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April 20, 2011

--Via Electronic Filing--

Bill Storm
Project Manager
Minnesota Office of Energy Security
85 7th Place East, Suite 500
St. Paul, MN 55101

RE: RESPONSES TO SCOPING COMMENTS
IN THE MATTER OF THE APPLICATION OF NORTHERN STATES POWER COMPANY, A MINNESOTA CORPORATION, FOR A CERTIFICATE OF NEED FOR TWO HIGH VOLTAGE 115 KV TRANSMISSION LINES IN THE MIDTOWN AREA OF SOUTH MINNEAPOLIS, HENNEPIN COUNTY
DOCKET NO. E002/CN-10-694

Dear Mr. Storm:

Northern States Power Company, a Minnesota corporation ("Xcel Energy" or the "Company"), respectfully submits the following responses to Environmental Report ("ER") scoping comments pursuant to Minnesota Rules Part 7849.1400, Subp. 6.

In all, the Department of Commerce, Division of Energy Resources ("Department") received 19 comments requesting that the ER review certain impacts and alternatives to the two proposed high voltage 115 kV transmission lines in the Midtown Area of South Minneapolis, (the "Hiawatha Project" or "Project"). Xcel Energy appreciates the thoughtful submissions of stakeholders and the opportunity to address the suggestions made and to provide the information sought. The requests are organized by the commenter(s) and followed by responses. A single response to multiple comments is provided where appropriate.

RESPONSES

<u>Boehnke, Goneau, Hadaway, Leaf, Levine, Trius (Eckart), Moore, Johnson and Gomez</u>

David Boehnke, Renee Goneau, Linnea Hadaway, Rachel Leaf, Ruby Levine, Kelly Trius and Emily Moore made seven substantively similar comments (collectively, "Boehnke Comments"). Additionally, Carrie Ann Johnson made comments similar to

Boehnke Comments 1, 2, and 6 and Aisha Gomez submitted comments similar to Boehnke Comments 2, 4, 5, and 6. Each is discussed below.

1. *When evaluating alternatives, the long term payback and economic impact should be considered rather than just upfront costs.*

The Company agrees that both initial costs and operating costs are appropriate to consider in the ER so that alternatives are reviewed on an equal footing. In the case of generation alternatives, fuel cost is an additional consideration. Information regarding initial capital as well as operational costs of the Project and alternatives are provided in the Certificate of Need Application ("Application").[1]

2. *Since many area residents submitted comments during the routing/siting process, including many comments about need and comments on the scope of the Environmental Impact Statement, all of these comments should be included in the CON process.*

A very robust record regarding route alternatives was created in the route proceeding. It is anticipated that the Minnesota Public Utilities Commission ("Commission") will be making the Certificate of Need and Route Permit decisions at the same time and will have before it the complete record of each proceeding upon which to base its decisions. Indeed, it is anticipated that the Route Permit FEIS will be cited in the ER and effectively incorporated by reference.

3. *Externalized costs of the project should be included rather than only monetary costs, including health and environmental implications of the lines.*

The Certificate of Need and Power Plant Siting Act statutes and associated rules require a full analysis of the potential impacts of a project on human health and the environment. This evaluation occurs in the ER and EIS processes as well as the contested case process.

4. *Include Environmental Justice implications of the project in ER, considering the disproportionate impact of environmental toxics borne by Phillips residents who are majority low-income, indigenous and people of color.*

Issues of environmental justice were raised in the Route Permit proceeding and addressed in the EIS, as well as the ALJ's routing recommendation.[2] The Company believes the Route Permit proceeding contains an adequate record regarding environmental justice issues upon which the Commission can make its decision.

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[1]See e.g. Application, Appendix C; Application, pp. 56, 72, 74, 75 and 86.
[2]Findings of Fact, Conclusions and Recommendation, findings 203, 207, 256-261 and FEIS, PUC Docket No. 002/TL-08-38, Section 5.5.

5. *Realistic magnetic field modeling should be included based on the capacity of the line.*

Magnetic field strength is directly related to the loading of the transmission line. The Company has provided a realistic assessment of magnetic field levels based on the expected operation of the line. The maximum operational rating for the transmission lines is 1285A; the emergency rating (which the conductors can operate under for 30 minutes) is 1413A. The ratings presented in the Certificate of Need Application, 138A average/230A peak, are the calculated magnetic fields based on estimated flows when the Project goes into service in second quarter 2013.

The maximum loading on the line would be the maximum load the substation could carry with two transformers (ultimate buildout). This load is not expected to exceed 500A. For illustrative purposes only, the Company has prepared calculations for overhead and underground design up to 1500A, which is somewhat above the emergency rated capacity of the line (1413 A). These calculations are shown in Attachment 1.

The Company notes that electric fields, which are directly related to voltage, do not vary by loading level.

6. *In order to effectively assess alternatives, each alternative strategy needs to be evaluated as part of a comprehensive package rather than singly.*

This comment does not identify a specific alternative or combination of alternatives to evaluate in the ER. As detailed in our Application, the Company's analysis demonstrates that various alternative generation resources and/or conservation cannot meet the identified need.[3] The Company further agrees with the analysis provided by Dr. Steve Rakow with respect to the potential of combining non-transmission alternatives.[4] Because no specific combination alternative that would meet the Project needs has been put forward, the Company does not believe that it would be appropriate to include such analysis in the ER.[5]

7. *When evaluating what's possible, national best practices, e.g. highly effective case studies, should be used rather than only Xcel's programs which have relatively low adoption rates.*

This comment appears to be aimed at the ER's assessment of the "no build alternative". The Company believes that it is appropriate to analyze Xcel Energy's

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[3]Application, Chapter 5.
[4]OES Comments, pp. 11-14.
[5]Minn. R. 7849.1400, Subp. 6 ("The commissioner may exclude from analysis any alternative that does not meet the underlying need for or purpose of the project . . .")

demand side management ("DSM") programs when evaluating whether a no build alternative can meet the identified need.

The Company reports MWH achieved for all commercial and residential customers on an annual basis and considers all energy efficiency program and DSM participation noteworthy. Xcel Energy has been recognized as an industry leader for conservation best practices and over the past ten years has received multiple awards including ones from the EPA, the Governor's office, and the American Council for an Energy Efficient Economy.

Our experience to date with DSM programs is that they can effectively reduce growth in demand, but we have not had experience with DSM programs reducing actual demand. As stated in our Application, to address just the current deficit of 55 MW (and not future growth), current demand would have to drop by approximately 16%. The Hiawatha Project area has experienced robust customer growth from 2000 to 2008 and continued to match the projected above average customer load growth in 2009 despite the economic downturn and community conservation efforts. The Hiawatha Project area is the continued focus of city and community plans for redevelopment. This redevelopment has had and will continue to have associated customer electrical load increases. The Company is unaware of any DSM effort that has resulted in a net reduction of the size that could approach the existing and future customer electrical need in this area.

DenHerder-Thomas

Timothy DenHerder-Thomas provides information about an ice chiller technology and an article that describes best practices for energy efficiency and details a successful program used in southern California.[6] He also encloses a paper prepared by University of Minnesota students titled "Phillips Neighborhood Project: Working Towards Energy Independence."

Ice chiller technology is not a reasonable alternative to the Project. Ice chiller technology is a demand side management technology utilizing thermal storage that creates ice overnight and then uses the melting ice during the day when electric consumption is at its highest level to reduce the demand on the system. It works with existing air conditioning units to make them operate more efficiently and use less energy during periods of peak demand. These units are best suited for areas where air conditioning is needed for longer time periods throughout the year such as California, Texas and Arizona. The project referenced by the comment giver is located at

[6]Meyers, Steven and Guthrie, Stephen, "More and Faster: Increasing the Achievable Energy Efficiency Potential through Best-Practice Processes and Data Management Tools" [no publication noted on article].

Southern California Public Power Authority (not SCE) and will achieve an estimated 53 MW reduction distributed across three metropolitan areas in a much greater geographic area than the Midtown area at an estimated initial capital cost of $115M.

The successful electrical efficiency program referenced in the article is also not a feasible alternative to the Project. The efficiency program saved 3.1 MW of energy at 3,350 different commercial sites. The deficit here is 55 MW which by extrapolation would require nearly 60,000 commercial sites (or 130,000 for the 120 MW of fully project capability). The number of available commercial sites in the Hiawatha Project area is significantly less than included in the referenced efficiency project.

The student paper notes that its objective is to "begin the research that could provide strong support for future plans and energy changes in small, low income areas like the Phillips Neighborhood."[7] Therefore, it does not appear that any request to adjust the scope of the ER is being made.

Hoilen, Malloy, Matias-Vazquez

Heidi Hoilen states opposition to overhead construction. Angelina Matias-Vazquez stated a general opposition to the Project. Thomas Malloy stated his support for the Project. The Company appreciates these stakeholders' comments.

Lorenz

Francis Lorenz seeks additional information regarding underground construction along 26th Street or 28th Street and existing utilities.

The Route Permit proceeding evaluated underground options along the Midtown Greenway, where there are no major utilities currently present, and along 28th Street. There are a number of existing utilities and other obstacles under 28th Street which is typical of a city street. These include: a 36" water main crossing at East 18th Avenue, an existing pedestrian tunnel, numerous utility crossings (water, storm and sanitary sewer) at several of the existing cross streets, gas mains, service connections (water, sewer and gas) and traffic conduits. Xcel Energy has experience in designing and constructing new facilities within street right-of-way and believes that if the 28th Street route were approved, the transmission lines can be constructed to be compatible with existing infrastructure through proper planning and coordination. The first step of this process would be a detailed survey to identify the locations of existing underground infrastructure and then design of a location compatible with known

[7]"Phillips Neighborhood Project: Working Towards Energy Independence," p. 6.

existing facilities. Should additional facilities be encountered during excavation, modifications can be made to avoid conflicts.

McKay

Bruce McKay provides an affidavit requesting that the ER include "the full range of potential magnetic fields." His affidavit includes magnetic field calculations he made based on the design capacity of the lines (1500A). The Company's response to the appropriate magnetic fields evaluation in the ER is provided above. *See* Boehnke Comments No. 5.

Schirber

Susan Schirber observes that electrical demand in South Minneapolis has increased in part due to the airport mitigation program that installed central air conditioning in homes to mitigate airport noise. The Company agrees that this mitigation effort is likely one of many factors contributing to the overall growing demand for electricity.

Stenswick

V. Bruce Stenswick suggests a system alternative for the Project, specifically, the use of combined heat and power ("CHP") units and battery storage. CHP is a type of distributed generation that can be sourced by a number of different fuels including natural gas, synthetic gas, landfill gas, and fuel oils. Typically, facilities with cogeneration systems use them to produce their own electricity and then capture the waste heat from that process for use in heating, hot water and other thermal requirements. There are benefits associated with these types of systems including saving money through more efficient use of fuel, improved power reliability to the local system served by the CHP system, and the conservation of fossil fuels by reducing demand on the distribution and transmission systems. To work economically, the cogenerator needs to follow heat load, not electrical. They are not efficient/cost effective following electrical demand due to the need to dump the excess heat most of the year. The sizes of the units can range from less than a megawatt to several hundred megawatts.

As noted in our response above to Boehnke Comments No. 6, distributed generation is a not a reasonable alternative to the Project to meet the identified need. The generation alternatives have higher cost, lower reliability and inferior performance compared to the transmission proposal. The example provided by Mr. Stenswick illustrates the differences between transmission and generation alternatives.

The current defined deficit is 55 MW. The proposed Project will provide 120 MW of capacity. As noted in our Application, distributed generation such as CHP is not as reliable as transmission. Therefore, additional distributed generation capacity would need to be installed so that 55 MW would be available 99 percent of the time immediately, with opportunity for future capacity. Since the most reliable generation is typically available 90 percent of the time, mathematically this works out to two of four units assumed available. If single megawatt units were used, 110 one megawatt units, 55 of which could be assumed on at all times, would be required just to address the deficit. To replace the capacity the Project will provide, 240 one megawatt units, 120 of which would be assumed on line, would be required. Using Mr. Stenswick's estimate of $1 million per megawatt, this would cost $240 million. Each of these units would be the size of a small garage and typically run on a fossil-fuel derived source such as diesel, gas or natural gas, creating noise and exhaust. Larger capacity units would be correspondingly larger and create incrementally greater noise and exhaust. The addition of these generators and battery backup would also require additional facilities including distribution system upgrades, equipment siting and environmental permitting which would need to be studied and identified.

While the Company does not believe CHP and battery storage would meet the defined need, the Company takes no position on whether these options are included in the ER.

Blumenshine

Amy Blumenshine states concerns regarding the identified need, costs associated with generation alternatives and externalities associated with generating power necessary to serve growing load. The Company believes that the need and cost issues are fully addressed in our Certificate of Need Application. With respect to externalities, there is no generator associated with this Project and no new generation is assumed and therefore, such externalities should not be included in the ER. Ms. Blumenshine also recommends consideration of conservation and a solar alternative. The Company believes conservation and solar energy are appropriate to include in the ER.

Overland

Carol Overland provides 12 comments. The comments and the Company's responses are provided below using Ms. Overland's numbering system for ease of reference.

1. Ms. Overland states the ER should include unidentified distribution solutions. The Company considered distribution alternatives, including a new six-transformer distribution substation, as identified in the Application and determined that they would not meet the identified need. Because the

studied alternatives would not meet the Project need and no specific additional alternative is proposed, it appears inappropriate to include this recommendation in the ER.

2. Ms. Overland recommends that the impacts of prior distribution modifications in South Minneapolis must be considered. Ms. Overland provides no authority for including evaluation of prior actions in an environmental report and the Company is unaware of any such authority. Further, Ms. Overland provides no explanation of what if any this recommendation would have on the Project or the ER evaluation.

3./8. Ms. Overland suggests that prior transmission studies and the potential alternatives, including other 345 kV and 115 kV alternatives that were studied but have not been proposed, must be considered. Xcel Energy's Transmission Planning department uses a 10-year planning horizon for proposed projects and a 20-year vision planning horizon. In 2008, the Company evaluated a 345 kV alternative as part of a 10-year planning horizon in the South Minneapolis Electric Reliability Project Study ("SMERP"). Since the SMERP study was prepared, some of the assumptions used in that study have changed, resulting in a future plan that no longer identifies the need for a 345 kV source in the area of South Minneapolis. The 345 kV line was initially evaluated because of certain assumptions such as a new substation planned for the north metro and increased renewable generation from outside the metro area placing strain on the bulk electric system. As engineers continued to study the system, the new substation in the north metro was not constructed and there has not been a strain on the bulk electrical system from renewable sources outside the metro area. As a result, at present, no need for a 345 kV line in the South Minneapolis area has been identified within this planning horizon.

In addition, the SMERP study considered the Hiawatha Project and other potential 115 kV improvements. None of these other potential 115 kV projects is currently being proposed.

As needs increase in the South Minneapolis area, however, the Company will identify solutions and bring forward projects as appropriate to meet those needs and these projects will be subject to environmental review. As a 345 kV project is neither planned nor proposed, it should not be included in the scope of the ER.

4./5. Ms. Overland questions the amount of the need and recommends that the alternatives evaluated include distribution upgrades, a lower voltage line, distributed generation and on-site generation. As detailed in our

Application, the existing deficit is 55 MW and this deficit is expected to grow over time. Distribution options have been exhausted, generation alternatives also would not meet the demonstrated need, and lower voltage alternatives (34.5 kV and 69 kV) are not reasonable alternatives due to performance considerations and costs.[8]

6. Ms. Overland also raises challenges to the need that appear to be outside the ER. Specifically, she contends that SAIDI, SAIFI and CAIDI reports do not reflect outages in the Midtown area supporting the need. The Company notes that the details of such outages would not be discernable in these aggregate reports that are prepared based on seven reporting areas that are larger than the Midtown area. The one including Midtown also includes all of Minneapolis and parts of neighboring suburbs Richfield, Bloomington, New Hope and Golden Valley.

7. The seventh issue raised by Ms. Overland, regarding the size of the Project is similarly directed at need and seeks specific "Findings of Fact." The Company does not believe this comment affects the scope of the ER.

9. Issue nine relates to undergrounding. The Company agrees that impacts of undergrounding are an important consideration. The EIS in the Route Permit proceeding includes a thorough evaluation of undergrounding that can be referenced in this docket.

10. Ms. Overland's 10th comment regarding magnetic fields has been addressed above.

11. Ms. Overland's 11th issue regarding the environmental impacts of substation construction was likewise covered in the FEIS prepared in the Route Permit proceeding.

12. Ms. Overland's last recommendation is to include the Route Permit DEIS and FEIS into the ER. As noted previously, it is anticipated that the Route Permit FEIS will be cited in the ER and effectively incorporated by reference.

[8]See Application, pp. 54-55 and 67-75.

The Company appreciates the opportunity to respond to the scoping comments provided by stakeholders. Please contact Paul Lehman at 612.330.7529 or RaeLynn Asah at 612.330.6512 if you have any questions about this submission.

SINCERELY,

/s/ *Paul J Lehman*
RaeLynn Asah

PAUL J LEHMAN
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Enclosure
c: Service List

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ATTACHMENT 1, XCEL ENERGY'S RESPONSES TO SCOPING COMMENTS DOCKET NO. E-002/CN-10-694

CALCULATED MAGNETIC FLUX DENSITY (MILLIGAUSS) FOR PROPOSED 115 KV TRANSMISSION LINE DESIGNS (3.28 FEET ABOVE GROUND)

Structure Type	System Condition	Current (Amps)	Distance to Proposed Centerline												
			-300'	-200'	-100'	-75'	-50'	-25'	0'	25'	50'	75'	100'	200'	300'
Davit Arm 115kV/115kV Steel Pole Double Circuit	Max. Design Capacity	1500	0.48	1.43	9.73	20.41	51.40	150.21	250.70	148.52	50.41	19.87	9.41	1.38	0.48
	None	1000	0.32	0.95	6.49	13.61	34.26	100.14	167.13	99.01	33.61	13.25	6.27	0.92	0.32
	Max. Operational (Midtown Full Buildout)	500	0.16	0.48	3.24	6.80	17.13	50.07	83.57	49.51	16.80	6.62	3.14	0.46	0.16
	Midtown high load	300	0.10	0.29	1.95	4.08	10.28	30.04	50.14	29.70	10..08	3.97	1.88	0.28	0.10
	Peak (2013)	230	0.07	0.22	1.49	3.13	7.88	23.03	38.44	22.77	7.73	3.05	1.44	0.21	0.07
	Average (2013)	138	0.04	0.13	0.90	1.79	4.73	13.82	23.06	13.66	4.64	1.72	0.87	0.13	0.04
	Low Demand	100	0.03	0.10	0.65	1.36	3.43	10.01	16.71	9.90	3.36	1.32	0.63	0.09	0.03
	Midtown Not Inservice	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Transmission Duct Bank 115kV/115kV Under ground Double Circuit	Max. Design Capacity	1500	0.00	0.01	0.04	0.10	0.33	2.42	129.48	2.42	0.33	0.10	0.04	0.01	0.00
	None	1000	0.00	0.00	0.03	0.07	0.23	1.61	86.32	1.61	0.22	0.07	0.03	0.00	0.00

Structure Type	System Condition	Current (Amps)	Distance to Proposed Centerline												
			-300'	-200'	-100'	-75'	-50'	-25'	0'	25'	50'	75'	100'	200'	300'
	Max. Operational (Midtown Full Buildout)	500	0.0005	0.0017	0.0138	0.0327	0.1089	0.8075	43.1597	0.8058	0.1085	0.0325	0.0137	0.0017	0.0005
	Midtown High Load	300	0.0003	0.0010	0.0083	0.0196	0.0654	0.4845	25.8958	0.4835	0.0651	0.0195	0.0082	0.0010	0.0003
	Peak (2013)	230	0.0002	0.0008	0.0064	0.0150	0.0501	0.3715	19.8535	0.3707	0.0499	0.0149	0.0063	0.0008	0.0002
	Average (2013)	138	0.0001	0.0005	0.0038	0.0090	0.0301	0.2229	11.9121	0.2224	0.0299	0.0090	0.0038	0.0005	0.0001
	Low Demand	100	0.0001	0.0003	0.0028	0.0065	0.0218	0.1615	8.6319	0.1612	0.0217	0.0065	0.0027	0.0003	0.0001
	Midtown Not Inservice	0	0	0	0	0	0	0	0	0	0	0	0	0	0