PSC REF#:146251

Public Service Commission of Wisconsin
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March 24, 2011

VIA ELECTRONIC FILING
Robert Norcross, Administrator
Public Service Commission of Wisconsin
P.O. Box 7854
510 North Whitney Way
Madison, WI 53707-7854

Re: 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

PSC Staff IRs 01-8 to 01-11 and 02-1

Dear Mr. Norcross:

Please find enclosed Applicants' responses to Public Service Commission Staff Information Requests 01-8 to 01-11 and 02-1. The enclosed information is submitted on behalf of the Applicants; Northern States Power Company, a Wisconsin corporation (Xcel Energy), Dairyland Power Cooperative (Dairyland), and WPPI Energy (WPPI).

Our response is in two parts. The first part is an index sheet corresponding to the items listed in Attachment A of your February 1, 2011 incompleteness letter and Information Request 02-1 dated March 14, 2011. The second part is a series of text responses for each request, followed by responsive documents.

Please call with any questions.

Sincerely,

/s/Amanda R. King
Amanda R. King

ARK/dba
Enclosures

cc: Udaivir Singh Sirohi
Julie Urban
William Fannucchi

CAPX 2020 UTILITIES
HAMPTON - ROCHESTER - LA CROSSE 345 KV TRANSMISSION PROJECT
DOCKET 5-CE-136

RESPONSE INDEX FOR INCOMPLETENESS ITEMS 01-8 through 01-11
ITEM 02-1
March 24, 2011

Item No.	Application Page	AFR	Information Requirement	Response	Location of Response	ERF Ref. No.
01-8	2-40, 2-41	2.1.3.1	Provide 2010 actual load by substation.	Table 2.1-10 has been revised as requested.	Table 2.1-10 in the CPCN Application will be revised based on the enclosed table.	
01-9	2-46 - 2-48	2.1.3.3	Provide power flow simulation data (raw format) for the TSSR Supplement-2010 161 kV Alternative and alternatives listed in questions 4 to 6 in the August 2010 Data Request.	CD with the requested modeling data was provided confidentially to PSCW on February 15, 2011.	No further response in submittal.	144772
01-10	2-47, 2-49; 2-56 - 2-64	2.1.3.3 and 2.1.7	Provide, in 2010 dollars, costs for the proposed project and project alternatives (including those listed in questions 4 to 6 in the August 2010 Data Request). These costs should include any fee payments. Provide costs (2010 dollars) in the proposed project cost for any upgrades required during the service period (2015-2050) of the proposed project (345 kV line between Hampton and La Crosse). Provide these costs as an MS Excel worksheet.	Requested table has been prepared.	Paper and electronic copies of the requested Excel table are enclosed.	
01-11	2-52	2.1.3.4	Provide an MS Excel worksheet that details the calculation of present value for electrical losses shown in Table 2.1-14. These calculations should be based on 2010 dollars. Provide above described MS worksheets for alternatives listed in questions 4 to 6 in the August 2010 Data Request.	Tables 2.1-14 and 2.1-15 were revised.	Tables 2.1-14 and 2.1-15 in the CPCN Application will be revised based on the enclosed table which is provided in paper and electronic format. .	
02-1	Appendix E		Appendix E includes multiple technical studies addressing, among other things, the proposed project and its alternatives. Appendix E contains 462 pages. Some of these pages are not legible, and some of these pages contain substantially repetitive information. In place of the current Appendix E, please provide a stand-alone technical study that may include a collection of the pertinent portions of the current Appendix E that concisely address the justification for the proposed project in supporting the Wisconsin load serving need. This should cover the proposed project and applicants' and staff requested alternatives, detailed economic analyses of the proposed project and its alternatives, per mile transmission line construction costs, substation construction and equipment costs, equipment ratings, and any other relevant information.	At the PSCW Staff's request, Applicants prepared an updated Technical Studies Summary Report (TSSR) summarizing the engineering analyses supporting the need for the Hampton - Rochester - La Crosse 345 kV Transmission Project.	The TSSR will replace, in its entirety, Appendix E of the CPCN. Paper and electronic copies are enclosed.	

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Docket 5-CE-136
Completeness Response: Item 01-8

Date of PSCW Request: February 1, 2011
Date of Response: March 2011

Item 01-8 Application Pages 2-40, 2-41, AFR 2.1.3.1

Provide 2010 actual load by substation.

Response

Actual 2010 load data for the La Crosse/Winona area substations is enclosed.

LA CROSSE AREA LOAD SERVING SUBSTATIONS	Actual				Projected	
	Load MW 2002	Load MW 2006	Load MW 2008	Load MW 2010	Load MW 2015	Load MW 2020
Bangor	4.08	4.17	3.46	3.3	4.43	4.66
Brice	5.12	6.93	6.36	3.5	3.81	4.15
Caledonia City	3.42	3.9	3.51	3.65	4.06	4.44
Cedar Creek	3.54	5.17	4.93	5	4.94	5.38
Centerville	2.79	3.34	4.2	3.05	3.76	4.09
Coon Valley	4.29	5.22	3.96	3.99	5.58	5.86
Coulee	53.5	60.3	52.91	61.44	67.4	71.03
East Winona	8.92	9.47	11.09	7	12.74	14.07
French Island	19.5	29.04	24.06	38.73	37.34	39.35
Galesville	6.91	6.89	5.5	5.79	7.36	7.73
Goodview	31.78	35.33	33.61	31.67	36.14	38.27
Grand Dad Bluff	1.67	1.91	1.63	1.68	1.85	2.01
Greenfield	2.85	3.43	3.06	2.93	3.39	3.69
Holland	-	-	-	4.74	5.16	5.61
Holmen	14.97	13.16	14.91	18.36	15.99	16.8
Houston	3.61	3.78	3.38	3.75	3.88	4.25
Krause	4.12	4.48	4.54	5.02	4.67	5.08
La Crosse	58.43	50.33	46.98	47.63	54.34	57.11
Mayfair	43.9	46.58	45.39	56.45	51.26	54.44
Mound Prairie	2.18	2.02	2.39	2.24	2.49	2.72
Mount La Crosse	1.64	2	2.09	2.15	2.12	2.31
New Amsterdam	3.88	4.66	4.46	3.47	3.78	4.11
Onalaska	11.73	12.93	10.48	13.77	14.54	15.67
Pine Creek	2.03	2.36	1.84	1.93	2.2	2.41
Rockland	4.18	4.14	3.1	3.66	4.15	4.37
Sand Lake Coulee	2.99	2.84	2.59	3.01	2.97	3.24
Sparta	29.65	32.47	31.74	30.9	35.84	38.61
Sparta (Dairyland)	1.15	1.36	1.16	1.14	1.42	1.63
Swift Creek	17.1	24.8	21.83	23.75	29.65	31.17
Trempealeau	4.43	3.94	3.68	2.68	4.2	4.41
West Salem	23.3	24.52	23.97	22.8	27.63	29.41
Wild Turkey	1.17	1.2	1.35	2.69	1.44	1.57
Winona	46.3	51.91	51.19	51.17	55.23	58.77
Total Load MW:	**425.12**	**464.59**	**435.34**	**473.04**	**514.98**	**547.57**
Critical Load Level = 470 MW (Transmission Only with Genoa-Coulee 161 kV Outage)						
MW at risk				3.04	45.01	77.57
Critical Load Level = 450 MW (With JPM outage and Genoa-Coulee 161 kV outage)						
MW at risk				23.04	64.98	97.57

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Completeness Response: Item 01-9

Date of PSCW Request: February 1, 2011
Date of Response: March 2011

Item 01-9, Application Pages 2-46 - 2-48, AFR 2.1.3.3
Provide power flow simulation data (raw format) for the TSSR Supplement-2010 161 kV Alternative and alternatives listed in questions 4 to 6 in the August 2010 Data Request.

Response
A CD containing the requested confidential information was provided to Wisconsin Public Service Commission Staff on February 15, 2011.

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345 kV Transmission Project
Docket 5-CE-136
Completeness Response: Item 01-10

Date of PSCW Request: February 1, 2011
Date of Response: March 2011

Item 01-10, Application Pages 2-47, 2-49; 2-56 - 2-64; AFR 2.1.3.3 and 2.1.7

Provide, in 2010 dollars, costs for the proposed project and project alternatives (including those listed in questions 4 to 6 in the August 2010 Data Request). These costs should include any fee payments. Provide costs (2010 dollars) in the proposed project cost for any upgrades required during the service period (2015-2050) of the proposed project (345 kV line between Hampton and La Crosse). Provide these costs as an MS Excel worksheet.

Response

Paper and electronic copies of the requested Excel table are enclosed.

Cost and System Performance of Alternatives

Option	La Crosse Area Load Serving Capability (in MW)	Total Project Cost	Regional System Reliability Issues for Alternatives	Siting and Land Acquisition Issues for Alternatives
345 kV Proposed project	750 MW	$487 million		
2006 161 kV La Crosse Area Alternative	750 MW	$638 million		
2010 161kV La Crosse Area Alternative	750 MW	$377 million	No further enhancement to the reliability of the regional bulk transmission grid. No contribution to future transfer capability between Wisconsin and Minnesota	Many miles of new 161 kV ROW necessary for this alternative, including potential for a new river crossing. Major routing hurdles and resulting cost additions expected.
161 kV line from North Rochester - Briggs Road alternative	550 MW	$249 million	Regional reliability and regional transfer capability not increased	None
Double circuit 161 kV line from North Rochester - Briggs Road alternative	600 MW	$303 million + significant cost addition for new right of way	Comparable performance to 161 kV options with higher cost Regional reliability and regional transfer capability not increased	Double circuit 161 kV requires new ROW and route. Alternative route from existing DPC 161 kV Q1 line would be desired. Likely to require different river crossing. Major routing hurdles expected if not using existing ROW.
230 kV line from North Rochester - Briggs Road alternative	550 MW	$294 million	Comparable performance to single 161 kV options with higher cost New voltage introduced into both Rochester and La Crosse area. Non-standard 230/161kV transformers (0.14% of tx's on MRO model)	None

NOTE:
- Estimates are in 2010 dollars
- All alternatives are planning level estimates only. These estimates do not include AFUDC, overheads or escalation. The estimate for the Proposed Project is a full detailed estimate including all of these additions.
- 345 kV, 230 kV and 161 kV alternatives all assume the same routes and configurations as proposed in Wisconsin CPCN and Minnesota route permit application, which includes plans to double
- 161 kV/161 kV scenario assumes building adjacent to the existing underlying transmission facilities. It is important to note that feasability of this adjacent configuration has not been investigated. In some places, such as portions of the Q1 route, there is no room for building adjacent to the existing 161 kV line.

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Completeness Response: Item 01-11

Date of PSCW Request: February 1, 2011
Date of Response: March 2011

Item 01-11, Application Page 2-52; AFR 2.1.3.4

Provide an MS Excel worksheet that details the calculation of present value for electrical losses shown in Table 2.1-14. These calculations should be based on 2010 dollars. Provide above described MS worksheets for alternatives listed in questions 4 to 6 in the August 2010 Data Request.

Response

Tables 2.1-14 and 2.1-15 in the CPCN Application will be revised based on the enclosed table which is provided in paper and electronic format.

Computation of Equivalent Capitalized Value for Losses using 2010 $
(based on 1.00 MW loss on -peak)
(pool reserve requirement of x% specified below)

Input Assumptions

Term of loss reduction	40	yrs	Present Value of Annuity factor	11.54	< Losses
Assumed life, xmsn	35	yrs	Present Value of Annuity factor	11.30	< Transmission
Discount rate	8.31	%/yr			
Energy value	$29.09	MWh			
Loss Factor	0.30				
Transmission FCR	0.1403				

Calculation

						Generation FCR		Levelized Annual Revenue Rqmt		Cum PW of Rev Req
Capacity value:	50	% peaking @	$615	/kW		0.1275		$39,218		
	50	% baseload @	$3,370	/kW		0.1275		$214,833		
							$	254,051	$	
	15%	reserve requirement:						292,158		3,372,815
Energy Value:	1.00	8760 hr/yr	0.30	$29	/MWh			76,456	$	882,639
					Total annual cost, capacity & energy:		$	368,614		4,255,454

Present Value Annuity factor Losses		11.54
Cum PV Losses	$	4,255,454
Equivalent Transmission investment	$	**2,683,995**

is Cum PV Losses / FCR trans / PVA trans

Xcel Energy Services

Total model losses/ MW	Year	Case	System Capacity Loss Savings from Base Case/ MW	Annual Energy Loss Savings/ GWh **	Present Value of Capacity and Energy Cost Savings/ M$
18702.45	2012	Base Model	-10	-25	-41
18692.79	2012	Proposed 345 kV Project Added	0	0	0
18698.73	2012	2006 161 kV La Crosse Area Alternative	-6	-16	-25
18691.64	2012	2010 161 kV La Crosse Area Alternative	1	3	5
18694.24	2012	230 kV North Rochester - Briggs Road Alternative	-1	-4	-6
18695.65	2012	161 kV North Rochester - Briggs Road Alternative	-3	-8	-12
18694.06	2012	Double circuit 161 kV North Rochester - Briggs Road Alternative	-1	-3	-5

** all values using 2010 $

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Response: Item 02-1

Date of PSCW Request: March 14, 2011
Date of Response: March 2011

Item No. 02-1
Appendix E includes multiple technical studies addressing, among other things, the proposed project and its alternatives. Appendix E contains 462 pages. Some of these pages are not legible, and some of these pages contain substantially repetitive information. In place of the current Appendix E, please provide a stand-alone technical study that may include a collection of the pertinent portions of the current Appendix E that concisely address the justification for the proposed project in supporting the Wisconsin load serving need. This should cover the proposed project and applicants' and staff requested alternatives, detailed economic analyses of the proposed project and its alternatives, per mile transmission line construction costs, substation construction and equipment costs, equipment ratings, and any other relevant information.

Response
Applicants have prepared an updated Technical Studies Summary Report (TSSR) summarizing the engineering analyses supporting the need for the Hampton - Rochester - La Crosse 345 kV Transmission Line Project. This TSSR will replace, in its entirety, Appendix E of the application for a Certificate of Public Convenience and Necessity submitted January 3, 2011. Electronic and paper copies of the TSSR/Appendix E are enclosed.