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July 23, 2009

Darrell Nitschke, Secretary  
North Dakota Public Service Commission  
State Capitol Building, Dept 408  
600 East Boulevard  
Bismarck, ND 59505-0480

**RECEIVED**

JUL 23 2009

**PUBLIC SERVICE COMMISSION**

**Re: ADVANCED DETERMINATION OF PRUDENCE APPLICATIONS  
NOBLES AND MERRICOURT WIND PROJECTS  
PSC CASE NOS. PU-08-907 AND PU-08-908**

Dear Mr. Nitschke:

Northern States Power Company, a Minnesota corporation (“Xcel Energy” or the “Company”), respectfully provides the following information to the North Dakota Public Service Commission (the “Commission”) in support of our Application for an advance determination of prudence (“ADP”) for the Nobles and Merricourt Wind Projects (also referred to herein as the “Wind Projects”). We recognize that the record in this proceeding regarding the appropriate application of the North Dakota externalities statute (N.D.C.C. §49-02-23) was not developed in our Application, although it was the subject of discovery responses provided to Commission Staff. Because it is important to this proceeding, we respectfully request the Commission’s consideration of this additional information.

This letter assesses our Application in light of the legal standards of North Dakota’s ADP Statute (N.D.C.C. § 49-05-16), while the attached Affidavit of James R. Alders provides additional evidence relevant to this proceeding. We believe this information supports a finding by the Commission that both the Nobles and Merricourt Wind Projects fully meet the requirements of the ADP Statute and should be approved.

We thus respectfully request that the Commission accept this submission into the record of these proceedings and consider it before making a determination regarding the requested ADPs. We also requested by separate letter that the Commission

schedule an informal hearing on July 29, 2009 to allow for such consideration, and would appreciate the opportunity to present this information to the Commission and respond to any questions at that time. In that way, the Commission will have a full record before making its final decision on our requested ADPs.

## STANDARD OF REVIEW

### A. Advance Determination of Prudence Standard

North Dakota law provides that the Commission may issue an Order approving an advance determination or prudence if “the [C]ommission determines that the resource addition is reasonable and prudent.” This standard is similar to the “honestly and prudently invested” standard that the Commission uses for ratemaking.<sup>1</sup> The prudence standard is often described as follows:

The company’s conduct should be judged by asking whether the conduct was reasonable at the time, under all circumstances, considering the company has to solve its problems prospectively rather than in reliance on hindsight. In effect, our responsibility is to determine how reasonable people would have performed the task that confronted the company.<sup>2</sup>

The ADP standard differs from the typical ratemaking standard only in the timing of its application – that is, the ADP process considers prudence at the time of the decision to invest in a resource, while typical ratemaking applies the standard sometimes well after the investment is made. Thus, the ADP Statute does not impose a higher or different standard for approval than general ratemaking principles require;

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<sup>1</sup> N.D.C.C. § 49-06-02.

<sup>2</sup> *Re Long Island Lighting Co.*, 71 P.U.R.4th, 262, 265-6 (N.Y. P.S.C. 1987) (emphasis added); cited approvingly by: *In Re Union Electric Company*, 257 P.U.R.4th 259 (MO P.S.C. May 22,2007); *Re UNITIL Service Corporation*, 72 N.H. P.U.C. 467 (September 28, 1987); *Re Gulf States Utilities Company*, 87 P.U.R.4th 428 (Tex. P.U.C. October 15, 1986); *Re Detroit Edison Company*, 52 P.U.R.4th 318 (Mich. P.S.C. March 31, 1983); Charles F. Philips, Jr., *THE REGULATION OF PUBLIC UTILITIES – THEORY AND PRACTICE* at 292 (Public Utilities Reports 1988); David J. Muchow, William A Mogel, *ENERGY LAW AND TRANSACTIONS* at § 4.02[3][b] (LexisNexis 2009).

rather, it is the same standard applied at a different point in time in the resource acquisition process.

We note that neither the ADP standard nor the general ratemaking standards require that a resource be shown to be least cost among all alternatives. Instead, the standards allow the Commission to consider whether a project is reasonable and prudent, considering the future risks, circumstances and other information available at the time. We believe that Commission Staff's July 8, 2009 comment that the costs of our proposed Wind Projects fall within a "zone of reasonableness" appropriately captures the essence of these standards.

In addition, we note that the ADP Statute does not provide a guarantee of future recovery of the investment; indeed, the process recognizes and details the Commission's ongoing jurisdiction and the company's obligation to revisit whether the decision to invest remains prudent over time. Consequently, Commission approval of an ADP does not relieve the utility of its ongoing obligation to prudently manage a project on a going-forward basis (such as managing costs or adapting to changing circumstances), and it does not guarantee cost recovery.

## **B. Externality Statute and Standard**

The North Dakota externalities statute prohibits the use of externality values in planning resource deployment or ratemaking.<sup>3</sup> The Commission has interpreted this statute to mean that it cannot consider environmental externality costs quantitatively, but that it can consider them qualitatively.<sup>4</sup> When making this qualitative assessment, the Commission has considered, for example, the potential for future environmental regulation to affect fuel costs in the future, including natural gas costs.<sup>5</sup>

We acknowledge that information contained in our Application included quantification of the costs of carbon regulation that should have been excluded pursuant to the externality statute. However, the Commission should not deny an

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<sup>3</sup> N.D.C.C. § 49-02-23.

<sup>4</sup> See *Otter Tail Corporation Advance Determination of Prudence Application*, Findings of Fact, Conclusions of Law, and Order, Case No. PU-06-481 at ¶¶ 36-9 (N.D. P.S.C. August 27, 2008) ("Big Stone ADP Order")

<sup>5</sup> *Id.*

ADP to a project that is shown to be reasonable and prudent simply because the utility considered the effects of carbon regulation when making a selection. Instead, the Commission should consider the reasonableness of the resource selection independent of environmental externality values.

To that end, we provide additional analysis of the Wind Projects that does not consider the potential cost impacts of carbon regulation. This analysis confirms that the Projects are reasonable and prudent when compared to alternative scenarios.<sup>6</sup>

### **PRUDENCE OF THE WIND PROJECTS**

The attached affidavit further describes the Company's analysis of the Wind Projects without any environmental externalities, which was provided to the Commission Staff on June 19, 2009.<sup>7</sup> This analysis demonstrates that the Wind Projects cost \$36 million more in present value revenue requirements ("PVRR") than the lowest cost option assuming no new wind is added to the NSP system and energy requirements were met with existing and planned thermal resources (referred to herein as the "the natural gas alternative"). This analysis included the Company's natural gas forecast at the time the Application was filed. Using an updated natural gas price forecast reduces the PVRR difference from \$36 million to \$18 million.<sup>8</sup> Further, if the updated natural gas forecast increases by 3%, the PVRR of the Wind Projects would break even with a natural gas alternative.

As Mr. Alders describes in his affidavit, it is important to note that the \$18 million PVRR difference is only a 0.03% increase in total system costs. In terms of the Company's overall PVRR for the same planning period (2011-2036) of approximately \$58 billion, the \$18 million PVRR difference is relatively minor and well within the range of normal measurement error for a long-run projections of future costs. Thus,

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<sup>6</sup> The Company's analysis considers both the Nobles Wind Project and the Merricourt Wind Project collectively.

<sup>7</sup> Attachment A to the Affidavit contains the information provided to the Staff by the Company, absent analysis of carbon sensitivities that Staff had informally requested.

<sup>8</sup> Because the cost of Nobles is slightly lower than the cost of Merricourt, the Nobles Wind Project alone results in a much smaller difference between the natural gas alternative and the Nobles project. In fact, using the gas cost forecast assumed in our Application, the Nobles project costs roughly the same as the natural gas alternative.

we believe that this analysis, considered on its own, demonstrates that the costs of the wind projects fall within a zone of reasonableness and meet the prudence standard of the ADP Statute.

Additional factors relevant to the Commission's overall consideration of prudence further support the conclusion that our proposal fully meets the ADP Standard and should be approved. These factors are:

- *Level and volatility of natural gas prices.* Our analysis is highly sensitive to changes in the gas price forecast. Gas prices have shown substantial volatility over the past several years, and that volatility is expected to continue. As discussed in the affidavit of Mr. Alders, small changes in average gas price trends over the life of the Wind Projects could be detrimental to customers, leading to higher costs for customers if the Projects are not approved. Because the Wind Projects rely on no fuel to produce energy, they offer a significant hedge to the potential for increasing and volatile fuel cost, which will be valuable to our customers over time.
- *Diversification.* The Wind Projects would diversify our resource mix in both fuel type (bringing wind resources to slightly above 10% percent of our total supply mix) and supplier type (by adding Company-owned wind generation as opposed to purchased wind energy). We believe that a diverse resource mix provides significant benefits to our customers, as we will not be overly reliant on any one fuel, technology, or vendor, and can operate our system to minimize costs over a wide variety of fuels in this challenging energy market.
- *Qualitative effects of potential carbon dioxide regulation.* As noted above, the Commission may give qualitative consideration to the possible effects of potential carbon regulation. We believe that the Commission can consider, as it has previously done, that the secondary economic risks associated with regulation of carbon dioxide are significant and that carbon dioxide regulation will likely impact not only the price of natural gas, but also change the cost comparisons between generation technologies. These considerations further confirm that the Wind Projects offer significant value to our customers that are not captured in the straightforward economic analysis.

- *Other potential value associated with the transaction.* The energy produced by the Wind Projects will qualify to be registered as renewable energy under the Midwest Renewable Energy Tracking System (“MRETS”). As such, each MWh of energy produced will receive a certificate for one Renewable Energy Credit (“REC”), which can be retired for compliance with a renewable energy standard or sold to another entity. The wind energy thus carries an additional value associated with the use of RECs in compliance markets.

Thus, while the Wind Projects meet the standard for an ADP on a stand-alone cost basis, we believe that the Projects are clearly a reasonable and prudent choice when additional known and relevant considerations are taken into account.

### CONCLUSION

Based on the above, we respectfully request that the Commission accept this submission into this proceeding and consider it before making a determination regarding the requested ADPs.

With the additional information provided by the supplemental filing, we believe that the Commission can find that our proposed Wind Projects fully meet the standards provided by North Dakota law and should be granted ADPs. Specifically, we believe that the Commission can find that:

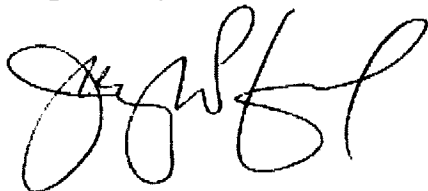
- The costs of the Projects fall within a zone of reasonableness, meeting the prudent cost standard provided by the ADP Statute.
- The Projects offer additional benefits of hedging increasing and volatile fuel costs, enhancing fuel diversity on our system, providing additional qualitative benefits, and offering additional value through potential REC trading and monetization.

Darrell Nitschke, Secretary  
North Dakota Public Service Commission  
July 23, 2009  
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We appreciate the Commission's consideration of this additional information. We are available to provide any additional information the Commission or Staff require.

Please contact me at 612-330-6125 if you have any questions.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Judy M. Pofert', written in a cursive style.

JUDY M. POFERL  
REGIONAL VICE PRESIDENT

Attachment

cc: Illona Jeffcoat-Sacco  
Mike Diller

## CERTIFICATE OF SERVICE

I, Gracie M. Krokos, hereby certify that I have this day served copies of the **Advanced Determination of Prudence Applications** for the Nobles and Merricourt Wind Projects to the attached list of persons via electronic mail or by causing it to be placed in the U.S. Mail at Minneapolis, Minnesota.

**PSC CASE NO. PU-08-907 AND PU-08-908  
NOBLES AND MERRICOURT WIND PROJECTS**

Dated this 23<sup>rd</sup> day of July, 2009

/s/

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Gracie M. Krokos

**In the Matter of the Application by  
Northern States Power Company,  
a Minnesota corporation  
in Support of Advanced Determination of Prudence Applications  
for NOBLES AND MERRICOUT WIND PROJECTS  
PU-08-907 AND PU-08-908**

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BEFORE THE PUBLIC SERVICE COMMISSION  
OF THE STATE OF NORTH DAKOTA

In the matter of the application of  
Northern States Power Company, a  
Minnesota corporation, for a Certificate  
of Public Convenience and Necessity  
and Advanced Determination of  
Prudence for the 201 MW Nobles Wind  
Project

CASE NO. PU-08-907

In the matter of the application of  
Northern States Power Company, a  
Minnesota corporation, for a Certificate  
of Public Convenience and Necessity  
and Advanced Determination of  
Prudence for the 150 MW Merricourt  
Wind Project

CASE NO. PU-08-908

AFFIDAVIT OF JAMES R. ALDERS

1. My name is James R. Alders. My business address is 414 Nicollet Ave.,  
Minneapolis, Minnesota 55401. I am the Director of Regulatory  
Administration for Xcel Energy Services Inc. (“XES”). XES is the service  
company subsidiary of Xcel Energy Inc. Among other activities, XES provides  
support to Northern States Power Company, a Minnesota corporation (“Xcel  
Energy” or the “Company”), before the North Dakota Public Service  
Commission.
2. I have direct experience in addressing issues related to the Merricourt and  
Nobles Wind Project (collectively referred to herein as the “Wind Projects”)  
Applications for Advanced Determination of Prudence (“ADP Applications”)

or “Applications”). I was involved in the preparation of those Applications and have participated on behalf of the Company during the review process.

3. In this affidavit I offer the support and documentation for information contained in the Company’s July 22, 2009 submission to the Commission, including the cost impacts of the proposed Wind Projects assuming no environmental externalities, the sensitivity of these costs to differing gas cost assumptions, and the qualitative issues the Commission may wish to consider when it decides our Applications.
4. The Company uses the Strategist resource planning software to analyze resources for possible inclusion on our system and to identify the least-cost expansion plan.<sup>1</sup> A key output of the Strategist model is the present value revenue requirements (“PVRr”), which provides the present value costs of a particular scenario of possible resource additions or changes. In our Applications, we provided rate impact and other information based on the PVRr of our Strategist run modeling the impact of the Wind Projects. Due to an oversight on our part, that analysis included an estimate of the cost impacts of potential carbon dioxide regulation (“CO<sub>2</sub> costs”).
5. During the course of the Commission Staff’s (“Staff”) review of the ADP Applications, Staff requested that the Company remove the potential cost of

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<sup>1</sup> Strategist is an industry-recognized software package that forecasts future operating costs for utilities and optimizes the utility’s system for the least-cost operation.

CO<sub>2</sub> regulation from the base model and to perform certain sensitivity analyses. We performed that analysis by adjusting the inputs to the Strategist model to reflect zero CO<sub>2</sub> costs. This analysis indicates that the PVRR of the Wind Projects was approximately \$36 million higher than a natural gas plant alternative (the lowest cost alternative without adding additional wind). The results of the analysis were provided to the Staff on June 19, 2009. Attachment A contains the information provided to the Staff by the Company; however, the quantification of CO<sub>2</sub> costs and the trade secret information has been removed.

6. We have also updated the analysis contained in Attachment A using an updated natural gas forecast. The updated natural gas forecast reflects lower gas prices in the early years compared to that assumed in the analysis provided to Staff, but higher prices in the later years (beyond 2015). This updated Strategist analysis demonstrates that the PVRR of the Wind Projects is \$17.613 million higher than the natural gas option (See line 8 of the first spreadsheet in Attachment A).
7. We then used Strategist to extrapolate the impact increases in natural gas prices would have on the PVRR of the Wind Projects to find the point where the costs of the Wind Projects would equal the costs of the natural gas alternative. We determined that the price of natural gas would have to increase by 3% for

the PVRR of the Wind Projects to equal the PVRR of the natural gas option.

(See the third comment box of the first spreadsheet in Attachment A).

8. Our additional sensitivity analyses indicate that a 10% increase in natural gas prices would result in the Wind Projects being approximately \$44 million lower than the PVRR of the natural gas alternative, while a 50% increase in natural gas prices would result in the PVRR of the Wind Projects being approximately \$300 million lower than the PVRR of a natural gas alternative. (See line 15 of the first spreadsheet in Attachment A).
9. Thus, the updated analysis performed by the Company removed the quantitative effects of the costs of carbon dioxide regulation on the PVRR of the Wind Projects. As a result, the Company's analysis is consistent with the North Dakota Externality Statute, N.D.C.C. §49-02-23. It is my understanding that Staff's recommendation to approve the requested ADPs was based on this analysis.
10. Based on my experience in resource planning and assessing the output of Strategist model runs, I believe that the \$36 million PVRR difference between the Wind Projects and the natural gas alternative is not large, as the difference is measured on a base PVRR for the same period of approximately \$58 billion. Specifically, \$36 million is only a 0.07% increase in the estimated total system costs; when updated for more recent natural gas price forecasts, the

approximately \$18 million PVRR difference is only a 0.03% increase in total system costs.

11. When assessing whether to provide an ADP to the Wind Projects in light of the \$18 to \$36 million PVRR above a natural gas alternative, the Commission should take into consideration other ratepayer benefits that result from the Wind Projects, most importantly the hedge provided by the wind projects against the volatility of and potential increases in natural gas prices and the diversification that results from their addition.
12. The volatility of natural gas prices is documented on a monthly basis by the Energy Information Administration (“EIA”) through its “Short-Term Energy Outlook” report, which was most recently issued on July 7, 2009.<sup>2</sup> The report demonstrated that during the time period of January 2005 through July 2009, the Henry Hub price of gas prices has fluctuated on a monthly basis, with a low price of \$3.62 and a high price of \$13.82 per mmbtu. Because the Wind Projects have a fuel cost of zero, the Wind Projects would provide a beneficial hedge against the constant volatility of natural gas prices.
13. The Company’s analysis demonstrated that a 3% increase in natural gas prices would lead to the Wind Projects being equal in cost to the natural gas alternative. This size of increase in natural gas prices would not be uncommon.

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<sup>2</sup> [http://www.eia.doe.gov/emeu/steo/pub/contents.html# Natural\\_Gas\\_Markets](http://www.eia.doe.gov/emeu/steo/pub/contents.html# Natural_Gas_Markets)

In fact, over the past six years, the natural gas price forecast developed by an independent consultant, PIRA, which serves as one factor in the Company's natural gas forecast, has an annual average change of 12.6 %. Therefore, a 3% increase in the natural gas forecast could reasonably fall within this range and, thus, cause the PVRR of the Wind Projects to break even with the natural gas alternative.

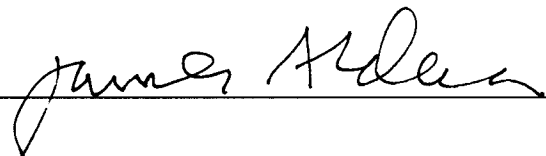
14. Similarly, the addition of the Wind Projects would diversify the Company's resource mix in both fuel type (bringing wind resources to slightly above 10% percent of our total supply mix) and supplier type (by adding Company-owned wind generation as opposed to purchased wind energy). In particular, currently Northern States Power owns 100.5 MW of wind generation, i.e., the Grand Meadow Wind Farm. Thus, the addition of the 351 MW from the Wind Projects would triple the amount of Company-owned wind generation. The additional diversification would allow the Company to not be overly reliant upon one fuel type, and, accordingly, not have the costs of its electric generation follow the costs of one fuel type.

15. In addition to the Company's analysis described above, I have been informed by counsel that the Commission can also consider the possibility of carbon regulation in a qualitative manner. When making this qualitative assessment, the Commission has considered, for example, the potential for future environmental regulation to affect fuel costs in the future, including natural gas

costs. Applying that assessment to this proceeding, the Wind Projects provide additional benefits to customers beyond what has been presented in our analysis.

16. Based on the above, the Company's analysis demonstrates that the investment in the Wind Projects is reasonable and fully meets the requirements of North Dakota law and, as a result, the Commission should provide an ADP for both projects. The issuance of an ADP for both projects is further strengthened when one considers the possibility of increasing natural gas prices and the hedging benefit provided by the wind projects. Finally, qualitative consideration of the impact of carbon regulation further supports the Commission issuing an ADP for the Wind Projects.

The foregoing testimony is true and correct to the best of my knowledge.

  
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Subscribed and sworn to before me this 23<sup>rd</sup> day of July, 2009.

  
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Notary Public  
My Commission Expires: \_\_\_\_\_



# PVRR Impacts of Merricourt and Nobles - No CO2

## January Analysis

+ 35,870 → Original analysis listed \$104 million savings from Nobles and Merricourt. Removing CO2 reduced this savings by \$140mill. Resulting in approx \$36mill net cost.

## Updated Gas Price Forecast

+ 17,613 → Our updated gas price forecast is lower in the near term but higher in the outer years (beyond 2015). The result is that Merricourt and Nobles are estimated to be more cost

- Updated Gas Price Forecast + 10% -44,344
- Updated Gas Price Forecast + 20% -109,304
- Updated Gas Price Forecast + 30% -173,909
- Updated Gas Price Forecast + 40% -237,415
- Updated Gas Price Forecast + 50% -300,203

} Increasing gas prices by 10% adds about \$62mill to the cost effectiveness of Merricourt & Nobles. Breakeven would be about a 3% increase to our gas price forecast. Which is equivalent to gas prices of \$7.15/mmBtu in 2011 escalating at 3.15% though the life of the projects.

Base Case Analysis

No Wind Post 2009 - No CO2  
vs  
No Wind Post 2009 - Merricourt & Nobles - No CO2

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036		
PV	(608,536)	(608,536)	(608,536)	(608,536)	(608,536)	(608,536)	(608,536)	(608,536)	(608,536)	(608,536)	(608,536)	(608,536)	(608,536)	(608,536)	(608,536)	(608,536)	(608,536)	(608,536)	(608,536)	(608,536)	(608,536)	(608,536)	(608,536)	(608,536)	(608,536)	(608,536)	(608,536)	
Total Fuel Cost	(26,964)	(45,143)	(46,362)	(42,041)	(46,383)	(44,376)	(51,214)	(52,537)	(56,106)	(56,716)	(59,226)	(61,252)	(64,650)	(69,520)	(73,529)	(85,228)	(93,272)	(96,157)	(99,675)	(108,125)	(112,391)	(114,568)	(117,591)	(127,084)	(130,773)	(137,272)	(144,568)	
Variable O&M	(2,351)	(3,907)	(4,085)	(4,018)	(4,317)	(4,342)	(4,510)	(4,510)	(4,675)	(4,835)	(4,954)	(5,145)	(5,275)	(5,526)	(5,621)	(6,345)	(6,770)	(6,851)	(6,968)	(7,441)	(7,658)	(7,776)	(8,030)	(8,403)	(8,681)	(9,192)	(9,792)	
Fixed O&M	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Emissions Cost	(87)	(160)	(154)	(175)	(147)	(144)	(148)	(144)	(138)	(149)	(140)	(146)	(135)	(126)	(105)	(106)	(86)	(82)	(77)	(50)	(46)	(46)	(44)	(14)	(14)	(14)	(6)	
Purchased Unit	(9,378)	(13,787)	(17,023)	(11,081)	(13,053)	(10,743)	(11,055)	(10,594)	(11,878)	(10,836)	(13,013)	(12,941)	(12,061)	(13,905)	(13,008)	(285)	0	0	0	0	0	0	0	0	0	0	0	0
Hydro Costs	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Transaction Costs	5,402	10,027	10,199	10,378	10,530	10,672	10,822	11,111	11,287	11,473	11,674	11,722	12,091	12,155	12,541	12,842	13,007	13,295	13,546	13,819	14,006	14,299	14,582	14,864	15,153	15,442	15,731	
DSM Costs	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rate Base Recovery	88,644	152,987	137,969	125,575	116,167	108,257	102,373	98,347	94,886	91,424	87,962	84,500	81,039	77,577	74,116	70,673	67,239	64,002	60,734	57,467	54,200	50,933	47,724	44,515	41,306	38,097	34,888	
Capital Costs For New Unit	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
PTC Adjustment DELTA	(23,507)	(42,188)	(42,924)	(43,782)	(44,658)	(45,551)	(46,462)	(47,392)	(48,339)	(49,306)	(50,291)	(51,291)	(52,306)	(53,336)	(54,381)	(55,441)	(56,516)	(57,606)	(58,711)	(59,831)	(60,966)	(62,116)	(63,281)	(64,461)	(65,656)	(66,866)	(68,091)	
Total	31,738	57,828	37,620	34,855	1,138	8,770	(226)	(5,717)	(14,966)	(18,945)	(26,666)	(32,319)	(37,010)	(40,755)	(43,597)	(45,439)	(46,281)	(46,116)	(45,000)	(42,821)	(40,582)	(38,283)	(35,924)	(33,465)	(30,906)	(28,347)	(25,788)	
PVRR	35,870	35,870	35,870	35,870	35,870	35,870	35,870	35,870	35,870	35,870	35,870	35,870	35,870	35,870	35,870	35,870	35,870	35,870	35,870	35,870	35,870	35,870	35,870	35,870	35,870	35,870	35,870	35,870
7.4215%	7.4215%	7.4215%	7.4215%	7.4215%	7.4215%	7.4215%	7.4215%	7.4215%	7.4215%	7.4215%	7.4215%	7.4215%	7.4215%	7.4215%	7.4215%	7.4215%	7.4215%	7.4215%	7.4215%	7.4215%	7.4215%	7.4215%	7.4215%	7.4215%	7.4215%	7.4215%	7.4215%	7.4215%

Fuel costs, VOM, and purchased power displaced by Merricourt and Nobles.

SO2 permit costs avoided by Merricourt and Nobles.

Annual revenue requirements from Merricourt & Nobles capital investment

O&M and wind integration costs for Merricourt & Nobles

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036
Avoided Energy Benefits (\$/MWh)	(53.90)	(49.73)	(53.52)	(45.36)	(50.57)	(51.00)	(52.99)	(53.66)	(57.62)	(57.26)	(61.20)	(62.91)	(64.99)	(70.32)	(73.02)	(72.78)	(79.24)	(81.38)	(84.46)	(91.51)	(95.05)	(96.70)	(99.46)	(107.24)	(110.38)	(112.06)
Project Costs (\$/MWh)	130.64	128.69	117.27	107.60	100.27	93.89	89.59	86.63	84.03	81.23	78.86	76.15	73.71	70.84	68.58	66.10	63.56	61.02	58.79	56.42	53.98	51.50	49.31	46.99	44.23	41.88
PTC Benefit (\$/MWh)	(32.65)	(33.31)	(33.97)	(34.65)	(35.34)	(35.96)	(36.77)	(37.51)	(38.26)	(38.92)	(39.61)	(40.32)	(41.05)	(41.80)	(42.57)	(43.36)	(44.17)	(45.00)	(45.85)	(46.72)	(47.61)	(48.52)	(49.45)	(50.40)	(51.37)	(52.36)

Updated Gas Price Assumption

No Wind Post 2009 - No CO2 - Updated Gas Price Assumption  
vs  
No Wind Post 2009 - Merricourt & Nobles - No CO2 - Updated Gas Price Assumption

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	
PV	(629,039)	(629,039)	(629,039)	(629,039)	(629,039)	(629,039)	(629,039)	(629,039)	(629,039)	(629,039)	(629,039)	(629,039)	(629,039)	(629,039)	(629,039)	(629,039)	(629,039)	(629,039)	(629,039)	(629,039)	(629,039)	(629,039)	(629,039)	(629,039)	(629,039)	(629,039)	(629,039)
Total Fuel Cost	(22,862)	(39,027)	(42,211)	(41,247)	(48,549)	(51,781)	(53,818)	(55,495)	(58,535)	(59,755)	(63,419)	(64,990)	(69,187)	(72,798)	(76,147)	(91,055)	(99,246)	(102,600)	(106,612)	(116,679)	(121,660)	(124,334)	(127,606)	(138,721)	(143,107)	(153,004)	(162,404)
Variable O&M	(2,325)	(3,888)	(4,073)	(4,017)	(4,320)	(4,337)	(4,546)	(4,538)	(4,676)	(4,861)	(4,951)	(5,145)	(5,325)	(5,518)	(5,600)	(6,345)	(6,770)	(6,851)	(6,968)	(7,442)	(7,658)	(7,777)	(8,031)	(8,403)	(8,681)	(9,192)	
Fixed O&M	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Emissions Cost	(86)	(160)	(153)	(175)	(147)	(144)	(148)	(144)	(138)	(149)	(140)	(146)	(135)	(126)	(105)	(106)	(86)	(82)	(77)	(50)	(46)	(46)	(44)	(14)	(14)	(14)	(6)
Purchased Unit	(7,159)	(11,405)	(14,693)	(10,744)	(13,573)	(11,495)	(11,728)	(10,629)	(12,443)	(11,142)	(14,357)	(14,258)	(12,220)	(14,977)	(13,952)	(301)	0	0	0	0	0	0	0	0	0	0	0
Hydro Costs	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Transaction Costs	5,402	10,027	10,199	10,378	10,530	10,672	10,822	11,111	11,287	11,473	11,674	11,722	12,091	12,155	12,541	12,842	13,007	13,295	13,546	13,819	14,006	14,299	14,582	14,864	15,153	15,442	
DSM Costs	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rate Base Recovery	88,644	152,987	137,969	125,575	116,167	108,257	102,373	98,347	94,886	91,424	87,962	84,500	81,039	77,577	74,116	70,673	67,239	64,002	60,734	57,467	54,200	50,933	47,724	44,515	41,306	38,097	
Capital Costs For New Unit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PTC Adjustment DELTA	(23,507)	(42,188)	(42,924)	(43,782)	(44,658)	(45,551)	(46,462)	(47,392)	(48,339)	(49,306)	(50,291)	(51,291)	(52,306)	(53,336)	(54,381)	(55,441)	(56,516)	(57,606)	(58,711)	(59,831)	(60,966)	(62,116)	(63,281)	(64,461)	(65,656)	(66,866)	
Total	38,107	66,345	44,114	35,987	15,450	5,620	(3,507)	(8,739)	(17,958)	(22,319)	(28,889)	(34,319)	(39,810)	(44,368)	(48,047)	(50,869)	(52,796)	(53,826)	(54,977)	(56,249)	(57,643)	(59,158)	(60,794)	(62,552)	(64,433)	(66,448)	
PVRR	17,613	17,613	17,613	17,613	17,613	17,613	17,613	17,613	17,613	17,613	17,613	17,613	17,613	17,613	17,613	17,613	17,613	17,613	17,613	17,613	17,613	17,613	17,613	17,613	17,613	17,613	17,613
7.4215%	7.4215%	7.4215%	7.4215%	7.4215%	7.4215%	7.4215%	7.4215%	7.4215%	7.4215%	7.4215%	7.4215%	7.4215%	7.4215%	7.4215%	7.4215%	7.4215%	7.4215%	7.4215%	7.4215%	7.4215%	7.4215%	7.4215%	7.4215%	7.4215%	7.4215%	7.4215%	7.4215%

Note the revised gas price forecast is lower in the early years, but higher in the out years.

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036
Avoided Energy Benefits (\$/MWh)	(45.05)	(43.01)	(48.38)	(44.47)	(52.70)	(53.49)	(55.59)	(56.04)	(59.68)	(59.93)	(65.68)	(66.91)	(68.75)	(73.74)	(75.82)	(77.41)	(83.97)	(86.47)	(89.95)	(98.27)	(102.38)	(104.33)	(107.54)	(116.45)	(120.14)	(122.58)
Project Costs (\$/MWh)	130.64	128.69	117.27	107.60	100.27	93.89	89.59	86.63	84.03	81.23	78.86	76.15	73.71	70.84	68.58	66.10	63.56	61.02	58.79	56.42	53.98	51.50	49.31	46.99	44.23	41.88
PTC Benefit (\$/MWh)	(32.65)	(33.31)	(33.97)	(34.65)	(35.34)	(35.96)	(36.77)	(37.51)	(38.26)	(38.92)	(39.61)	(40.32)	(41.05)	(41.80)	(42.57)	(43.36)	(44.17)	(45.00)	(45.85)	(46.72)	(47.61)	(48.52)	(49.45)	(50.40)	(51.37)	(5

Updated Gas Price Assumption + 10%

No Wind Post 2009 - No CO2 - Updated Gas Price Assumption +10%

vs

No Wind Post 2009 - Merricourt & Nobles - No CO2 - Updated Gas Price Assumption +10%

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	
PV	(682,020)	(48,732)	(1,214)	(101,018)	108,962	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Fuel Cost	(24,197)	(41,804)	(44,900)	(43,622)	(51,638)	(55,559)	(57,886)	(60,191)	(63,113)	(64,742)	(68,538)	(70,175)	(75,628)	(79,133)	(82,731)	(99,461)	(108,532)	(111,654)	(116,111)	(128,903)	(134,370)	(136,871)	(141,448)	(152,880)	(157,761)	(169,462)	
Variable O&M	(2,324)	(3,891)	(4,086)	(4,007)	(4,306)	(4,336)	(4,539)	(4,592)	(4,684)	(4,887)	(4,967)	(5,152)	(5,369)	(5,550)	(5,596)	(6,346)	(6,783)	(6,866)	(6,980)	(7,415)	(7,644)	(7,758)	(8,021)	(8,417)	(8,679)	(9,789)	
Fixed O&M	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Emissions Cost	(87)	(160)	(154)	(176)	(148)	(144)	(148)	(144)	(139)	(152)	(142)	(148)	(137)	(129)	(106)	(105)	(86)	(85)	(80)	(45)	(42)	(44)	(38)	(14)	(14)	(6)	
Purchased Unit	(7,984)	(12,395)	(16,307)	(12,070)	(15,325)	(12,816)	(12,995)	(11,302)	(13,656)	(11,792)	(15,639)	(15,590)	(12,628)	(16,057)	(15,348)	(328)	0	0	0	0	0	0	0	0	0	0	
Hydro Costs	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Transaction Costs	5,402	10,027	10,199	10,378	10,530	10,672	10,822	11,111	11,287	11,473	11,674	11,722	12,091	12,156	12,541	12,842	13,007	13,295	13,546	13,819	14,006	14,299	14,582	14,864	15,153	6,958	
DSM Costs	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Rate Base Recovery	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Capital Costs For New Unit	88,644	152,987	137,969	125,575	116,167	108,257	102,373	98,347	94,886	91,424	87,962	84,500	81,039	77,577	74,116	70,673	67,299	64,002	60,734	57,467	54,200	50,933	47,724	44,515	43,260	19,136	
PTC Adjustment DELTA	(23,507)	(42,188)	(42,924)	(43,782)	(44,658)	(45,551)	(46,462)	(47,392)	(48,339)	(49,306)	(21,638)	129	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total	35,948	62,575	39,797	32,295	10,622	522	(8,834)	(14,133)	(23,758)	(27,982)	(11,288)	5,286	(631)	(11,135)	(17,125)	(22,724)	(35,094)	(41,308)	(48,881)	(55,075)	(73,849)	(79,444)	(87,201)	(101,933)	(108,045)	(47,163)	
PVRR	-44,344																										
7.4215%																											

Updated Gas Price Assumption + 20%

No Wind Post 2009 - No CO2 - Updated Gas Price Assumption +20%

vs

No Wind Post 2009 - Merricourt & Nobles - No CO2 - Updated Gas Price Assumption +20%

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036
PV	(738,449)	(48,809)	(1,205)	(109,481)	108,962	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Fuel Cost	(25,637)	(44,430)	(47,876)	(46,410)	(55,251)	(59,552)	(62,052)	(65,165)	(68,069)	(69,606)	(73,850)	(75,583)	(81,931)	(85,934)	(90,378)	(108,669)	(118,373)	(122,306)	(127,231)	(141,460)	(147,809)	(150,133)	(155,142)	(167,588)	(173,026)	(176,199)
Variable O&M	(2,335)	(3,906)	(4,102)	(4,012)	(4,317)	(4,346)	(4,555)	(4,588)	(4,690)	(4,904)	(4,988)	(5,173)	(5,363)	(5,530)	(5,605)	(6,354)	(6,784)	(6,874)	(6,994)	(7,391)	(7,607)	(7,732)	(7,995)	(8,434)	(8,676)	(3,783)
Fixed O&M	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Emissions Cost	(87)	(160)	(154)	(176)	(148)	(144)	(148)	(144)	(139)	(151)	(141)	(147)	(135)	(125)	(103)	(101)	(84)	(81)	(77)	(42)	(38)	(42)	(37)	(14)	(14)	(6)
Purchased Unit	(8,739)	(13,471)	(17,752)	(13,056)	(16,673)	(13,908)	(14,071)	(11,773)	(14,742)	(12,818)	(17,005)	(16,977)	(13,724)	(17,625)	(16,395)	(356)	0	0	0	0	0	0	0	0	0	0
Hydro Costs	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Transaction Costs	5,402	10,027	10,199	10,378	10,530	10,672	10,822	11,111	11,287	11,473	11,674	11,722	12,091	12,156	12,541	12,842	13,007	13,295	13,546	13,819	14,006	14,299	14,582	14,864	15,153	6,958
DSM Costs	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rate Base Recovery	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Capital Costs For New Unit	88,644	152,987	137,969	125,575	116,167	108,257	102,373	98,347	94,886	91,424	87,962	84,500	81,039	77,577	74,116	70,673	67,299	64,002	60,734	57,467	54,200	50,933	47,724	44,515	43,260	19,136
PTC Adjustment DELTA	(23,507)	(42,188)	(42,924)	(43,782)	(44,658)	(45,551)	(46,462)	(47,392)	(48,339)	(49,306)	(21,638)	129	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	33,742	58,858	35,361	28,516	5,640	(4,573)	(14,102)	(19,603)	(29,806)	(33,888)	(17,985)	(1,530)	(8,023)	(19,460)	(25,824)	(31,965)	(44,934)	(51,964)	(60,021)	(77,606)	(87,247)	(92,675)	(100,867)	(116,757)	(123,303)	(53,894)
PVRR	-109,304																									
7.4215%																										

Updated Gas Price Assumption + 10%

No Wind Post 2009 - No CO2 - Updated Gas Price Assumption +10%

vs

No Wind Post 2009 - Merricourt & Nobles - No CO2 - Updated Gas Price Assumption +10%

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036
PV	(51,111)	(48,92)	(55,31)	(50,38)	(60,46)	(61,54)	(63,98)	(64,64)	(69,36)	(69,06)	(75,97)	(77,47)	(80,06)	(86,22)	(89,02)	(91,40)	(99,12)	(102,05)	(106,29)	(117,84)	(123,03)	(124,66)	(129,14)	(139,40)	(143,82)	(146,77)
Total Fuel Cost	(25,637)	(44,430)	(47,876)	(46,410)	(55,251)	(59,552)	(62,052)	(65,165)	(68,069)	(69,606)	(73,850)	(75,583)	(81,931)	(85,934)	(90,378)	(108,669)	(118,373)	(122,306)	(127,231)	(141,460)	(147,809)	(150,133)	(155,142)	(167,588)	(173,026)	(176,199)
Variable O&M	(2,335)	(3,906)	(4,102)	(4,012)	(4,317)	(4,346)	(4,555)	(4,588)	(4,690)	(4,904)	(4,988)	(5,173)	(5,363)	(5,530)	(5,605)	(6,354)	(6,784)	(6,874)	(6,994)	(7,391)	(7,607)	(7,732)	(7,995)	(8,434)	(8,676)	(3,783)
Fixed O&M	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Emissions Cost	(87)	(160)	(154)	(176)	(148)	(144)	(148)	(144)	(139)	(151)	(141)	(147)	(135)	(125)	(103)	(101)	(84)	(81)	(77)	(42)	(38)	(42)	(37)	(14)	(14)	(6)
Purchased Unit	(8,739)	(13,471)	(17,752)	(13,056)	(16,673)	(13,908)	(14,071)	(11,773)	(14,742)	(12,818)	(17,005)	(16,977)	(13,724)	(17,625)	(16,395)	(356)	0	0	0	0	0	0	0	0	0	0
Hydro Costs	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Transaction Costs	5,402	10,027	10,199	10,378	10,530	10,672	10,822	11,111	11,287	11,473	11,674	11,722	12,091	12,156	12,541	12,842	13,007	13,295	13,546	13,819	14,006	14,299	14,582	14,864	15,153	6,958
DSM Costs	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rate Base Recovery	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Capital Costs For New Unit	88,644	152,987	137,969	125,575	116,167	108,257	102,373	98,347	94,886	91,424	87,962	84,500	81,039	77,577	74,116	70,673	67,299	64,002	60,734	57,467	54,200	50,933	47,724	44,515	43,260	19,136
PTC Adjustment DELTA	(23,507)	(42,188)	(42,924)	(43,782)	(44,658)	(45,551)	(46,462)	(47,392)	(48,339)	(49,306)	(21,638)	129	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	33,742	58,858	35,361	28,516	5,640	(4,573)	(14,102)	(19,603)	(29,806)	(33,888)	(17,985)	(1,530)	(8,023)	(19,460)	(25,824)	(31,965)										

Updated Gas Price Assumption + 30%

No Wind Post 2009 - No CO2 - Updated Gas Price Assumption +30%

vs

No Wind Post 2009 - Merricourt & Nobles - No CO2 - Updated Gas Price Assumption +30%

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	
PV	(794,291)																										
(48,849)																											
0																											
(1,197)																											
(118,212)																											
0																											
108,962																											
0																											
0																											
940,491																											
(260,813)																											
(173,909)																											
Total	31,506	55,117	30,933	24,733	687	(9,687)	(19,396)	(24,635)	(35,665)	(39,377)	(24,846)	(8,323)	(15,630)	(28,331)	(34,988)	(41,437)	(55,291)	(62,546)	(71,308)	(89,470)	(99,707)	(105,681)	(114,667)	(131,066)	(137,793)	(152,221)	(166,646)
PVRR	-173,909																										
7.4215%																											

Avoided Energy Benefits (\$/MWh)

Project Costs (\$/MWh)	130.64	128.69	117.27	107.60	100.27	93.89	89.59	86.63	84.03	81.23	78.86	76.15	73.71	70.84	68.58	66.10	63.56	61.02	58.79	56.42	53.98	51.50	49.31	46.99	44.515	42.260	39.724	37.224	34.724	32.224	29.724	27.224	24.724	22.224	19.724	17.224	14.724	12.224	9.724	7.224	4.724	2.224	0.724	(1.776)	(4.276)	(6.776)	(9.276)	(11.776)	(14.276)	(16.776)	(19.276)	(21.776)	(24.276)	(26.776)	(29.276)	(31.776)	(34.276)	(36.776)	(39.276)	(41.776)	(44.276)	(46.776)	(49.276)	(51.776)	(54.276)	(56.776)	(59.276)	(61.776)	(64.276)	(66.776)	(69.276)	(71.776)	(74.276)	(76.776)	(79.276)	(81.776)	(84.276)	(86.776)	(89.276)	(91.776)	(94.276)	(96.776)	(99.276)	(101.776)	(104.276)	(106.776)	(109.276)	(111.776)	(114.276)	(116.776)	(119.276)	(121.776)	(124.276)	(126.776)	(129.276)	(131.776)	(134.276)	(136.776)	(139.276)	(141.776)	(144.276)	(146.776)	(149.276)	(151.776)	(154.276)	(156.776)	(159.276)	(161.776)	(164.276)	(166.776)	(169.276)	(171.776)	(174.276)	(176.776)	(179.276)	(181.776)	(184.276)	(186.776)	(189.276)	(191.776)	(194.276)	(196.776)	(199.276)	(201.776)	(204.276)	(206.776)	(209.276)	(211.776)	(214.276)	(216.776)	(219.276)	(221.776)	(224.276)	(226.776)	(229.276)	(231.776)	(234.276)	(236.776)	(239.276)	(241.776)	(244.276)	(246.776)	(249.276)	(251.776)	(254.276)	(256.776)	(259.276)	(261.776)	(264.276)	(266.776)	(269.276)	(271.776)	(274.276)	(276.776)	(279.276)	(281.776)	(284.276)	(286.776)	(289.276)	(291.776)	(294.276)	(296.776)	(299.276)	(301.776)	(304.276)	(306.776)	(309.276)	(311.776)	(314.276)	(316.776)	(319.276)	(321.776)	(324.276)	(326.776)	(329.276)	(331.776)	(334.276)	(336.776)	(339.276)	(341.776)	(344.276)	(346.776)	(349.276)	(351.776)	(354.276)	(356.776)	(359.276)	(361.776)	(364.276)	(366.776)	(369.276)	(371.776)	(374.276)	(376.776)	(379.276)	(381.776)	(384.276)	(386.776)	(389.276)	(391.776)	(394.276)	(396.776)	(399.276)	(401.776)	(404.276)	(406.776)	(409.276)	(411.776)	(414.276)	(416.776)	(419.276)	(421.776)	(424.276)	(426.776)	(429.276)	(431.776)	(434.276)	(436.776)	(439.276)	(441.776)	(444.276)	(446.776)	(449.276)	(451.776)	(454.276)	(456.776)	(459.276)	(461.776)	(464.276)	(466.776)	(469.276)	(471.776)	(474.276)	(476.776)	(479.276)	(481.776)	(484.276)	(486.776)	(489.276)	(491.776)	(494.276)	(496.776)	(499.276)	(501.776)	(504.276)	(506.776)	(509.276)	(511.776)	(514.276)	(516.776)	(519.276)	(521.776)	(524.276)	(526.776)	(529.276)	(531.776)	(534.276)	(536.776)	(539.276)	(541.776)	(544.276)	(546.776)	(549.276)	(551.776)	(554.276)	(556.776)	(559.276)	(561.776)	(564.276)	(566.776)	(569.276)	(571.776)	(574.276)	(576.776)	(579.276)	(581.776)	(584.276)	(586.776)	(589.276)	(591.776)	(594.276)	(596.776)	(599.276)	(601.776)	(604.276)	(606.776)	(609.276)	(611.776)	(614.276)	(616.776)	(619.276)	(621.776)	(624.276)	(626.776)	(629.276)	(631.776)	(634.276)	(636.776)	(639.276)	(641.776)	(644.276)	(646.776)	(649.276)	(651.776)	(654.276)	(656.776)	(659.276)	(661.776)	(664.276)	(666.776)	(669.276)	(671.776)	(674.276)	(676.776)	(679.276)	(681.776)	(684.276)	(686.776)	(689.276)	(691.776)	(694.276)	(696.776)	(699.276)	(701.776)	(704.276)	(706.776)	(709.276)	(711.776)	(714.276)	(716.776)	(719.276)	(721.776)	(724.276)	(726.776)	(729.276)	(731.776)	(734.276)	(736.776)	(739.276)	(741.776)	(744.276)	(746.776)	(749.276)	(751.776)	(754.276)	(756.776)	(759.276)	(761.776)	(764.276)	(766.776)	(769.276)	(771.776)	(774.276)	(776.776)	(779.276)	(781.776)	(784.276)	(786.776)	(789.276)	(791.776)	(794.276)	(796.776)	(799.276)	(801.776)	(804.276)	(806.776)	(809.276)	(811.776)	(814.276)	(816.776)	(819.276)	(821.776)	(824.276)	(826.776)	(829.276)	(831.776)	(834.276)	(836.776)	(839.276)	(841.776)	(844.276)	(846.776)	(849.276)	(851.776)	(854.276)	(856.776)	(859.276)	(861.776)	(864.276)	(866.776)	(869.276)	(871.776)	(874.276)	(876.776)	(879.276)	(881.776)	(884.276)	(886.776)	(889.276)	(891.776)	(894.276)	(896.776)	(899.276)	(901.776)	(904.276)	(906.776)	(909.276)	(911.776)	(914.276)	(916.776)	(919.276)	(921.776)	(924.276)	(926.776)	(929.276)	(931.776)	(934.276)	(936.776)	(939.276)	(941.776)	(944.276)	(946.776)	(949.276)	(951.776)	(954.276)	(956.776)	(959.276)	(961.776)	(964.276)	(966.776)	(969.276)	(971.776)	(974.276)	(976.776)	(979.276)	(981.776)	(984.276)	(986.776)	(989.276)	(991.776)	(994.276)	(996.776)	(999.276)	(1001.776)	(1004.276)	(1006.776)	(1009.276)	(1011.776)	(1014.276)	(1016.776)	(1019.276)	(1021.776)	(1024.276)	(1026.776)	(1029.276)	(1031.776)	(1034.276)	(1036.776)	(1039.276)	(1041.776)	(1044.276)	(1046.776)	(1049.276)	(1051.776)	(1054.276)	(1056.776)	(1059.276)	(1061.776)	(1064.276)	(1066.776)	(1069.276)	(1071.776)	(1074.276)	(1076.776)	(1079.276)	(1081.776)	(1084.276)	(1086.776)	(1089.276)	(1091.776)	(1094.276)	(1096.776)	(1099.276)	(1101.776)	(1104.276)	(1106.776)	(1109.276)	(1111.776)	(1114.276)	(1116.776)	(1119.276)	(1121.776)	(1124.276)	(1126.776)	(1129.276)	(1131.776)	(1134.276)	(1136.776)	(1139.276)	(1141.776)	(1144.276)	(1146.776)	(1149.276)	(1151.776)	(1154.276)	(1156.776)	(1159.276)	(1161.776)	(1164.276)	(1166.776)	(1169.276)	(1171.776)	(1174.276)	(1176.776)	(1179.276)	(1181.776)	(1184.276)	(1186.776)	(1189.276)	(1191.776)	(1194.276)	(1196.776)	(1199.276)	(1201.776)	(1204.276)	(1206.776)	(1209.276)	(1211.776)	(1214.276)	(1216.776)	(1219.276)	(1221.776)	(1224.276)	(1226.776)	(1229.276)	(1231.776)	(1234.276)	(1236.776)	(1239.276)	(1241.776)	(1244.276)	(1246.776)	(1249.276)	(1251.776)	(1254.276)	(1256.776)	(1259.276)	(1261.776)	(1264.276)	(1266.776)	(1269.276)	(1271.776)	(1274.276)	(1276.776)	(1279.276)	(1281.776)	(1284.276)	(1286.776)	(1289.276)	(1291.776)	(1294.276)	(1296.776)	(1299.276)	(1301.776)	(1304.276)	(1306.776)	(1309.276)	(1311.776)	(1314.276)	(1316.776)	(1319.276)	(1321.776)	(1324.276)	(1326.776)	(1329.276)	(1331.776)	(1334.276)	(1336.776)	(1339.276)	(1341.776)	(1344.276)	(1346.776)	(1349.276)	(1351.776)	(1354.276)	(1356.776)	(1359.276)	(1361.776)	(1364.276)	(1366.776)	(1369.276)	(1371.776)	(1374.276)	(1376.776)	(1379.276)	(1381.776)	(1384.276)	(1386.776)	(1389.276)	(1391.776)	(1394.276)	(1396.776)	(1399.276)	(1401.776)	(1404.276)	(1406.776)	(1409.276)	(1411.776)	(1414.276)	(1416.776)	(1419.276)	(1421.776)	(1424.276)	(1426.776)	(1429.276)	(1431.776)	(1434.276)	(1436.776)	(1439.276)	(1441.776)	(1444.276)	(1446.776)	(1449.276)	(1451.776)	(1454.276)	(1456.776)	(1459.276)	(1461.776)	(1464.276)	(1466.776)	(1469.276)	(1471.776)	(1474.276)	(1476.776)	(1479.276)	(1481.776)	(1484.276)	(1486.776)	(1489.276)	(1491.776)	(1494.276)	(1496.776)	(1499.276)	(1501.776)	(1504.276)	(1506.776)	(1509.276)	(1511.776)	(1514.276)	(1516.776)	(1519.276)	(1521.776)	(1524.276)	(1526.776)	(1529.276)	(1531.776)	(1534.276)	(1536.776)	(1539.276)	(1541.776)	(1544.276)	(1546.776)	(1549.276)	(1551.776)	(1554.276)	(1556.776)	(1559.276)	(1561.776)	(1564.276)	(1566.776)	(1569.276)	(1571.776)	(1574.276)	(1576.776)	(1579.276)	(1581.776)	(1584.276)	(1586.776)	(1589.276)	(1591.776)	(1594.276)	(1596.776)	(1599.276)	(1601.776)	(1604.276)	(1606.776)	(1609.276)	(1611.776)	(1614.276)	(1616.776)	(1619.276)	(1621.776)	(1624.276)	(1626.776)	(1629.276)	(1631.776)	(1634.276)	(1636.776)	(1639.276)	(1641.776)	(1644.276)	(1646.7
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Updated Gas Price Assumption + 50%

No Wind Post 2009 - No CO2 - Updated Gas Price Assumption + 50%

vs

No Wind Post 2009 - Merricourt & Nobles - No CO2 - Updated Gas Price Assumption + 50%

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2025	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	
PV	(901,985)																										
(48,865)																											
0																											
(1,194)																											
(136,799)																											
0																											
108,962																											
0																											
0																											
940,491																											
(260,813)																											
(300,203)																											
Total	27,045	47,620	21,919	17,088	(9,428)	(19,979)	(30,063)	(34,647)	(47,445)	(50,721)	(37,981)	(21,877)	(29,388)	(44,263)	(52,525)	(59,130)	(74,892)	(83,015)	(91,818)	(112,159)	(124,894)	(130,692)	(140,940)	(159,062)	(166,626)	(172,997)	
PVRR	-300,203																										
7.4215%																											

Avoided Energy Benefits (\$/MWh)

Project Costs (\$/MWh)	130.64	128.69	117.27	107.60	100.27	93.89	89.59	86.63	84.03	81.23	78.86	76.15	73.71	70.84	68.58	66.10	63.56	61.02	58.79	56.42	53.98	51.50	49.31	46.99	45.23	47.88
PTC Benefit (\$/MWh)	(32.65)	(33.31)	(33.97)	(34.65)	(35.34)	(35.98)	(36.77)	(37.51)	(38.26)	(38.92)	(39.61)	(40.31)	(41.01)	(41.71)	(42.41)	(43.11)	(43.81)	(44.51)	(45.21)	(45.91)	(46.61)	(47.31)	(48.01)	(48.71)	(49.41)	(50.11)