be identified in the FEIS. Appropriate mitigation may include underground transmission lines at the Mississippi River if Route D is chosen, and installation of swan diverter markers on transmission lines for any of the routes chosen.
- Comment 164** Pages 5-106 (first paragraph) and Page 5-107 – The proposed mitigation measures of spanning Minnesota County Biological Survey (MCBS) sites of biodiversity significance and unique habitats, or including minor route changes to avoid or minimize impacts are acceptable levels of mitigation for the communities affected.
- Comment 165** Page 5-126 (Route D) – The most significant vegetation along Route D may be the riparian vegetation where the lines would cross the Mississippi River twice. The draft EIS does not describe the affected environment or potential impacts regarding riparian vegetation. Please include this information in the FEIS.
- Comment 166** Page 5-131 (Applicant Preferred Route, last sentence) – The DNR concurs with this statement.
- Comment 167** Page 5-131 (Applicant Preferred Route, Route A, Route B, Route C and Route D) – It is inaccurate to describe the impacts of habitat loss by stating that “species would only be displaced a short distance.” Habitat loss reflects a permanent loss of carrying capacity for some species, and a gain for other species. Displacement of individuals

Comment 167 also may increase impacts by spreading competition for resources and stress to surrounding habitats beyond the boundaries of the routes assessed.

Comment 168 Page 5-133 (Route D Mitigation) – Though this route represents the greatest co-location of lines of all alternatives, as discussed in other comments, more lines will pose additional risk of avian mortality. This potential impact should be addressed in the FEIS for Route D.

Thank you for reviewing the above comments regarding the DEIS for the Monticello to St. Cloud Transmission Project. Please contact me with any questions.

Sincerely,



Jamie Schrenzel  
Planner Principal  
Division of Ecological Resources  
(651) 259-5115

Enclosures (2)



# Minnesota Pollution Control Agency

520 Lafayette Road North | St. Paul, MN 55155-4194 | 651-296-6300 | 800-675-3843 | 651-282-5332 TTY | [www.pca.state.mn.us](http://www.pca.state.mn.us)

February 26, 2010

Mr. David Birkholz  
Project Manager  
Minnesota Office of Energy Security  
85 7<sup>th</sup> Place East, Suite 500  
St. Paul, MN 55101-2198

RE: Monticello to St. Cloud 345 kV Transmission Line Project  
Draft Environmental Impact Statement (EIS)  
Docket Number: E002, ET2/TL-09-246

Dear Mr. Birkholz:

Thank you for the opportunity to review and comment on the Monticello to St. Cloud proposed 345 kV transmission line project. Regarding matters for which the Minnesota Pollution Control Agency (MPCA) has regulatory responsibility and other interests, the MPCA has the following comments to provide at this time.

## Comment 169

- A National Pollutant Discharge Elimination System/State Disposal System (NPDES/SDS) Construction Stormwater Permit is required from the MPCA prior to construction, and was noted in Section 6 of the Draft EIS. Also, all preferred, alternative and variations on a route are analyzed in concurrent sections for potential impact to waterways. Information regarding the MPCA's Construction Stormwater Program can be found on the MPCA's Web site at: <http://www.pca.state.mn.us/water/stormwater/stormwater-c.html>.

## Comment 170

- Impaired waters are listed in the narrative of section 5, but not listed on these maps. The MPCA suggests that the 2008 303(d) Total Maximum Daily Load (TMDL) List of Impaired Waters (found at the MPCA Web site at <http://www.pca.state.mn.us/water/tmdl/tmdl-303dlist.html>) be included on these maps. Impairments will dictate additional increased stormwater treatment both during construction and require additional increased permanent treatment post construction. As the proposer is aware, any project that will result in over 50 acres of disturbed area and has a discharge point within one mile of impaired water is required to submit their Stormwater Pollution Prevention Plan to the MPCA for a review at least 30 days prior to the commencement of land disturbing activities. The MPCA encourages the project proposer to contact staff at preliminary points to avoid delays.

## Comment 171

- Based on the project's need to obtain a United States Army Corp of Engineers Section 404 Permit and the project's proximity to impaired waters, this project may also require a Clean Water Act Section 401 Water Quality Certification or waiver from the MPCA to verify compliance with state water quality standards. For further information about the 401 Water Quality Certification process, please contact Kevin Molloy at 651-757-2577.

Mr. David Birkholz  
February 26, 2010  
Page 2

Please be aware that this letter does not constitute approval by the MPCA of any or all elements of the project for the purpose of pending or future permit action(s) by the MPCA. Ultimately, it is the responsibility of the project proposer to secure any required permits and to comply with any requisite permit conditions. If you have any questions concerning our review of this project, please contact Elise Doucette of my staff by e-mail at [elise.doucette@state.mn.us](mailto:elise.doucette@state.mn.us) or by telephone at 651-757-2316.

Sincerely,



Craig Affeldt  
Supervisor  
Environmental Review and Feedlot Section  
Regional Division

CA/EMD:mbo

cc: Reed Larson, MPCA – Brainerd  
Glenn Skuta, MPCA – St. Paul

**Appendix B Applicants Letter**





414 Nicollet Mall  
Minneapolis, MN 55401

1-800-895-4999  
xcelenergy.com

February 26, 2010

**VIA ELECTRONIC FILING**

David Birkholz  
Project Manager  
Minnesota Office of Energy Security  
85 7th Place East, Suite 500  
St. Paul, MN 55101-2198

**Re: Comments Regarding the Draft Environmental Impact Statement**

***In the Matter of the Application by Xcel Energy and Great River Energy for a  
Route Permit for the Monticello to St. Cloud 345 kV Transmission Line  
Project***

**MPUC Docket No.: ET2/TL-09-246**

Dear Mr. Birkholz:

Northern States Power Company, a Minnesota corporation, and Great River Energy, a Minnesota cooperative corporation ("Applicants"), submit the following comments regarding the Draft Environmental Impact Statement ("DEIS") issued by the Department of Commerce Office of Energy Security ("OES") on January 11, 2010 for the Monticello – St. Cloud 345 kV Project ("Project"). Applicants have reviewed the DEIS in detail and appreciate the thorough review of the potential environmental impacts associated with the routes under consideration.

Applicants offer the following limited comments regarding information that would be appropriate to supplement in the Final EIS ("FEIS").

Comment 172

**Personal Use Airports**

On page 5-66, the DEIS discusses airports within 10 miles of the Project Area, and specifically discusses the Seven Hills Airport a private, non-public use airport. The DEIS states that "a maximum structure height of less than 149 feet would be required in the approach area" of the Seven Hill Airport. Applicants currently understand that such airports must maintain airspace free of obstructions, but that there are no regulatory requirements that specifically limit the height of transmission structures within this airspace. Therefore, it would more appropriate to state that potential conflicts with the Seven Hills Airport would be avoided if structure heights in the approach area are less than 149 feet.

Comment 173

**Transmission Line Costs**

Upon further review and analysis, Applicants have reevaluated the transmission line costs for Route D and believe that Table 1-11 of the DEIS should be updated as follows in the FEIS. The updated estimate below is based on a preliminary alignment for Route D. Applicants are not yet sure if the alignment will be capable of being constructed on the Monticello Nuclear Generating Plant property. Additionally, Applicants have not consulted with the Army Corps of Engineers, United States Fish and Wildlife Service or the Minnesota Department of Natural Resources to determine what construction techniques and mitigation methods may be required for the two crossings of the Mississippi River that would be required for construction along Route D.

Alternative	Cost (\$Millions)
<b>Transmission Line Routes</b>	
Applicant Preferred Route	\$54.2
Route A	\$65.4
Route B	\$71.5
Route C	\$65.5
Route D	\$53.6
<b>Substations</b>	
Monticello Substation Modifications	\$7.8
Applicants' Substation	\$14.2
Substation with 115 kV Interconnect	\$15.6

Comment 174

**Aesthetics**

On page 5-43, the DEIS discusses possible mitigation measures to minimize aesthetic impacts. One possible mitigation measure presented is undergrounding portions of the transmission line. The Applicants have prepared a report, with the assistance of a technical consultant, to evaluate various undergrounding methods and equipment. A copy of the 345 kV Underground Report is attached.

Comment 175

**Trails**

On page 5-52, the DEIS states that “[t]he Applicant will work with the County to maintain trail access during and after construction. If impacts to trails are [unavoidable], the Applicant will work with the County to re-align trails.” Applicants would like to clarify that every effort will be made during final design to avoid impacts to trails along the Project. If an impact becomes unavoidable, Applicants would then work with the County to mitigate impacts, including relocating portions of trails if appropriate.

Comment 176

**Identification and Mitigation of Archaeological and Historic Resources**

The DEIS discusses archaeological and historic resources as they relate to the various proposed routes and the Quarry Substation Sites. This includes a general discussion on pages 5-92 and 5-93 of possible methods used to identify cultural resources and mitigate impacts. While the discussion presented in the DEIS provides a general description of these methods, Applicants believe that the FEIS should incorporate the following, more detailed, description of Applicants’ pre-construction and construction activities regarding the preservation of archaeological and historic resources specific to this Project:

Applicants conducted a Phase Ia Literature Search for the Project, which encompassed an area within one mile of all proposed routes, to identify known archaeological and historic architectural resources that may be affected by the Project. To assess potential impacts to both documented and undocumented cultural resources that may be affected by the selected route and substation site, Applicants will take the following specific steps for the Project:

1. Prepare a scope of work for a Phase I survey of areas to be disturbed by Project activities. This document will present the results of the already-completed literature search and make recommendations regarding areas which will require survey. This document will be submitted to the State Historic Preservation Office (“SHPO”) and the office of the state archaeologist (“OSA”) as applicable or appropriate, for review and concurrence;
2. Conduct a Phase I survey of areas subject to ground disturbance to document the locations of any previously identified and undocumented archaeological and historic resources that may be affected by the Project and create a master list of these newly identified resources;
3. Review the results of the previously conducted literature search and Phase I data to modify the locations of Project facilities to the extent feasible or practicable to avoid any identified resources that may be eligible for listing in the National Register of Historic Places (“NRHP”);

4. Conduct Phase II surveys of any cultural resources that may be eligible for listing in the NRHP that cannot be avoided, using appropriate field survey methodology;

5. Further modify the proposed locations of Project facilities, to the extent feasible or practicable, to avoid resources identified during the Phase II surveys that are determined to be eligible for the NRHP; and

6. Develop treatment options in consultation with the SHPO, and if applicable the OSA, for any resources that are determined to be eligible for the NRHP that cannot be avoided.

Applicants do not anticipate any direct impacts to cultural resources as a result of Project construction. The following measures would be implemented prior to and during construction to avoid or minimize impacts:

1. Field identification of resource sites of concern in the vicinity of the construction zone;

2. Fence off or otherwise flag resource sites of concern in the vicinity of construction work;

3. Inform construction crews of resource sites and train them to avoid/minimize impacts to such sites; and

4. Make available to construction crews properly qualified cultural resource personnel to provide assessment and monitoring of construction sites if unknown resources are identified.

In the event that a Phase III survey is considered for the Project, Applicants would meet with the SHPO and the OSA, as applicable or appropriate. Any Phase III survey would be conducted in accordance with the Secretary of Interior Standards and Guidelines for Archaeology and Historic Preservation, the SHPO Manual for Archaeological Projects in Minnesota and Guidelines for History/Architecture Projects in Minnesota, as appropriate. Applicants will provide study results and coordinate with the SHPO throughout this process.

Lastly, on page 5-92, the DEIS states that “[e]ight archaeological resources have been identified within the Applicants’ proposed Project Routes.” It would be helpful to state the number of archaeological resources identified within each of the Applicants’ proposed Project Routes in this section in addition to the references on page 5-91. The quoted sentence above could be replaced with the following in the FEIS: “Three archaeological resources have been

David Birkholz  
February 26, 2010  
Page 5

identified within the Proposed Route, three archaeological resources have been identified within Route A and two archaeological resources have been identified within Route B.”

Thank you for considering Applicants’ comments. Please contact me at (763) 493-1808 or [darrin.f.lahr@xcelenergy.com](mailto:darrin.f.lahr@xcelenergy.com) if you have any questions.

Sincerely,

/s/ Darrin Lahr  
Darrin Lahr  
Supervisor, Siting and Land Rights  
Xcel Energy  
414 Nicollet Mall, MP-8A  
Minneapolis, MN 55402

Enclosure  
cc: Karen Hammel

February 26, 2010

---



**345 kV Underground Report**

*PROJECT NUMBER:*  
117910

*PROJECT CONTACT:*  
Mike Mueller  
Richard C. Mues, PE

*EMAIL:*  
[mike.mueller@powereng.com](mailto:mike.mueller@powereng.com)  
[rmues@powereng.com](mailto:rmues@powereng.com)

*PHONE:*  
314-851-4050  
314-851-4014



PREPARED FOR: CAPX2020  
PREPARED BY: POWER ENGINEERS

For additional information contact:

Mike Mueller

(314) 851-4050

[mike.mueller@powereng.com](mailto:mike.mueller@powereng.com)

Richard C. Mues, P.E.

(314) 851-4014

[rmues@powereng.com](mailto:rmues@powereng.com)

Rev.	Issue Date	Issued For	Prep By	Chkd By	Appd By	Notes
A	2/10/2010	Prelim	SA	MRM	RCM	Issued for review
B	2/24/2010	Appvl	SA	MRM	RCM	Issued for approval
C	2/25/2010	Impl	SA	MRM	RCM	Issued, Final

“Issued For” Definitions:

- “Prelim” means this document is issued for preliminary review, not for implementation
- “Appvl” means this document is issued for review and approval, not for implementation
- “Impl” means this document is issued for implementation
- “Record” means this document is issued after project completion for project files

---

## TABLE OF CONTENTS

<b>I.</b>	<b>EXECUTIVE SUMMARY .....</b>	<b>1</b>
1.0	SCOPE OF WORK .....	1
1.1	SUPERCONDUCTING CABLES .....	1
1.2	UNDERGROUND CABLE SYSTEMS .....	1
1.2.1	Extruded Dielectric Cable Systems .....	1
1.2.2	HPFF Pipe Type Cable Systems.....	2
1.3	CABLE CASE SUMMARY .....	2
1.4	COST ESTIMATE SUMMARY .....	3
<b>II.</b>	<b>PROJECT DESCRIPTION.....</b>	<b>4</b>
2.0	INTRODUCTION .....	4
2.1	XLPE CABLE SYSTEM DESIGN.....	4
2.1.1	System Description and Trench Design .....	4
2.2	HPFF CABLE SYSTEM DESIGN.....	5
2.2.1.	System Description and Trench Design .....	5
2.3	AMPACITY STUDIES .....	6
2.3.1	Ampacity Calculations .....	6
2.4	ELECTROMAGNETIC FIELDS .....	7
<b>III.</b>	<b>UNDERGROUND CABLE SYSTEMS.....</b>	<b>9</b>
3.0	INTRODUCTION .....	9
3.1	SUPERCONDUCTING CABLE SYSTEMS .....	9
3.1.1	General .....	9
3.1.2	Experience .....	10
3.2	RELIABILITY OF 345 kV CABLE SYSTEMS .....	11
3.3	EXTRUDED DIELECTRIC CABLE SYSTEMS .....	11
3.3.1	Cable.....	11
3.3.2	Cable Accessories.....	12
3.3.3	Civil Installation .....	13
3.3.4	Vault Design and Installation .....	14
3.3.5	Cable Maintenance and Repair.....	15
3.3.6	Pros and Cons .....	15
3.4	HIGH-PRESSURE FLUID-FILLED CABLE SYSTEMS .....	16
3.4.1	Cable.....	16
3.4.2	Cable Accessories.....	18
3.4.3	Cable Pipe Installation.....	18
3.4.4	Vault Design and Installation .....	18
3.4.5	Maintenance and Repair .....	19
3.4.6	Pros and Cons .....	19
3.5	TRENCHLESS INSTALLATIONS .....	20
<b>IV.</b>	<b>TERMINATIONS .....</b>	<b>21</b>
4.0	GENERAL .....	21
4.1	DESCRIPTION .....	21

---

4.1.1	Termination Structure.....	21
4.1.2	Transition Station .....	22
<b>V.</b>	<b>COST ESTIMATE.....</b>	<b>23</b>
5.0	INTRODUCTION .....	23
5.1	COST ESTIMATE ASSUMPTIONS.....	23
5.2	SUMMARY OF COST ESTIMATES .....	23
<b>VI.</b>	<b>COMPARISON OF ENVIRONMENTAL IMPACTS OF OVERHEAD AND UNDERGROUND TRANSMISSION LINE CONSTRUCTION .....</b>	<b>25</b>
6.0	RIGHT OF WAY WIDTHS .....	25
6.0.1	XLPE Right Of Way Requirements .....	25
6.0.2	HPFF Right Of Way Requirements.....	25
6.0.3	Trenchless Crossings .....	25
6.1	GROUND DISTURBANCE .....	26
6.2	LAND USE AND AESTHETICS .....	26
6.3	ELECTRIC FIELDS, MAGNETIC FIELDS, AND NOISE .....	26
6.4	RIGHT OF WAY CLEARING AND VEGETATION CONTROL.....	27
6.5	EROSION CONTROL IN UNSTABLE AREAS .....	27

## **APPENDICES**

### **APPENDIX A - AMPACITY STUDIES**

### **APPENDIX B - EMF CALCULATIONS**

### **APPENDIX C - TRENCH DETAILS**

### **APPENDIX D – TERMINATION AND VAULT DETAILS**

### **APPENDIX E – COST ESTIMATES**

---

## I. EXECUTIVE SUMMARY

### 1.0 Scope of Work

Xcel Energy (Xcel) requested that a study be made of alternative 345 kV underground cable systems for the CapX2020 Project, including cost estimates to install double circuit 345 kV underground transmission lines. No specific route was selected, but a distance of approximately 2 miles was assumed.

The ampacity requirements for each of the two circuits (double circuit transmission) are 3,347 amperes (A). This is 2,000 MVA at 345 kV for each circuit.

### 1.1 Superconducting Cables

Superconducting cable systems were researched regarding the viability of using high temperature superconductors (HTS) for a 345 kV underground installation. Details of HTS cable systems are included in Section III.

### 1.2 Underground Cable Systems

Two basic types of underground cable systems were considered in this report, namely an extruded dielectric, cross-linked polyethylene (XLPE) cable system and a high-pressure fluid-filled pipe-type (HPFF) cable system. Details of the construction of the cables and major accessories for each of these cable systems are included in Section III. The foremost pros and cons of each of these cable systems are:

#### 1.2.1 Extruded Dielectric Cable Systems

##### Pros:

- Essentially no operation and maintenance requirements.
- Appropriate reliability reported for systems of modern design at voltages 230 kV and below in the USA, Japan and European countries.
- Higher normal operating and short circuit temperature ratings as compared to HPFF systems.
- Installation environmental condition requirements for splicing and terminating less stringent.
- Lower dielectric losses.
- Shorter time required for repair.
- Concrete encased duct bank systems provide mechanical protection from dig-ins and allow for short lengths of trench to be opened for construction activities.

##### Cons:

- Susceptible to damage from dig-ins if direct buried, more so than HPFF pipe-type cable systems.
- Potential for induced sheath voltages and losses.
- Trench for installation of each cable length (direct buried) must be left open for the entire length during cable installation.
- Duct bank/conduit installation may reduce thermal performance and increases cost.
- XLPE insulation not as forgiving (fluid-impregnated paper insulation is more tolerant of manufacturing defects, and variances).
- Limited use at 345 kV in U.S.

### 1.2.2 HPFF Pipe Type Cable Systems

#### Pros:

- Long experience and service life record dating from 1930's with extensive use in the U.S.
- Higher reliability than XLPE cable systems based on utility records.
- Steel pipe affords mechanical strength and protection from "dig-ins".
- Short length of trench can be opened for construction activities.
- The cable and other materials can be manufactured and installed by firms located in the United States.
- For directional drilling installations, the casing installed can also be utilized as the cable conduit.
- Allows dielectric fluid circulation to help increase ampacity.

#### Cons:

- Requires very large, specially designed equipment for installation activities.
- Requires specialists for specific installation activities.
- May require long repair time in case of faults in the cable system.
- Pipe susceptible to corrosion.
- Requires installation and maintenance of a cathodic protection system.
- Requires maintenance of monitoring and pressurization system.

### 1.3 Cable Case Summary

The options for installation of the 345 kV circuits are summarized below. For each case, the cable system type, number of cables per phase, installation depth, and ampacity are provided.

Case #	Conductor Size	Cables per Phase	345 kV Cable Type	Burial Depth (bottom of trench)	Total Ampacity (A)
1	3500 kcmil	3	XLPE	10 ft	3,795
2	3500 kcmil	3	HPFF	10 ft	3,348

**Table 1-1: Ampacity Results**

## 1.4 Cost Estimate Summary

The estimated installation costs (rounded) for the XLPE and HPFF pipe-type insulated cable systems for a 2-mile 345 kV underground line, excluding reactors and transition stations, are as follows:

Description	Material (One Circuit)	Labor (One Circuit)	Total (One Circuit)	Total (Two Circuits)
345 kV XLPE 3500 kcmil Copper Conductor	\$28,000,000	\$11,800,000	\$39,800,000	\$79,600,000
345 kV HPFF 3500 kcmil Copper Conductor	\$29,900,000	\$14,000,000	\$43,900,000	\$87,800,000

**Table 1-2: Cost Summary\* Table, Excluding Reactors and Transition Stations\*\***

\* A 15 % contingency is included in the estimates.

\*\* A system study to determine reactive requirements could cost \$300,000. In this report, it is assumed that reactors will not be required.

It is possible to make the transition from underground to overhead in an XLPE cable system on a termination structure within the transmission line right of way. However, if operations require switching and monitoring, or system protection at the termination, the structure would need to be in a fenced site. If the termination were at a substation, the site would be the substation. However, if the termination were along the transmission line route, a separate transition station would be required.

For the HPFF cable system, the termination would most likely be in a substation or transition station. The substation or transition station would contain the pumping plant and controls for the fluid system.

The estimated cost of a transition station, without reactors, is \$1,500,000. Depending on the system configuration, two transition stations could be required – one at each transition from underground to overhead. Therefore, the cost of each cable system in Table 1-2 could be increased by up to \$3,300,000.

## II. PROJECT DESCRIPTION

### 2.0 Introduction

POWER Engineers, Inc. (POWER) prepared this report for Xcel's CapX2020 Project.

Two technically viable underground cable systems were considered for this 345 kV underground application: Cross-linked polyethylene (XLPE) and high-pressure fluid-filled (HPFF) systems. The following describes the design criteria and assumptions used in the analysis.

For both types of cable systems, a number of variables remain constant. These include but are not limited to earth ambient temperature, thermal resistivity, load factor, and burial depths as described in the ampacity studies.

The ampacity requirement for each circuit is 3,347 A (2,000 MVA at 345 kV). Ampacity calculations were performed for each type of cable system to determine the conductor size required to reach the desired ampacity. Electromagnetic field calculations were made to determine expected magnetic field values for the probable loading of the cables in year 2015.

### 2.1 XLPE Cable System Design

Different duct bank configurations were considered, such as placing both circuits in the same duct bank or installing each circuit in a separate duct bank. Because of the large ampacity requirement per circuit, the most cost effective and practical design would be to install each circuit in its own individual duct bank and trench.

Based on the results of the ampacity study, an underground 345 kV XLPE cable system would require at least three cables per phase for each of the circuits. The size of the cable would be a 3500 kcmil copper conductor, with each cable installed in its own individual duct. A minimum of 20 feet would be required between the edges of each circuit duct bank to eliminate mutual heating between the two circuits. General discussion of XLPE cable systems and installation methods are provided in Section III.

#### 2.1.1 System Description and Trench Design

For each circuit, the cable system would consist of three cables per phase, installed within PVC conduits encased in a 4 ft H x 5 ft W concrete duct bank. The concrete would have a compressive strength of 3000 psi. The duct bank would consist of multiple conduits to carry the transmission line cables, grounding cables, and fiber-optic cables. The duct bank would be installed at a depth with a minimum of thirty-six inches (36 in.) of cover. The conduit details within the duct bank are as follows:

- Twelve (12) eight inch (8 in.) schedule 40 PVC conduits used for the transmission line cable. Initially, nine out of the twelve 8 in. conduits would have cable installed, which would allow for three spare conduits.

- Three (3) two inch (2 in.) schedule 40 PVC conduits installed for ground continuity cables.
- One (1) two inch (2 in.) schedule 40 PVC conduits installed for temperature monitoring cables.
- One (1) four inch (4 in.) schedule 40 PVC conduit installed for a communication fiber optic cable.

The final duct bank size and layout would be determined during detailed design and would be based on Xcel's completed design criteria. Factors to be considered are electrical requirements, heat dissipation, minimal burial depths, existing facility/utility locations, and cable installation requirements. Drawing C-1 in the Appendix shows a typical trench cross section for an XLPE duct bank configuration.

## **2.2 HPFF Cable System Design**

Based on the results of the ampacity study, an underground 345 kV HPFF cable system would also require at least three cables per phase for each of the circuits to achieve the ampacity requirements. The size of the cable would be a 3500 kcmil copper conductor, with each set of three cables installed in its own individual 10-inch steel cable pipe. A minimum of 20 feet would be required between the edges of each circuit encasement to eliminate mutual heating between the two circuits. General discussion of HPFF cable systems and installation methods are provided in Section III.

### **2.2.1 System Description and Trench Design**

For each circuit, the cable system would consist of three cables per phase, installed within cable pipes encased in a (2 ft- 6 in. H) by (8 ft-10 in. W) fluidized thermal backfill (FTB) envelope. The envelope would consist of multiple pipes and conduits to carry the transmission line cables and fiber-optic cables. The FTB would have a compressive strength of approximately 100 psi and be installed at a depth with a minimum of thirty-six inches (36 in.) of cover. The details within the system are as follows:

- Three (3) ten inch (10 in.) 0.250 in. wall thickness, A523 Grade A carbon steel pipes used for the transmission line cables.
- Three (3) one inch (1 in.) schedule 40 PVC conduits installed for temperature monitoring cables.
- One (1) four inch (4 in.) schedule 40 PVC conduit installed for a communication fiber optic cable.

The final trench size and layout would be determined during detailed design and would be based on Xcel's completed design criteria. Like an XLPE cable system, factors to be considered are electrical requirements, heat dissipation, minimal burial depths, existing facility/utility locations, and cable installation requirements. Drawing C-3 shows a typical trench cross section.

## 2.3 Ampacity Studies

POWER performed preliminary cable ampacity calculations for both types of cable systems. The primary purpose of the ampacity calculations was to determine a minimum conductor size and cable system configuration based on the design requirements provided by Xcel Energy.

### 2.3.1 Ampacity Calculations

POWER used CYME International's Cable Ampacity Program (CAP) to model each of the cable systems. Each cable system was analyzed using the following design criteria.

- Voltage 345 kV
- Ampacity
  - Normal (Continuous) 3347 Amps (2000 MVA) at 345 kV
- Load Factor 75%
- Burial Depth 10-ft max (trench depth)
- Thermal Resistivity ( $\rho$ , rho)
  - Native Soil 90°C-cm/W
  - Encasement/Corrective Backfill 50°C-cm/W at 5% moisture
- Ambient Temperature
  - Earth 18°C at 10 ft depth
- Maximum Conductor Operating Temperature
  - Steady State
    - XLPE 90°C
    - HPFF 85°C

Many factors need to be considered when trying to design the optimal and most economical underground cable system. One of the main factors is the thermal performance of the underground cable system. Many design parameters must be determined to achieve optimal thermal performance to achieve the load transfer requirements. These are:

- Cable Size – increasing the conductor size generally allows for an increased load transfer. However, there is a limit to the maximum conductor size that can be manufactured by the majority of the cable manufacturers. This conductor size is typically accepted to be 3000 to 3500 kcmil. Larger conductor sizes could be manufactured at a significant increase in cost.
- Soil Thermal Resistivity – the ability of the heat to dissipate away from the cable is based on the thermal properties of the material installed around the cable.
- Cable Depth – the deeper the cable is from the surface, the harder it is for the surrounding soil to dissipate the heat, thus resulting in a lower ampacity.
- Cable Separation – other cables in proximity also generate heat, thus resulting in mutual heating. This mutual heating could be reduced further by increasing the separation of the cables. However, the further the cables are separated, the larger the excavation would need to be and an increase in cost would result.

Ampacity calculations were run to determine the minimum conductor size and cable system configuration for a copper conductor for a maximum trench depth of 10 feet. For depths greater than 10 feet, each of the factors described above would have to be considered, and in all cases, the resulting installation would cost more. Only the results of the ampacity calculations to install a single 345 kV circuit are provided below. For the second 345 kV circuit, a minimum separation of 20 feet would be required between the edges of both circuits to eliminate mutual heating between the two circuits.

Ampacity calculations are in Appendix A.

Cable System Type and Conductor Size	Ampacity / Set of Cables (A)	Ampacity / Circuit (A)
XLPE 3500 kcmil copper conductor	1,265	3,795
HPFF 3500 kcmil copper conductor	1,116	3,348

**Table 2-1: Ampacity Table**

Typical trench depth for both types of cable will be the depth that provides a minimum of 3 feet of cover over the circuit envelope. Trench detail configurations are in Appendix C.

## 2.4 Electromagnetic Fields

A common concern with the operation of transmission lines is the effect of the electromagnetic fields produced by the cable system. Electromagnetic fields (EMF) are made up of two components – electric fields and magnetic fields. Electric fields are produced by electric voltage. Electric fields are not a concern, because they are completely contained within the transmission cable by the insulation shield. Magnetic fields are produced by the flow of electric current. EMF is measured in gauss (G) or tesla (T). The results for this study are in milligauss (mG). Any device that produces a voltage and carries electric current will produce EMF. EMF produced by underground transmission lines will be greatest directly above the circuit, and will diminish as the distance increases away from the circuit. Values listed in Table 2-2 are the calculated EMF values directly above a single circuit transmission line. These values are calculated at 1 meter (3.28 feet) above the ground (grade), centered over the circuit.

POWER used CYME International's EMF calculation module to model the electromagnetic field effects of the XLPE insulated cable system and Power Delivery Consultants' PTMagField – Pipe Type Cable Magnetic Field Calculation Program to model the electromagnetic field effects of the HPFF cable system. Calculations were performed for each cable system based on the projected year 2015 load levels for the transmission circuit.

The underground calculations were based on the following general criteria.

- Distance above ground for calculations 3.28 feet (1.0 meter)
- Burial depth 3 feet
- Transmission currents are balanced (equal magnitude on each phase of the circuit and the three phases are separated by 120 degrees)
- 2015 loading values on Monticello-St. Cloud Line, winter peaking
  - Maple River – Alexandria: 125 MVA – 210 A
  - Alexandria – Quarry: 158 MVA – 265 A
  - Quarry – Monticello: 338 MVA – 566 A

<b>2015 Proposed Loading</b>	<b>XLPE (mG) at 1.0 m above ground directly above the cable</b>	<b>HPFF (mG) at 1.0 m above ground directly above the cable</b>
Maple River – Alexandria 125 MVA	4.7	6.9
Alexandria – Quarry 158 MVA	5.9	8.4
Quarry – Monticello 338 MVA	12.6	14.6

**Table 2-2 EMF Table**

### III. UNDERGROUND CABLE SYSTEMS

#### 3.0 Introduction

Superconducting cable systems are not available for 345 kV applications. Therefore, they were not considered further in this study. However, discussion of the current technology is included in Section 3.1 below.

As stated in the Project Description in Section II, two basic types of underground cable systems are being studied for a 345 kV underground cable system installation. These systems are an extruded cross-linked polyethylene (XLPE) insulated cable system and a high-pressure fluid-filled pipe-type (HPFF) cable system. In this section, a description of each cable system is presented and a comparison between the two types of underground cable systems is made. The pros and cons of these two cable systems are included.

#### 3.1 Superconducting Cable Systems

##### 3.1.1 General

Research is currently underway in the advancement of high temperature superconductors (HTS) for underground application. Using a unique cable design where all three phases are centered concentrically on a single core, the cables are capable of displaying low electric losses with the same power transfer capabilities as compared with a standard non-superconducting cable. This design eliminates the electromagnetic fields and thermal emissions to surrounding environments. The core, filled with a cryogenic fluid, super cools the conducting material resulting in extremely low losses and high electrical power transfer capacities.



**Figure 3-1: High Temperature Superconducting AC Cable Design**



**Figure 3-2: Superconducting Terminal Station and Cooling Plant**

### 3.1.2 Experience

Due to the increased interest and advancement of superconducting cable systems, a few utilities have undertaken special projects using HTS cables, co-funded by the Department of Energy (DOE). These HTS systems are located adjacent to large metropolitan areas, where they are capable of transferring large quantities of power a few thousand feet, at the distribution level. In addition, technological advances in the last few years have seen the first 138 kV AC system installed in Long Island, New York in early 2008. Examples of known installations of HTS cable systems in the U.S. are provided below:

Utility Region	Year of In-Service	Voltage	Approximate Circuit Length
Long Island, New York	2008	138 kV	2,000 ft
Albany, New York	2006	34.5 kV	1,150 ft
Columbus, Ohio	2006	13.2 kV	650 ft

**Table 3-1: HTS Installations in the U.S.**

Further research and development are required for the installation of cable systems above 138 kV. Because HTS systems have not been established at 345 kV or for long distances, superconducting cables would not be feasible now for a 345 kV underground installation.

## 3.2 Reliability of 345 kV Cable Systems

Down times for underground transmission lines can be significantly longer than their overhead counterparts can when trouble is encountered. As a result, particular design practices are used to alleviate the problem with alternative transmission lines or 100% redundancy. By implementing a design to ensure continuous operation, the reliability of underground transmission lines significantly increases.

## 3.3 Extruded Dielectric Cable Systems

### 3.3.1 Cable

The components of a typical XLPE cable are shown in Figure 3-3. The typical cable consists of a stranded copper or aluminum conductor, inner semi-conducting conductor shield, extruded solid dielectric insulation, outer semi-conducting shield, a metallic moisture barrier, and a protective jacket.

Insulation materials used for solid dielectric cables include:

- Thermoplastic Polyethylene (PE) Compounds

Typical thermoplastic polyethylene insulation materials are low-density polyethylene (LDPE), high molecular weight polyethylene (HMWPE) and high-density polyethylene (HDPE).

- Thermosetting Compounds

Ethylene propylene rubber (EPR) and cross-linked polyethylene (XLPE) are typical thermosetting insulation compounds.

Materials used for semi-conducting extruded conductor and insulation shields are semi-conducting PE, XLPE, and EPR compounds. PE compounds are used with PE and XLPE insulation, XLPE compounds with XLPE insulation, and EPR compounds with EPR insulation.

Cable jackets are typically extruded PE, and on rare occasions, polyvinyl chloride (PVC).



**Figure 3-3: Typical Extruded Dielectric Cable Cross-Section**

The manufacturing process for extruded cables is of critical importance to ensure a dependable end product.

Triple extrusion, using the “true triple head” technique, is the preferred and recommended process of constructing the cable layers, which most manufacturers practice today. Because microscopic voids and contaminants lead directly to cable failures, quality control during manufacture of extruded dielectric cables is critical to minimize moisture contamination, voids, contaminants, and protrusions. In conjunction with the triple extrusion process, manufacturers minimize insulation contamination by using super clean insulation compounds, transported and stored in sealed facilities, while screening out all other contaminants at the extruder head.

### **3.2.2 Cable Accessories**

The three basic cable accessories for extruded dielectric cables are splices, terminations, and sheath bonding materials.

Pre-fabricated or pre-molded splices are commonly used to joint extruded dielectric cables and are recommended for a 345 kV XLPE cable system. Cable preparation for these types of splices is generally the same. Insulation and shields are removed from the conductor, and the insulation is penciled. The conductor ends are then joined by a compression splice or metal inert gas (MIG) welding (aluminum conductor only). An advantage of these types of splices is that all parts can be factory tested prior to field installation.

Terminations are available for extruded dielectric cable to allow transitions to overhead lines or above ground equipment. Termination bodies are typically made of porcelain or polymer and include skirts to minimize the probability of external flashovers due to contamination.

Another important component of an XLPE cable system is the grounding/bonding of the cable shield. Unlike an underground distribution system, in which the shield is grounded at each splice and termination, an underground transmission line requires alternative grounding/bonding methods. Grounding at each splice and termination causes circulating currents on the cable shield resulting in additional heating in the cable and lower ampacity. The way to maximize the ampacity of an underground cable is to eliminate the circulating currents. This is accomplished with underground transmission cables by using special bonding methods such as single-point and cross-bonding. These methods eliminate or reduce the amount of current that would flow on the cable shield, resulting in no or limited additional heating and ultimately a higher ampacity.

When using one of these specialized bonding techniques, additional equipment (link box) needs to be installed in the cable vaults (vaults) and at the terminal ends. A link box allows the cable shield to be connected to ground, a surge diverter, or an adjacent cable shield. The final connection depends on the bonding scheme used. The link box also allows the cable shields to be isolated for routine jacket testing purposes.

### **3.3.3 Civil Installation**

There are two common types of XLPE cable system installation. They are direct buried and concrete encased duct banks. Even though direct buried is the most economical method for installing an XLPE cable system, the most common method in the U.S. is to install a concrete encased duct bank system. The reasons a duct bank system is the preferred method are:

- Provides better mechanical protection than direct buried cable.
- Eliminates re-excavation in the event of a cable failure.
- Allows for opening short lengths of trench for construction activities versus the direct buried system, which requires that the entire trench be left open for cable installation.

The most basic method for constructing an underground duct bank is by open cut trenching. Typical construction results in the use of mechanical excavation to remove the concrete, asphalt road surface, topsoil and sub-grade material to the desired depth. Removed material is relocated to an appropriate off-site location for disposal, or occasionally reused as fill. Once a portion of the trench is opened, PVC conduit is assembled and lowered into the trench. The area around the conduit is filled with a high strength thermal concrete (3000 psi). After the concrete is installed, the trench is backfilled, generally with a soil capable of thermal correction, and the site restored. Backfill materials should be clean excavated material, thermal sand and/or a thermal concrete mix.

### 3.3.4 Vault Design and Installation

Access vaults are needed periodically along an underground route to facilitate cable installation, for maintenance requirements, and for access for future repairs. Vaults are typically spaced every 1,500 to 2,000 feet along the route for XLPE cable systems.

The vault size and layout is based on the type of cable system installed. For an XLPE cable, the vault size is determined based on the space required for cable pulling, splicing, and supporting the cable in the vault. The standard size of each vault would be about 8 ft wide by 28 ft long. For this project, a vault would be needed for each set of cables, due to the number of bends in the route and the requirement of needing multiple cables per phase to achieve the load requirement. Placing each set of cables in separate vaults also allows Xcel to perform maintenance or repair on one set of cables while keeping the other energized, and operating the circuit at a reduced line rating.

The factors contributing to the final placement of the vaults are allowable pulling tensions, sidewall pressure on the cable as it goes around a bend, and the maximum length of cable that can be transported on a reel. The amount of cable that can be transported on a reel is based on the reel's width, height, and weight.

A typical vault layout and configuration is shown in Appendix D.



**Figure 3-4: Typical XLPE Vault Installation**

### **3.3.5 Cable Maintenance and Repair**

XLPE cable requires little maintenance since it is usually installed in a duct bank. Duct inspections are performed in conjunction with routine vault inspections. Furthermore, ducts are seldom cleaned unless a new circuit or grounding is being installed. Unless environmental conditions dictate more inspections, a yearly vault inspection is generally sufficient to examine the cable sheaths, protective jackets, joint casings, cable neutrals, and general physical condition of the vault. Terminations should also be visually checked on a yearly basis to ensure a properly operating system. Performing these inspections on a two mile segment should take less than one week for a utility crew to perform.

In the unlikely event of an electrical fault, the cable failure must be located. This requires specialized equipment as well as a knowledgeable crew to pinpoint the failure. The time it takes to locate the fault location depends largely on the environmental surroundings and access to the cable for testing. Once pinpointed, an entire section of cable can be removed and replaced between vault sections, or the duct bank can be opened up and an experienced splicing crew can rejoin the cable ends. The amount of time the system is down depends entirely on the fault location and the repair method that provides the most advantageous solution. Typical repair time can range from two to four weeks.

### **3.3.6 Pros and Cons**

The pros and cons of XLPE cable systems for use in high voltage applications are:

#### Pros:

- Essentially no operation and maintenance requirements.
- Appropriate reliability reported for systems of modern design at voltages of 230 kV and below in Japan, the U.S. and European countries. Extensive use and success at 400 kV in France and Japan.
- Higher normal operating and short circuit temperature ratings as compared to HPFF systems.
- Installation environmental condition requirements for splicing and terminating less stringent.
- Shorter time required for repair.
- Dielectric losses for extruded cable systems considerably less than paper insulated cable systems.
- Less specialized installation equipment required.

#### Cons:

- Susceptible to damage from dig-ins, if direct buried, more so than HPFF cable systems.
- Potential for induced sheath voltages and losses.
- Trench for installation of each cable length (direct buried) must be left open during cable installation.
- Duct bank/conduit installation reduces thermal performance and increases cost.
- XLPE insulation not forgiving (fluid-impregnated paper insulation is more tolerant of manufacturing defects, and variances).
- Limited splicing/terminating workforce in U.S.

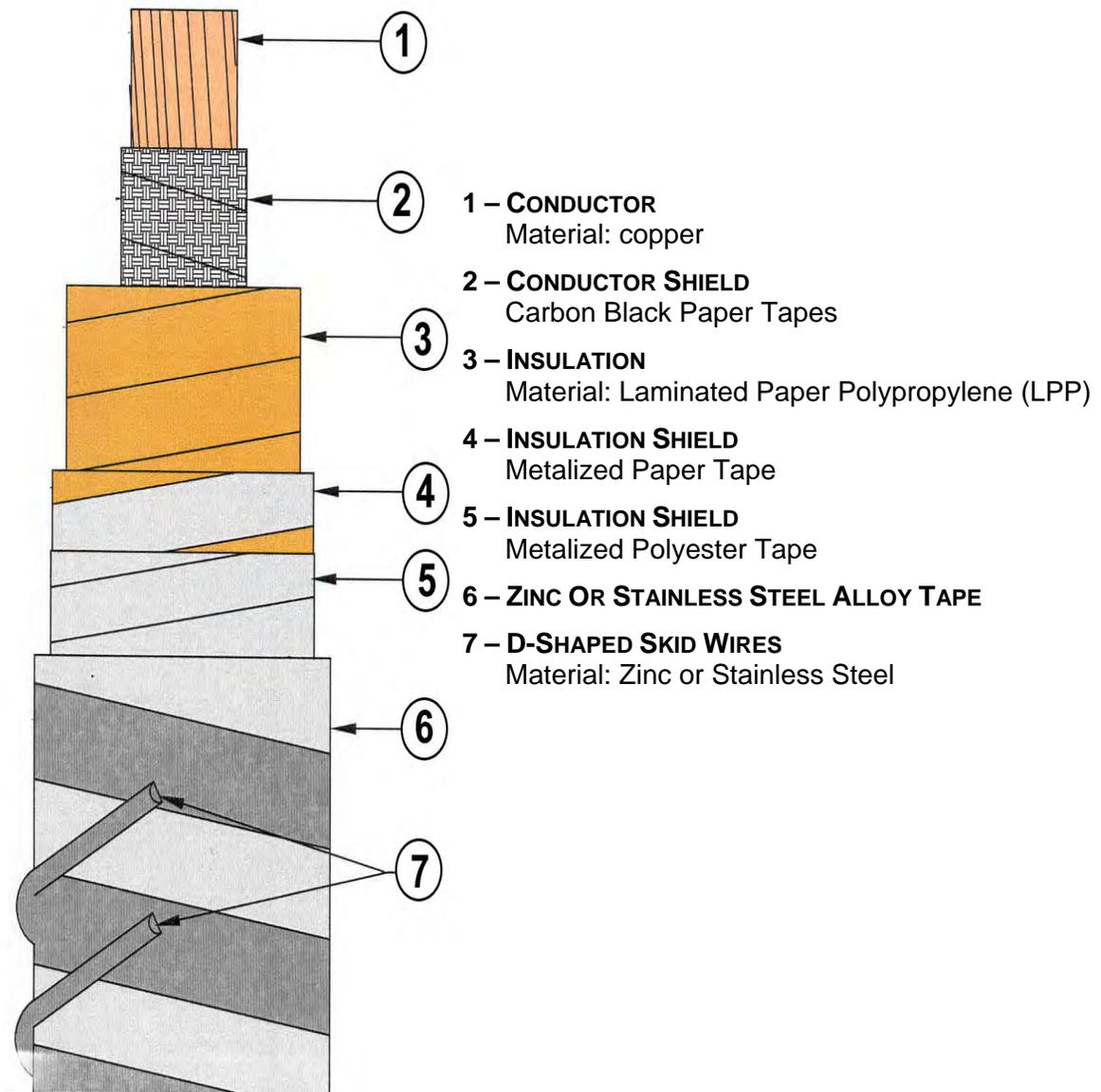
### **3.4 High-Pressure Fluid-Filled Cable Systems**

#### **3.4.1 Cable**

The components of a typical HPFF cable are shown in Figure 3-5. The cable is composed of a conductor, conductor shield (carbon black or metalized paper tapes), insulation (Kraft paper or paper/polypropylene laminate impregnated with polybutene fluid), insulation shield (carbon black or metalized paper tapes), a moisture barrier (non-magnetic tapes and metalized Mylar tapes), and skid wires placed in a steel pipe filled with dielectric fluid. The skid wires prevent damage to the cable during pulling. Three HPFF cables are pulled into a low-carbon steel pipe to constitute a cable system. The pipe is coated on the inside with an epoxy coating to prevent oxidation prior to pipe filling and to reduce pulling friction and tension. The pipe exterior is coated with High Density Polyethylene (HDPE) or Polypropylene to protect the pipe from environmental corrosion and to isolate the pipe from "ground" to allow use of a cathodic protection system.

The manufacturing process is as follows:

1. A conductor core is covered by helically wound layers of metalized or carbon black paper tape for the conductor.
2. High quality Kraft paper or paper/polypropylene laminate is then helically wound around the conductor in multiple layers for the insulation.
3. Additional layers of metalized or carbon black paper tape are helically wound around the insulation to form the insulation shield.
4. The insulated cable is dried and then impregnated with fluid in large pressurized tanks.



**Figure 3-5: Typical HPFF Cable**

### **3.4.2 Cable Accessories**

Splicing of HPFF cables begins with removal of the insulation and shields from the conductor, and then insulation is step-penciled. The conductor ends are then joined by a ram press, compression connector, or MIG welding (aluminum conductor only). Insulation paper tape is wound around the spliced conductor, filling the step-penciled area of the insulation. Metalized tapes or carbon black tapes are used to re-establish the conductor and insulation shields. Small rolls of paper tape are used, as the three cables are very close together.

Terminations are made by first separating the three cables using a trifurcator. Each phase termination is then made in fluid-filled terminators.

Once the cable system has been installed, the pipe is filled with a synthetic dielectric fluid and is pressurized to a nominal 200 psi pressure. A special pressurization system is needed to monitor and maintain the nominal pressure.

A pressurization system for a HPFF cable system consists of three components: a pressurizing console, storage tank and a nitrogen supply. The pressurizing console consists of pressurizing pumps, valves, and monitoring equipment. A nominal 200 psi pressure must be maintained in the cable pipe at all times. As the temperature varies during normal operation, the pressure within the pipe varies. The system is designed to relieve the pressure as the temperature increases and maintain the pressure as the temperature decreases. A storage tank is provided to accept the extra fluid as the temperature of the cable system increases and provide fluid as the temperature of the cable system decreases or if a leak has occurred. A nitrogen supply maintains a pressure inside the storage tank and prevents any moisture from entering the system. The monitoring equipment controls the operation of the system and communicates the system status to the utility. The size of the pressurization plant would vary depending on the size of the storage tank. A typical size would be 10 feet wide by 40 feet long.

### **3.4.3 Cable Pipe Installation**

As with a duct bank system, open cut trenching would generally be used for the HPFF cable system. Trenchless methods would also be used for crossing of major obstructions. Once the trench is excavated, the steel pipe would be welded together and installed in the trench. The area around the pipe would be filled with thermal sand or a fluidized thermal backfill to provide a good thermal environment around the pipe to facilitate heat transfer to earth and meet ampacity requirements. After the pipe encasement is installed, the trench would be backfilled and the site restored. Backfill materials should be clean excavated material, thermal sand and/or a thermal concrete mix.

### **3.4.4 Vault Design and Installation**

Like the XLPE cable system, access vaults are needed periodically along an underground route to facilitate cable installation, for maintenance requirements and access for future repairs. Vaults would be typically spaced every 2,000 to 2,500 feet along the route. The size of each vault would be about 6 ft wide by 24 ft long. Like the XLPE cable system, since there are multiple cables per phase, a single vault would be needed for each set of cables. A typical vault layout and configuration is shown in Appendix D.

### **3.4.5 Maintenance and Repair**

To ensure dependable, uninterrupted service, routine maintenance must be completed on cable systems as well as the associated components. Because of the more intricate systems involved with the HPFF system, maintenance and occasional repair can be expected to be higher than that of the solid dielectric system. The hardest and often times most over looked component of the pipe type system is the pipe coating, which left un-inspected can cause catastrophic failure to the entire system. Because the cable itself is contained inside of a steel pipe, the pipe coating must be maintained in order to ensure proper operating pressures, and should be tested at least every other year. Repair of the cable pipe is an extensive process but will generally only leave the system off line for a number of days. Routine inspections and testing of the pumping plant must be performed in order to sustain the proper operating pressures. Although the plant has a number of different sensors and alarms, a thorough yearly inspection is recommended. Other components of the cathodic protection system should be routinely tested such as the rectifier and the isolator/surge protector (ISP). Current levels, as well as voltage levels, should be tested monthly and any significant changes noted as a possible system breakdown. Anode output levels should also be tested, and anodes replaced when necessary. A certified corrosion expert would perform the cathodic protection testing. Performing these inspections on a two mile segment should take less than one week for a utility crew to perform.

As with extruded cables, electrical failures require locating the fault, followed by onsite determination of repair needs. However, because the HPFF system uses a pressure filled pipe, the dielectric fluid must be capped off while repairs are made. To do this a pipe freeze is initiated using liquid nitrogen to inhibit the fluid flow. Once cable splicing is finished and a repair sleeve installed, the freeze can be removed and any contaminants can be evacuated from the system. In the event of termination failure, the cable generally must be replaced all the way back to the splicing trifurcator. Typical repair time can range from two to six weeks.

### **3.4.6 Pros and Cons**

The advantage and disadvantages of HPFF cable systems for use in high voltage applications are:

#### Pros:

- Long experience and service life record dating from 1930's with extensive use in the U.S.
- Higher reliability than XLPE cable systems based on utility records.
- Steel pipe affords mechanical strength and protection from "dig-ins".
- Short lengths of trench can be opened for construction activities.
- The cable and other materials are manufactured and installed by firms located in the U.S.
- For directional drilling installations, the casing installed can also be utilized as the cable conduit.

#### Cons:

- Requires very large specially designed equipment for installation activities.
- Requires specialists for specific installation activities.
- Requires very long repair time in case of faults in the cable system.
- Pipe susceptible to corrosion, cathodic protection required.
- Requires installation and maintenance of a cathodic protection system.
- Requires maintenance of pressurization system.

### **3.5 Trenchless Installations**

Trenchless civil installation techniques have been developed for crossing environmentally sensitive areas and major obstructions such as waterways, wetlands, highways, and railroads. Three trenchless methods have commonly been used for installing underground transmission facilities. These methods are:

- Jack and Bore
- Horizontal Directional Drilling
- Micro-tunneling

For this 2 mile 345 kV underground installation study, it is assumed that there would not be any trenchless installations required. Further analysis and conceptual design work would be required to perform a cable system study for incorporating any trenchless installations.

## IV. TERMINATIONS

### 4.0 General

For both XLPE and HPFF cable systems, the underground transmission circuits would require the construction of termination structures at the end of each underground segment. Structures would support cable terminations, lightning arresters, and dead-end hardware for overhead conductors. This would be to transition the circuits from underground to overhead.

For the HPFF systems, fenced transition stations would be required. For XLPE systems, fenced transition stations would be required if the utility required switching and monitoring capability. For either system, transition stations would be required if reactive compensation were needed at the specific transition end of the cable. Detailed reactive compensation studies would be required to determine whether compensation would be required. Those studies are not in the scope of this report.

### 4.1 Description

The difference in the two cable systems comes from the manufacturing process and operation characteristics of each type of cable. For the XLPE system, typically larger insulation thicknesses are seen, but a pumping plant and cathodic protection is not required like that of an HPFF system. Further considerations arise at the termination locations. For the HPFF system, a transition station must be erected to facilitate the pumping plant, oil filled terminations, and the cathodic protection system. Typical termination stations have a footprint in the range of 250 ft by 250 ft. However, this may be a benefit as a number of switching arrangements can be attained, as well as the addition of circuit protection, monitoring, and voltage regulation. Most transition stations house an A-frame style dead end structure with pedestal style termination structures, as shown in Appendix D.

The XLPE system can be converted to an overhead line in a much simpler fashion with the use of a termination structure, because the underground cables, as well as all of the required terminations, can be attached directly to the structure. However, if the utility requires switching and monitoring, transition stations would still be required. Transition stations for XLPE would generally be smaller than for HPFF cable systems.

The Pros and Cons of each configuration are:

#### 4.1.1 Termination Structure

Pros:

- Essentially no operation and maintenance requirements.
- High reliability
- Small structural footprint
- Terminations can be located on structure
- Lower installation cost

Cons:

- Can only be used for XLPE cable
- Failure of structure may result in prolonged outage

#### **4.1.2 Transition Station**

Pros:

- Works with both cable systems
- More switching capabilities
- Increased protection capabilities/schemes
- SCADA can be installed in the station
- Voltage regulation, if required can be incorporated

Cons:

- Larger footprint
- Higher cost
- Higher maintenance costs

## **V. COST ESTIMATE**

### **5.0 Introduction**

The cost estimate for each cable system was compiled using indicative data from high voltage cable manufacturers and contractors familiar with the installation of high voltage underground cable systems.

### **5.1 Cost Estimate Assumptions**

- 1) Single point bonding of XLPE cable sheaths was assumed.
- 2) Materials used in the cost estimates meet all applicable industry standards.
- 3) It was assumed construction would be performed by craftsmen experienced in installing high voltage underground transmission systems.
- 4) Xcel to obtain all environmental, local, state, and federal permits as required.
- 5) No contingency for internal Xcel costs.
- 6) No contingency for dewatering costs.
- 7) A 15% contingency was added.
- 8) No contingency for rock excavation costs has been included. If rock is encountered, costs in Table 5-1 could increase as much as 10%.
- 9) A system study would need to be conducted to determine the detailed engineering and construction requirements for reactive compensation. A study could cost from \$150,000 to \$300,000. For this report, reactors are not included in the cost estimate.
- 10) The cost for a transition station without reactors, circuit protection, and voltage regulation could be as much as \$1,500,000.

### **5.2 Summary of Cost Estimates**

A summary of the costs for the cable investigated has been included in Table 5-1 below. This includes termination structures, but not transition stations.

Description	Material (One Circuit)	Labor (One Circuit)	Total (One Circuit)	Total (Two Circuits)
345kV XLPE 3500 kcmil Copper Conductor	\$28,000,000	\$11,800,000	\$39,800,000	\$79,600,000
345kV HPFF 3500 kcmil Copper Conductor	\$29,900,000	\$14,000,000	\$43,900,000	\$87,800,000

**Table 5-1: Cost Summary\* Table, Excluding Transition Stations**

\* A 15 % contingency is included in the estimates.

Cost adders for consideration are as shown in Table 5-2 below:

Description	Reactive Compensation Study	Transition Station, without Reactors, Termination End One*	Transition Station, without Reactors, Termination End Two*	Total
345kV XLPE 3500 kcmil Copper Conductor	\$150,000 - \$300,000	\$1,500,000	\$1,500,000	\$3,300,000
345kV HPFF 3500 kcmil Copper Conductor	\$150,000 - \$300,000	\$1,500,000	\$1,500,000	\$3,300,000

**Table 5-2: Cost Adders for Consideration**

\* There is not enough information at this time to define transition station needs or costs. In addition, there is not sufficient information to determine reactive compensation requirements and costs. Generally, a transition station for an XLPE cable system would cost less than for an HPFF cable system. The table above uses the same costs for both and assumes reactors are not required.

## **VI. COMPARISON OF ENVIRONMENTAL IMPACTS OF OVERHEAD AND UNDERGROUND TRANSMISSION LINE CONSTRUCTION**

The environmental impact of underground transmission line construction differs substantially from overhead transmission. Different right of way/easement requirements would also apply depending on the type of underground cable system installed. Since each circuit would be separated, the circuits could be installed on a combined right of way or separate right of ways. Temporary construction easements could be required if the underground installation could not be installed within or at the edge of road right of way and the road right of way was not suitable for the set up of the installation equipment.

### **6.0 Right of Way Widths**

Underground right of way widths can be limited to the area containing the transmission line and an area on each side of the transmission line, set aside to protect the line from unintentional excavation damage and to provide access.

#### **6.0.1 *XLPE Right Of Way Requirements***

For the combined right of way, a minimum 55 foot permanent easement would be required when crossing private land for open trenching installations. This would allow the two circuits to be installed a minimum of 10 foot inside each right of way line, and still maintain a separation of 20 feet from the edge of each duct bank. For separate right of ways, a minimum 30 foot permanent easement would be needed for each circuit, supplemented with an additional 20 foot temporary construction easement, when crossing private land.

#### **6.0.2 *HPFF Right Of Way Requirements***

For the combined right of way, a minimum 60 foot permanent easement would be required when crossing private land for open trenching installations. Like the XLPE cable system, this would allow the two circuits to be installed a minimum of 10 foot inside each right of way line, and still maintain a separation of 20 feet from the edge of each circuit trench envelope. For separate right of ways, a minimum 30 foot permanent easement would be needed for each circuit, supplemented with an additional 20 foot temporary construction easement, when crossing private land.

#### **6.0.3 *Trenchless Crossings***

If areas exist along the route where open trenching is not viable and a trenchless technique would be used to install the cable system, larger right of ways would be required to accommodate bore pits and additional separation between cable pipes/conduits in order to meet the ampacity requirements for each 345 kV circuit.

## **6.1 Ground Disturbance**

Most ground disturbance during overhead construction occurs at the structure locations. Underground construction involves extensive ground disturbance including trenching along the entire line length and the installation of splicing and pull-through vaults as necessary.

Sensitive features such as streams and rivers, etc. may also exist in the line route. While overhead construction has the flexibility to span features such as rivers, streams and wetlands, underground construction does not have as much flexibility. Underground transmission requires construction through these sensitive features if they are crossed by the line route. Directional drilling or boring may be required for underground construction in order to avoid impacts to streams, rivers, and wetlands. However, where directional drilling is not feasible, trenching through sensitive areas would be required for underground construction.

Underground construction requires extensive coordination with other underground utilities to avoid damage during construction. This level of coordination usually exceeds that required for overhead construction. The potential to disrupt or damage underground utilities is usually greater with underground construction.

Replacement or repair activities may have additional ground disturbance for underground lines. Overhead repair work usually involves light impact at the structure locations. Secondary off-site ground disturbing impacts may be required for underground lines if selective fill is required for heat dissipation. Materials source sites must be excavated to obtain this select fill material.

## **6.2 Land Use and Aesthetics**

Overhead construction can be visually intrusive in sensitive visual environments. Urban underground construction, if properly rehabilitated, typically has lower visual impacts than overhead construction. In rural areas, underground rights of way may have a higher visual impact than in urban areas due to the clearing required for the right of way.

Overhead construction may not be suitable for congested urban areas and may impact urban land uses more than underground construction. In rural settings, underground construction may be much more disruptive to agricultural or rural land uses than overhead construction. Farming can usually be conducted under overhead lines (except near structure locations) while it would be prohibited over underground lines to avoid damaging the line.

## **6.3 Electric Fields, Magnetic Fields, and Noise**

Underground construction in pipes or shielded cable eliminates electrical fields at the right of way boundary. Magnetic fields are generally higher directly over an underground installation compared to under an overhead installation. Magnetic fields tend to decrease more rapidly with distance for underground installations compared to overhead. Details of the underground magnetic fields are stated in Section II and in Appendix B.

Overhead lines emit a hiss or low hum (corona) during rainstorms or humid periods. Underground lines are silent for the most part, with the exception of the immediate area near termination points.

#### **6.4 Right of Way Clearing and Vegetation Control**

In undeveloped areas, underground construction requires the right of way, including temporary and permanent easements, to be totally cleared to allow for construction and establishment of the right of way. This includes trees, brush, and ground cover. While low growing vegetation can be reestablished over an underground installation, trees or plants with woody roots cannot be allowed to grow over the line.

Overhead construction requires complete clearing only in the area of the structures and removal of trees along the line route to provide for electrical clearance and maintenance. Lower vegetation such as brush, shrubs, and ground covers can usually be left as long as it will not interfere with maintenance and access to the line. Both underground and overhead construction techniques may require long-term vegetation control in the right of way.

#### **6.5 Erosion Control in Unstable Areas**

Extensive erosion control measures are required for underground lines because a trench is dug the entire line length and the right of way is totally cleared. In areas with hilly terrain and erosive soils, significant erosion and sedimentation impacts can arise from underground construction. Due to less ground disturbing activity, overhead lines usually result in lesser erosion impacts.

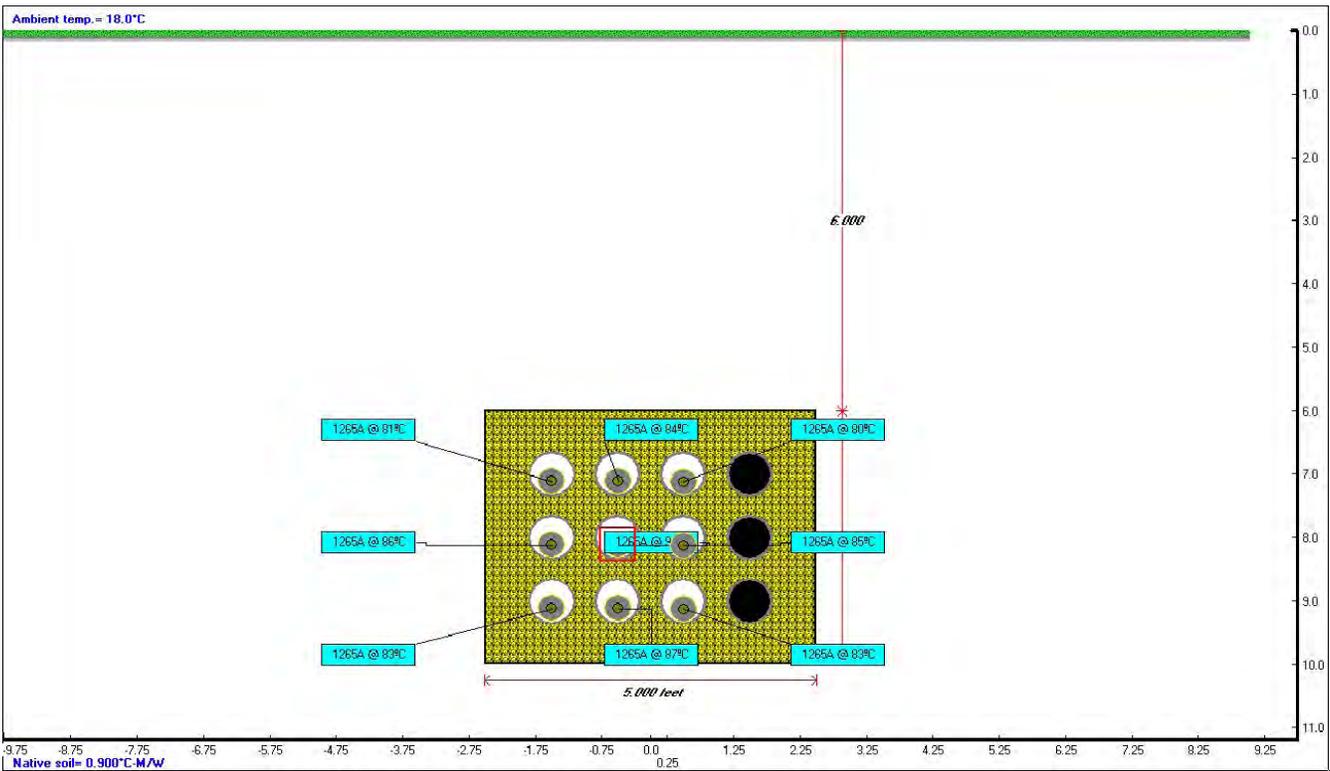
Careful placement of structure locations or engineered foundation arrangements can avoid or mitigate unstable geology or soils in overhead construction. Underground construction does not have the flexibility to avoid such areas encountered by the line route; thus, the potential for impacts to those areas may be greater.

## **APPENDIX A**

Ampacity Studies

**Study:** CAPX 2020 Feasibility Study  
**Execution:** 3500 kcmil XLPE, 3 cab/ph, single circuit, 10'trenchdepth  
**Date:** 2/8/2010  
**Frequency:** 60 Hz  
**Conductor Resistances:** Calculated

Installation Type: Multiple Duct Banks Backfills							
Parameter						Unit	Value
Ambient Soil Temperature at Installation Depth						°C	18
Thermal Resistivity of Native Soil						°C.m/W	0.9
Layers		Dimensions [ft]				Type	Thermal Resistivity [°C.m/W]
No.	Name	X Center	Y Center	Width	Height		
1	DB 3X4	0	8	5	4	Standard ductbank	0.5



**Summary Results****Solution converged**

Cable\Cable type no	Circuit	Phase	Location		Load Factor [p.u.]	Temperature [°C]	Ampacity [A]
			X[ft]	Y[ft]			
1\1	1	A	-1.5	7.124	0.75	80.7	1265
2\1	1	B	-0.5	9.124	0.75	86.8	1265
3\1	1	C	-0.5	7.124	0.75	84	1265
4\1	1	A	0.5	9.124	0.75	82.5	1265
5\1	1	B	-1.5	8.124	0.75	85.7	1265
6\1	1	C	-1.5	9.124	0.75	83.4	1265
7\1	1	A	-0.5	8.124	0.75	89.8	1265
8\1	1	B	0.5	7.124	0.75	79.7	1265
9\1	1	C	0.5	8.124	0.75	84.6	1265



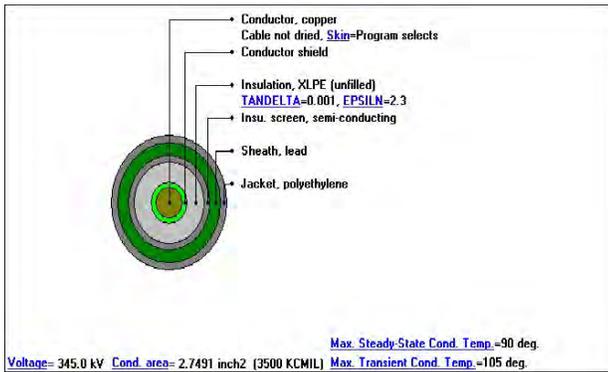
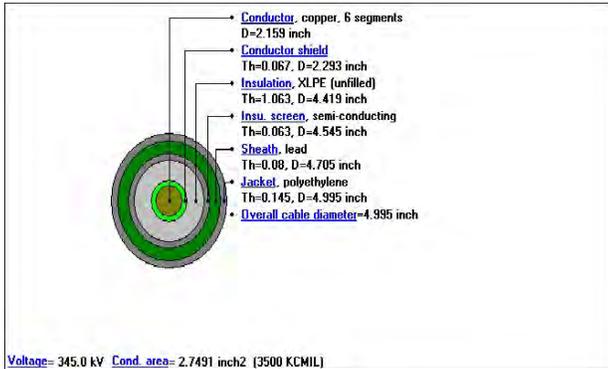
## Cables input data

**Study:** CAPX 2020 Feasibility Study  
**Execution:** 3500 kcmil XLPE, 3 cab/ph, single circuit, 10'trenchdepth  
**Date:** 2/8/2010

No	Description	Unit	1
<b>General cable information</b>			
1	Cable type no		1
2	Number of cores		1
3	Voltage	kV	345
4	Conductor area	inch <sup>2</sup>	2.7491
5	Maximum Steady-State Conductor Temperature	°C	90
6	Maximum Emergency Conductor Temperature	°C	105
<b>Construction</b>			
<b>Conductor</b>			
7	Material		copper
8	Resistivity @20°C	ufΩ.cm	1.7241
9	Temperature coefficient	1/K	0.00393
10	Construction		6 segments
11	Is cable dried?		No
12	ks (Skin effect coefficient)		0.39
13	kp (Proximity effect coefficient)		0.37
14	Diameter	inch	2.159
<b>Conductor shield</b>			
15	Is layer present?		Yes
16	Thickness	inch	0.067
17	Diameter	inch	2.293
<b>Insulation</b>			
18	Is layer present?		Yes
19	Material		XLPE (unfilled)
20	Thermal resistivity	K.m/w	3.5
21	Dielectric loss factor - (tanδ)		0.001
22	Relative permittivity (ε <sub>r</sub> )		2.3
23	Thickness	inch	1.063
24	Diameter	inch	4.419
<b>Insulation screen</b>			
25	Is layer present?		Yes
26	Material		semi-conducting
27	Thickness	inch	0.063
28	Diameter	inch	4.545
<b>Sheath</b>			
29	Is layer present?		Yes
30	Is around each core? (Only for Three core cable)		No
31	Material		lead
32	Resistivity @20°C	ufΩ.cm	21.4
33	Temperature coefficient	1/K	0.004
34	Corrugated construction		Non-corrugated
35	Thickness	inch	0.08
36	Diameter	inch	4.705
<b>Jacket</b>			
37	Is layer present?		Yes
38	Material		polyethylene
39	Thermal resistivity	K.m/w	3.5
40	Thickness	inch	0.145
41	Diameter	inch	4.995
<b>Overall cable diameter</b>			
42	Diameter	inch	4.995

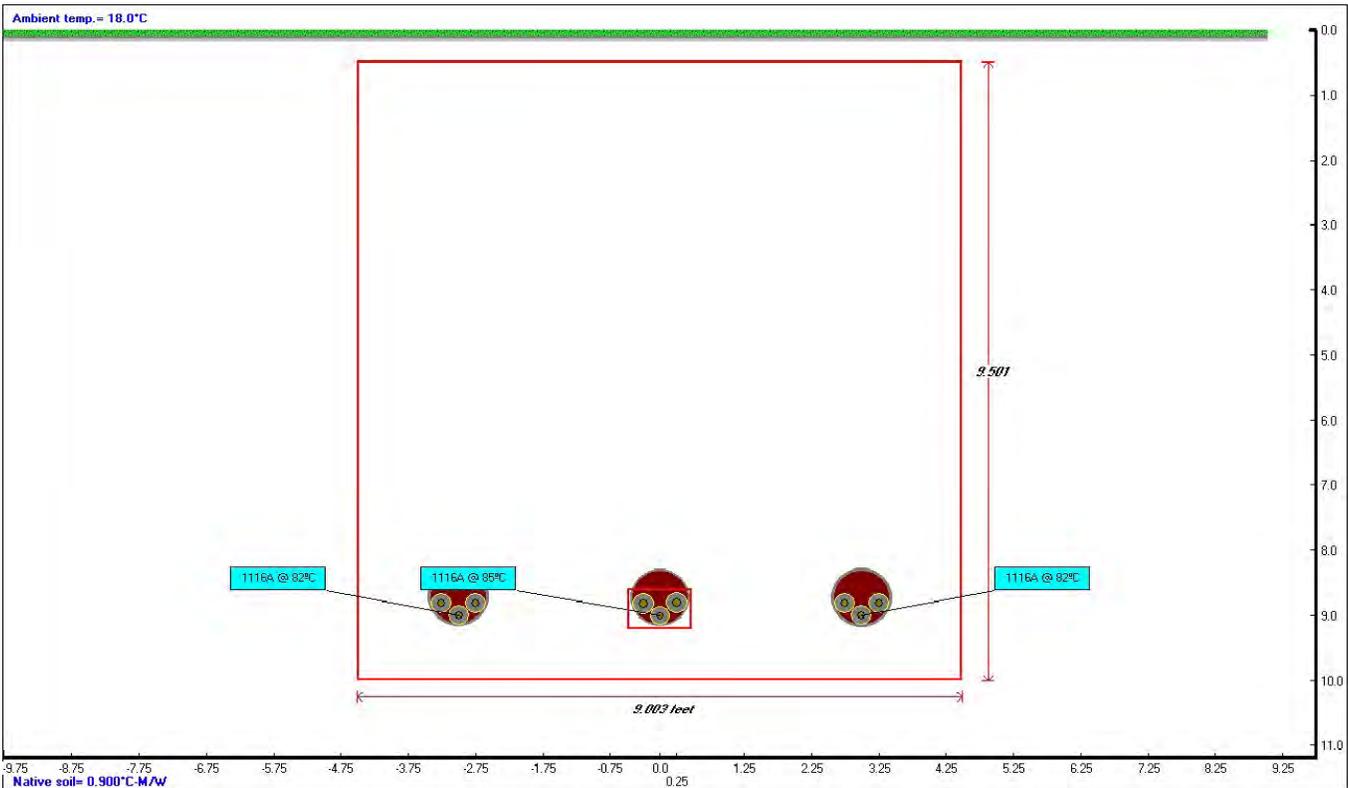


Cable type no: 1  
 Cable type: EXTRUDED  
 Cable ID: 345C3500MX  
 Cable title: 345KV 3500 KCMIL CU XLPE seg. lead w/pe jacket 1063 mils



**Study:** CAPX 2020 Feasibility Study  
**Execution:** 3500 kcmil HPFF, 3 cab/ph, single circuit, flat 3' sep  
**Date:** 2/8/2010  
**Frequency:** 60 Hz  
**Conductor Resistances:** Calculated

Installation Type: Multiple Duct Banks Backfills							
Parameter						Unit	Value
Ambient Soil Temperature at Installation Depth						°C	18
Thermal Resistivity of Native Soil						°C.m/W	0.9
Layers		Dimensions [ft]				Type	Thermal Resistivity [°C.m/W]
No.	Name	X Center	Y Center	Width	Height		
1	Backfill	0	5.25	9.003	9.501	Backfill	0.5



Summary Results							
Solution converged							
Cable\Cable type no	Circuit	Phase	Location		Load Factor [p.u.]	Temperature [°C]	Ampacity [A]
			X[ft]	Y[ft]			
1 \ 1	1	ABC	-3	9	0.75	82.1	1116
2 \ 1	2	ABC	0	9	0.75	84.8	1116
3 \ 1	3	ABC	3	9	0.75	82.1	1116

**Study:** CAPX 2020 Feasibility Study  
**Execution:** 3500 kcmil HPFF, 3 cab/ph, single circuit, flat 3' sep  
**Date:** 2/8/2010

No	Description	Unit	1
<b>General cable information</b>			
1	Cable type no		1
2	Number of cores		3
3	Voltage	kV	345
4	Conductor area	inch <sup>2</sup>	2.7484
5	Maximum Steady-State Conductor Temperature	°C	85
6	Maximum Emergency Conductor Temperature	°C	105
<b>Construction</b>			
<i>Conductor</i>			
7	Material		copper
8	Resistivity @20°C	uΩ.cm	1.7241
9	Temperature coefficient	1/K	0.00393
10	Construction		4 segments
11	Is cable dried?		Yes
12	ks (Skin effect coefficient)		0.44
13	kp (Proximity effect coefficient)		0.37
14	Diameter	inch	2.159
<i>Conductor shield</i>			
15	Is layer present?		Yes
16	Thickness	inch	0.015
17	Diameter	inch	2.189
<i>Insulation</i>			
18	Is layer present?		Yes
19	Material		custom
20	Thermal resistivity	K.m/w	6
21	Dielectric loss factor - ( tan δ )		0.0007
22	Relative permittivity ( ε )		2.7
23	Thickness	inch	0.65
24	Diameter	inch	3.489
<i>Insulation screen</i>			
25	Is layer present?		Yes
26	Material		semi-conducting

27	Thickness	inch	0.02
28	Diameter	inch	3.529

***Sheath reinforcing tape/Tape over insulation screen***

29	Is layer present?		Yes
30	Material		stainless steel
31	Resistivity @20°C	uΩ.cm	70
32	Temperature coefficient	1/K	
33	Tape width	inch	1
34	Length of lay	inch	1.49606
35	Number of tapes		1
36	Thickness	inch	0.007
37	Diameter	inch	3.543

***Concentric neutral/Skid wires***

38	Is layer present?		Yes
39	Is around each core? (Only for Three core cable)		No
40	Material		stainless steel
41	Resistivity @20°C	uΩ.cm	70
42	Temperature coefficient	1/K	
43	Length of lay	inch	
44	Number of wires		2
45	Wire gauge		Unknown
46	Thickness	inch	0.1
47	Diameter	inch	3.743

No	Description/Value	Unit	1
<b>SPECIFIC INSTALLATION DATA</b>			
<i>Loss factor constant</i>			
1	Loss factor constant		0.3
<i>Duct construction</i>			
2	High pressure oil filled pipe type		Yes
3	Resistivity (RH)		0
<i>Cables touching</i>			
4	Single conductor cables touching		Yes
<i>Pipe coating</i>			
5	Polyethylene		Yes
6	Resistivity (RH)		6
<i>Pipe material</i>			
7	Steel pipe		Yes
8	Pipe material factor		1.7
<i>Duct/Pipe dimensions</i>			
9	Inside diameter of Duct/Pipe	inch	10.2500003
10	Outside diameter of Duct/Pipe	inch	10.7500003
11	Pipe coating diameter	inch	10.8900003

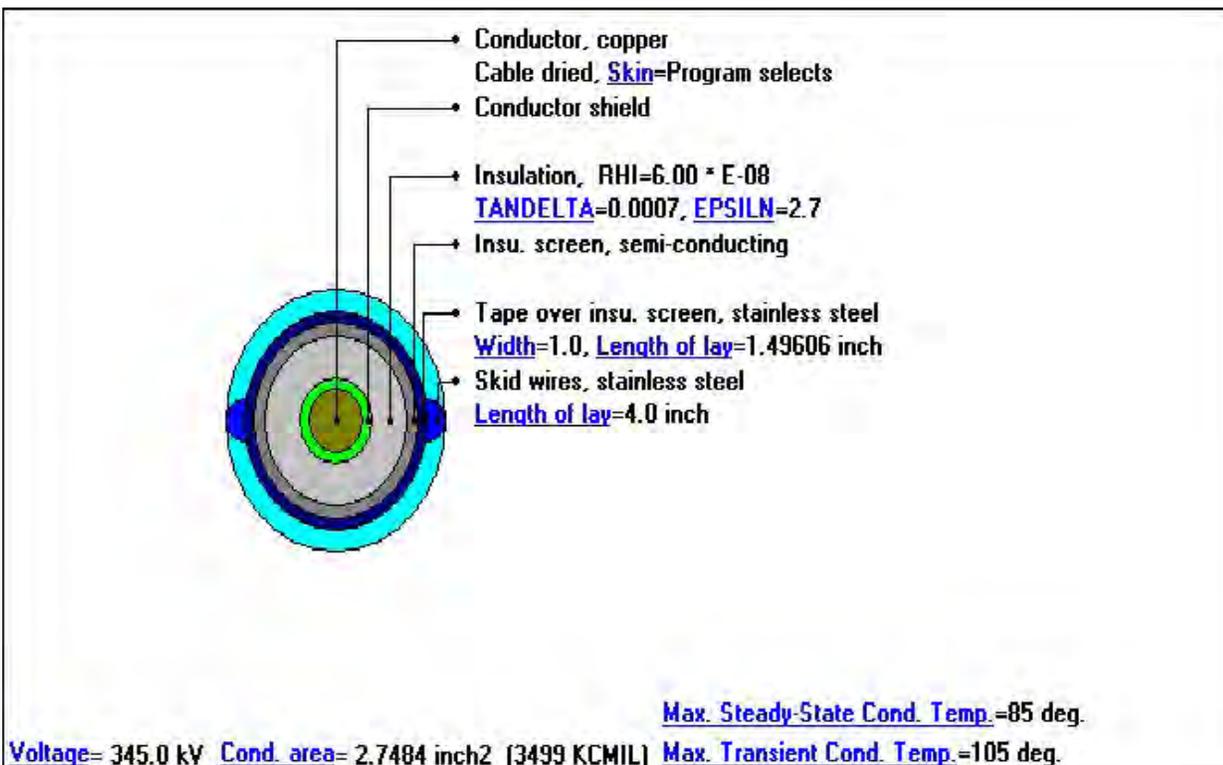
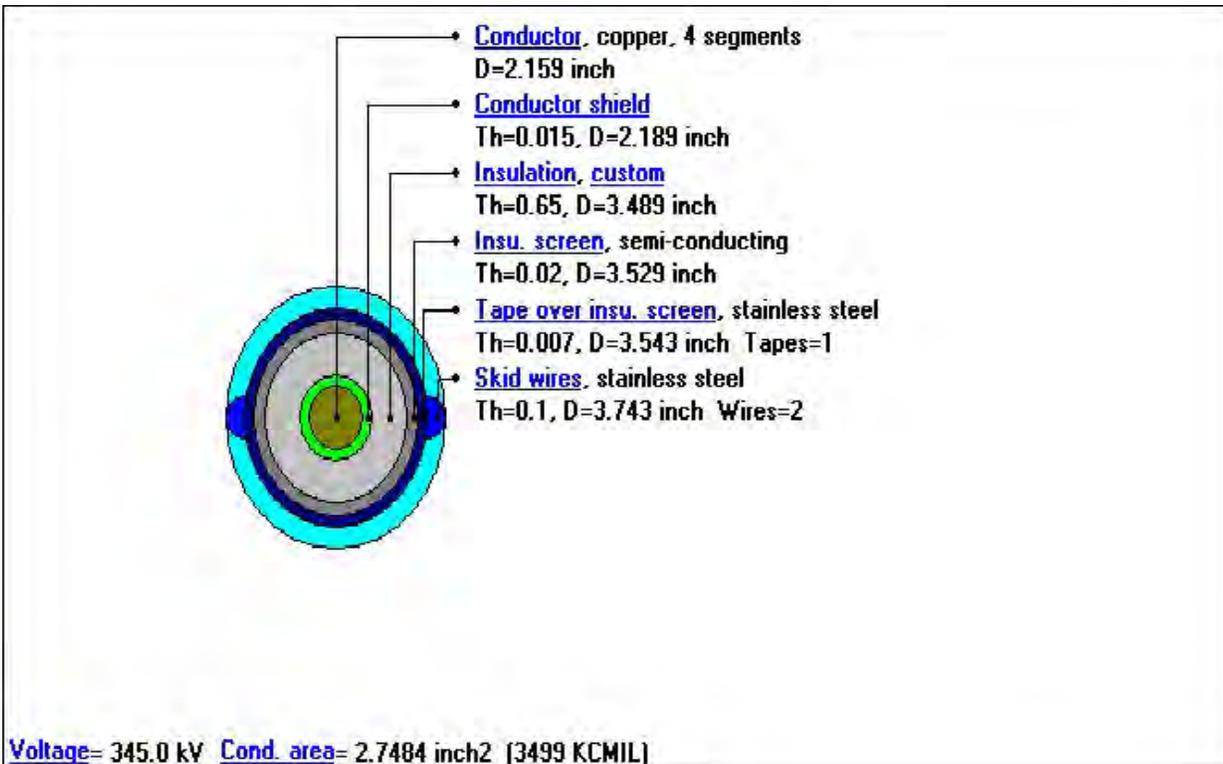
No	Symbol	Description	Unit	1	2	3
<b>Temperature calculations</b>						
1		Cable type no		1	1	1
2		Circuit no		1	2	3
3		Phase		ABC	ABC	ABC
4	$\theta_c$	Conductor temperature	°C	82.1	84.8	82.1
5	$\theta_i$	Sheath/Shield temperature	°C	71.5	74.2	71.5
6	$\theta_j$	Armour/Pipe or Jacket temperature	°C	67.3	70.1	67.3
7	$\theta_s$	Exterior duct temperature	°C	66.5	69.3	66.5
8	$\theta_a$	Ambient temperature	°C	18	18	18

Cable type no: 1

Cable type: PIPE TYPE (CRADLED)

Cable ID: 345C3.50CR

Cable title: 345KV 3500 KCMIL CU HPFF CRADLED W/PPP INSULATION



## **APPENDIX B**

EMF Calculations

### Project Information

Client: Xcel Energy  
Project Name: CapX2020  
Case: Maple River - Alexandria 125 MVA

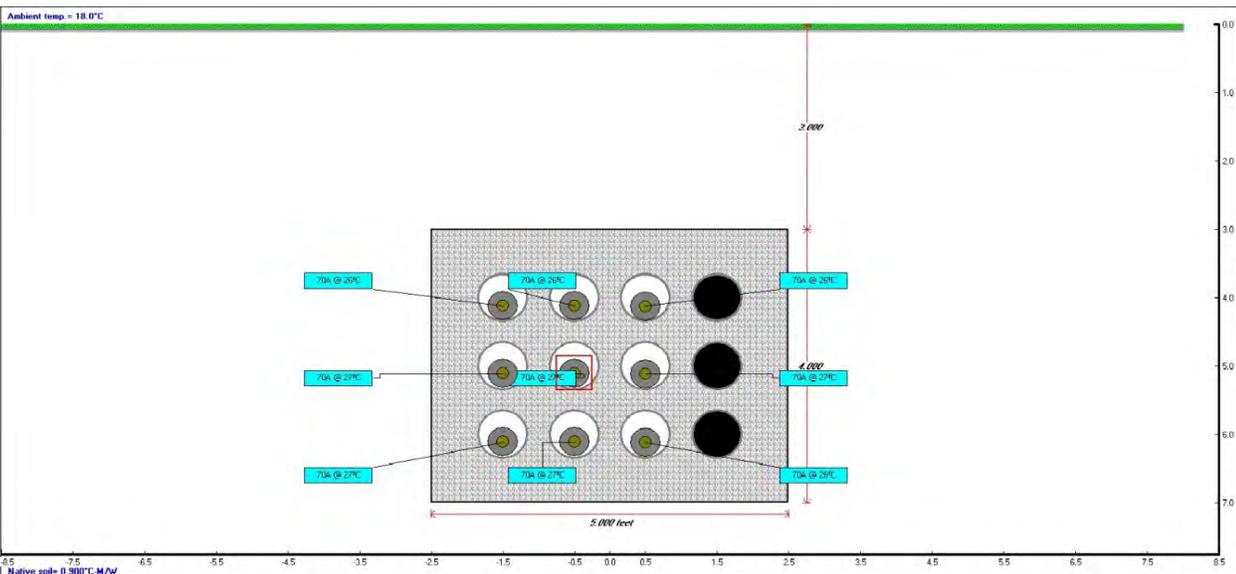
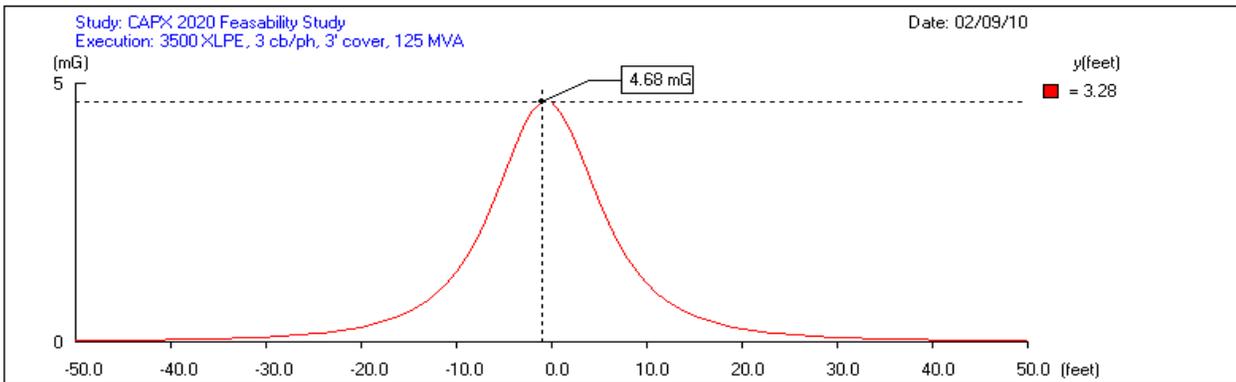
### Input Data

(See Cymcap ductbank arrangement)

Year: 2015  
Number of Circuits: 1  
Calculation Height Above Ground: 3.28 ft  
Current Magnitude & Angle:

### Transmission

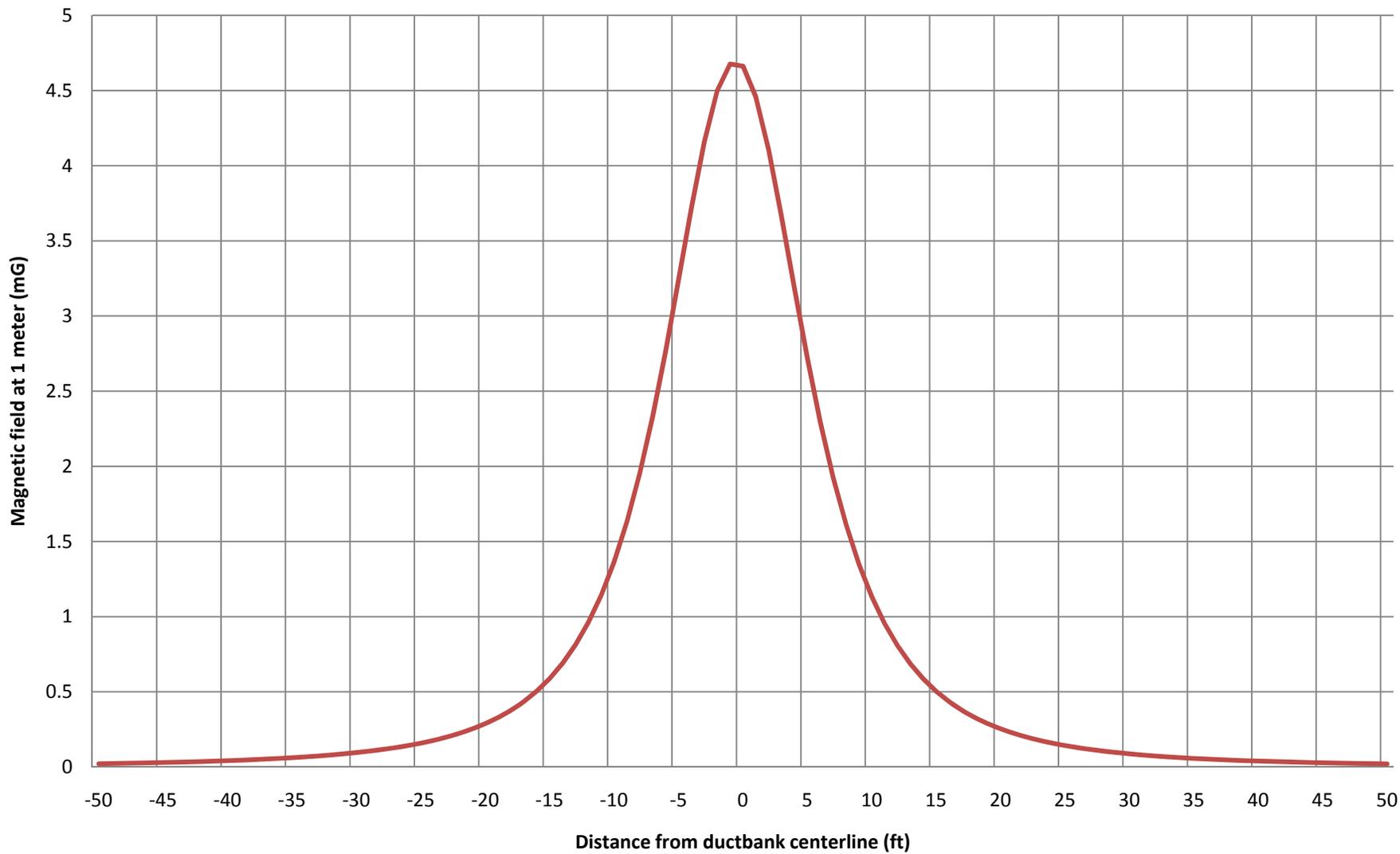
A	70 A	0°
B	70 A	-120°
C	70 A	120°



Distance from Center of Ductbank (ft)	Magnetic Field (mG)	Distance from Center of Ductbank (ft)	Magnetic Field (mG)	Distance from Center of Ductbank (ft)	Magnetic Field (mG)
-50	0.0217	-17	0.4356	17	0.3772
-49	0.023	-16	0.5049	18	0.329
-48	0.0245	-15	0.5884	19	0.2883
-47	0.026	-14	0.6893	20	0.2538
-46	0.0277	-13	0.812	21	0.2244
-45	0.0296	-12	0.9613	22	0.1993
-44	0.0316	-11	1.1434	23	0.1776
-43	0.0338	-10	1.365	24	0.1589
-42	0.0362	-9	1.6334	25	0.1427
-41	0.0389	-8	1.9551	26	0.1285
-40	0.0418	-7	2.3336	27	0.1162
-39	0.045	-6	2.7659	28	0.1053
-38	0.0485	-5	3.2378	29	0.0957
-37	0.0524	-4	3.7184	30	0.0872
-36	0.0567	-3	4.1587	31	0.0797
-35	0.0615	-2	4.4973	32	0.073
-34	0.0668	-1	4.6763	33	0.0671
-33	0.0728	0	4.6619	34	0.0617
-32	0.0795	1	4.458	35	0.0569
-31	0.087	2	4.1043	36	0.0526
-30	0.0954	3	3.6599	37	0.0487
-29	0.105	4	3.1835	38	0.0452
-28	0.1159	5	2.7201	39	0.042
-27	0.1283	6	2.2973	40	0.0391
-26	0.1424	7	1.9276	41	0.0364
-25	0.1587	8	1.6132	42	0.034
-24	0.1774	9	1.3504	43	0.0318
-23	0.1991	10	1.133	44	0.0298
-22	0.2243	11	0.954	45	0.0279
-21	0.2538	12	0.8069	46	0.0262
-20	0.2885	13	0.6858	47	0.0246
-19	0.3293	14	0.586	48	0.0232
-18	0.3778	15	0.5033	49	0.0219
		16	0.4346	50	0.0206

Peak value at distance (ft)	Peak value Mag Field (mG)
-1	4.6763

**Xcel Energy- CapX2020  
Maple River - Alexandria 125 MVA  
XLPE**



### Project Information

Client: Xcel Energy  
Project Name: CapX2020  
Case: Maple River - Alexandria 125 MVA

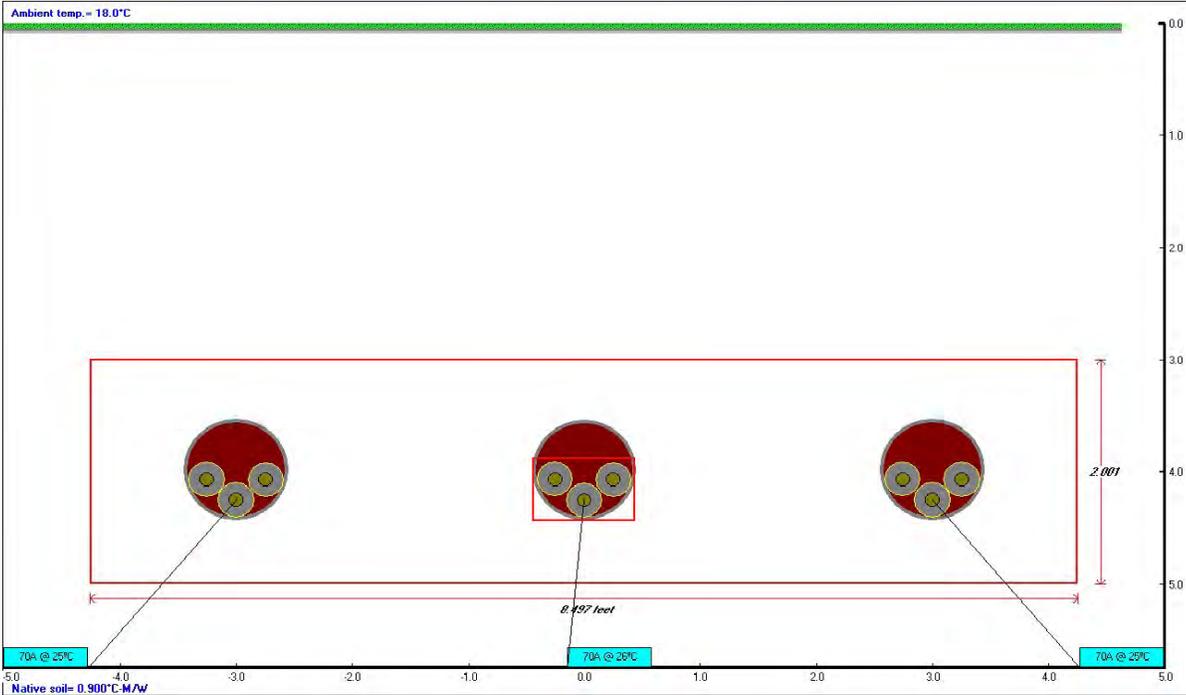
### Input Data

(See Cymcap ductbank arrangement)

Year: 2015  
Number of Circuits: 1  
Calculation Height Above Ground: 3.28 ft  
Current Magnitude & Angle:

### Transmission

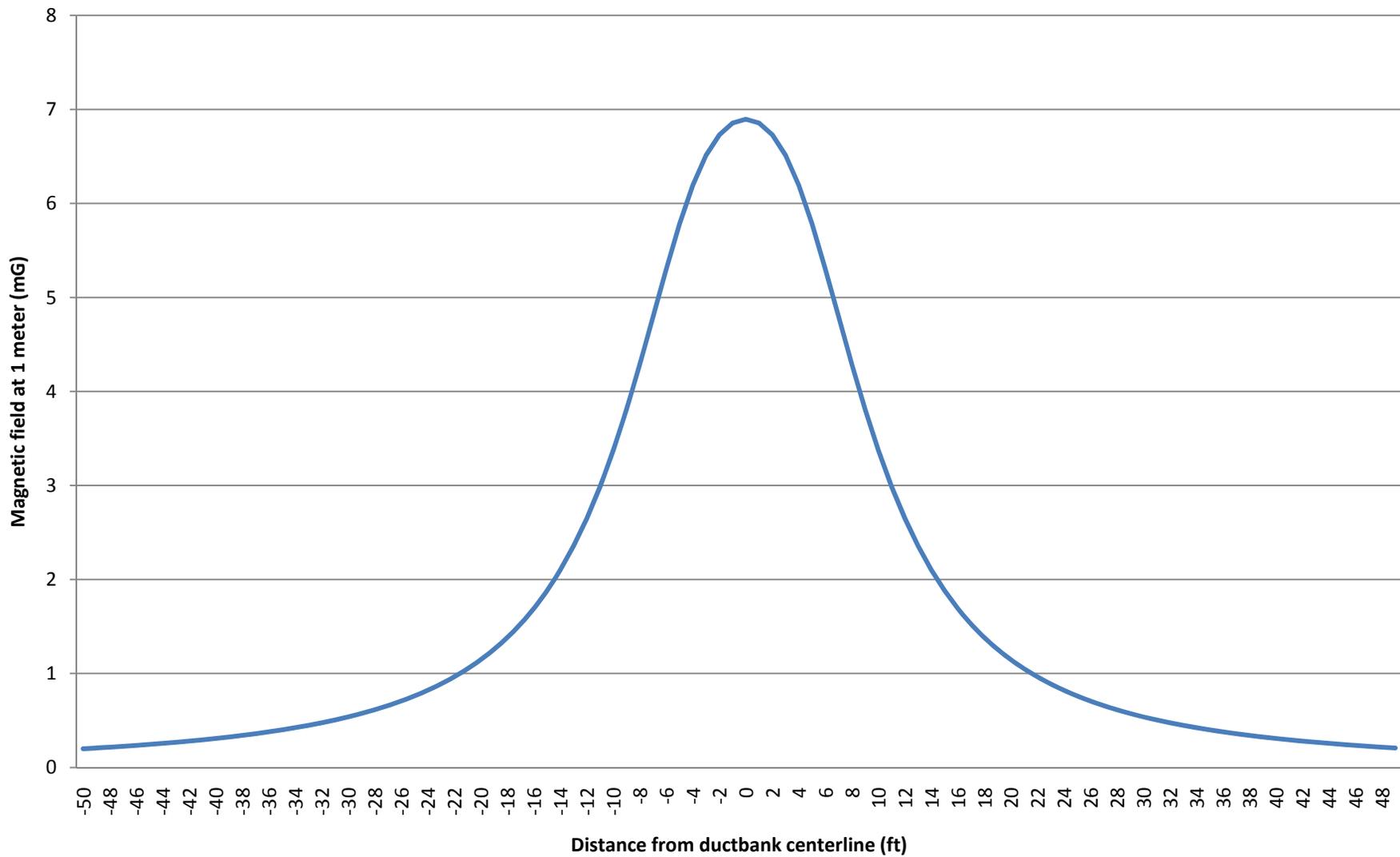
A	70 A	0°
B	70 A	-120°
C	70 A	120°



Distance from Center of Ductbank (ft)	Magnetic Field (mG)	Distance from Center of Ductbank (ft)	Magnetic Field (mG)	Distance from Center of Ductbank (ft)	Magnetic Field (mG)
-50	0.1991	-17	1.5247	16	1.6898
-49	0.2071	-16	1.6898	17	1.5248
-48	0.2157	-15	1.8801	18	1.3812
-47	0.2248	-14	2.1001	19	1.2558
-46	0.2346	-13	2.3546	20	1.1459
-45	0.2449	-12	2.6487	21	1.0492
-44	0.2559	-11	2.9873	22	0.9637
-43	0.2677	-10	3.374	23	0.888
-42	0.2804	-9	3.8089	24	0.8206
-41	0.2939	-8	4.2867	25	0.7603
-40	0.3084	-7	4.793	26	0.7063
-39	0.324	-6	5.3025	27	0.6577
-38	0.3409	-5	5.7807	28	0.6139
-37	0.359	-4	6.1919	29	0.5742
-36	0.3787	-3	6.5105	30	0.5382
-35	0.3999	-2	6.7294	31	0.5054
-34	0.423	-1	6.8548	32	0.4755
-33	0.4481	0	6.8955	33	0.4481
-32	0.4755	1	6.8548	34	0.423
-31	0.5054	2	6.7294	35	0.3999
-30	0.5382	3	6.5105	36	0.3787
-29	0.5742	4	6.1919	37	0.359
-28	0.6139	5	5.7808	38	0.3409
-27	0.6577	6	5.3026	39	0.3241
-26	0.7063	7	4.7931	40	0.3084
-25	0.7603	8	4.2868	41	0.2939
-24	0.8206	9	3.809	42	0.2804
-23	0.888	10	3.374	43	0.2677
-22	0.9637	11	2.9874	44	0.2559
-21	1.0492	12	2.6488	45	0.2449
-20	1.1459	13	2.3546	46	0.2346
-19	1.2557	14	2.1001	47	0.2249
-18	1.3811	15	1.8802	48	0.2157
				49	0.2071

Peak value at distance (ft)	Peak value Mag Field (mG)
0	6.8955

**Xcel Energy- CapX2020  
Maple River - Alexandria 125 MVA  
HPFF**



### Project Information

Client: Xcel Energy  
Project Name: CapX2020  
Case: Alexandria - Quarry 158 MVA

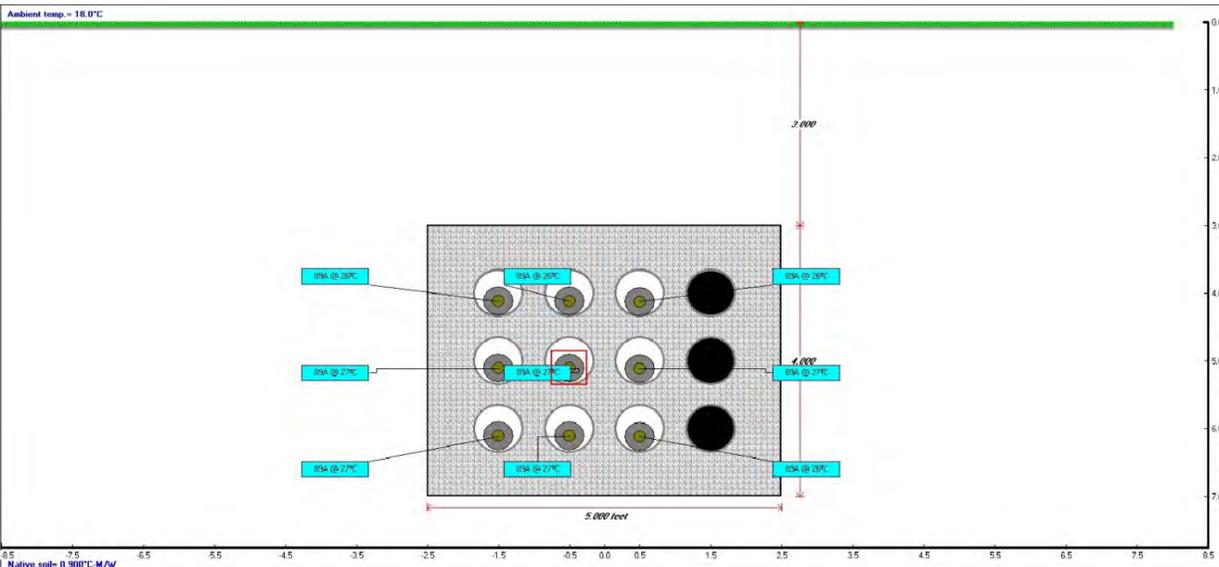
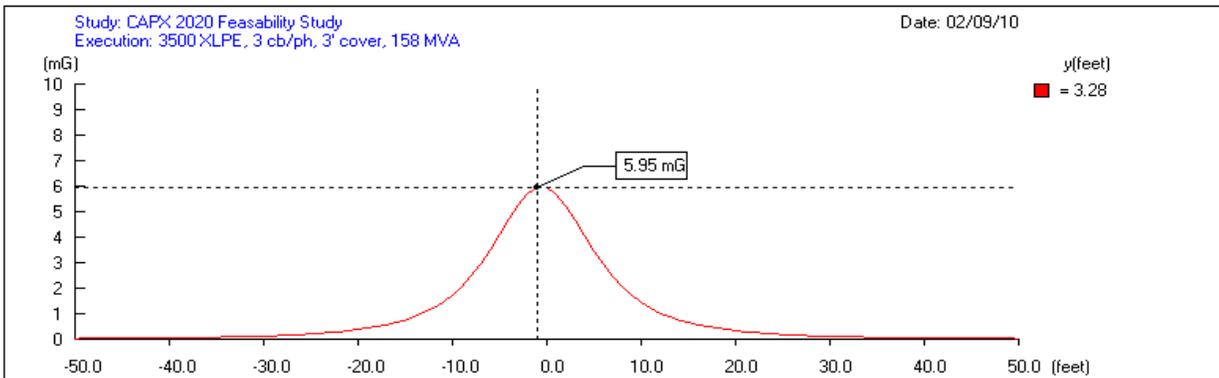
### Input Data

(See Cymcap ductbank arrangement)

Year: 2015  
Number of Circuits: 1  
Calculation Height Above Ground: 3.28 ft  
Current Magnitude & Angle:

### Transmission

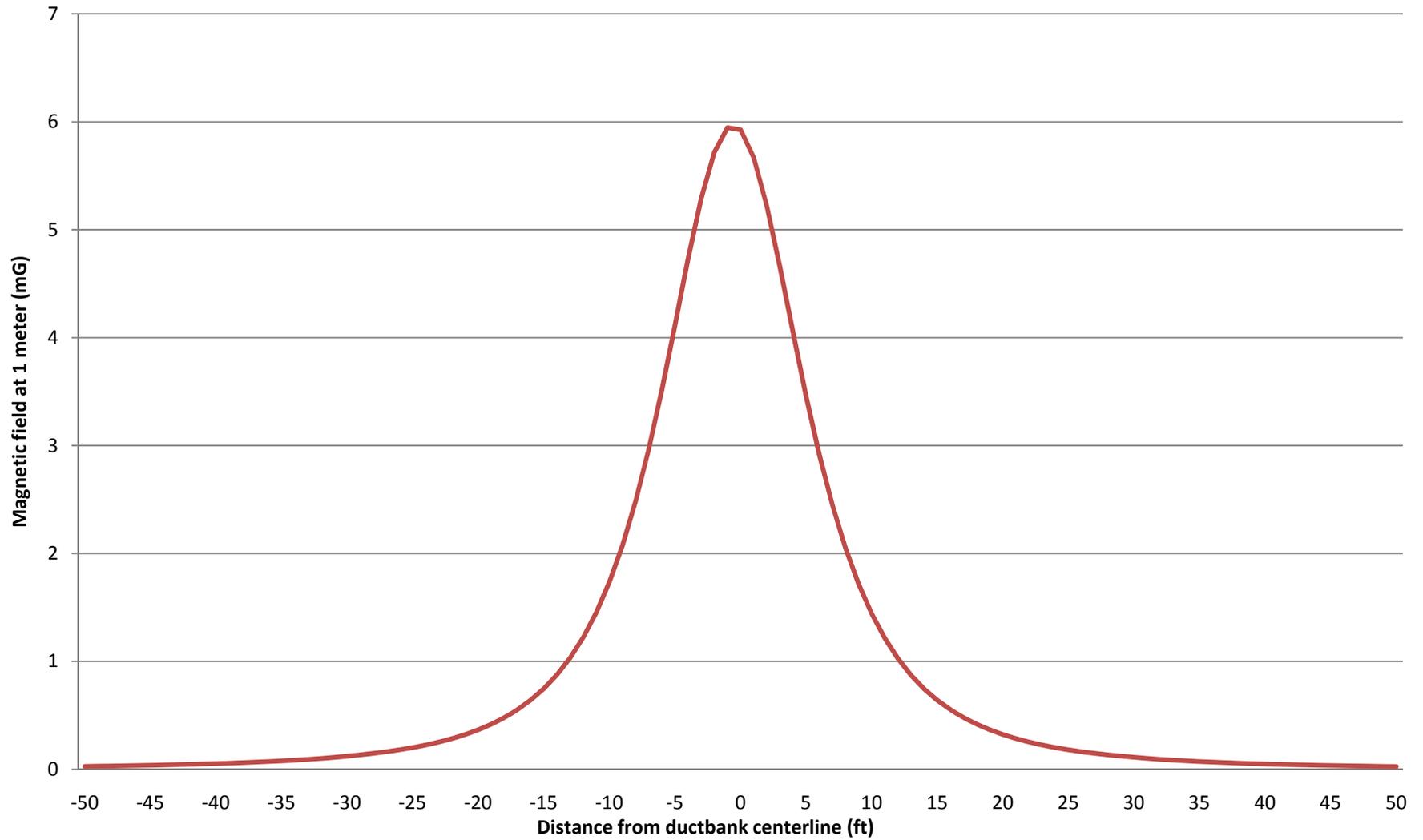
A	89 A	0°
B	89 A	-120°
C	89 A	120°



Distance from Center of Ductbank (ft)	Magnetic Field (mG)	Distance from Center of Ductbank (ft)	Magnetic Field (mG)	Distance from Center of Ductbank (ft)	Magnetic Field (mG)
-50	0.0276	-17	0.5539	17	0.4796
-49	0.0293	-16	0.642	18	0.4183
-48	0.0311	-15	0.7481	19	0.3666
-47	0.0331	-14	0.8765	20	0.3227
-46	0.0353	-13	1.0324	21	0.2854
-45	0.0376	-12	1.2222	22	0.2534
-44	0.0402	-11	1.4537	23	0.2258
-43	0.043	-10	1.7355	24	0.2021
-42	0.0461	-9	2.0768	25	0.1814
-41	0.0494	-8	2.4858	26	0.1634
-40	0.0531	-7	2.967	27	0.1477
-39	0.0572	-6	3.5167	28	0.1339
-38	0.0616	-5	4.1166	29	0.1217
-37	0.0666	-4	4.7277	30	0.1109
-36	0.0721	-3	5.2875	31	0.1014
-35	0.0782	-2	5.718	32	0.0929
-34	0.0849	-1	5.9456	33	0.0853
-33	0.0925	0	5.9272	34	0.0785
-32	0.101	1	5.668	35	0.0724
-31	0.1106	2	5.2183	36	0.0669
-30	0.1213	3	4.6533	37	0.0619
-29	0.1335	4	4.0476	38	0.0574
-28	0.1473	5	3.4584	39	0.0534
-27	0.1631	6	2.9209	40	0.0497
-26	0.1811	7	2.4509	41	0.0463
-25	0.2017	8	2.0511	42	0.0432
-24	0.2256	9	1.717	43	0.0404
-23	0.2531	10	1.4405	44	0.0379
-22	0.2852	11	1.213	45	0.0355
-21	0.3227	12	1.0259	46	0.0333
-20	0.3667	13	0.872	47	0.0313
-19	0.4187	14	0.745	48	0.0295
-18	0.4804	15	0.64	49	0.0278
		16	0.5526	50	0.0262

Peak value at distance (ft)	Peak value Mag Field (mG)
-1	5.9456

**Xcel Energy- CapX2020  
Alexandria - Quarry 158 MVA  
XLPE**



### Project Information

Client: Xcel Energy  
Project Name: CapX2020  
Case: Alexandria - Quarry 158 MVA

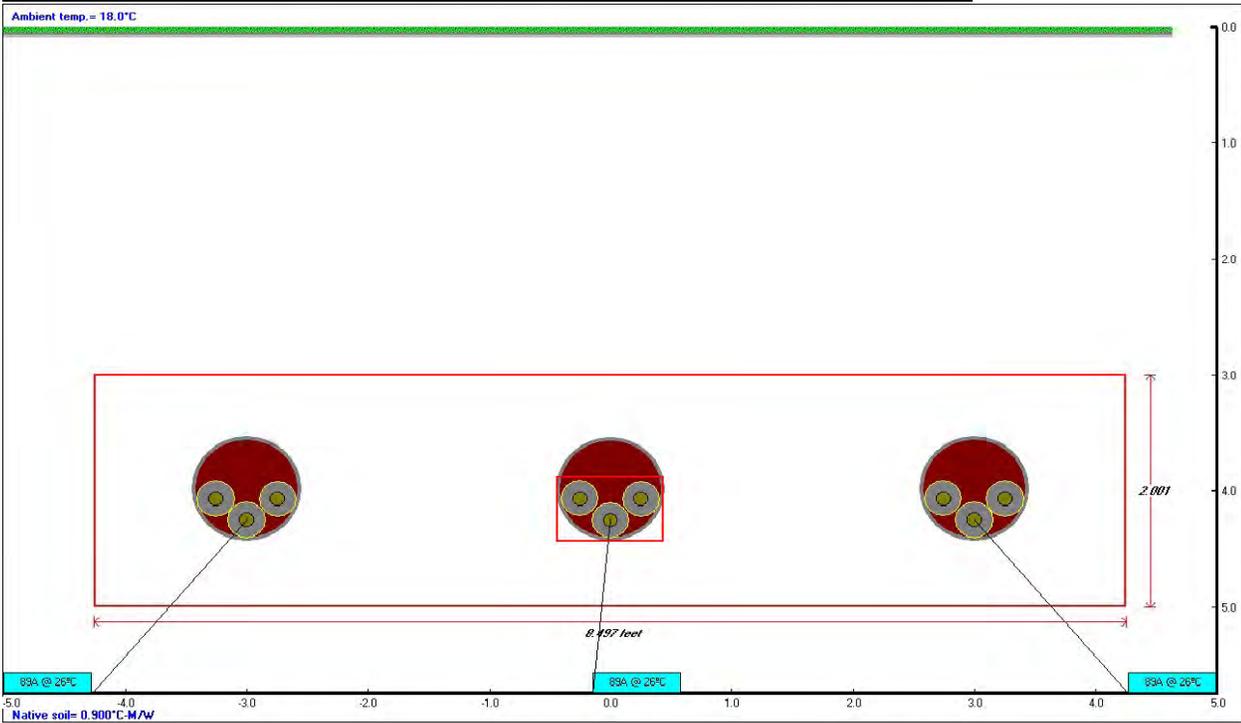
### Input Data

(See Cymcap ductbank arrangement)

Year: 2015  
Number of Circuits: 1  
Calculation Height Above Ground: 3.28 ft  
Current Magnitude & Angle:

### Transmission

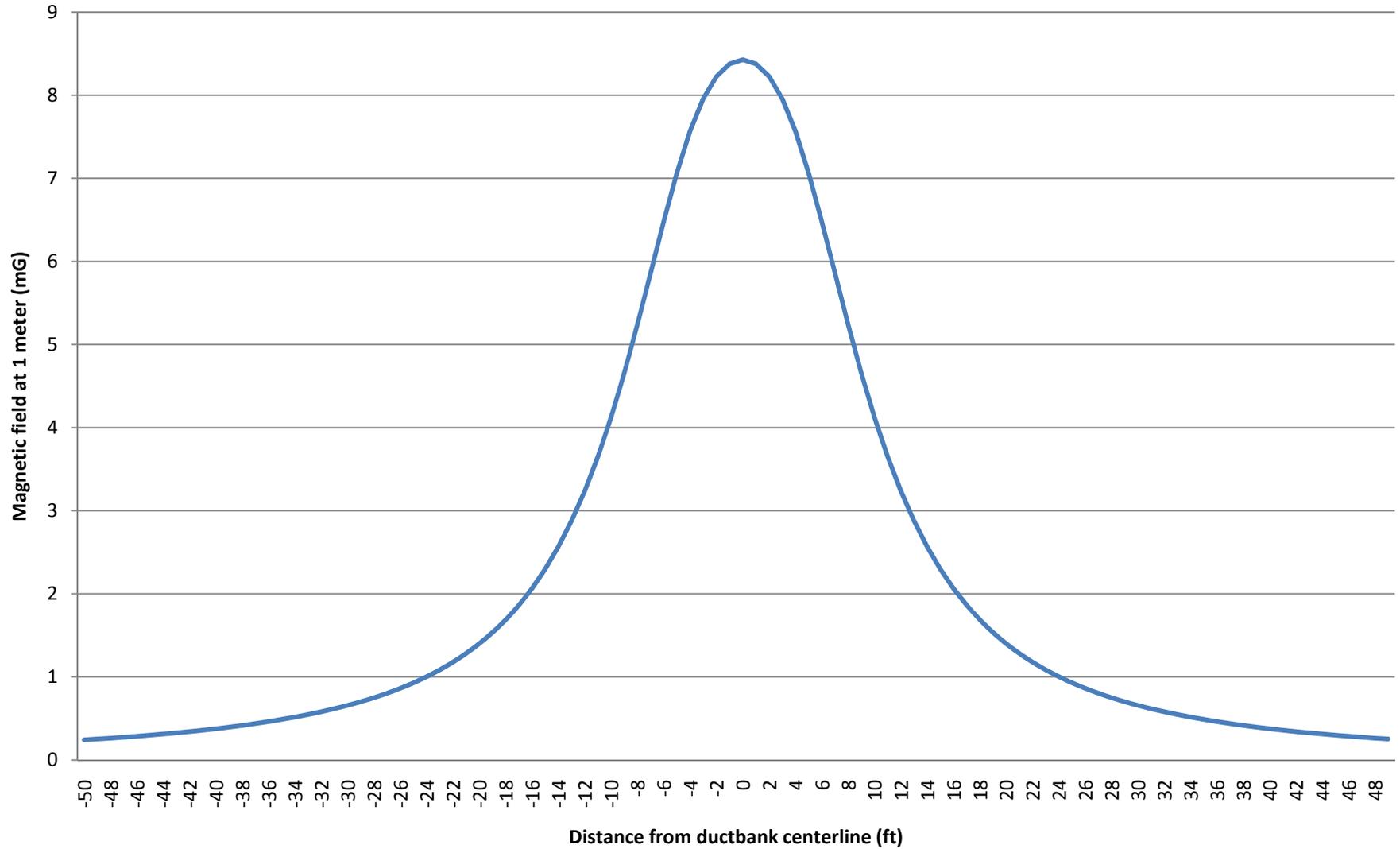
A	89 A	0°
B	89 A	-120°
C	89 A	120°



Distance from Center of Ductbank (ft)	Magnetic Field (mG)	Distance from Center of Ductbank (ft)	Magnetic Field (mG)	Distance from Center of Ductbank (ft)	Magnetic Field (mG)
-50	0.2433	-17	1.8636	16	2.0654
-49	0.2532	-16	2.0653	17	1.8636
-48	0.2637	-15	2.298	18	1.6881
-47	0.2748	-14	2.5668	19	1.5348
-46	0.2867	-13	2.8778	20	1.4005
-45	0.2993	-12	3.2373	21	1.2823
-44	0.3128	-11	3.6512	22	1.1779
-43	0.3272	-10	4.1237	23	1.0853
-42	0.3427	-9	4.6553	24	1.0029
-41	0.3592	-8	5.2393	25	0.9293
-40	0.377	-7	5.8581	26	0.8633
-39	0.3961	-6	6.4808	27	0.8039
-38	0.4166	-5	7.0654	28	0.7503
-37	0.4388	-4	7.5678	29	0.7018
-36	0.4628	-3	7.9573	30	0.6578
-35	0.4888	-2	8.2248	31	0.6177
-34	0.517	-1	8.3781	32	0.5812
-33	0.5477	0	8.4278	33	0.5477
-32	0.5812	1	8.3781	34	0.517
-31	0.6177	2	8.2248	35	0.4888
-30	0.6578	3	7.9573	36	0.4628
-29	0.7018	4	7.5679	37	0.4388
-28	0.7503	5	7.0654	38	0.4166
-27	0.8039	6	6.4809	39	0.3961
-26	0.8633	7	5.8582	40	0.377
-25	0.9293	8	5.2394	41	0.3592
-24	1.0029	9	4.6554	42	0.3427
-23	1.0853	10	4.1238	43	0.3272
-22	1.1779	11	3.6513	44	0.3128
-21	1.2823	12	3.2374	45	0.2993
-20	1.4005	13	2.8779	46	0.2867
-19	1.5348	14	2.5668	47	0.2748
-18	1.6881	15	2.298	48	0.2637
				49	0.2532

Peak value at distance (ft)	Peak value Mag Field (mG)
0	8.4278

**Xcel Energy- CapX2020  
Alexandria - Quarry 158 MVA  
HPFF**

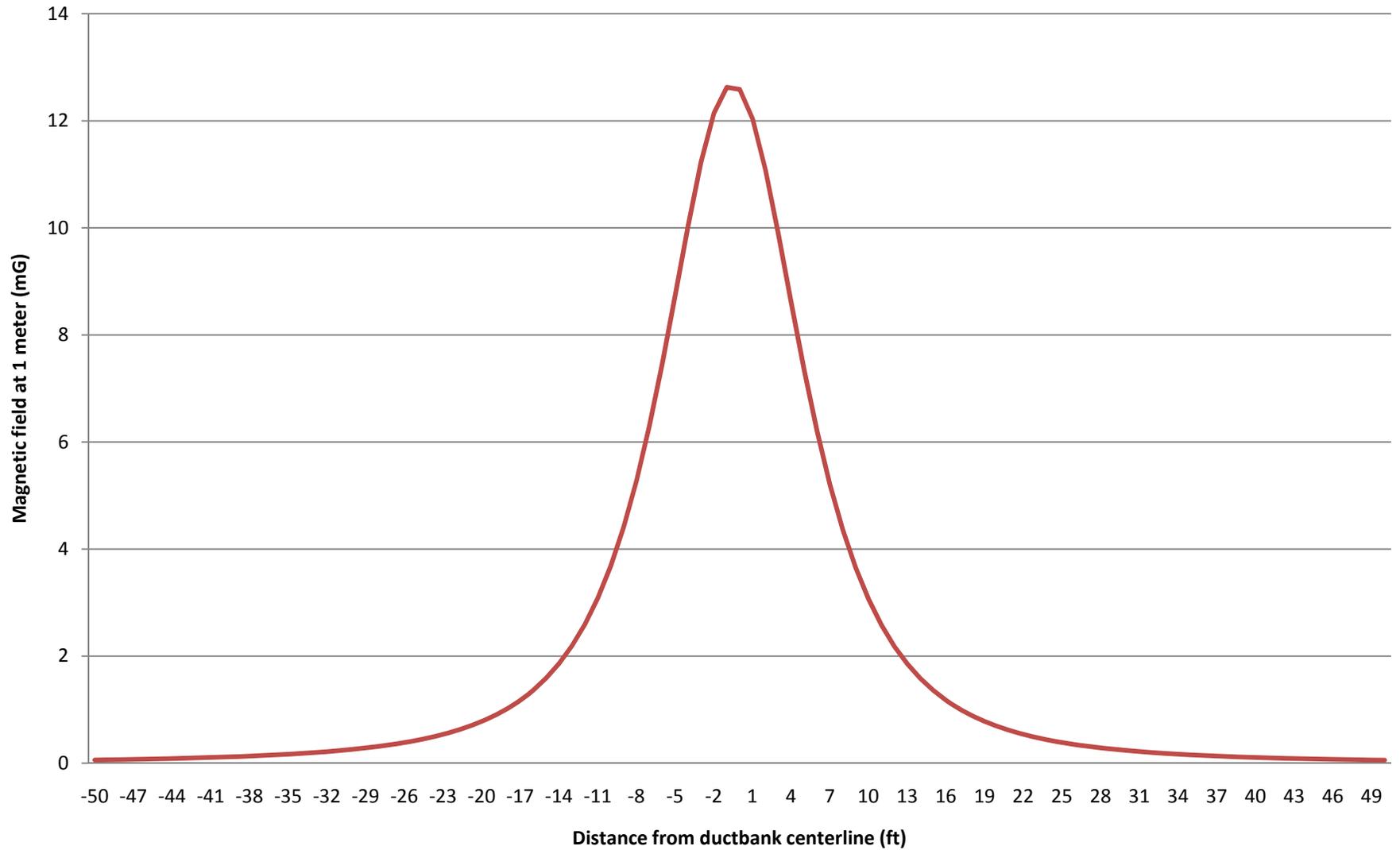




Distance from Center of Ductbank (ft)	Magnetic Field (mG)	Distance from Center of Ductbank (ft)	Magnetic Field (mG)	Distance from Center of Ductbank (ft)	Magnetic Field (mG)
-50	0.0586	-17	1.1762	17	1.0184
-49	0.0622	-16	1.3633	18	0.8883
-48	0.0661	-15	1.5886	19	0.7785
-47	0.0703	-14	1.8612	20	0.6853
-46	0.0749	-13	2.1923	21	0.606
-45	0.0799	-12	2.5955	22	0.538
-44	0.0854	-11	3.0871	23	0.4796
-43	0.0913	-10	3.6855	24	0.4291
-42	0.0978	-9	4.4102	25	0.3853
-41	0.1049	-8	5.2787	26	0.3471
-40	0.1128	-7	6.3007	27	0.3137
-39	0.1214	-6	7.468	28	0.2843
-38	0.1309	-5	8.7421	29	0.2584
-37	0.1414	-4	10.0397	30	0.2356
-36	0.153	-3	11.2285	31	0.2153
-35	0.166	-2	12.1428	32	0.1972
-34	0.1804	-1	12.6261	33	0.1811
-33	0.1965	0	12.587	34	0.1666
-32	0.2145	1	12.0365	35	0.1537
-31	0.2348	2	11.0816	36	0.142
-30	0.2577	3	9.8818	37	0.1315
-29	0.2835	4	8.5954	38	0.122
-28	0.3129	5	7.3443	39	0.1133
-27	0.3463	6	6.2028	40	0.1055
-26	0.3845	7	5.2046	41	0.0983
-25	0.4284	8	4.3557	42	0.0918
-24	0.479	9	3.6462	43	0.0858
-23	0.5376	10	3.0591	44	0.0804
-22	0.6057	11	2.5759	45	0.0754
-21	0.6853	12	2.1786	46	0.0708
-20	0.7788	13	1.8518	47	0.0665
-19	0.8892	14	1.5822	48	0.0626
-18	1.0201	15	1.359	49	0.059
		16	1.1734	50	0.0557

Peak value at distance (ft)	Peak value Mag Field (mG)
-1	12.6261

**Xcel Energy- CapX2020  
Quarry - Monticello 338 MVA  
XLPE**



### Project Information

Client: Xcel Energy  
Project Name: CapX2020  
Case: Quarry - Monticello 338 MVA

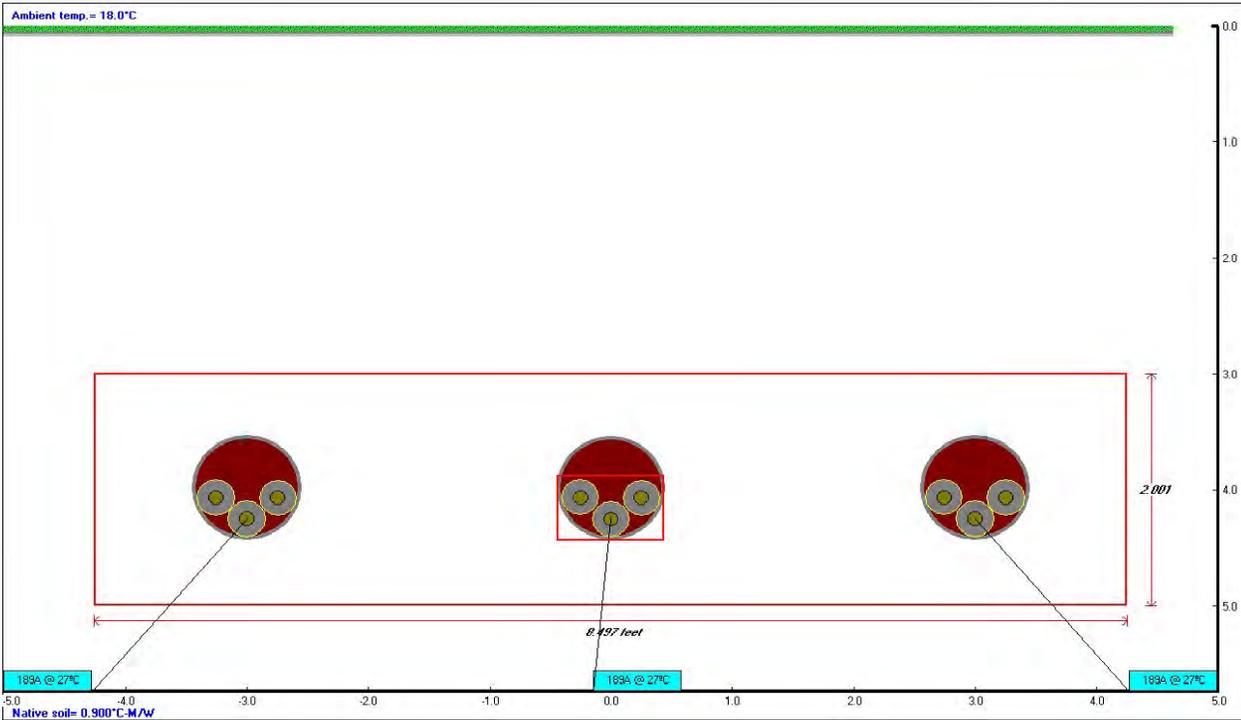
### Input Data

(See Cymcap ductbank arrangement)

Year: 2015  
Number of Circuits: 1  
Calculation Height Above Ground: 3.28 ft  
Current Magnitude & Angle:

### Transmission

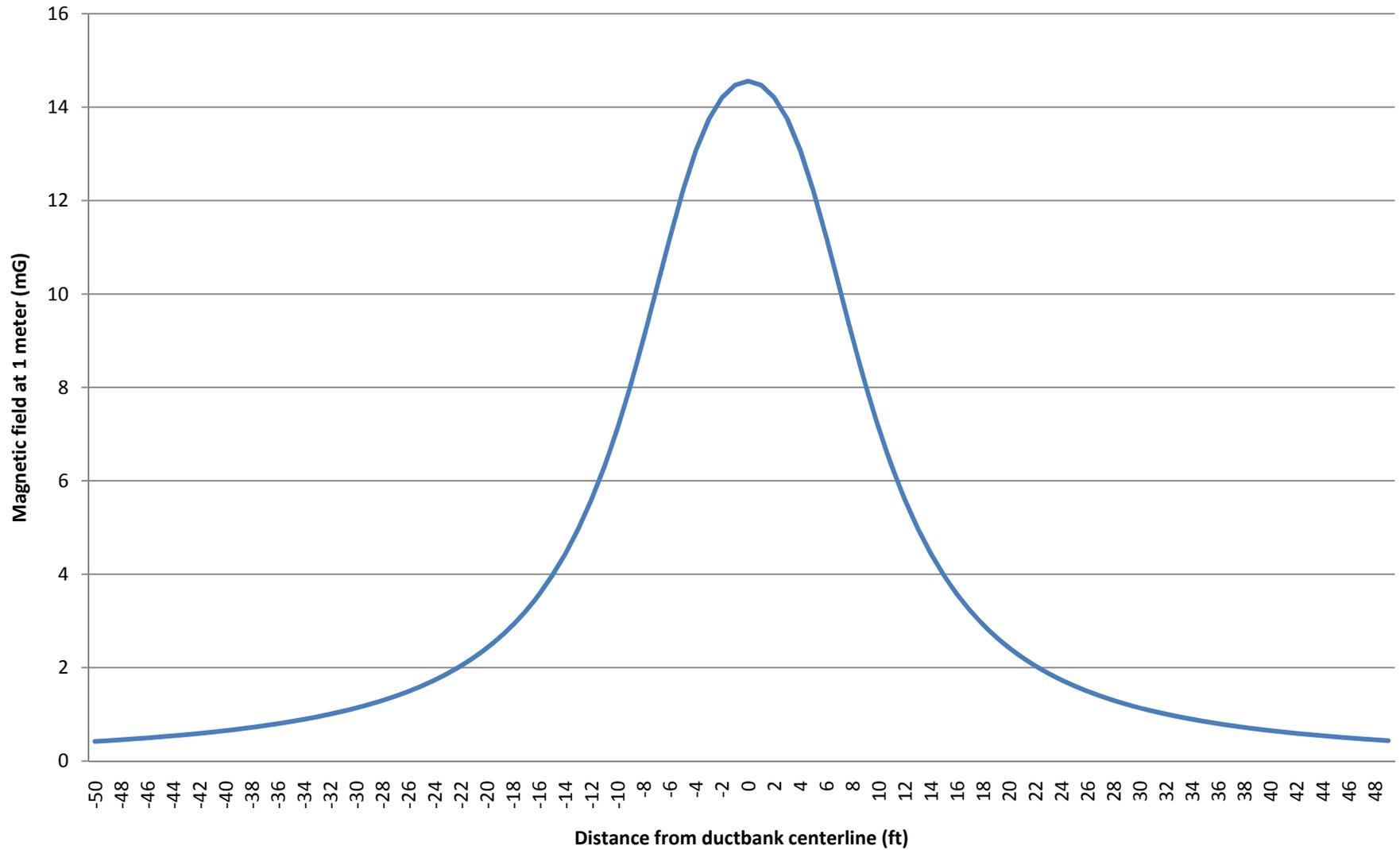
A	189 A	0°
B	189 A	-120°
C	189 A	120°



Distance from Center of Ductbank (ft)	Magnetic Field (mG)	Distance from Center of Ductbank (ft)	Magnetic Field (mG)	Distance from Center of Ductbank (ft)	Magnetic Field (mG)
-50	0.4203	-17	3.2192	16	3.5678
-49	0.4374	-16	3.5677	17	3.2193
-48	0.4555	-15	3.9696	18	2.9161
-47	0.4747	-14	4.434	19	2.6513
-46	0.4952	-13	4.9713	20	2.4193
-45	0.5171	-12	5.5923	21	2.2151
-44	0.5404	-11	6.3072	22	2.0348
-43	0.5653	-10	7.1235	23	1.8748
-42	0.5919	-9	8.0418	24	1.7325
-41	0.6205	-8	9.0505	25	1.6053
-40	0.6512	-7	10.1195	26	1.4913
-39	0.6842	-6	11.1952	27	1.3887
-38	0.7197	-5	12.2049	28	1.2961
-37	0.758	-4	13.0729	29	1.2124
-36	0.7995	-3	13.7457	30	1.1363
-35	0.8444	-2	14.2078	31	1.0671
-34	0.8931	-1	14.4726	32	1.0039
-33	0.9461	0	14.5585	33	0.9461
-32	1.0039	1	14.4727	34	0.8931
-31	1.0671	2	14.2078	35	0.8444
-30	1.1363	3	13.7458	36	0.7995
-29	1.2124	4	13.0731	37	0.758
-28	1.2961	5	12.2051	38	0.7197
-27	1.3887	6	11.1954	39	0.6842
-26	1.4912	7	10.1196	40	0.6512
-25	1.6053	8	9.0507	41	0.6205
-24	1.7324	9	8.0419	42	0.5919
-23	1.8748	10	7.1236	43	0.5653
-22	2.0347	11	6.3073	44	0.5404
-21	2.2151	12	5.5924	45	0.5171
-20	2.4193	13	4.9714	46	0.4952
-19	2.6513	14	4.4341	47	0.4747
-18	2.916	15	3.9696	48	0.4555
				49	0.4374

Peak value at distance (ft)	Peak value Mag Field (mG)
0	14.5585

**Xcel Energy- CapX2020  
Quarry - Monticello 338 MVA  
HPFF**

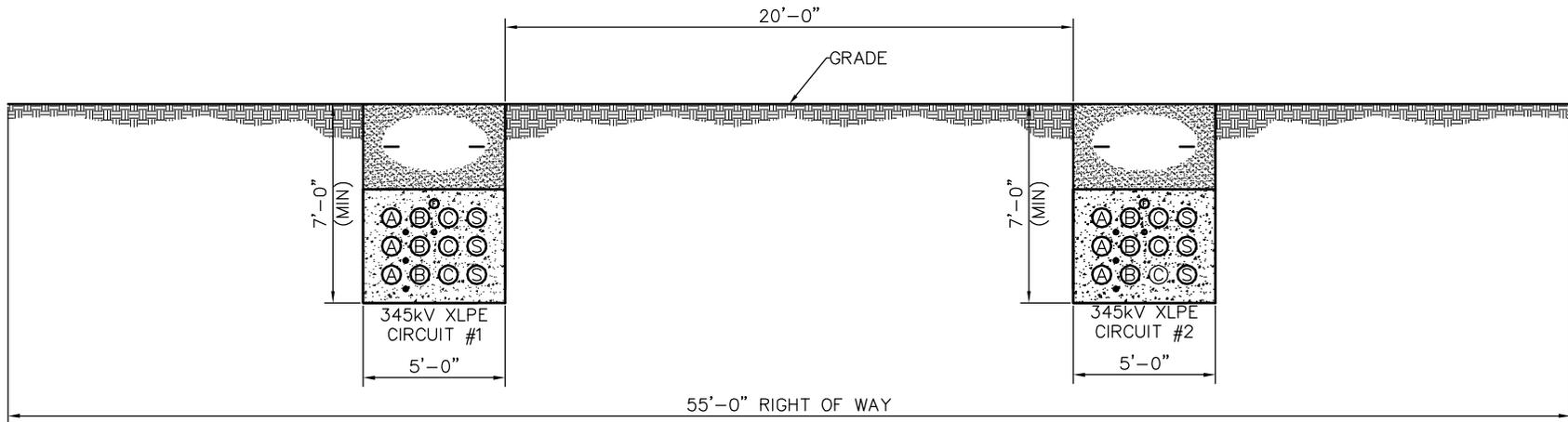


## **APPENDIX C**

Trench Details



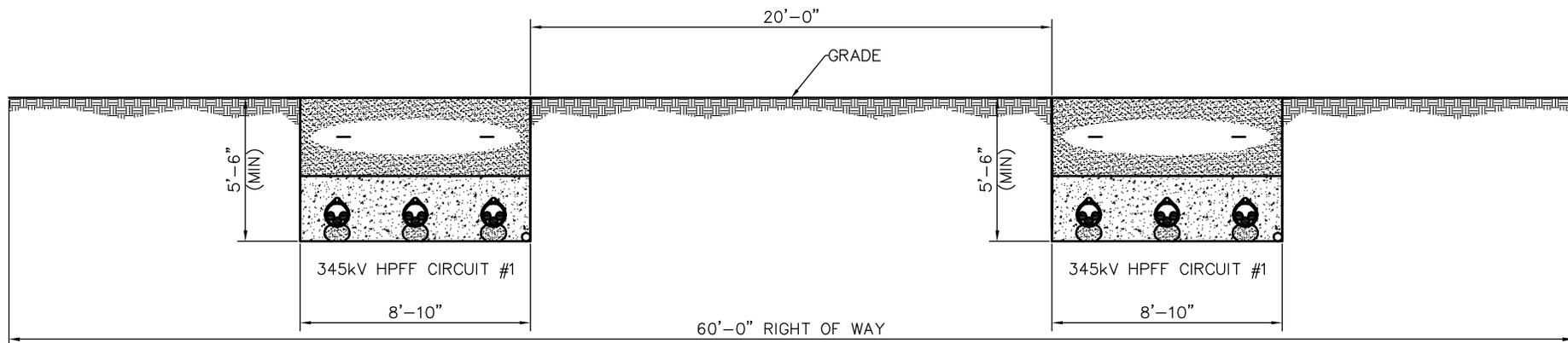
THIS DRAWING WAS PREPARED BY POWER ENGINEERS, INC. FOR A SPECIFIC PROJECT, TAKING INTO CONSIDERATION THE SPECIFIC AND UNIQUE REQUIREMENTS OF THE PROJECT. REUSE OF THIS DRAWING OR ANY INFORMATION CONTAINED IN THIS DRAWING FOR ANY PURPOSE IS PROHIBITED UNLESS WRITTEN PERMISSION FROM BOTH POWER AND POWER'S CLIENT IS GRANTED.



									DSGN	CJK	02/10/10	 www.powereng.com	CAPX2020	JOB NUMBER	REV
								DRN	JTP	02/10/10	345kV UNDERGROUND		117910	△	
								CKD	MRM	02/10/10	RIGHT OF WAY REQUIREMENTS		DRAWING NUMBER		
REV	REVISIONS	DATE	DRN	DSGN	CKD	APPD	REFERENCE DRAWINGS	SCALE:			1" = 75'			C-2	
										FOR 8.5x11 DWG ONLY					



THIS DRAWING WAS PREPARED BY POWER ENGINEERS, INC. FOR A SPECIFIC PROJECT, TAKING INTO CONSIDERATION THE SPECIFIC AND UNIQUE REQUIREMENTS OF THE PROJECT. REUSE OF THIS DRAWING OR ANY INFORMATION CONTAINED IN THIS DRAWING FOR ANY PURPOSE IS PROHIBITED UNLESS WRITTEN PERMISSION FROM BOTH POWER AND POWER'S CLIENT IS GRANTED.



REV	REVISIONS	DATE	DRN	DSGN	CKD	APPD	REFERENCE DRAWINGS

DSGN	CJK	02/10/10
DRN	JTP	02/10/10
CKD	MRM	02/10/10
SCALE:		
1" = 75'		
FOR 8.5x11 DWG ONLY		



CAPX2020
345kV UNDERGROUND RIGHT OF WAY REQUIREMENTS

JOB NUMBER	REV
117910	△
DRAWING NUMBER	
C-4	

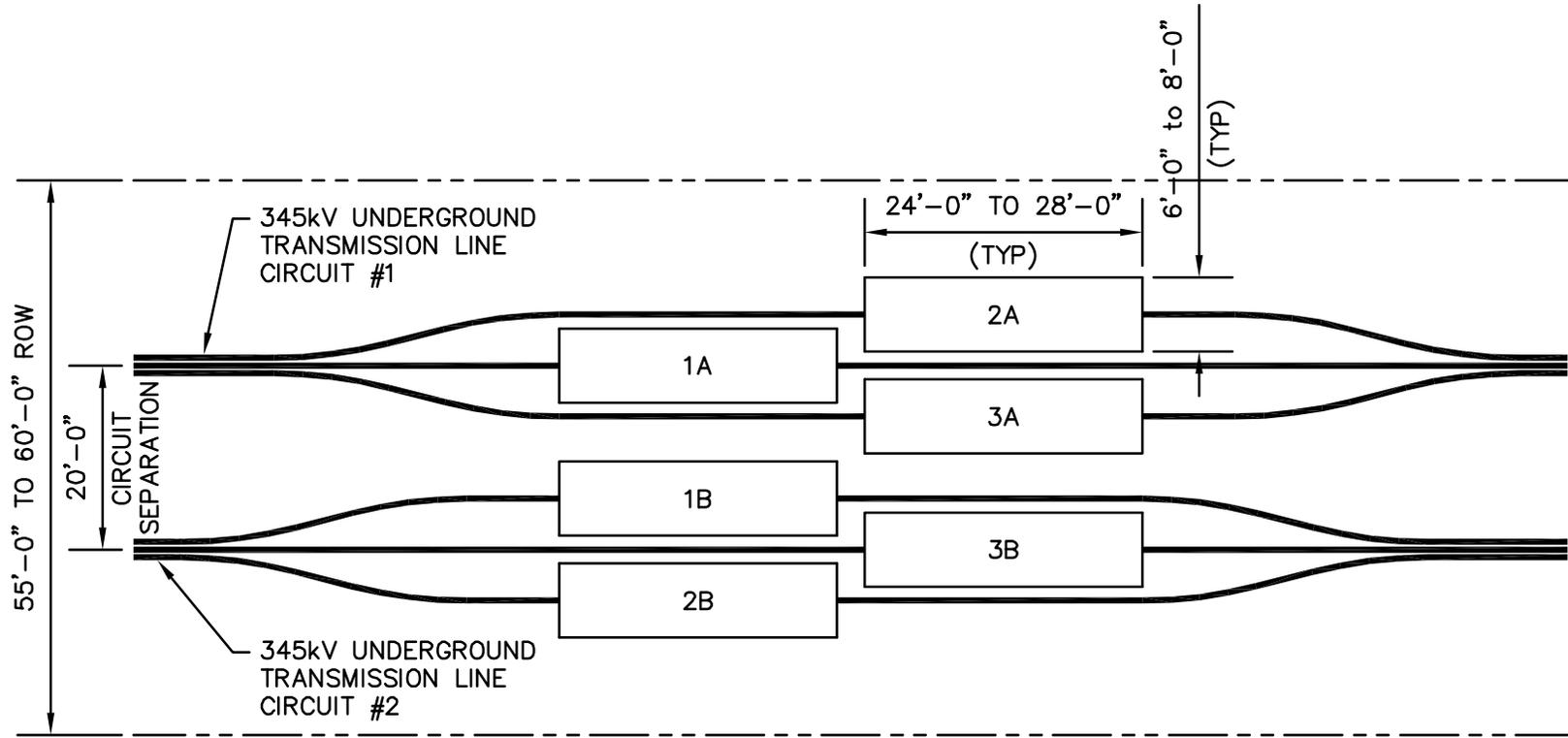
## **APPENDIX D**

### Termination and Vault Details





THIS DRAWING WAS PREPARED BY POWER ENGINEERS, INC. FOR A SPECIFIC PROJECT, TAKING INTO CONSIDERATION THE SPECIFIC AND UNIQUE REQUIREMENTS OF THE PROJECT. REUSE OF THIS DRAWING OR ANY INFORMATION CONTAINED IN THIS DRAWING FOR ANY PURPOSE IS PROHIBITED UNLESS WRITTEN PERMISSION FROM BOTH POWER AND POWER'S CLIENT IS GRANTED.



									DSGN	JJS	02/23/10	 www.powereng.com	CAPX2020	JOB NUMBER	REV
								DRN	JJS	02/23/10			345kV UNDERGROUND TYPICAL VAULT LAYOUT	117910	
								CKD	MRM	02/23/10				DRAWING NUMBER	
A	ISSUED FOR REVIEW	02/23/10	JJS	JJS	MRM			SCALE:		NONE				D-3	
REV	REVISIONS	DATE	DRN	DSGN	CKD	APPD	REFERENCE DRAWINGS	FOR 8.5x11 DWG ONLY							

## **APPENDIX E**

Cost Estimates



CapX2020 345 kV Feasibility Study	<b>345 kV XLPE Single Circuit Installation</b> (Second Circuit Installation - conduits and cable installation not included)	Prepared by: CJK Checked by: MRM
3500 kcmil Cu 9 Cables 3347 Amps 10560 feet      2 miles	1 Number of Duct Banks 12 Number of Cable Ducts 1 Number of Comm Ducts	

Description	Quantity	Material Price	Total Material Price	Labor Price	Total Labor Price	Total Price
<b>Cable and Accessories Section:</b>						
XLPE cable, per foot	101,500	\$150.00	\$15,225,000	\$15.00	\$1,522,500	\$16,747,500
Spare XLPE cable on reel, per foot	1,509	\$150.00	\$226,350	\$0.00	\$0	\$226,350
Terminators, each	18	\$75,000.00	\$1,350,000	\$20,000.00	\$360,000	\$1,710,000
Spare Terminators, each	1	\$75,000.00	\$75,000	\$0.00	\$0	\$75,000
Arresters, each	18	\$7,500.00	\$135,000	\$2,500.00	\$45,000	\$180,000
Spare Arresters, each	1	\$7,500.00	\$7,500	\$0.00	\$0	\$7,500
Splices, each	54	\$33,500.00	\$1,809,000	\$13,500.00	\$729,000	\$2,538,000
Spare Splices, each	2	\$33,500.00	\$67,000	\$0.00	\$0	\$67,000
Grounding system for vaults, each	24	\$2,500.00	\$60,000	\$3,500.00	\$84,000	\$144,000
Grounding system for structures, each	6	\$4,000.00	\$24,000	\$500.00	\$3,000	\$27,000
Cable clamps, each	530	\$200.00	\$106,000	\$100.00	\$53,000	\$159,000
Continuity conductor, per foot	10,800	\$6.00	\$64,800	\$5.00	\$54,000	\$118,800
Jacket integrity test, cable segment	171	\$0.00	\$0	\$2,500.00	\$427,500	\$427,500
<b>Communication System:</b>						
Fiber-optic cable, per foot	11,200	\$2.50	\$28,000	\$4.00	\$44,800	\$72,800
Fiber-optic cable splices, each	1	\$10,000.00	\$10,000	\$5,000.00	\$5,000	\$15,000
Handholes, each	8	\$4,000.00	\$32,000	\$4,000.00	\$32,000	\$64,000
<b>Temperature Monitoring System:</b>						
Fiber-optic cable, per foot	11,700	\$3.50	\$40,950	\$4.00	\$46,800	\$87,750
Fiber-optic cable splices (incl. Enclosures), each	1	\$4,000.00	\$4,000	\$3,000.00	\$3,000	\$7,000
Terminal equipment, each	2	\$4,000.00	\$8,000	\$3,000.00	\$6,000	\$14,000
<b>Duct Bank and Earthwork:</b>						
Cable conduit, per foot	128,000	\$7.00	\$896,000	\$7.00	\$896,000	\$1,792,000
Continuity conduit, per foot	10,700	\$1.50	\$16,050	\$8.00	\$85,600	\$101,650
Communication conduit, per foot	10,700	\$3.00	\$32,100	\$7.50	\$80,250	\$112,350
TM conduit, per foot	10,700	\$1.50	\$16,050	\$8.00	\$85,600	\$101,650
Conduit spacers, each	27,740	\$15.00	\$416,100	\$5.00	\$138,700	\$554,800
Excavation, no rock, including hauling, per cubic yard	15,200	\$15.00	\$228,000	\$45.00	\$684,000	\$912,000
Soil Backfill, including hauling, per cubic yard	5,200	\$25.00	\$130,000	\$25.00	\$130,000	\$260,000
Fluidized thermal backfill (FTB™), per cubic yard	2,000	\$100.00	\$200,000	\$50.00	\$100,000	\$300,000
Duct encasement concrete, per cubic yard	8,000	\$100.00	\$800,000	\$50.00	\$400,000	\$1,200,000
Manholes, each	24	\$20,000.00	\$480,000	\$25,000.00	\$600,000	\$1,080,000
Dewatering, per foot	3,490	\$8.00	\$27,920	\$15.00	\$52,350	\$80,270
Sheeting and shoring, per foot	5,280	\$25.00	\$132,000	\$30.00	\$158,400	\$290,400
Pavement repair, per square foot	37,330	\$15.00	\$559,950	\$5.00	\$186,650	\$746,600
Curb repair, per foot	3,700	\$25.00	\$92,500	\$5.00	\$18,500	\$111,000
Sidewalk repair, per square foot	3,700	\$25.00	\$92,500	\$15.00	\$55,500	\$148,000
Landscape restoration, lot	290,400	\$2.50	\$726,000	\$2.50	\$726,000	\$1,452,000
Loam and seed, per square yard	290,400	\$0.25	\$72,600	\$0.25	\$72,600	\$145,200
Traffic control, days	415	\$100.00	\$41,500	\$750.00	\$311,250	\$352,750
<b>Termination Work</b>						
Substation termination structures, each	6	\$20,000.00	\$120,000	\$10,000.00	\$60,000	\$180,000
Substation foundations, each	6	\$3,000.00	\$18,000	\$2,000.00	\$12,000	\$30,000
Subtotal			\$24,369,870		\$8,269,000	\$32,638,870
<b>Unallocated Costs:</b>						
Engineering, lot	2%	\$0.00	\$0	\$653,000	\$653,000	\$653,000
Construction management, lot	2%	\$0.00	\$0	\$653,000	\$653,000	\$653,000
Mobilization, each	1%	\$0.00	\$0	\$327,000	\$327,000	\$327,000
Demobilization, each	1%	\$0.00	\$0	\$327,000	\$327,000	\$327,000
Real estate/permitting	0%	\$0.00	\$0	\$0.00	\$0	\$0
Subtotal			\$24,369,870		\$10,229,000	\$34,598,870
Contingency	15%		\$3,655,481		\$1,534,350	\$5,189,831
<b>Total Price (should add up to Lump Sum Price)</b>		\$	\$28,025,351	\$	\$11,763,350	\$39,788,701



CapX2020 345 kV Feasibility Study		345 kV HPFF Single Circuit Installation (Second Circuit Installation - pipes and cable installation not included)			Prepared by: CJK Checked by: MRM	
3500 kcmil Cu 9 Cables 3347 Amps 10560 feet      2 miles		3 Number Cable Pipes 1 Number of Trenches 1 Number of Comm Ducts				
Description	Quantity	Material Price	Total Material Price	Labor Price	Total Labor Price	Total Price
<b>Pipe Section:</b>						
Cable Pipe, Pritec Coated, per foot	31,900	\$50.00	\$1,595,000	\$65.00	\$2,073,500	\$3,668,500
Cable Pipe Chill Rings, each	832	\$75.00	\$62,400	\$224.00	\$186,368	\$248,768
Cable Pipe Field Flares, each	24	\$85.00	\$2,040	\$226.00	\$5,424	\$7,464
Cable Pipe Joint and Pipe-Coating Repair Sleeves, each	872	\$30.00	\$26,160	\$125.00	\$109,000	\$135,160
Trifurcator, each	6	\$25,000.00	\$150,000	\$10,000.00	\$60,000	\$210,000
Riser Pipe Stainless Steel, per foot	400	\$50.00	\$20,000	\$45.00	\$18,000	\$38,000
<b>Cathodic Protection:</b>						
Anodes/grounding, each	5	\$200.00	\$1,000	\$100.00	\$500	\$1,500
Rectifiers, each	1	\$4,000.00	\$4,000	\$4,800.00	\$4,800	\$8,800
Isolator Protectors, each	6	\$8,200.00	\$49,200	\$4,800.00	\$28,800	\$78,000
Cathodic Protection Test Stations, each	14	\$1,500.00	\$21,000	\$1,100.00	\$15,400	\$36,400
Anode Junction boxes, each	1	\$1,500.00	\$1,500	\$1,100.00	\$1,100	\$2,600
Pressurization Plant, each	1	\$650,000.00	\$650,000	\$50,000.00	\$50,000	\$700,000
Coated 2" Pipe, Sch 80, Includes Valves etc., per foot	700	\$25.00	\$17,500	\$150.00	\$105,000	\$122,500
Dielectric Fluid (HPFF) (gal.)	86,000	\$9.00	\$774,000	\$6.00	\$516,000	\$1,290,000
<b>Cable and Accessories Section:</b>						
Cable, feet	99500	\$150.00	\$14,925,000	\$15.00	\$1,492,500	\$16,417,500
Spare Cable on Reel, feet	2112	\$150.00	\$316,800	\$0.00	\$0	\$316,800
Terminators, each	18	\$85,000.00	\$1,530,000	\$15,000.00	\$270,000	\$1,800,000
Spare Terminators, each	1	\$85,000.00	\$85,000	\$0.00	\$0	\$85,000
Arresters, each	18	\$7,500.00	\$135,000	\$2,500.00	\$45,000	\$180,000
Spare Arresters, each	1	\$7,500.00	\$7,500	\$0.00	\$0	\$7,500
Normal Joints, each	12	\$40,000.00	\$480,000	\$60,000.00	\$720,000	\$1,200,000
Spare Normal Joints, each	2	\$40,000.00	\$80,000	\$0.00	\$0	\$80,000
<b>Communication System:</b>						
Fiber-optic Cable, per foot	11,100	\$2.50	\$27,750	\$4.00	\$44,400	\$72,150
Fiber-Optic Cable Splices, each	1	\$10,000.00	\$10,000	\$5,000.00	\$5,000	\$15,000
Handholes, each	6	\$4,000.00	\$24,000	\$4,000.00	\$24,000	\$48,000
<b>Temperature Monitoring System:</b>						
Fiber-Optic Cable, per foot	34,500	\$3.50	\$120,750	\$4.00	\$138,000	\$258,750
Fiber-Optic Cable Splices (incl. Enclosures), each	3	\$4,000.00	\$12,000	\$3,000.00	\$9,000	\$21,000
Terminal Equipment, each	2	\$4,000.00	\$8,000	\$3,000.00	\$6,000	\$14,000
<b>Duct Bank and Earthwork:</b>						
Communication Conduit, per foot	10,700	\$3.00	\$32,100	\$7.50	\$80,250	\$112,350
TM Conduit, per foot	32,000	\$1.50	\$48,000	\$8.00	\$256,000	\$304,000
Excavation, No Rock, Including Hauling, per cubic yard	22,920	\$15.00	\$343,800	\$45.00	\$1,031,400	\$1,375,200
Soil Backfill, Including Hauling, per cubic yard	3,320	\$25.00	\$83,000	\$25.00	\$83,000	\$166,000
Fluidized Thermal Backfill (FTB™), per cubic yard	19,600	\$100.00	\$1,960,000	\$50.00	\$980,000	\$2,940,000
Manhole, each	18	\$20,000.00	\$360,000	\$25,000.00	\$450,000	\$810,000
Dewatering, per foot	3,490	\$8.00	\$27,920	\$15.00	\$52,350	\$80,270
Sheeting and Shoring, per foot	3,490	\$25.00	\$87,250	\$30.00	\$104,700	\$191,950
Pavement Repair, per square foot	49,280	\$15.00	\$739,200	\$5.00	\$246,400	\$985,600
Curb Repair, per foot	3,700	\$25.00	\$92,500	\$5.00	\$18,500	\$111,000
Sidewalk Repair, per square foot	3,700	\$20.00	\$74,000	\$15.00	\$55,500	\$129,500
Landscape Restoration, lot	316,800	\$2.50	\$792,000	\$2.50	\$792,000	\$1,584,000
Loam and Seed, per square yard	316,800	\$0.25	\$79,200	\$0.25	\$79,200	\$158,400
Traffic Control, days	354	\$100.00	\$35,400	\$750.00	\$265,500	\$300,900
<b>Termination Work</b>						
Substation Termination Structures, each	6	\$20,000.00	\$120,000	\$10,000.00	\$60,000	\$180,000
Substation Foundations, each	6	\$3,000.00	\$18,000	\$2,000.00	\$12,000	\$30,000
Subtotal			\$26,027,970		\$10,494,592	\$36,522,562
<b>Unallocated Costs:</b>						
Engineering, lot	2%	\$0.00	\$0	\$731,000	\$731,000	\$731,000
Construction management, lot	2%	\$0.00	\$0	\$731,000	\$731,000	\$731,000
Mobilization, each	1%	\$0.00	\$0	\$105,000.00	\$105,000	\$105,000
Demobilization, each	1%	\$0.00	\$0	\$105,000.00	\$105,000	\$105,000
Real estate/permitting	0%	\$0.00	\$0	\$0.00	\$0	\$0
Subtotal			\$26,027,970		\$12,166,592	\$38,194,562
Contingency			\$3,904,196		\$1,824,989	\$5,729,185
<b>Total Price (should add up to Lump Sum Price)</b>			\$29,932,166		\$13,991,581	\$43,923,747