

5. Wind Curtailment Report (Docket Nos. E002/M-00-622, E002/M-02-51, E002/M-04-404, E002/CN-01-1958, E002/M-04-864, E,G999/AA-04-1279, E002/M-05-1850, E002/M-05-1934 and E002/M-06-85)

On July 17, 2002, the Commission issued Orders approving Xcel Energy's wind power purchase agreements with Chanarambie Power Partners, LLC and Navitas Energy, LLC (now Moraine Wind, LLC) in Docket Nos. E002/M-00-622 and E002/M-02-51. In addition to approving the power purchase agreements, the Commission required the Company to report the date, length, cost to ratepayers, and reason for each transmission constraint curtailment with these two contracts (wind curtailment report) in the monthly FCA filing and summarize such events in the Company's AAA reports.

Similar reporting requirements were instituted by the Commission in approving other wind energy power purchase agreements.² The Company has now been providing wind curtailment reporting in its monthly FCA reports for more than eight years, beginning with the May FCA report dated April 28, 2004.

Additionally, the Commission's Order of April 4, 2006 regarding curtailment payments to wind developers introduced a new element to the regulatory review of wind power purchases—projection of curtailment costs given existing and planned wind-generated energy purchases and the transmission system.

Part H, Section 5, Schedule 1 contains a summary of wind production and curtailment payments during the period July 1, 2010 through June 30, 2011.

Part H, Section 5, Schedule 2 contains an explanation of the factors affecting wind curtailment costs for the 2011-12 AAA reporting period, and our projection of expenses associated with wind curtailment for the next five years. The actual curtailment expenses will depend on the wind resource experienced at each turbine, and the timing of outages of existing transmission facilities and construction of additional transmission facilities, and operation of wind generators as Dispatchable Intermittent Resources (DIR) in the MISO energy market.

² See Docket No. E002/M-04-404, Order dated October 4, 2004 (approving the Ivanhoe PPA); Docket No. E002/M-04-864, Order dated December 29, 2004 (Velva Windfarm, LLC); Docket Nos. E002/M-05-1850 and E002/M-05-1934, Orders dated March 31, 2006 (Fenton Power Partners I, LLC and FPL Energy-Mower County, LLC); and Docket No. E002/M-06-85, Order dated May 3, 2006 (MinnDakota Wind, LLC).

Northern States Power Company, a Minnesota Corporation
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Production Month	Date Paid		Wind Production Delivered		Lost Production		Total Xcel Energy Paid
	Delivered MWh	Lost MWh	MWh Delivered	Amount Xcel Energy Paid	Lost MWh	Amount Xcel Energy Paid	
Jan-10			226,928.00	\$ 7,749,713.58	463.00	\$ 15,380.05	\$ 7,765,093.63
Feb-10			159,299.00	\$ 5,525,885.59	1,116.00	\$ 43,617.00	\$ 5,569,502.59
Mar-10			252,796.00	\$ 8,710,066.55	2,531.00	\$ 130,619.73	\$ 8,840,686.28
Apr-10			254,652.00	\$ 8,812,525.11	4,564.00	\$ 318,281.30	\$ 9,130,806.41
May-10			244,449.00	\$ 8,445,146.09	2,507.00	\$ 189,650.50	\$ 8,634,796.59
Jun-10			163,035.00	\$ 6,032,486.90		\$ -	\$ 6,032,486.90
Jul-10			160,449.00	\$ 5,550,483.04	1,152.00	\$ 30,217.66	\$ 5,580,700.70
Aug-10			188,027.00	\$ 6,475,091.93	17,554.00	\$ 1,118,405.11	\$ 7,593,497.04
Sep-10			202,969.00	\$ 7,052,397.94	11,366.00	\$ 755,635.01	\$ 7,808,032.95
Oct-10			242,006.00	\$ 8,391,188.87	1,203.00	\$ 90,191.49	\$ 8,481,380.36
Nov-10			283,668.00	\$ 9,907,105.74	520.00	\$ 18,314.12	\$ 9,925,419.86
Dec-10			217,685.00	\$ 7,679,346.51	1,349.00	\$ 67,163.72	\$ 7,746,510.23
Total-10			2,595,963.00	\$ 90,331,437.85	44,325.00	\$ 2,777,475.69	\$ 93,108,913.54
Jan-11			227,918.00	\$ 8,021,740.03	267.00	\$ 8,351.76	\$ 8,030,091.79
Feb-11			311,148.00	\$ 10,890,258.92	773.00	\$ 57,675.95	\$ 10,947,934.87
Mar-11			245,165.00	\$ 8,729,317.86	610.00	\$ 40,590.21	\$ 8,769,908.07
Apr-11			284,410.00	\$ 10,131,260.12	1,509.00	\$ 39,572.53	\$ 10,170,832.65
May-11			329,120.00	\$ 11,739,318.31	835.00	\$ 23,328.17	\$ 11,762,646.48
Jun-11			222,190.00	\$ 7,939,848.79	1,866.00	\$ 61,634.26	\$ 8,001,483.05
Jul-11			112,334.00	\$ 4,092,066.59		\$ -	\$ 4,092,066.59
Aug-11			110,733.00	\$ 4,048,004.48		\$ -	\$ 4,048,004.48
Sep-11			143,086.00	\$ 5,240,326.11	1,193.00	\$ 89,861.72	\$ 5,330,187.83
Oct-11			273,047.00	\$ 9,902,827.88	3,735.00	\$ 279,626.88	\$ 10,182,454.76
Nov-11			332,177.00	\$ 11,879,550.92	1,030.00	\$ 27,795.75	\$ 11,907,346.67
Dec-11			292,427.00	\$ 10,481,015.11	1,774.00	\$ 46,508.84	\$ 10,527,523.95
Total-11			2,883,755.00	\$ 103,095,535.12	13,592.00	\$ 674,946.07	\$ 103,770,481.19
Jan-12			315,772.00	\$ 11,410,937.88	222.00	\$ 16,454.79	\$ 11,427,392.67
Feb-12			229,178.00	\$ 8,330,552.34	1,266.00	\$ 93,836.79	\$ 8,424,389.13
Mar-12			285,723.00	\$ 10,440,755.28	8,738.00	\$ 525,560.60	\$ 10,966,315.88
Apr-12			302,591.00	\$ 10,911,116.03	1,632.00	\$ 124,097.87	\$ 11,035,213.90
May-12			291,697.00	\$ 10,477,000.69	24.00	\$ 1,869.71	\$ 10,478,870.40
Jun-12							
Jul-12							
Aug-12							
Sep-12							
Oct-12							
Nov-12							
Dec-12							
Total-12			1,424,961.00	\$ 51,570,362.22	11,882.00	\$ 761,819.76	\$ 52,332,181.98

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	Delivered MWh	Lost MWh	MWh Delivered	Amount Xcel Energy Paid	Lost MWh	Amount Xcel Energy Paid	
Jan-10			27,810.00	1,059,969.27	66.00	4,975.30	\$ 1,064,944.57
Feb-10			38,781.00	1,296,062.42	1,116.00	43,617.00	\$ 1,339,679.42
Mar-10			-	0.00	-	0.00	
Apr-10			28,480.00	1,085,527.80	3,581.00	270,870.14	\$ 1,356,397.94
May-10			23,903.00	911,053.43	2,507.00	189,650.50	\$ 1,100,703.93
Jun-10			-	0.00	-	0.00	
Jul-10			-	0.00	-	0.00	
Aug-10			143,608.00	5,032,469.18	16,090.00	1,080,020.81	\$ 6,112,489.99
Sep-10			159,165.00	5,628,465.52	10,635.00	735,803.01	\$ 6,364,268.53
Oct-10			72,021.00	2,785,287.98	1,192.00	89,901.76	\$ 2,875,189.74
Nov-10			55,793.00	2,211,024.41	162.00	8,919.96	\$ 2,219,944.37
Dec-10			26,393.00	1,021,041.36	636.00	48,469.66	\$ 1,069,511.02
Total-10			575,954.00	\$ 21,030,901.37	35,985.00	\$ 2,472,228.14	\$ 23,503,129.51
Jan-11			-	0.00	-	0.00	
Feb-11			57,568.00	2,245,157.07	773.00	57,675.95	\$ 2,302,833.02
Mar-11			46,207.00	1,802,060.91	481.00	35,869.38	\$ 1,837,930.29
Apr-11			-	0.00	-	0.00	
May-11			-	0.00	-	0.00	
Jun-11			-	0.00	-	0.00	
Jul-11			-	0.00	-	0.00	
Aug-11			-	0.00	-	0.00	
Sep-11			-	0.00	-	0.00	
Oct-11			-	0.00	-	0.00	
Nov-11			-	0.00	-	0.00	
Dec-11			-	0.00	-	0.00	
Total-11			103,775.00	\$ 4,047,217.98	1,254.00	\$ 93,545.33	\$ 4,140,763.31
Jan-12			-	0.00	-	0.00	
Feb-12			-	0.00	-	0.00	
Mar-12			-	0.00	-	0.00	
Apr-12			-	0.00	-	0.00	
May-12			-	0.00	-	0.00	
Jun-12			-	0.00	-	0.00	
Jul-12			-	0.00	-	0.00	
Aug-12			-	0.00	-	0.00	
Sep-12			-	0.00	-	0.00	
Oct-12			-	0.00	-	0.00	
Nov-12			-	0.00	-	0.00	
Dec-12			-	0.00	-	0.00	
Total-12							

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Production Month	Date Paid		Wind Production Delivered		Lost Production		Total Xcel Energy Paid
	Delivered MWh	Lost MWh	MWh Delivered	Amount Xcel Energy Paid	Lost MWh	Amount Xcel Energy Paid	
Jan-10			-	0.00	-	0.00	
Feb-10			-	0.00	-	0.00	
Mar-10			-	0.00	-	0.00	
Apr-10			-	0.00	-	0.00	
May-10			-	0.00	-	0.00	
Jun-10			-	0.00	-	0.00	
Jul-10			-	0.00	-	0.00	
Aug-10			-	0.00	-	0.00	
Sep-10			-	0.00	-	0.00	
Oct-10			-	0.00	-	0.00	
Nov-10			-	0.00	-	0.00	
Dec-10			-	0.00	-	0.00	
Total-10							
Jan-11			-	0.00	-	0.00	
Feb-11			-	0.00	-	0.00	
Mar-11			-	0.00	-	0.00	
Apr-11			-	0.00	-	0.00	
May-11			-	0.00	-	0.00	
Jun-11			-	0.00	-	0.00	
Jul-11			-	0.00	-	0.00	
Aug-11			-	0.00	-	0.00	
Sep-11			-	0.00	-	0.00	
Oct-11			-	0.00	-	0.00	
Nov-11			-	0.00	-	0.00	
Dec-11			-	0.00	-	0.00	
Total-11							
Jan-12			-	0.00	-	0.00	
Feb-12			-	0.00	-	0.00	
Mar-12			-	0.00	-	0.00	
Apr-12			-	0.00	-	0.00	
May-12			-	0.00	-	0.00	
Jun-12			-	0.00	-	0.00	
Jul-12			-	0.00	-	0.00	
Aug-12			-	0.00	-	0.00	
Sep-12			-	0.00	-	0.00	
Oct-12			-	0.00	-	0.00	
Nov-12			-	0.00	-	0.00	
Dec-12			-	0.00	-	0.00	
Total-12							

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Production Month	Date Paid		Wind Production Delivered		Lost Production		Total Xcel Energy Paid
	Delivered MWh	Lost MWh	MWh Delivered	Amount Xcel Energy Paid	Lost MWh	Amount Xcel Energy Paid	
Jan-10			-	0.00	-	0.00	
Feb-10			-	0.00	-	0.00	
Mar-10			-	0.00	-	0.00	
Apr-10			-	0.00	-	0.00	
May-10			-	0.00	-	0.00	
Jun-10			-	0.00	-	0.00	
Jul-10			-	0.00	-	0.00	
Aug-10			-	0.00	-	0.00	
Sep-10			3,710.00	139,811.43	57.00	2,163.00	\$ 141,974.43
Oct-10			-	0.00	-	0.00	
Nov-10			-	0.00	-	0.00	
Dec-10			-	0.00	-	0.00	
Total-10			3,710.00	\$ 139,811.43	57.00	\$ 2,163.00	\$ 141,974.43
Jan-11			22,149.00	856,883.93	27.00	2,057.98	\$ 858,941.91
Feb-11			-	0.00	-	0.00	
Mar-11			12,099.00	435,805.98	129.00	4,720.83	\$ 440,526.81
Apr-11			-	0.00	-	0.00	
May-11			35,657.00	1,379,462.65	29.00	2,194.34	\$ 1,381,656.99
Jun-11			40,743.00	1,588,966.00	259.00	19,494.89	\$ 1,608,460.89
Jul-11			-	0.00	-	0.00	
Aug-11			-	0.00	-	0.00	
Sep-11			32,077.00	1,250,994.03	1,193.00	89,861.72	\$ 1,340,855.75
Oct-11			53,795.00	2,098,019.04	3,702.00	278,749.03	\$ 2,376,768.07
Nov-11			112,206.00	4,087,900.02	1,030.00	27,795.75	\$ 4,115,695.77
Dec-11			27,020.00	708,453.10	1,774.00	46,508.84	\$ 754,961.94
Total-11			335,746.00	\$ 12,406,484.75	8,143.00	\$ 471,383.38	\$ 12,877,868.13
Jan-12			18,934.00	692,996.48	222.00	16,454.79	\$ 709,451.27
Feb-12			13,504.00	494,255.92	1,266.00	93,836.79	\$ 588,092.71
Mar-12			48,224.00	1,489,530.84	7,561.00	433,465.36	\$ 1,922,996.20
Apr-12			87,029.00	3,402,376.58	1,632.00	124,097.87	\$ 3,526,474.45
May-12			72,364.00	2,947,391.91	24.00	1,869.71	\$ 2,949,261.62
Jun-12			-	0.00	-	0.00	
Jul-12			-	0.00	-	0.00	
Aug-12			-	0.00	-	0.00	
Sep-12			-	0.00	-	0.00	
Oct-12			-	0.00	-	0.00	
Nov-12			-	0.00	-	0.00	
Dec-12			-	0.00	-	0.00	
Total-12			240,055.00	\$ 9,026,551.73	10,705.00	\$ 669,724.52	\$ 9,696,276.25

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Production Month	Date Paid		Wind Production Delivered		Lost Production		Total Xcel Energy Paid
	Delivered MWh	Lost MWh	MWh Delivered	Amount Xcel Energy Paid	Lost MWh	Amount Xcel Energy Paid	
Jan-10			24,070.00	631,105.57	397.00	10,404.75	\$ 641,510.32
Feb-10			-	-	-	-	
Mar-10			25,587.00	670,878.87	2,531.00	130,619.73	\$ 801,498.60
Apr-10			24,552.00	643,748.98	983.00	47,411.16	\$ 691,160.14
May-10			-	-	-	-	
Jun-10			-	-	-	-	
Jul-10			14,492.00	379,976.88	1,152.00	30,217.66	\$ 410,194.54
Aug-10			19,305.00	506,173.77	1,464.00	38,384.30	\$ 544,558.07
Sep-10			18,412.00	482,766.07	674.00	17,669.00	\$ 500,435.07
Oct-10			22,513.00	590,282.94	11.00	289.73	\$ 590,572.67
Nov-10			27,041.00	709,014.39	358.00	9,394.16	\$ 718,408.55
Dec-10			20,235.00	530,559.05	713.00	18,694.06	\$ 549,253.11
Total-10			196,207.00	\$ 5,144,506.52	8,283.00	\$ 303,084.55	\$ 5,447,591.07
Jan-11			22,160.00	581,025.26	240.00	6,293.78	\$ 587,319.04
Feb-11			-	-	-	-	
Mar-11			-	-	-	-	
Apr-11			26,143.00	685,468.15	1,509.00	39,572.53	\$ 725,040.68
May-11			29,659.00	777,649.62	806.00	21,133.83	\$ 798,783.45
Jun-11			18,954.00	496,981.88	1,607.00	42,139.37	\$ 539,121.25
Jul-11			-	-	-	-	
Aug-11			-	-	-	-	
Sep-11			-	-	-	-	
Oct-11			12,445.00	326,309.55	33.00	877.85	\$ 327,187.40
Nov-11			-	-	-	-	
Dec-11			-	-	-	-	
Total-11			109,361.00	\$ 2,867,434.46	4,195.00	\$ 110,017.36	\$ 2,977,451.82
Jan-12			-	-	-	-	
Feb-12			-	-	-	-	
Mar-12			72,201.00	2,940,750.27	1,177.00	92,095.24	\$ 3,032,845.51
Apr-12			-	-	-	-	
May-12			-	-	-	-	
Jun-12			-	-	-	-	
Jul-12			-	-	-	-	
Aug-12			-	-	-	-	
Sep-12			-	-	-	-	
Oct-12			-	-	-	-	
Nov-12			-	-	-	-	
Dec-12			-	-	-	-	
Total-12			72,201.00	\$ 2,940,750.27	1,177.00	\$ 92,095.24	\$ 3,032,845.51

2012 WIND CURTAILMENT REPORT

I. INTRODUCTION

The Commission's Order of April 4, 2006 regarding curtailment payments to wind developers (Docket No. E999/AA-04-1279) requires the Company to provide in future Annual Automatic Adjustment reports a projection of wind generation curtailment costs given existing and planned wind-generated energy purchases and transmission system needs. In compliance with the Commission's Order, this report provides a summary of the Company's recent experience regarding wind curtailment payments, an estimate of potential curtailment payments over the next five years, and the assumptions used to develop our forecast.

II. CURTAILMENT UPDATE

While some level of wind curtailment of Company-owned and Power Purchase Agreement (PPA) facilities in the future is probably inevitable, we are seeing a shift in the reasons driving such events. In past years, transmission system constraints in southwestern Minnesota were a predominant factor in total annual wind curtailment. Going forward, we expect to see curtailment driven more by system congestion throughout the region and by resulting economics. This will likely result in a somewhat different pattern regarding which projects are curtailed.

Significant transmission improvements in southwestern Minnesota have been completed and, consequently, future curtailment in this area will occur primarily during prior outage conditions; during system intact conditions, curtailments should be minimized. Going forward, the Company expects that it will become more common for curtailment to occur due to regional system congestion and negative Locational Marginal Pricing (LMP) in the Midwest Independent Transmission System Operator (MISO) energy market.

In this regard, MISO and the industry are moving towards a Dispatchable Intermittent Resources (DIR) system that will have a greater influence on curtailment decisions and should result in better management of the wind resources and savings for ratepayers. Under this system, Company-owned and many PPA wind facilities will be registered with MISO. DIR facilities will be given set point instructions every five minutes and use Automated Generation Control technology, which will automatically control wind project output according to MISO electronic signals. DIR will allow wind generators to operate more like traditional generating facilities and, as a result, MISO will be able to more quickly and accurately respond to system conditions.

The existing PTC is scheduled to expire on December 31, 2012. In the past, the uncertainty of PTC expiration was closely connected with increases in wind curtailment, since wind projects were put into service to meet PTC eligibility requirements even though the necessary transmission upgrades were not completed. We do not expect the pending PTC expiration will be a factor on the NSPM System due to the completion of the 825 MW and Buffalo Ridge Incremental Generation Outlet (BRIGO) projects. However, in other areas of MISO, particularly in Iowa, there are a significant number of wind generation projects with a total capacity of about 1,475 MW that recently went into service or will be going into service prior to PTC expiration in 2012 without completion of the required transmission upgrades.¹ These projects may have an effect on LMP pricing in the MISO regional energy market that could potentially impact real-time wind generation on the NSPM System.

III. Transmission System Improvements

Since 1994, the Company's increasing wind energy purchases have been the dominant factor in determining the need for transmission infrastructure improvements in southwestern Minnesota. To meet this need, the Company, often in cooperation with other utilities, has planned, engineered and constructed a number of projects designed to increase the transmission capacity in that area. The following table shows the southwest Minnesota projects that increased the available transmission outlet from 260 MW to the present limit of 1,250 MW.

¹ These projects include G540/G548 (160 MW), G573/G574/G575 (200 MW), G735/J091 (266 MW), G798 (150 MW), G947 (99 MW), H008 (36 MW), H009 (150 MW), H021 (138.6 MW), H096 (50 MW), J191/R65 (193.2 MW), J201 (20 MW), R49 (12 MW)

Transmission Project	Wind Outlet Increase Date	SW MN Wind Limit Post Construction
425 MW Wind Transmission Expansion Project	October 2004 ²	425 MW
825 MW Wind Transmission Expansion Project	December 2007 ³	880 MW
Buffalo Ridge Incremental Generation Outlet (BRIGO)	December 2009 ⁴	1,250 MW

A number of transmission projects are underway that will further positively benefit transmission capacity and therefore reduce the likelihood of wind curtailment on the NSPM System. For example, the CapX 2020 Brookings County to Twin Cities 345 kV line is expected to increase the transmission limit in southwest Minnesota to 1,950 MW when it is completed in 2015.

In addition to transmission projects developed by the Company, MISO has identified and approved 215 new transmission infrastructure projects, including 17 Multi-Value Projects (MVPs), to accommodate the planned and expected generation expansion in the entire MISO footprint.⁵ Several MVP projects, particularly the ones listed in the following table, will have a positive impact on reducing the potential for curtailment of Company-owned and PPA wind facilities.

² Completion of majority of 425MW transmission facilities, and creation of the SW MN Wind operating guide, allowed the 425 MW, SW MN Wind limit increase in October 2004. All 425 MW transmission facilities were completed in December 2006.

³ Completion of majority of 825 MW transmission facilities, and update to the SW MN Wind operating guide, allowed the 880 MW, SW MN Wind limit increase in December 2007. All 825 MW transmission facilities were completed in June 2008.

⁴ With the completion of the BRIGO facilities, the southwest Minnesota operating guide will no longer use a total SW MN Wind Limit. The operating guide now includes limits for various facilities. The SW MN Wind limit referenced in this document is an estimate of the total limit.

⁵ MISO's Transmission Expansion Plan 2011 (MTEP11) was approved by the MISO Board of Directors on December 8, 2011.

MVP	Project Name	Transmission Owners
1	Big Stone to Brookings 345 kV	Otter Tail, Xcel Energy
2	Brookings, SD - SE Twin Cities 345 kV	Xcel Energy, Great River
3	Lakefield Jct. - Winnebago - Winco - Kossuth County & Obrien County - Kossuth County - Webster 345 kV line	MidAmerican, International Transmission
4	Winco to Hazleton 345 kV line	MidAmerican, International Transmission
5	North LaCrosse-N Madison-Cardinal - Dubuque area 345-kV	American Transmission, Xcel Energy, International Transmission ⁶
6	Ellendale to Big Stone	Otter Tail, Montana-Dakota

IV. Wind Generation and Curtailment Projections

Chart 1 shows Company-owned and purchased wind generation throughout the NSPM service territory on an incremental and cumulative basis through the end of calendar year 2011, along with wind purchases for projects on-line or scheduled to be on-line in 2012.

⁶ On July 19, 2012, the Federal Energy Regulatory Commission (FERC) issued an order in a complaint filed by Xcel Energy and Northern States Power Company (Wisconsin) against American Transmission Company, LLC (Docket No. EL12-28-000), ruling that provisions of the MISO Transmission Owners Agreement (TOA) require that Xcel Energy (NSPMW) be allowed to construct and own a portion of the La Crosse - Madison project, consistent with the MISO ownership determination in MTEP11. *Xcel Energy Services Inc. and Northern States Power Company, a Wisconsin corporation v. American Transmission Company, LLC*, 140 FERC ¶ 61,058 (2012). On August 20, 2012, ATC requested rehearing and a stay of the FERC order.

CHART 1

NSP Wind Development

(1993 - 2011 Actual, 2012 Scheduled)

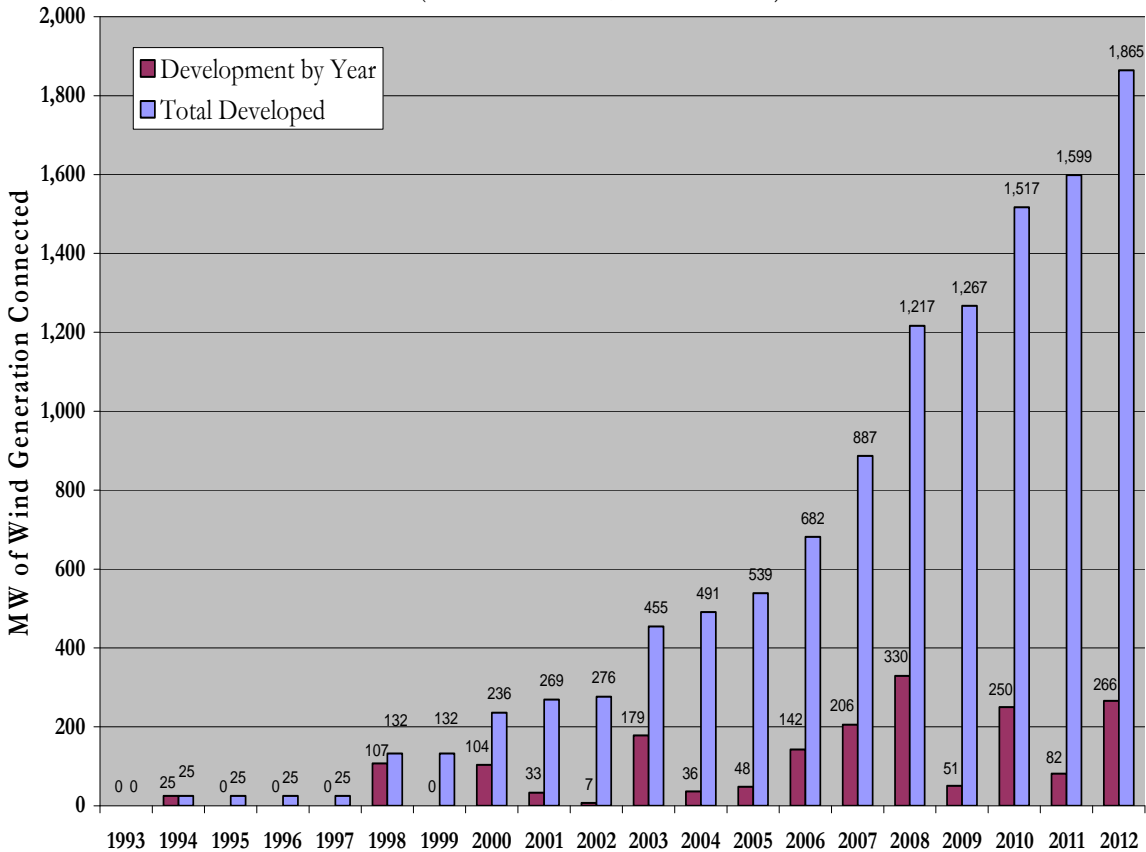


Chart 2 shows the comparison between total wind energy produced and the wind energy curtailed from those projects through May, 2012. Despite the lead/lag time associated with generation and transmission development, Chart 2 shows that wind curtailment is small compared to total wind generation delivered. The highest curtailment year was 2004. Chart 2 shows that when the transmission outlet was increased to 425 MW in October 2004, curtailment in 2005 and 2006 decreased significantly. In 2007, curtailment was primarily driven by transmission facility outages that were necessary in order to complete the 825 MW transmission project, along with bringing the Fenton and MinnDakota projects on-line in order to take advantage of the then-expiring PTC.

During 2011, and through May 2012, curtailment has been primarily driven by planned and unplanned transmission facility outages in southwest Minnesota both on Western Area Power Administration (“WAPA”) and Xcel Energy facilities. In particular, a severe storm on July 1, 2011 significantly damaged a number of

transmission facilities and wind farms on the Buffalo Ridge. Damage to 34.5 collector system facilities and a 115 kV transmission line prevented delivery of approximately 300 MW of wind generation to our transmission system, and also prevented transmission of approximately 1,200 MW of wind generation. The Company declared a Force Majeure event and curtailment related to the storm was not compensated. As a result, such curtailment is not included in the Chart 2 totals. The Company completed the Buffalo Ridge Restoration Project including the replacement and upgrade of the 115 kV and 34.5 kV facilities at a cost of approximately \$38 million.

Chart 2

Wind Production & Curtailment (MWh)

(Note: 2012 Partial Year through May)

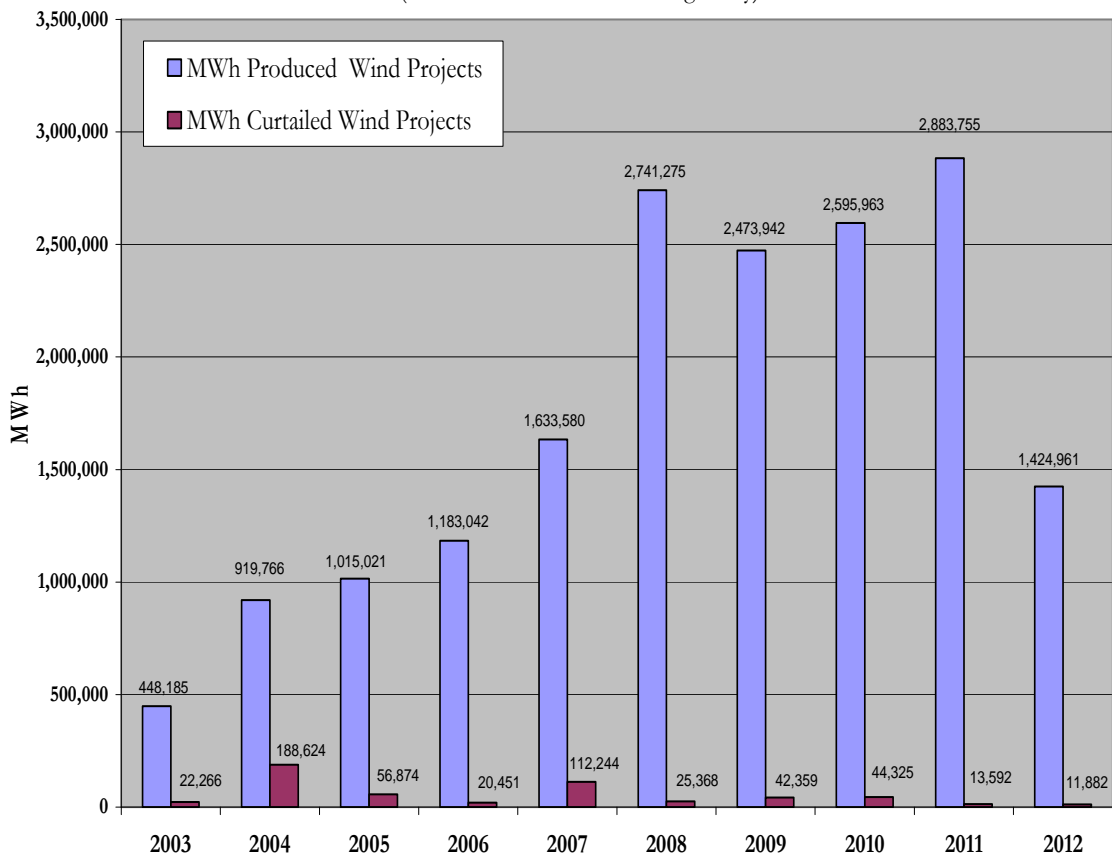


Chart 3 shows the corresponding production and curtailment costs through May, 2012.

Chart 3

Wind Production & Curtailment (Payments)

(Note: 2012 Partial Year through May)

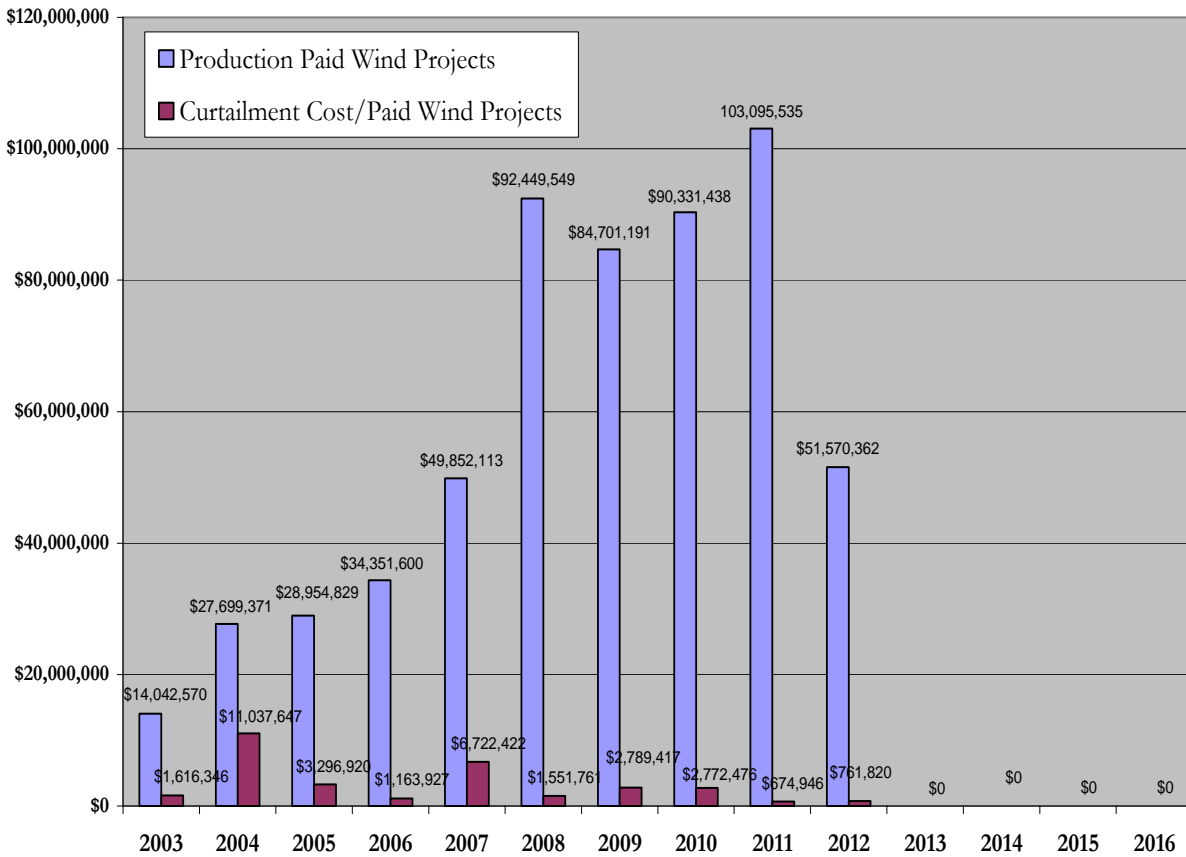
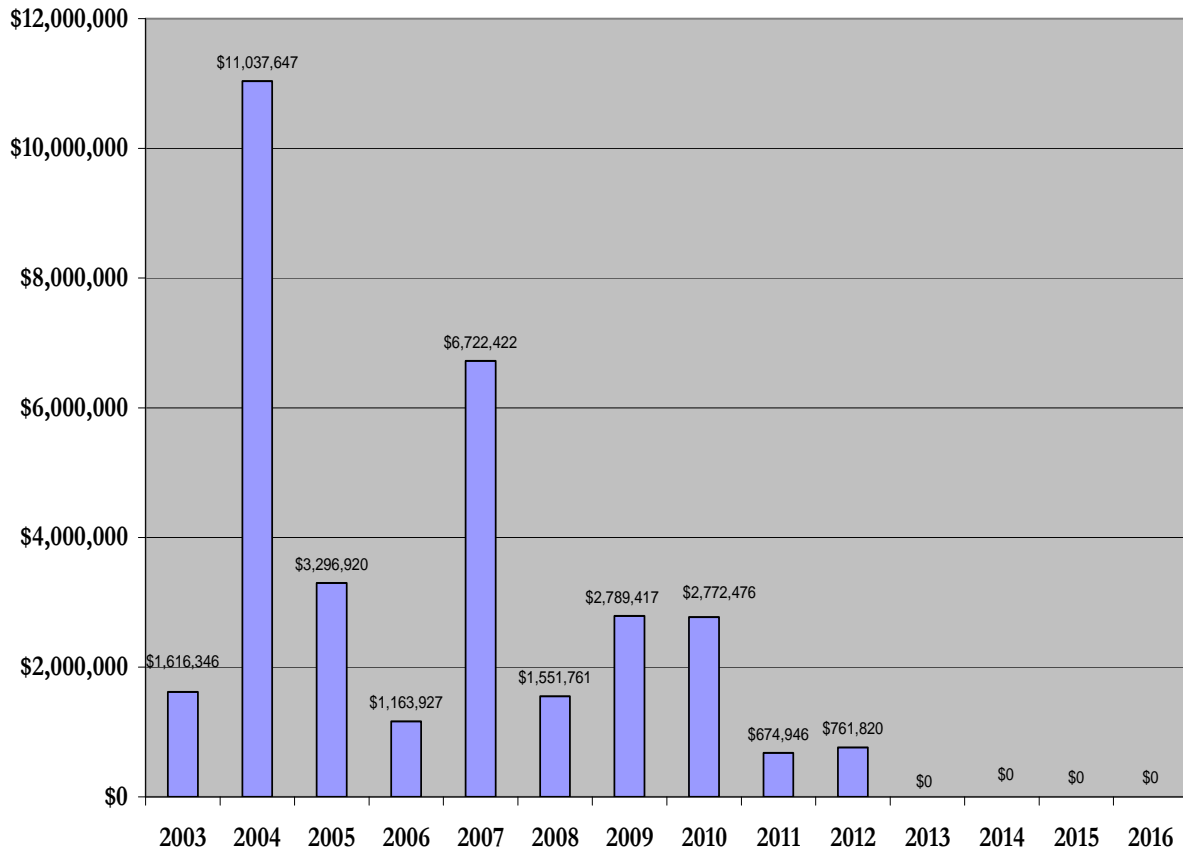


Chart 4 shows the Company's historical wind curtailment costs along with the five year estimate of future costs. Over the next five years, we do not anticipate wind generation curtailment or associated payments to vendors during system intact conditions.

Chart 4

Wind Curtailment Payments
 (2003-2011 Actual; 2012 - 2016 Projected)



In order to develop this estimate of wind curtailment, certain specific assumptions were used. Our analysis focused on curtailment associated with maintaining transmission reliability during system intact conditions. We are not attempting to estimate curtailment associated with MISO negative LMP events or transmission outages because of the uncertainty surrounding their frequency and duration, although we know to some extent curtailment will occur. If transmission facilities are out of service for maintenance or as a result of a forced outage, for example, actual curtailment payments may be incurred.

For the forecast period 2012 through 2016, the wind resource assumed is consistent with that used in the report titled “Integrating Wind Energy – Cost & Operating Impacts, Overview and Survey of Literature for the Department of Commerce” dated June 12, 2003. Actual amounts of wind energy produced and curtailed will vary from what has been projected in this report, since actual wind conditions and turbine performances are certain to differ from the wind pattern used in the model

Wind generation additions assumed in this projection include the following wind projects:

In-Service Date	Wind Project
December 2012	30 MW Community Wind South
December 2012	36 MW Big Blue Wind Project
December 2012	200 MW Prairie Rose Wind Project

For purposes of this projection, the transmission limits in the following table are assumed:

Year	Transmission Project	Limit
Current	Southwest MN Limit after BRIGO Project	1,250 MW ⁷
2015	CapX 2020 Brookings – Twin Cities Line	1,950 MW ⁸

V. CONCLUSION

Other than economic curtailment resulting from the MISO DIR tariff process, the Company does not anticipate wind generation curtailment or associated payments to vendors during system intact conditions over the next five years. Lost production due to major storms are often considered force majeure events and are not compensable. Planned outages and unplanned (forced) outages will still occur and will trigger some level of compensable curtailment. However, system conditions and wind project development are very dynamic and actual curtailment may vary from that projected with this snapshot of information. We will continue to refine and gather information for use in future updates to be submitted with subsequent AAA reports.

⁷ Estimated transmission outlet.

⁸ Estimated transmission outlet.