

BEFORE THE MINNESOTA OFFICE OF ADMINISTRATIVE HEARINGS  
600 North Robert Street  
St. Paul, MN 55101

FOR THE MINNESOTA PUBLIC UTILITIES COMMISSION  
121 Seventh Place East, Suite 350  
St Paul, MN 55101-2147

IN THE MATTER OF THE PETITION  
FOR CERTIFICATES OF NEED FOR  
THREE 345 kV TRANSMISSION LINE  
PROJECTS WITH ASSOCIATED  
SYSTEM CONNECTIONS

Docket No. ET2,E002, et al./CN-06-1115

**SURREBUTTAL TESTIMONY AND EXHIBIT OF CHRISTOPHER J. SHAW**

**ON BEHALF**

**OF THE MINNESOTA OFFICE OF ENERGY SECURITY**

**JULY 3, 2008**

1 **Q. Please state your name.**

2 A. My name is Christopher J. Shaw with the Minnesota Office of Energy Security (OES).

3  
4 **Q. Are you the same Christopher J. Shaw who previously filed testimony on behalf of**  
5 **the OES?**

6 A. Yes.

7  
8 **Q. Have you reviewed the Rebuttal Testimony filed on June 16, 2008?**

9 A. I have reviewed the Rebuttal Testimony of Applicant witness Matt Lacey. Mr. Lacey  
10 provides an explanation for the discrepancies between Applicants' Response to OES  
11 Information Request No. 34 and OES Information Request No. 39 as identified in OES  
12 Exhibit No. \_\_\_\_ (CJS-7).

13  
14 **Q. Are there changes you wish to make to your calculation of Applicants' supply**  
15 **capacity based on Mr. Lacey's Rebuttal Testimony?**

16 A. Yes, based on Mr. Lacey's Rebuttal Testimony, I have amended my calculation of the  
17 supply capacity of Xcel Energy (Xcel).

18  
19 **Q. Please describe the changes you made to your calculation of Xcel's supply capacity.**

20 A. OES Exhibit No. \_\_\_\_ (CJS-7) identifies the following units for Xcel that were included in  
21 response to OES Information Request No. 34 but not in response to OES Information  
22 Request No. 39: Minn AURI, Rapidan Hydro, Lac Courte Orielles Hydro, Neshonoc  
23 Hydro, Hastings Hydro, Byllesby Hydro, Eau Galle Hydro, Ford Motor Hydro, St. Cloud

1 Hydro, Minnesota Methane, Landfill Power Flying Cloud, Pine Bend Landfill, Barron  
2 Light and Water Department and Hennepin Energy Resource Recovery. Mr. Lacey  
3 indicates in his Rebuttal Testimony that:

4 The following units should have also been included in Xcel  
5 Energy's supplemental response and listed under "non-  
6 utility group": Lac Courte Orielles Hydro, Eau Galle  
7 Hydro, Hastings Hydro and Barron Light and Water  
8 Department.  
9

10 These units are in addition to the units identified as "non-utility group" in  
11 Applicants' supplemental response to OES Information Request No. 39, which included  
12 Byllesby, Hennepin Energy Resource Recovery, Landfill Power Flying Cloud, Pine Bend  
13 Landfill, Minnesota Methane, Neshonoc, Rapidan and St. Cloud Hydro. Therefore I have  
14 updated my calculation of Applicants' supply capacity to include the capacities as listed  
15 in the Applicants' Response to IR 34 for each of the above units. My updated calculation  
16 of Applicants' supply capacity is included as OES Exhibit No. \_\_\_\_ (CJS-8) attached to  
17 this testimony.

18 Regarding the Minn AURI unit, Mr. Lacey states that:  
19

20 Minn AURI (biomass generation) is a test facility and was  
21 included in response to OES Information Request No. 39  
22 under Minnwind (wind generation) because they are  
23 metered together.  
24

25 I compared the capacities of Minnwind as listed in the response to OES Information  
26 Request No. 39 and OES Information Request 34. The capacities listed were the same in  
27 each response, therefore I have included the 2 MW of capacity for Minn AURI listed in  
28 response to OES Information Request No. 34 in my calculation of Xcel's supply  
29 capacity. The capacity for Minn AURI is also shown in Exhibit No. \_\_\_\_ (CJS-8)  
30 attached to this testimony.

1 I note that a revised version of OES Exhibit No. \_\_\_\_ (CJS-6) was inadvertently  
2 omitted from my June 13, 2008 errata to my Direct Testimony. I have therefore included  
3 the above changes and the changes identified in my errata filing in OES Exhibit No. \_\_\_\_  
4 (CJS-8).

5  
6 **Q. How do these changes affect your calculation of Xcel's supply capacity?**

7 A. My calculation of Xcel's supply capacity is now 10,169 MW instead of 10,093 MW.  
8

9 **Q. Were there any other changes you wish to make?**

10 A. No. Mr. Lacey's explanations of the other discrepancies identified in OES Exhibit No.  
11 \_\_\_\_ (CJS-7) are reasonable and do not require changes to my calculation.  
12

13 **Q. Do these changes affect your calculation of the total capacity in 2009 of the utility**  
14 **systems used by the Applicants in determining the need for the proposed**  
15 **transmission lines?**

16 A. Yes. As a result of the above changes, my calculation of the total capacity in 2009 of the  
17 utility systems used by the Applicants to determine the need for the proposed  
18 transmission lines has changed from 23,725 MW to 23,802 MW.

## 2009 Capacity

Utility	Resource	MW	Wind Capacity Adjustment		
			Nameplate Wind Capacity (MW)	Accredited Capacity* (MW)	Wind Adjustment
MP	Existing Generation	1442.58			
	Boise Cascade	24.24			
	International Falls	13.318			
	Silver Bay Power	89.25			
	Gordon	6.65			
	Solon Diesel	8.224			
	Sappi Cloquet	85.244			
	Taconite Ridge Addition	25.00			
	Wind Adjustment	(109.08)			
	Participation Purchases	150.00			
	Firm Purchases	0.00			
	Wind Purchases	101.10			
	Other Renewable (Laurentian)	13.79			
	Participation Sales	(1.00)			
	Firm Sales	(175.00)			
	Young 2	224.00			
	<b>Total:</b>	<b>1898.31</b>	<b>126.1**</b>	<b>17.02</b>	<b>109.08</b>
SMMPA	Existing Generation	598.40			
	Blooming Prairie Addition	2.00			
	Litchfield Addition	10.00			
	Spring Valley Addition	4.00			
	Bio-1 Addition	2.00			
	Austin SW Retirement	(10.00)			
	Wind Adjustment	(7.44)			
	Participation Purchases	0.00			
	Firm Purchases***	57.00			
	Renewable Purchases	0.00			
	Participation Sales	0.00			
	Firm Sales	0.00			
	<b>Total:</b>	<b>655.96</b>	<b>8.6</b>	<b>1.16</b>	<b>7.44</b>

<b>GRE</b>	Existing Generation Elk River Peaker Addition**** Wind Adjustment Participation Purchases Firm Purchases Renewable Purchases Participation Sales Firm Sales <b>Total:</b>	2532.40 175.00 (274.03) 210.00 508.30 320.00 (80.00) 0.00 <b>3391.67</b>	316.8	42.77	274.03
<b>CMMPA</b>	Existing Generation Wind Adjustment Participation Purchases Firm Purchases Renewable Purchases Participation Sales Firm Sales <b>Total:</b>	121.76 (13.84) 10.00 5.00 17.25 (28.00) 0.00 <b>112.17</b>	16	2.16	13.84
<b>MRES</b>	Existing Generation Kimballton 1 Retirement Moorhead 6 Retirement Primghar 4 Retirement Primghar 5 Retirement Wind Adjustment Participation Purchases Firm Purchases Renewable Purchases Participation Sales Firm Sales <b>Total:</b>	594.60 (0.40) (6.51) (0.50) (0.90) (20.50) 0.00 0.00 20.00 0.00 0.00 <b>585.79</b>	23.7	3.20	20.50
<b>OTP</b>	Existing Generation Wind Adjustment Participation Purchases Firm Purchases Renewable Purchases Participation Sales Firm Sales <b>Total:</b>	703.41 (75.13) 64.65 5.46 46.76 0.00 0.00 <b>745.14</b>	86.855	11.73	75.13

RPU			0	0.00	0.00
	Existing Generation	189.28			
	Participation Purchases	0.00			
	Firm Purchases	27.66			
	Renewable Purchases	0.00			
	Participation Sales	0.00			
	Firm Sales	(100.00)			
	<b>Total:</b>	<b>116.94</b>			
<b>Dairyland</b>	Existing Generation	1037.30	59.40	8.02	51.38
	Weston 4 Addition	150.00			
	Seven Mile Creek Landfill Addition	0.80			
	Adams Wind	2.00			
	McNeilus Wind Farm	17.40			
	McNeilus Wind Farm II	20.00			
	Timberline Landfill	5.50			
	Timberline Trail Landfill	6.40			
	Central Disposal Landfill	10.50			
	Wind Farm (Iberdrola)	20.00			
	Sarona Landfill	3.50			
	Bach Farm	0.78			
	Daley Farm	0.78			
	Digester (6)	0.80			
	Digester (7)	0.80			
	Arcadia Electric	14.796			
	Argyle HYD	0.0325			
	Argyle 4	2.198			
	Cashton	3.407			
	Cumberland	20.331			
	Elroy	6.096			
	Fennimore	8.085			
	Forest City	20.964			
	La Farge	1.58			
	Lanesboro	2.894			
	Merrillan	0.86			
	New Lisbon	8.205			
	Viola	1.838			
	Wind Adjustment	(51.38)			
	Participation Purchases	0.00			

	Firm Purchases	0.00			
	Participation Sales	(171.00)			
	Firm Sales	(3.60)			
	<b>Total:</b>	<b>1141.86</b>			
<b>Xcel</b>	Existing Generation	7303.36			
	Highbridge Addition	515.00			
	Grand Meadow Wind Addition	100.00			
	Riverside Addition	508.00			
	Riverside Retirement	(381.25)			
	Wind Adjustment	(852.03)			
	Participation Purchases	1317.00			
	Firm Purchases	352.00			
	Renewable Purchases	885.00			
	Participation Sales	(95.00)			
	Firm Sales	0.00			
	Invenery	301.00			
	GRE Purchase	50.00			
	FibroMinn	50.00			
	Chippewa Reserve	3.00			
	Lower Sioux	2.10			
	NGPP	35.00			
	Minn AURI	2.00			
	Rapidian Hydro	4.30			
	Lac Courte Oreilles Hydro	3.10			
	Neshonoc Hydro	0.40			
	Hastings Hydro	2.80			
	Byllesby Hydro	2.60			
	Eau Galle Hydro	0.30			
	St. Cloud Hydro	6.70			
	Minnesota Methane	3.10			
	Landfill Power Flying Cloud	4.70			
	Pine Bend Landfill	12.00			
	Barron Light and Water Department	0.27			
	Hennepine Energy Resources Recovery	33.70			
	<b>Total:</b>	<b>10169.15</b>			
<b>WPP</b>	Existing Generation	323.80			
	Elm Road Generation Addition	51.00			
			131.50	17.75	113.75



Wind Adjustment	(113.75)				
Participation Purchases	702.10				
Firm Purchases	201.32				
Renewable Purchases	136.30				
Participation Sales	(104.00)				
Firm Sales	0.00				
<b>Total:</b>	<b>1196.77</b>				
IPL					
Existing Generation	2092.70	269.7	36.41	233.29	
Wind Adjustment	(233.29)				
Participation Purchases	0.00				
Firm Purchases	406.00				
Renewable Purchases	285.45				
Participation Sales	0.00				
Firm Sales	0.00				
<b>Total:</b>	<b>2550.86</b>				
Minnkota					
Existing Generation	618.28	100.8	13.61	87.19	
Wind Adjustment	(87.19)				
Participation Purchases	11.00				
Firm Purchases	50.00				
Renewable Purchases	99.00				
Participation Sales	(100.00)				
Firm Sales	0.00				
<b>Total:</b>	<b>591.09</b>				
Hutchinson					
Existing Generation	101.70	0	0.00	0.00	
Participation Purchases	0.00				
Firm Purchases	0.00				
Renewable Purchases	0.00				
Participation Sales	(20.00)				
Firm Sales	0.00				
<b>Total:</b>	<b>81.70</b>				
Willmar					
Existing Generation	34.40	0	0.00	0.00	
Participation Purchases	60.00				
Firm Purchases	7.00				
Renewable Purchases	0.00				
Participation Sales	0.00				
Firm Sales	0.00				
<b>Total:</b>	<b>101.40</b>				

<b>MMPA</b>	Existing Generation	203.00		0	0.00	0.00
	Faribault Energy Addition	110.00				
	Participation Purchases	80.00				
	Firm Purchases	0.00				
	Renewable Purchases	0.00				
	Participation Sales	0.00				
	Firm Sales	0.00				
	<b>Total:</b>	<b>393.00</b>				
<b>New Ulm</b>	Existing Generation	70.60		0	0.00	0.00
	<b>Total:</b>	<b>70.60</b>				
<b>16 Utility Total:</b>		<b>23802.41</b>				

\*The estimate of Accredited Capacity was determined as 13.5% of Nameplate Capacity. Please see the testimony of OES Witness Ms. Susan Peirce for explanation of the OES's estimate of Accredited Capacity.

\*\*MP's wind purchases, which were provided at 20% of Nameplate Capacity, have been adjusted to show 100% of Nameplate Capacity.

\*\*\*Includes SMMPA's Manitoba Hydro Purchase

\*\*\*\*The Certificate of Need granted in Docket No. ET-2/CN-07-678 was for 175 MW rather than the 170 MW listed in the Response to IR 39.