



November 28, 2011

ELECTRONIC FILING

Mr. William Fannucchi
Docket Coordinator
Public Service Commission
510 North Whitney Way
PO Box 7854
Madison, WI 53707-7854

Re: Comments on Draft Environmental Impact Statement

**Joint Application of Dairyland Power Cooperative, Northern States Power Company - Wisconsin, and Wisconsin Public Power Inc., for Authority to Construct and Place in Service 345 kV Electric Transmission Lines and Electric Substation Facilities for the CapX Twin Cities - Rochester - La Crosse Project, located in Buffalo, Trempealeau and La Crosse Counties, Wisconsin
PSCW Docket No. 5-CE-136**

Dear Mr. Fannucchi:

Northern States Power Company, a Wisconsin corporation, on behalf of itself and its co-applicants, Dairyland Power Cooperative (“DPC”) and WPPI Energy, Inc. (collectively, “Applicants”), submit the following comments on the Draft Environmental Impact Statement (“DEIS”) prepared by the Wisconsin Public Service Commission (“PSC”) and the Department of Natural Resources (“DNR”) for the Hampton—Rochester—La Crosse 345 kV Project (“Project”).

General DEIS Comments

Project Need

The DEIS discusses the local reliability need for the Project in some detail. However, the DEIS does not adequately describe the multiple needs for the Project. The Project is needed for regional reliability, local load serving and generator support. The Project will also provide market benefits by reducing congestion on the electrical system which will enable the delivery of lower cost energy to customers. The need discussion also includes some inaccurate data regarding the timing of the local community reliability need. Applicants’ engineering analyses

demonstrate that the capacity of the system to serve all customers under certain contingency conditions, 430 MW, already has been exceeded and therefore system improvements must be implemented. Applicants believe that the proposed Project is the best solution to provide not only the local transmission capacity necessary to reliably serve the La Crosse/Winona and Rochester areas for the long term, but to provide a robust and efficient regional transmission system in eastern Minnesota and western Wisconsin. Applicants provide a detailed response to the DEIS need discussion in **Attachment A**. Comments regarding specific statements in the DEIS are listed by page, paragraph and section below. Underlining is used to identify proposed text additions and revisions.

Route Comparisons

With respect to the impacts of the routes, Applicants believe that the DEIS as written gives the impression that the Q1 route alternatives are disfavored. When discussing the Q1 and Q1-Highway 35 routes, opinions about impacts are frequently overstated or not supported by fact or science. In contrast, impacts regarding the Arcadia Route are often understated. An example of this bias is that potential impact reductions, such as removing an existing transmission corridor through the Black River Floodplain and consolidating it along an existing, more intensely disturbed highway corridor, are omitted. Our detailed comments that follow address some of these issues.

In addition, avoidance, minimization and mitigation options, are overlooked or dismissed. These options include helicopter construction methods and Applicants' commitment to schedule work to avoid potential avian impacts. Applicants have proposed to explore the purchase of private property for incorporation into the Van Loon Wildlife Area. Applicants have also suggested habitat improvement measures such as wildlife passages below State Trunk Highway 35/Great River Road ("Highway 35" or "GRR") and forest management to open up the canopy for improved Eastern Massasauga Rattlesnake ("EMR"). Applicants believe that these proposed mitigation measures could result in a net benefit to the functions and values of the Black River Floodplain. The Wisconsin Department of Natural Resources has yet to respond to these proposals.

Applicants recommend that additional data, as detailed below, be included in the Final Environmental Impact Statement ("FEIS") to provide a detailed and balanced discussion about the various route options, including an assessment of impacts that considers mitigation options. The public and the PSC can then use this information to come to conclusions about a route choice that balances impacts to human settlement, the natural environment and other requirements under Wisconsin Environmental Protection Act ("WEPA"), Wisconsin Statutes Section 1.11.

Pole Heights

In these comments, Applicants also offer clarification about pole heights proposed for this Project. While it is true that poles will generally be 130 to 170 feet tall with a right-of-way of 150 feet, the Applicants have proposed alternate designs in several key areas. These alternate designs are in direct response to concerns raised by agencies:

- Sections 2A1, 2A2, 2A3 near Highway 35: right-of-way reduced to 115 feet to preserve a screen of trees to reduce visual impacts. Pole heights are 130 to 155 feet.
- Sections 2A1, 2A2, 2A3, 2B, 2C, 2D, 2F near Highway 35: Applicants worked closely with Wisconsin Department of Transportation (“WisDOT”) staff to reduce visual impact through careful and modified pole placement and structure finish selection.
- Section 2I, crossing of Trempealeau River and Highway 35: an alternate pole type with heights of 90 to 110 feet is proposed to address WisDOT aesthetic concerns in this area. This horizontal design will also reduce bird impacts at the adjacent wetland area.
- Section 5B, Black River bottoms crossing, original Q1 alignment: pole heights of 75 feet are proposed. Existing Q1 pole heights are 60 to 70 feet tall. The design is a horizontal configuration to reduce aesthetic and bird impacts.
- Section 8B, Black River bottoms crossing, Q1-Highway 35 Route: pole heights of 75 to 115 feet. The design is a horizontal configuration to reduce aesthetic and bird impacts.

Terminology

The DEIS does not use consistent terminology when referring to the Black River area. The term “Van Loon Area” is sometimes used to describe the Black River area near Holmen. It is unclear at times when the DEIS refers to the “Van Loon” whether it means specifically the DNR Van Loon Wildlife Area or the entire Black River Floodplain, which includes certain US Fish and Wildlife Service (“USFWS”) lands and the DNR Van Loon Wildlife Area. We suggest:

- “Van Loon Wildlife Area” be used to describe state land that comprises the DNR Van Loon Wildlife Area, a 3,918 acre property located in La Crosse County.
- “Black River Floodplain” or some other consistent term be used to describe the general Black River delta area near the Q1-Highway 35 route and the original Q-1 Route which includes portions of the USFWS Upper Mississippi

River National Wildlife and Fish Refuge and portions of the Van Loon Wildlife Area.

Time Periods

The DEIS uses different time periods and statistics for similar concepts throughout the document. For example, when discussing historical and forecast substation loads, the DEIS uses three time periods on page XVI of the executive summary: 2002-2010, 2010-2030 and 2015-2030.

Another example that includes two time periods and conflicting data is in the second paragraph of page 16. The DEIS states that population growth in the La Crosse/Winona area grew 4.3 percent from 2002 to 2010. Then, in the fourth paragraph of page 98, the DEIS states that populations in and around La Crosse have increased more than 20 percent since 2000. The 4.3 percentage population growth from 2000 to 2020 is consistent with US Census data¹:

Municipalities	Population		% Growth
	2000	2010	
La Crosse County	107,120	114,638	7.0%
Houston County	19,718	19,027	-3.5%
Winona County	49,985	51,461	3.0%
Total	176,823	185,126	4.7%

The FEIS should contain fewer time periods so that the data comparisons are easier to follow.

¹ Sources:
<http://quickfacts.census.gov>
<http://www.lmic.state.mn.us/datanetweb/php/census2000>
<http://www.doa.state.wi.us/subcategory.asp?linksubcatid=96&locid=9>

Applicants' Page Specific Comments

Page/Para./ Table	Section	Comment
Executive Summary		
X	Executive Summary	References to "Griggs Road Substation" on this page and throughout the document should be "Briggs Road Substation."
XVII and others, ¶ 4	Executive Summary, Chapters 2 and 3	As detailed in Attachment A, the critical load level under the N-1 contingency standard is 470 MW. The critical load level under the N-2 contingency standard is 430 MW. The DEIS incorrectly states these levels throughout the document. The FEIS should be revised to state the correct values.
XIX-XX	Executive Summary	The discussion of the Q1 rebuild on the bottom of page XIX should be clarified to state that DPC plans to reconstruct the segment of the Q1 from Genoa to the La Crosse Tap in 2012-2013. Also, the first whole sentence on page XX should be amended to include the underlined text: "The rebuild of <u>the segments of the Q-1 not included in this docket</u> could require a separate CPCN from the Commission depending on whether new right-of-way ('ROW') would be needed."
XXII, Table ES-4	Executive Summary	<p>The impacts in Table ES-4 are overstated. The "Wetland Area Affected" adds all wetland acreage reported in Table 2, Appendix A of the Application for a Certificate of Public Convenience and Necessity ("Application") as "Land Cover Category." However, all wetland acreage provided in Table 2 is not being impacted by the Project. For impacted acreages for total wetland impacts (structure placement within wetlands and change in kind from forest to emergent wetland) and temporary wetland disturbances (matting within wetland) data from Appendix T of the Application should be referenced.</p> <p>Likewise, the numbers given in Table ES-4 for "Wooded Wetland Crossed" is the total acreage of "Existing ROW-Forested Wetland" and "New ROW Area Required-Forested Wetland" from Table 2, Appendix A of the Application. However, clearing of the forest within the "Existing ROW-Forested Wetland" has already been done and will not result in new impacts. When it is stated in Table ES-4 that the Q1-</p>

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		<p>Highway 35 Route would result in 55.1 acres of “Wooded Wetland Crossed” this seems to convey total impact. Rather, the number provided within Table 12.2-3 shows that the Q1-Highway 35 Route would result in 33.30 acres of “New Wetland Forest Affected” this matches the acreage provided in Table 2, Appendix A of the Application for the land cover for the “New ROW Area Required-Forested Wetland.” Applicants suggest that either the numbers in “Wooded Wetland Crossed” column of Table ES-4 be changed to match the numbers in the “New Wetland Forest Affected” in Table 12.2-3 of the DEIS or a footnote should be added to this column of Table ES-4 to clarify that “Wooded Wetland Crossed” does not consider the existing cleared corridor and therefore should not be considered as Forested Wetland Impact.</p> <p>In addition, the data in Table ES-4 conflicts with the summary table contained on page 252, Table 12.2-3 of the DEIS and should be reconciled.</p>
Chapter 1		
2, ¶ 1	§ 1.1.2	In addition to 25 cooperative member systems, as noted at the top, DPC serves 16 municipal utilities in four states.
4, ¶ 3	§ 1.1.3.2	The anticipated owners of the Project are listed incorrectly. Xcel Energy Inc., the holding company of NSPW and Northern States Power Company, a Minnesota corporation (“NSPM”), will not have a direct ownership interest in the Project.
4, Figure 1.1-2	§ 1.1.3.1	The call out for the North La Crosse Substation states the owner is NSPW. It should state that the owner is DPC.
5, ¶ 5 44, ¶ 7	§ 1.1.3.3 §4.6	The DEIS states that the likely in service date would be closer to June 2016. Applicants still estimate a December 2015 in service date.
8, ¶ 4	§ 1.2.5.2	This section of the FEIS should note that the Applicants have also coordinated with Rural Utilities Service (“RUS”) to conduct Tribal Consultation, as recognized in Section 2.2.4.1.1.
11, ¶ 5	§ 1.4	<p>The first sentence of the paragraph should be deleted from the FEIS because the RUS does not coordinate the work of rural electric utility cooperatives. A suggested revision is: “RUS funds and coordinates the work of electric utility cooperatives...”</p> <p>The DEIS also incorrectly states that DPC must have RUS</p>

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		funding for the Project. DPC has indicated it may seek RUS funding for its anticipated 11 percent ownership share in the Project. The FEIS should also note that the federal environmental impact statement will include the entire Hampton—Rochester—La Crosse 345 kV Project in Minnesota and Wisconsin. Further, the USFWS’s role as a cooperating agency on the federal environmental impact statement under the National Environmental Policy Act (“NEPA”) should be noted.
Chapter 2		
16, ¶ 3	§ 2.5	The DEIS suggests that transmission planning should consider weather normalized load data. As detailed in Attachment A, use of weather normalized data is not appropriate for planning system capacity to meet reliability needs.
Chapter 3		
20, ¶ 1	§ 3.1	The DEIS states the incorrect critical load levels under N-1 and N-2 contingency. For the N-1 contingency, the critical load level is 470 MW. For the N-2 contingency, it is 430 MW.
22, ¶ 3	§ 3.2.3.1	The DEIS references a 98 MW shortfall, but does not provide details on how the number was calculated. The FEIS should include further explanation on how this number was derived.
Chapter 4		
30, ¶ 3	§ 4.1.4	The FEIS should clearly state that the DNR suggested the Ettrick Alternative for the Arcadia Route.
33, ¶ 1	§ 4.2.2.2	The FEIS should note that in limited instances, because of longer spans or unique circumstances, an ROW greater than 150 feet may be required.
39, Figure 4.4.1	§ 4.4.4	The call out for the North La Crosse Substation states the owner is NSPW. It should state that the owner is DPC.
44, ¶ 3	§ 4.5.5	The DEIS states that “Xcel, the parent company of NSPW, would bear the largest portion of this 80 percent of cost sharing.” The FEIS should be revised to state that Northern States Power Company, a Minnesota corporation, and NSPW (collectively the NSP Companies) would bear the largest portion of the 80 percent of cost sharing. Of the costs assigned to the NSP Companies, 15 percent would be allocated to NSPW in accordance with the Restate Agreement to Coordinate Planning and Operations and Interchange Power and Energy between Northern States Power Company (Minnesota) and Northern States Power Company

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		(Wisconsin) (“Interchange Agreement”).
Chapter 5		
79, ¶ 4	§ 5.5.17.3	After the last bullet on the page, Applicants recommend that the following be inserted: <u>Use of vibratory caisson foundations which eliminate the need for concrete and other fill.</u>
Chapter 6		
89, ¶ 2-3	§ 6.2.4	The DEIS lists threatened and special concern species occurrences within two miles of the Briggs Road Substation and its proposed alternate. The DEIS states that the limits of several of these occurrences intersect the two substation site alternatives. It does not, however, identify what if any, potential impact could be expected to these species if either of these sites are chosen for the new substation. The FEIS should include a discussion of Applicants’ habitat assessment for these two sites in the Applicants’ “Rare Species and Natural Communities Analysis and Survey Summary Report”, January 10, 2011 (PSC Ref. #: 143484) (“Rare Species Report” or “RSR”). The report states that the habitat at these is agricultural, equestrian riding areas, and pine plantation. These habitats do not support the species listed by the DNR. The FEIS should also describe the scope of the DNR’s jurisdiction they have over the DEIS identified species.
Chapter 7		
96, ¶ 1	§ 7.1	The last sentence states that Segment 18H of the Q1-Highway 35 Route would require an additional 85 feet of ROW. However, only 80 feet of additional ROW is needed.
98, ¶ 3	§ 7.2.4	The DEIS states that the lowlands of the Mississippi River Valley is dominated, in part, by prairie vegetation. The FEIS should clarify that prairie vegetation does not exist within the proposed routes.
100	§ 7.3.1.2	The DEIS suggests that Applicants proposed the forested wetland buffer between Highway 35 and the transmission line to address fragmentation issues. The FEIS should clarify that Applicants proposed the buffer to reduce aesthetic effects to the GRR.
100, 108	§ 7.3.2 §7.3.2.6	The DEIS discusses potential fragmentation of the Black River bottoms, but does not include any information about the mitigation/de-fragmentation of the floodplain forest that would be accomplished by removing the Q-1 transmission line. The result

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		<p>of the Q-1 Highway 35 Route would be to remove three miles of an existing transmission corridor and replace it in a two-mile, already disturbed corridor adjacent to a highway.</p> <p>The FEIS should also discuss how the floodplain is a mosaic of open water, emergent marsh and forested, not a continuous block of forest. Because of that, a transmission corridor does not create a new edge across the entire floodplain. Fragmentation from a transmission line in this context is a minimal impact.</p>
100, ¶ 8	§ 7.3.2.1	<p>The DEIS states that "Given the predominance of private lands, many more diverse, high quality, or rare natural community occurrences likely exist, but remain unmapped." This statement is speculative and should be deleted from the FEIS. The Applicants field verified, mapped, and characterized all non-agricultural and undeveloped land along the route that could be considered natural habitat. The quality of Applicants' evaluation is recognized in the subsequent sentence: "...the NHI and the applicant's field assessment provide a reliable qualitative description of the natural communities present."</p>
101, Table 7.3-1	§ 7.3.2.1	<p>As presented, this table implies that all of these natural communities occur on the Q1-Highway 35 Route when in fact the table refers to a broader two-mile search area. The title of the table should be revised to state that a two-mile search area is used. The FEIS also should include information regarding the natural communities intersected by the route. This information also appears on p. 148, Table 8.3.1 and p. 206, Table 10.3.1.</p>
101, ¶ 1	§ 7.3.2.1	<p>The DEIS states that "wetlands along the routes have not been well documented, except to distinguish where invasive species like reed canary grass (<i>Phalaris arundinacea</i>), common reed (<i>Phragmites australis</i>), and purple loosestrife (<i>Lythrum salicaria</i>) are predominant." Applicants disagree with this statement. The Rare Species Report contains a thorough description Section 4.3.1, Page 32, as well as Tables 4a through 4e, of wetlands along the routes based on field investigation.</p>
101, Table 7.3-2	§ 7.3.2.1	<p>Use of total habitat acreage expressed within Table 8 of the Applicants' Rare Species Report gives the false impression that the Project will impact the acreages identified. The table identifies potential transmission ROW that extends through a</p>

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		<p>given forested habitat patch. However, only areas where there is direct access routes within the ROW which cross wetlands where a temporary impact to the wetland via matting (a total of five acres) will occur represent impact to this habitat type. In addition, in most locations, an existing ROW has already been cleared through the given forested habitat patch. The FEIS should also include the total amount of additional tree clearing 94.5 acres required as stated in Appendix T of the Application.</p> <p>Wherever total acreages of habitats within ROW are provided, the FEIS should also include the incremental acreage that will be affected by this Project. Throughout the document, the FEIS should clearly state when data from the confidential Rare Species Report is used and when the Summary Tables of the Application are being referenced. To minimize potential confusion, the appropriate level of detail or discussion of how the numbers were tabulated should be included.</p>
102, ¶ 5	§ 7.3.2.1	<p>Paragraph 5 discusses both the New Amsterdam Grasslands and the Van Loon Savanna State Natural Area in the first two sentences. The third sentence then appears to further describe the New Amsterdam Grasslands, but it is not clear to a reader unfamiliar with the Project. Furthermore, the paragraph states that the site "provides critical nesting habitat for rare grassland birds, like the state threatened Henslow's sparrow and Bell's vireo" and that a transmission line "through the preserve could result in permanent loss of habitat quality for these species." However, the route does not go through the site, but rather skirts along the edge sharing corridor with an existing highway. In addition, it is not clear how the transmission line would "cause permanent loss of habitat quality," particularly given that Applicants have designed pole locations and access routes to avoid cutting existing shrub habitat. The FEIS should further support these claims.</p>
102, ¶ 5	§ 7.3.2.1	<p>The DEIS incorrectly states that Segment 9 would run through the New Amsterdam Grasslands. The FEIS should state that "Segment 9 runs along the eastern boundary or edge of the New Amsterdam Grasslands." The FEIS should also include a discussion of the Applicants' analysis regarding impacts to habitat</p>

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		and identified ways to minimize impacts.
102, ¶ 5	§ 7.3.2.1	<p>The DEIS discusses the possibility of connecting Segment 8C to Segment 18B or Segment 18C. This connector segment was developed by the applicant as requested by the PSCW and WDNR and is included as Response Item 01-41, page 111 submitted to the PSCW in March 2011.</p> <p>The response also included a summary of methods to minimize impacts to bird species and habitat along Segment 9 of the proposed alignment along the eastern boundary of the New Amsterdam Grasslands Area that should be included in the FEIS.</p>
105, ¶ 3	§ 7.3.2.4	<p>The DEIS states that the EMR may be present in the work area along “the route” and north of Highway 35. The FEIS should include information regarding the recently published extinction model for this species. <i>See</i> “Range wide Extinction Risk Modeling for the Eastern Massasauga Rattlesnake (<i>Sistrurus catenatus catenatus</i>)-Final Report,” Faust, L.J. Szymanski and M. Redmer, USFWS and Lincoln Park Zoo, 2011 at p. 66. The Van Loon Wildlife Area has primarily developed into late successional vegetation (forest canopy >60%). The extinction model finds that this vegetation type puts into peril the long term outlook for any population growth of EMR within the Van Loon Wildlife Area. Removal of forested floodplain species along the Q1-Highway 35 Route segment 8B would open up larger habitat areas for the EMR. This would also allow for the removal of the current Q-1 line from its easement and appropriate habitat restoration actions within this area. In addition, installation of a wildlife passageways under Highway 35, which Applicants have suggested in this area would allow passage by snakes, turtles and other wildlife to reach the south side and improve hydrological flow during flooding. DNR has not commented on this option.</p>
105, ¶ 6	§ 7.3.2.4	<p>The FEIS should include what effect, if any, the Project may have on the referenced turtles and timber rattlesnake.</p>
106, ¶ 1	§ 7.3.2.4	<p>The first paragraph states that “If soil is unfrozen at the time of construction, Applicants have proposed filling the wetlands” This is inaccurate. Applicants have not proposed filling wetlands for access. Applicants propose to work in winter conditions at wetland sites if possible. Where necessary to avoid impacts to</p>

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		wetlands, plastic, interlocking construction mats would be used whether construction is performed during frozen soil conditions or not. Placement of fill, including concrete, to facilitate access in wetlands is not proposed. Further, Applicants have agreed, both in pre-application consultation with DNR and in the Application, to use helicopters for installation of poles, wire and accessories if required.
106, ¶ 5	§ 7.3.2.4	The fifth paragraph states that “The Van Loon/Black River Bottoms supports one of two known viable populations of EMRs in the state. This conclusion is based on the population size and current survey data from known occurrences throughout the state.” Applicants question whether the identified area supports EMRs. The FEIS should remove this statement or provide a copy of the identified “current survey data” or other data demonstrating the viability of EMRs in this area.
106, ¶¶ 3, 5	§ 7.3.2.4	The DEIS includes discussion of potential avoidance and of impacts to the wood turtle, Blanding’s turtle, EMRs and the timber rattlesnake, but fails to include any analysis of its conclusion that impacts could not be avoided through construction methods or by exclusion fencing or monitoring. The FEIS should include such analysis so that the public has an opportunity to comment.
107, ¶ 3	§ 7.3.2.6	This paragraph (and others throughout the document) refer to the Least Bell's Vireo (<i>Vireo bellii pusillus</i>), which is a western subspecies of Bell's Vireo that occurs in California and not Wisconsin. The Wisconsin subspecies should be referred to as the Bell's Vireo (<i>Vireo bellii bellii</i>).
107, ¶ 3	§ 7.3.2.6	This paragraph discusses birds identified by the NHI database within two miles of the Q1-Highway 35 Route. The paragraph fails to accurately characterize potential presence of the rare bird species based on the survey results and consultation. The FEIS should include the data collected during two years of pre-application bird surveys and DNR consultation with regional staff designed specifically to determine whether such species are present along the routes. This information was provided in the Applicants’ Rare Species Report.
108, ¶ 2	§ 7.3.2.6	This paragraph states that "Grassland species are sensitive to tall structures because they perceive tall structures as a threat and the

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		<p>structures may invite raptors. If the structures are installed there, the existing habitat might no longer function to support as many grassland birds." While tall structures have been shown to displace some grassland bird species, particularly prairie grouse, the later statement suggests that many grassland birds will be impacted indirectly through degradation of their habitat. It is not clear whether such a threat could impact the Bell's vireo or Henslow's sparrow. The FEIS should include references to support this claim or the claim should be deleted.</p>
108, ¶ 3	§ 7.3.2.6	<p>The DEIS states that "Collectively, the threatened, endangered, and special concern species that have been identified in the project area breed from approximately mid-March through September." The FEIS should note that while a relatively small number of species may initiate breeding activities as early as late March, few if any are still breeding in September. The generality of this statement suggests that no activities should be planned between mid-March through September, when in fact a more appropriate avoidance period for minimizing direct or indirect impacts to the majority of breeding birds should be considered as May through August. Some exceptions may occur, but could be handled on a case by case or location by location basis where presence has been verified.</p>
108, ¶ 5	§ 7.2.2.6	<p>This paragraph states that "lines can present barrier to [bird] use of stopover habitat." The FEIS should include scientific data supporting this claim or it should be removed.</p>
108, ¶ 5	§ 7.3.2.6	<p>The DEIS discussion regarding ROW widths and pole heights is incomplete. Applicants recommend the DEIS text be revised as follows:</p> <p style="padding-left: 40px;">As a result of this recommendation, the width of the cleared ROW would increase from 125 feet up to 280 feet in order to keep the height of the line below 200 feet. <u>At the Trempealeau River and Black River Floodplain, Applicants proposed alternate structure designs to minimize impacts. Poles across the Van Loon at Highway 35 would be 75 feet to 115 feet; poles across the Black River Floodplain on the existing DPC Q1 alignment (Segment 5B) would be 75 feet tall; poles crossing the and</u></p>

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		<p>the Trempealeau River could reach up to 170 feet would be 90 to 110 feet tall, well above the tree line and/or existing power lines. If this route is approved, USFWS and WDNR should be consulted to determine where bird diverters would be necessary to help birds recognize and avoid the lines.</p> <p>The 75-foot tall poles proposed for the Black River Floodplain on Segment 5B are double circuit, asymmetrical design. The total ROW would be 155 feet. The existing corridor is 100 feet wide. Therefore, only an additional 55 feet of ROW would be required. Based on Applicants' analysis of existing tree cover, this expansion of ROW would result in additional forest wetland clearing of approximately five acres based on aerial survey data.</p> <p>The Application includes calculations for an 80-foot assumed existing cleared corridor and total ROW of 200 feet, resulting in 21.25 acres of clearing. Further review of existing conditions confirmed the existing cleared area around the Q1 line is 100-foot wide in Segment 5B at the Black River Floodplain crossing.</p>
109, ¶ 1	§ 7.3.2.7	The statement that "no rare plant surveys were completed for this project..." is inaccurate. Pre-application rare plant surveys were conducted on public lands in June and August 2009 at 21 different areas along the proposed routes. This information was provided in the Rare Species Report.
109, ¶ 1	§ 7.3.2.7	The FEIS should include information about special concern plant species identified along Segment 8B during rare plant surveys conducted prior to application submittal. Details are provided in the Rare Species Report.
109, ¶ 1	§ 7.3.2.7	The DEIS notes that "Other rare plant occurrences have been recorded on or near Segment 9." More details should be provided about these occurrences (i.e., source of information, distance and direction from segment, plant status, etc...).
109, ¶ 1	§ 7.3.2.7	The DEIS states that "... the Q1-Highway 35 route crosses upland habitats that are remote and less impacted by human

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		activity." While some segments are indeed remote, that does not necessarily translate to less impact by human activity. The FEIS should include discussion of Applicants' habitat assessment documenting existing ROW disturbances including but not limited to roads and food plots.
110, ¶ 2	§ 7.3.2.8	The DEIS states that "If this route were approved, additional assessment and surveys would be needed along some route segments for some of the species discussed above." The Applicants recognize that additional surveys may be necessary; however, it is concerning that two years of pre-application surveys and agency consultation have largely been excluded from the discussion of rare species presence and potential impacts in this DEIS.
110, ¶ 2	§ 7.3.2.9	The statement regarding USFWS is incomplete. The FEIS should be revised to state as follows, underline text is new: "unless Segment 5B of this route crosses approximately 5,000 to 6,000 feet of USFWS land, and USFWS has stated its opposition to its use for either the new line or a rebuild of the Q1 line <u>unless if there are no reasonable alternatives available.</u> "
110, ¶ 5	§ 7.3.2.8	The DEIS states that "it is unlikely the common measures to avoid impacts to rare species during transmission line construction and operation (such as timing restrictions, winter construction, work space reduction, exclusion fencing, and matting, for example) can be optimally implemented for" the Highway 35 route. This statement is unsupported by analysis of scientific data. This statement should, therefore, be supported or removed from the FEIS.
111, ¶ 3	§ 7.3.2.9	This paragraph discusses rare plants along Segment 5B, but fails to include information about three populations of a threatened plant species that were discovered and reported as part of the Applicants' Rare Species Report.
111, ¶ 3	§ 7.3.2.9	The DEIS states that "The Q1 Route impacts approximately twice as much non-forested wetland on Segment 5B than the Q-1 Highway 35 Route." This statement is inaccurate. In Segment 5B, there would be virtually no permanent impact to non-forested wetlands. The Q1-Highway 35 Route would utilize an existing transmission corridor and would replace existing poles with new

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		<p>ones. This paragraph also contains a speculation regarding maintenance on the existing line. The FEIS should be revised as follows:</p> <p>Still, it has likely been years since the last maintenance on this line, so the Clearing necessary for construction would <u>may</u> remove the existing shrubby vegetation as well as forest trees to widen the ROW.</p>
114, ¶ 1	§ 7.3.3.1	<p>The FEIS should clarify that Applicants do not propose to drive on waterways. In the last paragraph, referring to segment 8B: “Super-saturated conditions might also be encountered, and dewatering of the excavations for new structures would need to be regulated to protect the larger forested floodplain environments.” This sentence should be deleted. Applicants will not require dewatering on this segment because vibratory caisson poles are required. As discussed frequently with DNR and in the Application, vibratory caissons do not require excavation, dewatering, concrete or fill of any type.</p>
114, ¶ 5	§ 7.3.3.2	<p>The last sentence of the fifth paragraph contains an unsupported statement that should be deleted. The DEIS states that there may be significant adverse impacts caused by large poles at the river crossing on the original Q1 Route. The existing 161 kV poles are between 60 and 75-feet tall. Applicants proposal on the original Q1 Route uses 75-foot poles. The DEIS contains no facts or analysis to show that an additional 5 to 15 feet would result in an incremental “significant adverse impact.” In addition, the FEIS should note that stream crossing impacts on Segment 5B and Segment 8B could be avoided through the use of helicopter construction.</p> <p>Although not called out in this section of the DEIS, it should be noted the proposed pole height to cross the Black River on Segment 8B is 80 feet.</p>
114, ¶ 2	§ 7.3.3.1	<p>The second paragraph states that “The heavily forested environment and high organic content of this forested floodplain area could make it difficult to locate the “top of bank” to place the bridge.” Based on the Applicants’ observations, the soil near waterways is composed of river sediments (sand) and very little</p>

Page/Para./ Table	Section	Comment
		organic soil exists in these areas.
114, ¶ 2	§ 7.3.3.1	In discussing the Black River Floodplain, the second paragraph states that “dewatering for new structures would need to be regulated to protect the larger forested floodplain environments.” Applicants have proposed vibratory caisson foundation through this area and no dewatering will be necessary.
115, Table 7-3-4	§ 7.3.4.1	The use of Table 7.3-4 provides an incomplete discussion of wetlands impacts. The FEIS should include a definition of the word “affected” and include additional information from Appendix T of the Application that provides further detail regarding the anticipated impacts.
117, ¶ 3	§ 7.3.4.2	The DEIS notes that "USFWS owns several parcels of wetlands in La Crosse County as part of the Refuge." The FEIS should include some discussion of the significance of this ownership and anticipated impacts.
117, ¶ 6	§ 7.3.4.2	The DEIS states "The WWA fact sheet on the Van Loon identifies....transmission line development as a threat to the migratory birds...." The FEIS should discuss whether there is basis for this threat determination made by WWA that can be supported by a credible risk assessment and scientific data.
117-118, ¶ 6-¶ 2	§ 7.3.4.2	The bullet point at the bottom of page 117 uses the term “Wetland Gem.” This term is a subjective description and should not be included in the FEIS. The FEIS should also include discussion of whether and how the identified resources discussed in the bullet points on these pages would be impacted by the Project.
118, ¶ 1	§ 7.3.4.2	The DEIS references a loss of 18.53 acres of forested wetlands within Segment 8B. The acreage should be 25.74 acres (new and existing) shown in Application Appendix A, Table 2.
118, ¶ 3	§ 7.3.4.2	Remove repeat paragraph.
120, ¶ 1	§ 7.3.4.3	The total acres of wetland should be changed from 119.64 acres to 118.8 acres to reflect the sum of the totals from Table 7.3-5.
120	§ 7.3.4.3	The FEIS should include a discussion of how removal of the current Q-1 Line through the Van Loon Wildlife Area would benefit the overall condition. The FEIS should also include a discussion of the benefits of a forested wetland reclamation plan. In addition, the FEIS should note that reclamation plan also appears to be requested for private land, which would be subject

Page/Para./ Table	Section	Comment
		to landowner approval.
120, Table 7.3-5	§ 7.3.4.3	The footnote on the table is unclear. The FEIS should include data from Appendix T of the Application which provides more detailed analysis of the potential wetland impacts of the original Q1 Route. Appendix T summarizes total wetland impacts (structure placement within wetlands and change in kind from forest to emergent wetland) and temporary wetland disturbances (matting within wetlands).
122, ¶ 3	§ 7.4.1	<p>The discussion regarding the relative heights of existing poles compared to the proposed Project gives a false impression that the Project would include significantly taller poles. The FEIS should be revised as follows to reflect the specific pole heights at issue:</p> <p style="padding-left: 40px;"><u>Along Segment 5 B, the applicants propose structure types that reduce visual impacts (and impacts to birds). Poles in 5B would be 75 feet tall compared to the existing DPC Q1 161 kV poles which are 60 to 65 feet tall. The poles flanking the Black River channel would also be 75 feet. Users of the Van Loon also would see much taller structures with more conductors and a <u>A</u> wider ROW clearing (155 feet versus the existing 100 feet) would be required. Through the wooded wetlands. The towers flanking the main Black River channel would be taller and visually dominant.</u></p>
122-123, ¶ 8- ¶ 1	§ 7.4.1	The DEIS states that “visitors passing through the smaller roads inland in the project area may be less likely to take notice of the new line or find it obtrusive, especially if navigating the smaller roads require more of the driver’s attention.” This statement is speculation, is unsupported by scientific data and should be deleted.
124, ¶ 2	§ 7.4.1	The DEIS incorrectly states that if the line were constructed on Segment 5C, there would be “one or two structures in the path of the pivot” on a farm field along CTH XX. The impact of the new line would be the same as the existing Q1 Line—there would be no impact.
125, ¶ 5	§ 7.4.3	The DEIS incorrectly states that the transmission structures would be 130 to 195 feet in segment 8C. The proposed pole

Page/Para./ Table	Section	Comment
		heights are 150 to 175 feet tall.
130, ¶ 2 Third Bullet	§ 7.4.7.1	The FEIS should not include the reference to federal refuge property. Segment 8B of the Q1-Highway 35 Route does not affect federal refuge property, which is located south of Highway 35.
131, ¶ 2	§ 7.4.7.2	The discussion of Segment 8B is incomplete. The FEIS should note that the proposed Q1-Highway 35 Route provides the opportunity to consolidate the crossings of the Van Loon Wildlife Area in one location, along one shared corridor. The DNR previously requested the relocation of the 69 kV line from the Van Loon Wildlife Area to Highway 35 in a letter dated January 22, 1993. Attachment B . Also, the current Highway 35 corridor represents a more intense fragmentation of the floodplain habitat and an almost impassable hindrance to wildlife. It also represents a continual harassment corridor because of noise and visual disturbance generated by passing vehicles. From an ecological standpoint, expansion of this corridor by the proposed Q1-Highway 35 ROW is not considered a fully cumulative impact.
133, ¶ 6	§ 7.4.8.4	The DEIS states the Wisconsin Mississippi River Parkway Commission (“WMRPC”) believes that the presence of the proposed 345 kV transmission line along the GRR would adversely affect tourism. No data been provided supporting this statement. Accordingly, it should be removed or the FEIS should also include a notation that the WMRPC has provided no data demonstrating its opinion.
P133-34	§§ 7.4.8.4- 7.4.8.5	The DEIS includes Applicants’ proposals and options to minimize aesthetic impacts along the GRR. These options should also be included in the “Mitigation of Great River Road impacts in the project area” section of the DEIS 7.4.8.5. In addition, Applicants believe that the FEIS should include a discussion regarding the specific language of the scenic easements which specifically identify the placement of “electric ... structures for the purpose of transmitting messages, heat, light or power” in the scenic area as a permitted use. Further, for completeness, an exemplar scenic easement should be added to the appendix.
134, ¶ 4	§ 7.4.8.5	The DEIS notes that in 1997, WisDOT retained a consultant to prepare an assessment of the visual quality along the GRR.

Page/Para./ Table	Section	Comment
		Applicants believe that the referenced assessment is an important source of analytical data and should be included in the FEIS.
137, ¶ 1	§ 7.4.10	Change “between 100 and 150 feet” to “between 101 and 150 feet.”
Chapter 8		
147, ¶ 5	§ 8.3.1.2	The last sentence states “about 20 acres of new clearing.” It should be revised to “about 19 acres of new clearing” to be consistent with the number of upland forest acres from Table 2, approximately 18.6 acres.
150, ¶ 2	§ 8.3.2.4	Presence of rare turtles along the Q1-Galesville Route is discussed, but does not include information from the Applicants’ Rare Species Report that verified the occurrence of the wood turtle along Segment 13B.
151, ¶ 4	§ 8.3.2.6	The DEIS states "... there are relatively fewer occurrences of the red-shouldered hawk within the NHI search area along the route. Recorded occurrence of this species are located west of Segments 17 and 18. Surveys by the Applicants did not demonstrate any positive responses at the survey sites along Segment 17 and 18." Applicants note that Segment 17 and Segment 18 were modified prior to submitting the Application. The survey results at two of the survey stations to the west of US 53 along the initial segments were positive, but no potential impacts from the Project were anticipated. The current Segment 17 and Segment 18 are further east of the potentially suitable habitat. Surveys were not repeated along the current Segment 17 and Segment 18, however, detections from the previous route alignment are still valid and correspond to the NHI database records that indicate red-shouldered hawk are further west than the previous and current route alignments.
151, ¶ 7	§ 8.3.2.7	The DEIS states “no rare plant surveys were completed for this project...” This statement which is repeated on p. 208, ¶ 6, statement is incorrect. Pre-application rare plant surveys were conducted on public lands in June and August 2009 at 21 different areas along the proposed routes. This information was provided in the Applicant's Rare Species Report and should be noted in the FEIS.
173, ¶ 1	§ 8.4.10	Change “between 100 and 150 feet” to “between 101 and 150 feet.”

Page/Para./ Table	Section	Comment
173, ¶ 3	§ 8.4.10	A new apartment complex on the west side of Galesville was noted. The Applicants have confirmed that the apartments have been constructed and are analyzing engineering options, including reducing spans, to minimize impacts to the apartments.
Chapter 9		
185, ¶ 5	§ 9.3.5.1	The DEIS states that if Segment 88A were approved, “full wetland delineations would need to completed”. The FEIS should include support and rationale for this statement or the statement should be removed.
195, ¶¶ 4,5	§ 9.4.10.1	Change “between 100 and 150 feet” to “between 101 and 150 feet.”
Chapter 10		
199, ¶ 2	§ 10.2	Change 84 feet to 70 feet in the tenth sentence. Segment 11G will require an additional 70 feet of ROW (Application, Table 1A).
205, ¶ 1	§ 10.3.1.2	The second sentence states “new woodland clearing over about 25 miles” and it should be revised to “new woodland clearing over about 5 miles.”
207, ¶ 6	§ 10.3.2.4	The FEIS should note that Applicants’ Rare Species Report verified the occurrence of wood turtle along Segment 13B during habitat assessment work completed for the Application.
208 209, ¶ 6 ¶2	§ 10.3.2.7§ 10.3.2.8	The DEIS, referencing Segment 11 incorrectly states there are no NHI plant occurrences recorded. The NHI database lists rare plant occurrences within two miles of Segment 11G.
215, ¶ 3	§ 10.4.1	The eighth sentence states that “69 homes would within 300 feet of the line” and it should be corrected to state “76 homes would be within 300 feet of the line” in accordance with Application Table 1B for the Arcadia Route.
215, ¶ 5	§ 10.4.2	The seventh sentence states that “This orchard currently has an easement for the existing transmission line but an additional 6.56 acres of ROW would be needed.” It should be revised to state “This orchard currently has an easement for the existing transmission line but an additional 3.53 acres of ROW would be needed.” Table 2 (Land Cover) in the Application for Arcadia Route indicates that 3.53 acres of new ROW would be needed within Segment 11G.
227, ¶ 1	§ 10.4.10	Change “between 100 and 150 feet” to “between 101 and 150 feet.”

Page/Para./ Table	Section	Comment
Chapter 11		
235, Table 11.3-1	§ 11.3.2	The FEIS should include the source for the data in this table.
245, ¶ 1	§ 11.4.10	Change “between 100 and 150 feet” to “between 101 and 150 feet.”
Chapter 12		
249, ¶ 5	§ 12.2.1	The DEIS incorrectly states that large portions of the Arcadia Route are inaccessible and have not be available for field study. The FEIS should include the statement that Applicants have field investigated the Arcadia Route from the ROW for the Alma – Tremval 161 kV transmission line.
250, Table 12.2-1	§ 12.2.1	The table notes that habitat data was not included in the Application for connector segments. The FEIS should note that this information was not requested by the PSC as part of completeness review.
254, Table 12.2-4	§ 12.2.3	The table does not accurately represent the number of waterway crossings within ROW. This number is taken from Table 3 of the Application which is a summary of wetlands and waterways "observed" along the ROWs. This does not mean that all of these waterways will be physically crossed by construction equipment. The FEIS should instead include the number of temporary clear span bridges which are requested in the Application for each route. This comment is applicable to each chapter where it discusses the number of waterways "crossed."

Mr. William Fannucchi
November 28, 2011
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Closing

Applicants appreciate the opportunity to provide these comments. Given the complexity of some of the issues raised, we would be available at any time to meet with them and discuss comments with PSC and DNR staff.

Sincerely,

s/Amanda R. King
Amanda R. King

Senior Transmission Planning Engineer
Xcel Energy

s/Thomas G. Hillstrom
Thomas G. Hillstrom
Xcel Energy

Enclosures

Attachment A: Applicants' DEIS Comments Regarding Project Need
Attachment B: DNR Letter to NSPW, Jan. 22, 1993

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APPLICANTS' DEIS COMMENTS REGARDING PROJECT NEED

Introduction

The DEIS contains a high level summary of load growth and transmission needs in the La Crosse metro area. The DEIS does not, however, adequately describe or analyze the multiple needs for the Project in Wisconsin, Minnesota and the region.

The Applicants believe it is prudent to develop and propose a comprehensive plan that addresses not only the immediate need for system improvements in the La Crosse/Winona and Rochester areas, but one that also provides substantial regional benefits. The Hampton—Rochester—La Crosse 345 kV Project is a plan that:

- Satisfies the existing and long-term reliability requirements for retail consumers in La Crosse/Winona and Rochester while simultaneously improving electrical system reliability to the region by creating a strong 345 kV tie between Minnesota and Wisconsin;
- Considers not only the cost of building a set of transmission facilities, but the effect those facilities have on the total cost to consumers of electricity (e.g., on the need for other future facilities, access to lower cost generation, affect on generation operating constraints, the ability to meet new environmental regulations applicable to such generators, differences in electrical losses); and
- Synchronizes with the plans of other utilities, the Regional Transmission Organization, and the planning initiatives of the state and federal governments.

It is this combination of local and regional benefits both in the near-term and longer-term that make the proposed 345 kV Project the most reasonable electrical solution. Applicants believe that the 345 kV Project is the best project for La Crosse, Rochester and the region.

While the detailed analysis of the Project, the needs and the alternatives will be fully evaluated in the contested case proceeding, Applicants believe that it is important to modify and supplement the DEIS with data regarding all of the needs and benefits of the Project in the Final Environmental Impact Statement (“FEIS”).

La Crosse/Winona Area Local Load Serving

Critical Load Levels

The DEIS, throughout the executive summary and Chapters 2 and 3, references incorrect critical load levels for the La Crosse/Winona area. The N-2 critical load level

Attachment A to Applicants' DEIS Comments

is 430 MW. After this level, there is risk of interrupted electric service to customers under certain contingencies. The peak loading in the La Crosse area has already exceeded this critical level on a number of occasions. For example, critical loads were exceeded by 34 MW in 2006 and by 43 MW in August 2010.

The technical scenario in this specific case is the outage of a generator and a transmission line. NERC requires that utilities take actions to maintain voltages and other system conditions during such contingencies. When load on the system is at or above 430 MW, an outage of a generating unit and a transmission source will cause unacceptable low voltages in the La Crosse area. As the La Crosse area load approaches 500 MW and above, technical analysis has shown that there is the potential for voltage collapse throughout the wider region.

To address the existing N-2 condition in conformance with NERC planning criteria, NSPW and/or DPC are required to act once a line or generator is lost and load reaches more than 430 MW to protect against low voltages. Absent additional electrical improvements, service would be interrupted to customers to reduce the load on the system.

In addition to the 430 MW critical load level, the DEIS discusses the N-1 contingency. The critical N-1 contingency is the loss of a single 161 kV source in the La Crosse area, assuming full operation of all generating units, including Genoa and Alma units. The critical load level is 470 MW. This N-1 contingency scenario overloads a 161 kV line in La Crosse which DPC currently is planning to rebuild to higher capacity (Genoa to La Crosse Tap 161 kV line). If that transmission line is rebuilt as planned, the 470 MW critical load level is no longer an issue for the La Crosse area. However, as discussed above, if at any point the system is above 430 MW then there is potential for severe voltage degradation following the loss of a transmission system element regardless of the capacity of the Genoa – La Crosse Tap transmission line.

French Island Generation as an Alternative

The DEIS suggests that the capacity of the transmission system serving the greater La Crosse area could be increased from the critical level of 430 MW to 500 MW or 570 MW by relying on 70 MW (Unit #3, which is currently mothballed) and 70 MW (Unit #4) of generation at Xcel Energy's French Island plant. It is not reasonable to rely solely on generation, specifically the expensive and aging French Island peaking oil units, to provide the needed system support for local load serving because it is less reliable than transmission. It also fails to address all the benefits of the 345 kV Project. Specifically, it would not meet the regional, generation support and congestion relief needs. Furthermore, the DEIS does not account for the economic and environmental cost of generating additional electricity at the oil-fired French Island plant.

Whereas high voltage transmission availability is more than 99.9 percent, the most reliable generation is typically unavailable 7 to 10 percent of the time. Peaking generators, like French Island, are typically unavailable 20 percent of the time or more

Attachment A to Applicants' DEIS Comments

due to increased maintenance needs. Because generation is less reliable, it is a poor long-term solution for transmission deficiencies.

Running the 40-year old peaking units at Xcel Energy's French Island plant as a full-time back-up when the La Crosse area load hits 430 MW (as suggested in the DEIS) in anticipation of possible transmission outages is not a reasonable alternative. It also has environmental impacts. Both French Island Unit 3 and Unit 4 are oil-fired combustion turbines and are considered "peaking units" that have only operated an average of 53 hours per year (combined) for the past three years. They are dispatched as emergency-run only and are some of the most expensive units Xcel Energy has available. Furthermore, Unit 3 has been out of service for two years, and it would cost several million dollars to bring it back on-line. Moreover, this plant currently does not operate during the weekend hours when garbage is not being delivered, and its overnight staffing level during the week is minimal. Making Units 3 and 4 available to run as base load instead of peak load units during certain load conditions would require additional staffing and additional Operating and Maintenance ("O&M") costs for the plant.

Oil to run the units would need to be delivered to the La Crosse area by truck from Rochester or St Paul. Oil storage capacity at the plant is around three million gallons. Running these units at base load (24/7) would consume approximately 210 gallons per minute, requiring deliveries of two truck loads every 70 minutes or 40 truck loads of fuel per day. The truck traffic into the plant would be in addition to the 60 garbage trucks and 15 semi-trucks with wood waste that currently enter the plant each day.

Units 3 and 4 at the plant are also affected by EPA's recently-adopted Cross State Air Pollution Rule ("CSAPR"). The CSAPR requires that every ton of sulfur dioxide and nitrogen oxide emissions be covered by an emission allowance. For nitrogen oxides, there are two limitations: total annual emissions and emissions during the summer ozone season. The CSAPR initially provides allowances to affected sources to comply with the rule based on their historic emissions for each of the facilities in the Xcel Energy portfolio. Since the French Island units have always been run as peaking units, the rule provides a very small number of allowances for them. If these units were now to significantly increase their run times (and emissions), any additional emissions from Units 3 and 4 would have to be accompanied by purchases of emission allowances at an unknown price. Since the most likely times the units might need to run would occur near the summer peak, every ton of emissions in excess of historic levels in the summer season would need to be covered by a sulfur dioxide allowance and two nitrogen oxide allowances (summer and annual).

In short, the French Island plant is an aging oil fueled plant that cannot be relied upon to be available when needed to ensure system reliability. The DEIS' suggestion that these units can be turned on to provide extra transmission system capability does not reflect the characteristics and true availability of these units. The FEIS should recognize that operation of a generation plant does not provide the reliability function of the proposed Project and does not represent a viable alternative.

Attachment A to Applicants' DEIS Comments

Growth Rates

The DEIS also discusses growth rates for peak load in the La Crosse area. While growth forecast rates can be debated, the fact remains that the La Crosse area electrical demand already exceeds the critical level and will continue to do so in the future, and something needs to be done now to solve the problem. As noted, the critical load level of 430 MW has already been exceeded on multiple occasions by as much as 43 MW. The forecast of future loads provides an indication of how large the deficit will become over time. Consequently, variations in growth rate impact the level of the future deficit, but do not obviate the need for additional transmission infrastructure.

The DEIS states that Applicants' load data from 2002 to 2020 represents a 1.7 percent annual increase. The calculations supporting this growth rate are not shown in the DEIS and do not reflect the load data Applicants provided. Historical loads and forecast loads have been tracked and developed since 2006, and utility practice is to update forecasts throughout the year. Therefore, there have been several forecasts submitted during the permitting process. The most recent substation load data was provided in the CapX 2020 Supplemental Need Study of August 2011 ("Supplemental Report") (PSC Ref# 152526). The data in the tables provided reflect a 1.18 percent annual increase for 2002 to 2020.

The DEIS also suggests a peak load growth rate of 0.78 percent may be appropriate. Given the historical growth rate from 2002 to 2006 of a 2 percent annual growth rate and historic peak loads experienced in 2010 and 2011¹, these factors support the higher growth rate reflected in Applicants' load forecasts.

Weather Normalized

The DEIS also suggests that for transmission planning purposes, loads should be weather normalized. While the correlation of energy use and weather conditions is illustrative for peak electricity use occurrences, weather normalized loads are not appropriate for use in transmission planning.

In the discipline of Load Forecasting, the correlation of customer electricity usage (energy sales and/or peak demand) to weather conditions is an important method of developing a band of potential future outcomes. Specifically, the influence of deviations from normal weather on long-term energy and peak demand forecasts is frequently referred to as load sensitivity. This process of linking customer usage to weather conditions (weather normalization) helps translate actual customer usage under actual weather conditions into expected usage under a range of weather conditions.

¹ Dairyland Power Cooperatives' load reached 979 MW, a 6.9 percent year-over-year increase over its previous peak of 916 MW set in 2010. The system operated by Xcel Energy and Northern States Power Company, a Minnesota corporation, over a five-state area (Minnesota, North Dakota, South Dakota, Wisconsin and Michigan) reached a new peak of 9,533 MW of load served, 402 MW above the peak of 9,131 MW reached in 2010, representing a 4.4 percent increase.

Attachment A to Applicants' DEIS Comments

Load forecasts developed for normal weather conditions represent the expected customer usage for which there is a 50 percent chance of that level being exceeded (the 50/50 load forecast). The two most common bands of load forecasts on either side of this normal weather forecast are what is known as the 90/10 forecasts. These represent a high forecast in which the customer usage has a 10 percent chance of being exceeded and a low forecast in which customer usage has a 90 percent chance of being exceeded. From a weather effect on load perspective, the high forecast is reflective of the peak levels of customer usage that have occurred when the weather conditions have been at their extremes (the hottest and highest humidity levels in the summer and coldest levels in the winter). Under similar weather conditions in the future, customer usage can be expected to follow similar patterns (with additional load to account for expected growth in customer usage over time).

The use of the correlation of load sensitivity to weather conditions takes a number of forms. On a very near-term basis, operators of the utility system use the demonstrated relationship of customer usage to weather conditions to track the daily building of customer load and forecast the expected load levels on weather extreme days. This allows them to operate the system of generation resources in a cost-effective manner. On a longer-term basis, resource planners utilize the 50/50 forecast to develop generation expansion plans with reserve margins designed to accommodate both the probability of generation being unavailable to serve load as well as the probability of the load being higher or lower than the normal forecast (the 90/10 forecasts). This planning of generation resources to meet the normal load forecast and then developing appropriate generation in reserve works well for the generation side of resource planning; however, this is not appropriate for planning the transmission system.

In designing the transmission system, planners do not have the same reserve resources that generation planners have. There is no transmission ready in spinning reserve that can immediately replace lost transmission capacity and serve load as the system builds towards peak levels over the day. If generation goes offline, the system can handle a momentary frequency deviation while reserve generators pick up the slack; if transmission goes offline, the load depending on that transmission could be stranded if sufficient transmission capability does not exist. There is no transmission that is off-line and ready to bring on-line on extreme weather condition days. There is no ability to pool transmission over a large geographic area to make use of transmission in one geographic region to help out another geographic region. These are all techniques available to generation resource planning that makes planning for the weather normalized 50/50 load level appropriate. The provision of transmission resources is a much longer-term process and, thus, does not have this flexibility. Therefore, planning for the transmission system must be done such that the system is capable of providing reliable service for the full range of possible future outcomes, including the peak load levels that have occurred in the past and can be expected to occur in the future.

Transmission planners must pay particular attention to the peak load levels that have occurred historically. These levels represent the actual load that the transmission system has been required to serve. Absent any significant changes in customer load conditions,

Attachment A to Applicants' DEIS Comments

these load levels can be expected to occur again in the future. In spite of this peak loading on the system occurring during more extreme weather conditions, the transmission system must be capable of serving that level of load plus the load growth that is expected to occur over time; NERC standards require that the system be capable of meeting the *peak system demand* (i.e., **not the weather-normalized peak demand**). Failure to provide this capability in the transmission system by only designing it to meet the 50/50 weather normalized load level would provide customers with an unacceptable level of reliability. By definition, customers would be faced with a 50 percent chance of losing electric service and/or the transmission system would have a 50 percent chance of being damaged due to higher than planned for load levels during an outage occurring in any given year. In order to provide the level of service from the transmission system that customers and regulators demand, the transmission system must be designed considering the peak levels of load that have occurred and must be capable of serving those levels which can be expected to occur in the future.

Regional Needs and Benefits

If the community load serving need were evaluated in isolation, a lower voltage solution might emerge as the most cost-effective alternative. However, there are also regional needs and market benefits that must be considered as well. The DEIS fails to discuss the long-term implications of the alternatives. The proposed Project is capable of serving La Crosse area load up to 750 MW, a level that is not projected to be reached until approximately mid-century. Many of the other alternatives provide load serving capabilities that are significantly lower (by as much as 200 MW). This means additional infrastructure improvements will be required earlier in the future. The topology of these alternatives ensures that the result will be a less efficient system that is not as capable of responding to regional and market-related drivers.

The CapX2020 345 kV line from Hampton to La Crosse additionally provides the following system-wide benefits which are not fully realized by a lower voltage local solution:

- greater Rochester, Minnesota area load serving and reliability for near and long term;
- regional reliability/efficiency benefits;
- access to generation, including renewable energy from some of the best wind zones in the United States to help utilities meet their state renewable energy standard mandates;
- market benefits.

Rochester Load Serving and Area Reliability

In the Rochester area, electric reliability issues have arisen that are related to population growth and associated increase in electric power demands. When the demand for electrical power exceeds 181 MW in the Rochester area, the failure of a single transmission line could cause service interruptions.

The system peak occurred in 2006 and reached 330 MW, and on August 12, 2010, the system reached 314 MW. To address the increased demand for electricity, additional power sources in the Rochester area are needed. Through the 2007 Minnesota Certificate of Need process, the Minnesota Public Utilities Commission determined that construction of the CapX 2020 345 kV line from Hampton to Rochester and on to La Crosse and two 161 kV lines in the Rochester area was the best solution for the suite of needs discussed above. The Project is projected to meet Rochester's local community needs through mid-century.

Part of an Approved Regional Plan

The package of system-wide benefits led the Midwest Independent Transmission System Operator ("MISO") to conclude that the Project was needed for baseline reliability. The 345 kV Project has been thoroughly and independently evaluated by MISO and was approved in Appendix A of MTEP08. In addition, the 345 kV line is included in the base case transmission system supporting the MISO Multi Value Project portfolio of projects. This is further discussed in greater detail in Section 2 of the Supplemental Report, and demonstrates planning collaboration and a regional approach to solving the identified issues.

Regional Reliability/Efficiency

Contrary to the DEIS assertion that consumer demand for electricity has declined, peak demand on the NSP and Dairyland Power Cooperative systems, and in the La Crosse / Winona region, specifically, has increased. Utilities are obligated to design to meet customer load requirements under these peak loading conditions. The loading levels experienced during the summer of 2011 demonstrate that peak demand is rising throughout the region. New peaks were experienced on July 20, 2011 by the MISO states and the utilities serving Wisconsin and Minnesota, including the communities that will benefit from the 345 kV Project.

- In MISO, the demand for power in its 12-state market area peaked at 103,975 MW, exceeding the prior record of 103,246 MWs set on July 31, 2006.
- Dairyland Power Cooperative exceeded its last peak set in 2010 of 916 MW and reached a new peak demand of 979 MW, a 6.9 percent increase year-over-year.
- The five-state system operated by the NSP Companies (Minnesota, North Dakota, South Dakota, Wisconsin and Michigan) reached a new peak of 9,533 MW of load served, 402 MW above the peak of 9,131 reached in 2010, representing a 4.4 percent increase.

Reliability of a regional transmission system is enhanced when power can be transferred across geographic regions in response to system needs. Transfer limits between Minnesota and Wisconsin affect system operators' ability to move power in response to a critical contingency or shifts in the output of variable resources such as wind generation.

Attachment A to Applicants' DEIS Comments

The proposed Project will enhance regional reliability by supporting additional power transfers.

The addition of the 345 kV Project or a lower voltage alternative alone adds 700-850 MW of thermal transfer capability between Minnesota and Wisconsin. However, a 345 kV connection is more robust in that it also provides for additional transfer capability as the 345 kV system is extended to the east. Transfer study analysis indicates the additional capacity, depending on the eastern termination, could be as high as 1200 MW over current system levels (depending on the eastern terminus). This 1200 MW increase is not realized if a lower voltage alternative is constructed initially. In fact, the lower voltage alternative followed by a 345 kV line to the east of La Crosse would actually reduce thermal transfer capability *below* current levels, leading to increased congestion and price separation between Minnesota and Wisconsin. This could result in increased energy costs to customers in the state. By increasing transfer capability, the 345 kV Project enhances overall regional reliability. This transfer capability analysis is detailed in Section 4.4 of the Supplemental Report.

The 345 kV Project presents cost savings and reduced need for new generation capacity over a lower voltage alternative based on system losses. More detail on system loss calculations is contained in Section 4.2 of the Supplemental Report.

Access to Generation:

One of the meaningful benefits of completing the proposed project is increased access to MISO market generation for customers in Wisconsin. In the near-term, completion of the proposed Project will provide this benefit to the La Crosse area. However, as discussed in Section 2 of the Supplemental Report, MISO regional planning evaluations include projects building a 345 kV line connecting the Project with the Madison area. At that point, the line would connect with the remainder of the eastern Wisconsin 345 kV system. As discussed above, and explored in more detail in the Supplemental Report, lower voltage alternatives would result in a reduction in transfer capability between Minnesota and Wisconsin to levels below those experienced today.

As discussed in Section 2.3.1 of the Supplemental Report, a large portion of Wisconsin, including the La Crosse area, lies in an area that is separated from the rest of the transmission grid by transmission constraints. Increased transfer capability on the transmission system leads to an increase in the number and types of generators available to serve a particular load. With more generators competing to serve the loads in a given area, more cost effective generators are able to be selected which, in turn, drives down the price of generators competing against one another to serve the load in question.

In 2009, MISO showed that the CapX 2020 345 kV Project would relieve generation trapped in Minnesota. Reducing congestion enables more efficient (low cost) generation dispatch and results in lower overall energy costs. This is detailed in Section 2.4.1 of the Supplemental Report. By bridging the transmission constraints and increasing access to external generation sources, the market power of these generators is reduced through an

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increase in competitive procurement capabilities. Ultimately, the procurement of more cost-effective generation sources (like those enabled by the proposed Project) will result in a competitive regional economy, and a decrease in costs to ratepayers, as increases and decreases in the cost of generation procured through the MISO energy market are passed directly on to customers.

MISO Tariff Benefits to Wisconsin Ratepayers

The DEIS in section 4.5.5 discusses MISO cost allocation based on Regional Expansion Criteria and Benefits (“RECB”) as applicable to Baseline Reliability Projects. The FEIS should also include a discussion of the potential cost sharing scenarios relating to lower voltage alternatives. The RECB formula applied to the 345 kV Project differs from that which would be applied to lower voltage alternatives. The 345 kV voltage qualifies the project for 20 percent cost sharing across the footprint with the remaining 80 percent of the project cost being allocated according to how the project affects line flows in the local region. In contrast, lower voltage options do not qualify for the 20 percent cost sharing across the footprint and would only have 100 percent of their costs allocated according to how the project affects line flows in the local region. Because lower voltage facilities have a much narrower impact on the reliability and performance of the regional system, a greater share of those costs would be allocated to areas close to the NSP and DPC systems when compared to the allocation of the 345 kV Project. In short, the costs of the 161 kV alternatives being evaluated in this proceeding would be recovered based fully on the Line Outage Distribution Factor (“LODF”) methodology. None of the costs for lower voltage options would be assigned across the MISO footprint and those LODF costs for lower voltage alternatives would be assigned to the utilities owning transmission facilities in southeastern Minnesota (NSP, DPC, Southern Minnesota Municipal Power Authority and Rochester Public Utilities) and western Wisconsin (NSP and DPC).



 State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

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January 22, 1993

1600

Ms. Pamela J. Rasmussen
 Northern States Power Company
 100 North Barstow Street
 Eau Claire, Wisconsin 54702-0008

SUBJECT: NSP Rebuild of an Existing 69KV
 Transmission Line
 La Crosse and Trempealeau Counties

Dear Ms. Rasmussen:

The Department has completed review of the above-referenced project and offers the following comments:

1. Portions of the existing route are in proximity to the Department's Great River Recreational Trail and Perrot State Park. The Department does not concur with any proposal that would necessitate relocation of any portion of the transmission onto those properties or require clearing of vegetation from those properties. To minimize impacts to existing vegetation and wildlife habitat, we recommend the new transmission line be reconstructed on the existing corridor in Sections 17 and 18, T18N, R9W, Trempealeau County.
2. Approximately 1.5 miles of the route crosses the Department's Van Loon Wildlife Area. Located within the Black River Bottoms, the Van Loon Wildlife Area is ecologically significant because of its large size, forested condition and public ownership.

The area provides important habitat for a number of rare, threatened and endangered species. For example, red-shouldered hawk (Buteo lineatus), a state threatened species, occurs in the immediate vicinity of the transmission line corridor.

The Department has significant concerns regarding negative impacts associated with fragmentation of large blocks of forested habitat. The existing NSP 69KV line constitutes one source of fragmentation in the project area.

When considering the future of resources such as the Van Loon Wildlife Area, it is generally recognized that elimination of existing sources of fragmentation can and likely will contribute to the enhancement of the biological integrity of those resources. As surrounding habitats become more fragmented, opportunities to eliminate sources of fragmentation become increasingly important.

Ms. Pamela J. Rasmussen - January 22, 1993

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Accordingly, the Department recommends that the 69KV line be relocated out of the Van Loon Wildlife Area and along STH 35. We recognize there are cost and technical factors which must be addressed during relocation planning efforts, however, we feel substantial permanent environmental benefit will result. Clearly, it is in the public interest to undertake important environmental enhancement when there is a reasonable opportunity to do so.

We will be happy to continue to work with you during project development. Thank you for the opportunity to comment.

Sincerely,



Craig D. Thompson
Assistant Environmental Impact Coordinator

CDT:ph

C: Glen Eveland
Jim Thompson - Perrot State Park
Ken Renier - PSC
Tom Lovejoy - WD