

MDU RESOURCES

GROUP, INC.

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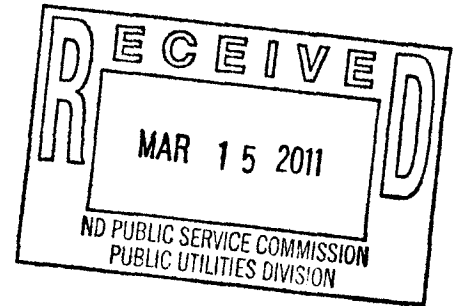
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March 11, 2011

Darrel Nitschke
Executive Secretary
North Dakota Public Service Commission
600 East Boulevard, Dept. 408
Bismarck, ND 58505-0480

Re: Montana-Dakota Utilities Co., a Division of MDU Resources Group, Inc.
Electric Rate Increase
Application
Case No. PU-10-124

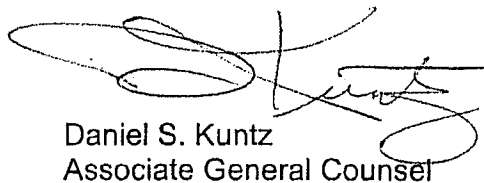
Dear Mr. Nitschke:

Enclosed for filing are the original and seven copies of a Settlement Agreement between Montana-Dakota Utilities Co., a Division of MDU Resources Group, Inc., and the North Dakota Public Service Commission Advocacy Staff regarding the issues in the above-referenced proceeding. Montana-Dakota understands the Missouri River Resource Council is considering whether it will join the Settlement Agreement and will advise the Commission and parties upon reaching a decision. Mr. Roache' has previously indicated his opposition to the Settlement Agreement.

Attachment 1 to the Settlement Agreement consists of generation resource modeling information presented by Montana-Dakota Utilities Co. and considered by the parties during their settlement discussions. Attachment 1 is offered pursuant to N.D.C.C. § 28-32-25 solely for the purpose of the Commission's consideration of the Settlement Agreement. If the Commission determines to avail itself of the information presented in

Attachment 1 in its consideration of the Settlement Agreement, Montana-Dakota will provide witnesses for examination and cross-examination regarding the information.

Sincerely,



Daniel S. Kuntz
Associate General Counsel

DSK/djv

Enclosure

cc: Illona Jeffcoat-Sacco
Mike Diller
Jim Roche'
Scott Skokos

STATE OF NORTH DAKOTA
PUBLIC SERVICE COMMISSION

Montana-Dakota Utilities Co.
a Division of MDU Resources Group, Inc.
Electric Rate Increase Application

Case No. PU-10-124

SETTLEMENT AGREEMENT

This Settlement Agreement is entered into this 11th day of March, 2011, by and among the North Dakota Public Service Commission Advocacy ("Staff"), Montana-Dakota Utilities Co., a Division of MDU Resources Group, Inc., ("Montana-Dakota" or "Company") and Missouri Valley Resource Council (collectively the "Settlement Parties"). The Settlement Parties agree this Settlement Agreement, if approved by the Public Service Commission ("Commission"), in conjunction with the prior settlement agreements between Staff and Montana-Dakota, resolve the issues in the above-captioned proceedings in a manner consistent with the public interest.

BACKGROUND

This proceeding involves Montana-Dakota's request to increase its retail rates in North Dakota to allow it to earn a reasonable return on equity.

Montana-Dakota's initial rate increase request was revised to \$11,519,000 or approximately 10 percent, following a partial Settlement Agreement between the Company and Staff dated June 15, 2010. An interim rate increase of \$7,617,000 or 7.04 percent was subsequently approved effective June 18, 2010.

Montana-Dakota identified the primary drivers for the need for its requested rate increase as increased investment in facilities, including the Cedar Hills and Diamond Willow wind generation projects, and the significant loss of wholesale sales margins.

By Settlement Agreement dated June 15, 2010, Montana-Dakota and Staff agreed on the values for Cost of Debt, Return on Equity, and overall Rate of Return for purposes of determining a test year revenue requirement in this proceeding. The June 15, 2010 settlement agreement was modified by a settlement agreement dated November 8, 2010, which also resolved issues regarding: (1) margin sales and sales for resale; (2) aircraft; (3) customer deposits; (4) maintenance costs for the Big Stone and Coyote generating facilities; (5) transmission WAPA costs; (6) storm damages; (7) deferred generation costs; (8) treatment of costs associated with refinancing certain debt at lower interest rate; and (9) labor costs. The November 8 agreement also included provisions regarding issues to be addressed by Montana-Dakota prior to its next general rate case including a potential study to be completed by a mutually agreed upon independent consultant regarding Montana-Dakota's accounting system and jurisdictional allocation process, minimum standard rate case filing requirements, and corporate allocations and affiliate transactions. The settlement of these matters reduced the Company's request by \$1,220,000. Montana-Dakota's resulting rate request after adjustment for the June 16, 2010 and November 8, 2010 partial settlements was \$10,299,000.

Montana-Dakota's rebuttal testimony presented at hearing reflected additional adjustments of investment and expenses related to the wind generation projects as a result of the enactment of the Small Business Jobs Act on September 27, 2010; a reduction in the depreciation rate for the 2010 wind projects from 5.17 percent to 5.0 percent; and the correction of an error in the original filing related to accumulated deferred income taxes. These adjustments lowered the revenue requirement

associated with the wind generation projects from \$8,582,000 to \$7,108,000. The total rate increase request, as effectively reduced by the settlements and adjustments for the wind projects, was \$8,825,000 or 7.7 percent.

The Commission held a hearing on the Company's application on November 8-12, 2010, in the Commission Hearing Room. An Administrative Law Judge presided at the hearing. The Commission heard testimony regarding the proposed settlements as well as the remaining contested recommendations of the Staff to exclude from the Company's test year revenue requirement: (1) the investment and expenses associated with the Company's wind generation projects, (2) sixty percent of the Company's employee incentive compensation expenses, and (3) fifty percent of the Company's Board of Director's fees and expenses.

Following the filing of post-hearing briefs, the parties, as well as the Commission Advisory Staff, met for further settlement discussions. During those meetings the Company presented the results of generation resource modeling using the model and inputs that were used for development of the Company's 2009 Integrated Resource Plan ("IRP"). The modeling results presented by the Company provided a net present value comparison over 20 years of the difference between least cost generation resource scenarios, with and without the availability of the Big Stone II coal generation project, and scenarios in which the Diamond Willow and Cedar Hills wind generation projects were considered committed resources, also with and without the availability of the Big Stone II coal generation project. Upon request of the Staff, the Company provided additional modeling results after changing input values for market prices to test the sensitivity of the net present value differences to changes in market prices. The

results of the modeling are attached hereto as Attachment 1. In each instance, the delta between the 20 year net present value of the least cost generation resource scenarios without the Big Stone II project (which has been cancelled) and generation resource scenarios with the Diamond Willow and Cedar Hills wind projects as committed resources was less than two percent (less than 3.5 percent with the Big Stone II generation project).

In consideration of the record evidence of this proceeding, the post-hearing arguments and briefs of the parties, the modeling results provided by the Company, and further discussions by the parties, the parties agree to the following subject to approval of this Settlement Agreement by the Commission:

1. Revenue Requirement Increase. The parties agree to final rates in this proceeding providing for an annual test year revenue requirement increase for the Company of \$7,614,000 which equals that of the annual interim revenue requirement increase previously approved in this proceeding.

2. Rate Design. The Company shall file revised rates implementing the test year revenue requirement increase based upon the rate design principles and changes proposed by the Company, including the changes to the Thermal Energy Storage Rate 13 presented at the technical hearing and introduced as Exhibit MDU-26. The Company shall file compliance tariff pages setting forth the revised electric rates and tariffs provided by this Settlement Agreement within 10 days after the issuance of a final order by the Commission.

3. Bill Form. Montana-Dakota will implement a new customer bill form with a target implementation date of December 31, 2012. This target date is subject to the

Company's conversion to a new customer information and billing system, currently underway, that meets all necessary metrics for implementation. Updates will be provided to the Commission and Staff as implementation progresses with any known delays reported to the Commission in a timely manner.

4. Time of Day Rate Study. Montana-Dakota will confer with Staff and, following review and approval by Staff, issue a request for proposals ("RFP") for a study on the cost effectiveness of implementing mandatory time of day rates applicable to its North Dakota electric system customers. Montana-Dakota will review the RFP results with the Commission Staff along with the Company's recommendations. Upon approval by the Staff of the scope and cost of a study, Montana-Dakota will commission the time of day rate study. Montana-Dakota will be allowed to recover the cost of the study, as well as the cost of the study provided in the settlement agreement of November 8, 2010, to the extent the Company's 2011 ROE, after considering the cost of the studies, is less than 10.75 percent. The costs shall be recovered as a separate charge included in the Fuel Clause Adjustment Rate 58 over a one-year period. The costs shall be recovered on a per kwh basis and shall be calculated by dividing the appropriate costs by the projected kwh sales volumes for the period the charge shall be in effect.

5. Renewable Energy Credits. Montana-Dakota will allocate the December 31, 2010 renewable energy credit balance and all future generated renewable energy credits (RECs) to each jurisdiction based on the kwh jurisdictional allocation factor. Renewable energy credits allocated to North Dakota will be sold at the

market price for the RECs with any proceeds flowed to customers through the Fuel Cost Adjustment Rate 58.

6. Basis of Settlement Agreement. It is agreed this Settlement Agreement is a negotiated settlement agreement subject to approval by the Commission. Except for the purpose of setting interim rates in the Company's next electric rate case, the Settlement Agreement does not establish any principle or precedent, nor adopt or recommend any specific type or amount of expense or rate base, for this or any future proceeding.

7. Effect of the Settlement Negotiations. It is understood and agreed that all offers of settlement and discussions related to this Settlement Agreement are privileged and may not be used in any manner in connection with proceedings in this case or otherwise, except as provided by law. In the event the Commission does not approve this Settlement Agreement, it shall not constitute part of the record in this proceeding and no part thereof may be used by any party for any purpose in this case or in any other.

8. Applicability and Scope. This Settlement Agreement shall be effective on the date of the Commission Order approving the Settlement Agreement. The revised rates and tariff agreed to by this Settlement Agreement shall be effective on the dates specified in the Rate Design section of this Settlement Agreement.

9. Prior Settlements. The prior Settlement Agreements filed in this proceeding between the Company and Staff shall remain in effect and subject to approval by the Commission except to the extent modified by this Settlement Agreement.

10. Modification. If the Commission Order modifies or conditions approval of this Settlement Agreement, it shall be deemed terminated if either the Company or the Staff files a letter with the Commission within three (3) business days of the date of such Order stating that a condition or modification to the Settlement Agreement is unacceptable to such party.

CONCLUSION

The Settlement Parties have agreed to the foregoing terms to resolve the contested issues in the electric rate case proceeding. These terms are a result of negotiations between the Settlement Parties, are in the public interest and will result in reasonable electric issues. For these reasons, the Settlement Parties urge the Commission to approve the Settlement Agreement.

Dated this 11th day of March 2011.

Montana-Dakota Utilities Co.,
a Division of MDU Resources Group, Inc.

By: David L. Goodin
DAVID L. GOODIN
Title: PRESIDENT & CEO

Dated this 11th day of March 2011.

North Dakota Public Service Commission Staff

By: Mike Diller
Mike Diller
Dir. of Econ. Reg.

Missouri River Resource Council

By: Verle Reinicke
VERLE REINICKE
TITLE: CHAIR

Montana-Dakota Utilities Co.

Additional Wind Investment Analysis

North Dakota Rate Case No. PU-10-124

Overview

This additional analysis will look at the investments Montana-Dakota Utilities Co. (Montana-Dakota) made in Diamond Willow I, Diamond Willow II, and Cedar Hills to quantify the cost differential between resource portfolio additions based strictly on the least cost option and the Company's investment in renewable wind resources, using the 2009 North Dakota Integrated Resource Plan (2009 IRP).

Study Methodology

This analysis utilizes the same computer modeling tool that Montana-Dakota used in the 2009 IRP. This modeling tool was developed by Electric Power Research Institute (EPRI) and is named Electric Generation Expansion Analysis System (EGEAS). EGEAS is a resource planning software package which optimizes future supply-side resource selections based on needs, available resources, and economic criteria.

The 2009 IRP model provides an evaluation of the Company's need and the economic conditions and alternatives that were available to Montana-Dakota at the time of the decision to invest in the Diamond Willow II and Cedar Hills Projects. In the 2009 IRP, Diamond Willow I was already in-service and Diamond Willow II and Cedar Hills were considered as committed resources in Montana-Dakota's least cost plan.

To perform the analysis, the 2009 IRP model was adjusted to remove the Diamond Willow I, Diamond Willow II, and Cedar Hills wind projects as in-service or committed resources. New site specific wind alternatives were created for the EGEAS model that reflected

the actual installed costs of Diamond Willow I, Diamond Willow II, and Cedar Hills. Additional generic wind generation projects in 30 MW blocks were available for selection in the model based on original modeling assumptions. The site specific wind alternatives included in the model are contained in the following table.

| Site Specific Wind Alternatives | Size (MW) | Capital | Capital per kW | In-service Available |
|---------------------------------|-----------|-------------|----------------|----------------------|
| Diamond Willow I | 19.5 | \$39.4 Mill | \$2,020 | Jan. 2009 |
| Diamond Willow II | 10.5 | \$25.4 Mill | \$2,419 | June 2010 |
| Cedar Hills | 19.5 | \$47.4 Mill | \$2,431 | June 2010 |

All other model inputs from the 2009 IRP for existing, committed, and alternative resources remain unchanged and are contained in Attachment A. Midwest ISO energy prices in the EGEAS model used for the 2009 IRP were \$60 per MWh on-peak and \$40 per MWh off-peak escalated at three percent (3%) per year in 2008 Dollars.

Scenarios

Two different scenarios were modeled as part of this analysis. In the first scenario the EGEAS model developed the least cost plan based on available resources assuming all site specific wind alternatives were available resources to the model and not committed or in-service projects. The second scenario committed any site specific wind alternative projects not selected in the least cost plan to determine the cost differential over the least cost plan associated with the site specific wind alternative projects.

The 2009 IRP included the Big Stone II project as a committed least cost resource based on prior expansion analyses. Each of the two scenarios developed for this analysis were run with

and without Big Stone II in the model to recognize that the Big Stone II resource is no longer available to Montana-Dakota's customers.

The EGEAS model optimizes investment and production costs over the study period and determines a net present value (NPV) for the model solution. For the 2009 IRP, a fifty (50) year study period was used to develop the least cost scenario. For this analysis the timeframe was reduced to a twenty (20) year period to reflect the life expectancy of the wind generation investments.

Results

- First Scenario
 - With Big Stone II - no wind projects selected
 - Without Big Stone II - Diamond Willow I selected

| Case | Net Present Value* |
|----------------------|---------------------------|
| With Big Stone II | \$1,439.82 Mill |
| Without Big Stone II | \$1,370.48 Mill |

- Second Scenario
 - With Big Stone II – Diamond Willow I, Diamond Willow II, and Cedar Hills were committed resources to the least cost plan
 - Without Big Stone II – Diamond Willow II and Cedar Hills were committed to the least cost plan

| Case | Net Present Value* | Percent Increase Over First Scenario |
|----------------------|---------------------------|---|
| With Big Stone II | \$1,481.72 Mill | 2.9 % |
| Without Big Stone II | \$1,386.85 Mill | 1.2 % |

*Net Present Value calculated over 20 years in 2008 Dollars.

A summary table of selected resources for both the First Scenario and Second Scenario is contained in Attachment B.

Analysis

The NPV numbers referenced in the results correspond to the entire Montana-Dakota integrated system and are not state specific. The NPV of production costs includes future operations and maintenance charges for all resources, fuel costs, market purchases, and recovery of future capital investments associated with the supply side resources.

As discussed in more detail in the Company's current North Dakota rate case; the Diamond Willow I, Diamond Willow II, and Cedar Hills wind projects are currently in-service and are used and useful in providing electric service to Montana-Dakota's North Dakota customers. The purpose of this analysis is to show if there is a cost adder for renewable wind generation above Montana-Dakota's least cost resource plan.

With the Big Stone II project, none of the three site specific wind alternatives were picked in the least cost plan. It should be noted that under the normal fifty (50) year modeling period the NPV of the With Big Stone II case is less than the NPV of the Without Big Stone II case. The reason for this is that the investment benefit of a baseload coal-fired plant is received over the entire forty (40) plus year life of the asset which is not adequately reflected in a twenty (20) year study timeframe.

Montana-Dakota was ultimately unsuccessful in its attempts to develop the Big Stone II project and the Without Big Stone II scenario is the appropriate case to focus on for the additional cost of wind generation.

Under the Without Big Stone II modeling runs, the resource expansion model selects the Diamond Willow I project in the least cost plan. The incremental NPV cost to all state jurisdictions with the inclusion of Cedar Hills and Diamond Willow II in the Without Big Stone II runs is \$16.37 million over the twenty (20) year life of the projects. This represents an increase of 1.2 percent over the least cost plan.

North Dakota's state jurisdictional share of the Cedar Hills and Diamond Willow II investments is approximately sixty-five percent (65%) which allocates \$10.64 million of the NPV increase to North Dakota customers. The Cedar Hills project received a Certificate of Public Convenience and Necessity (CPCN) from the North Dakota Public Service Commission based upon estimated completion costs presented in the Company's application. The Cedar Hills project came in on budget and on schedule. The Cedar Hills wind project is rated at 19.5 MW and the Diamond Willow II project is rated at 10.5 MW for a total of 30 MW. Cedar Hills represents sixty-five percent (65%) of the total wind investment in the Cedar Hills and the Diamond Willow II projects. Therefore only thirty-five percent (35%) of North Dakota's share of the incremental NPV for wind generation should be considered a cost adder above the Without Big Stone II least cost plan which represents a NPV of \$3.72 million. Using an eight percent (8%) discount rate and a twenty (20) year term, the annual levelized cost impact to North Dakota customers for Diamond Willow II is \$379,000 per year.

This analysis does not include any benefit to North Dakota customers for the North Dakota earned investment tax credit for Cedar Hills or the additional bonus tax depreciation that was available in 2010 for Diamond Willow II or Cedar Hills.

Conclusion

The Diamond Willow I, Diamond Willow II, and Cedar Hills wind projects are used and useful in providing electric service to Montana-Dakota's customers and provide numerous benefits including: reduced dependency on market purchases, reduced exposure to market price fluctuations, zero marginal cost generation resources, and a fuel diversified generation fleet. The cost differential between resource portfolio additions based strictly on the least cost option and the Company's investment in renewable wind resources is 1.2 percent.

Additional Modeling Runs

Additional modeling sensitivity runs requested by the North Dakota Public Service Commission Advocacy Staff are included in Attachment C. Additional sensitive runs looked at lower forecasted Midwest ISO energy market prices of \$40 per MWh on-peak and \$20 per MWh off-peak; and \$50 per MWh on-peak and \$30 per MWh off-peak. Also included in Attachment C are summaries of modeling runs to show the affects of using a 25 year depreciation life for the wind turbine investments versus the Company proposed 20 year depreciation life.

Attachment 1

Attachment A

Following tables are referenced from the 2009 IRP

Table A-1

Montana-Dakota's Existing Coal-Fired Units

| <u>Unit</u> | <u>Summer Accredited Capacity (MW)¹</u> | <u>Fixed O&M (\$/kW-year)</u> | <u>Variable O&M (\$/MWh)</u> | <u>Fuel (\$/MBTU)</u> |
|-------------------------------|--|-----------------------------------|----------------------------------|-----------------------|
| Coyote ² | 106.75 | 20.20 | 2.25 | 1.14 |
| Big Stone Unit 1 ³ | 107.50 | 19.89 | 1.50 | 1.57 |
| Heskett 1 | 27.96 | 50.57 | 5.98 | 1.59 |
| Heskett 2 | 74.17 | 44.71 | 7.07 | 1.59 |
| Lewis & Clark | 52.30 | 43.55 | 2.47 | 1.13 |

1. Based on July URGE rating (1/1/08-10/31/09)
2. Montana-Dakota's 22.7% ownership share
3. Montana-Dakota's 25% ownership share

Table A-2

Montana-Dakota's Existing Natural Gas Combustion Turbines

| <u>Unit</u> | <u>Summer Accredited Capacity (MW)¹</u> | <u>Fixed O&M (\$/kW/year)</u> | <u>Variable O&M (\$/MWh)</u> | <u>Fuel (\$/MBTU)</u> |
|-------------|--|-----------------------------------|----------------------------------|-----------------------|
| Glendive 1 | 36.0 | 9.48 | 2.35 | 6.90 |
| Glendive 2 | 41.6 | 5.58 | 2.35 | 6.90 |
| Miles City | 24.5 | 9.06 | 2.35 | 6.90 |
| Williston | 9.6 | 3.08 | 2.35 | 6.90 |

- 1 - Based on July URGE rating (11/1/08-10/31/09)

Table A-3

Montana-Dakota's Existing Contracts, Variable Generation, and Diesel Unit

| <u>Unit</u> | <u>Summer Accredited Capacity (MW)¹</u> | <u>Fixed O&M (\$/kW/year)</u> | <u>Variable O&M (\$/MWh)</u> | <u>Fuel (\$/MBTU)</u> |
|-----------------------------|--|-----------------------------------|----------------------------------|-----------------------|
| Diamond Willow ¹ | 4.37 | 10.16 | -27.23 | - |
| Glendive Diesel | 2.01 | 4.00 | 2.35 | 16.57 |
| Glen Ullin Station 6 | 4.50 | 31.33 | 6.5 | - |
| NSP contract ² | 95.00 | 17.70 | 84.30 | - |
| NSP contract ³ | 10.00 | 17.70 | 184.30 | - |
| WAPA contract ⁴ | 2.80 | - | 16.84 | - |

1. Summer Accredited Capacity is based on 22.43% capacity factor. Variable O&M cost includes the Production Tax Credit, which is represented by a negative \$/MWh cost value.

2. Increase to 100 MW in 2010 with option years in 2011-12.

3. Expires in 2010

4. Expires in 2020

Table A-4

Montana-Dakota's Committed Resources

| <u>Unit</u> | <u>In-Service Date</u> | <u>Summer Accredited Capacity (MW)</u> | <u>Capital Cost (\$/kW)</u> | <u>Fixed O&M (\$/kW/year)</u> | <u>Variable O&M (\$/MWh)</u> | <u>Fuel (\$/MBTU)</u> |
|--------------------------------------|------------------------|--|-----------------------------|-----------------------------------|----------------------------------|-----------------------|
| Big Stone Unit II | 2015 | 131.00 | 2938.59 | 29.84 | 1.80 | 1.66 |
| WE Energies Contract | 2012-2014 | 110-120 | - | 34.80 | 111.50 | - |
| NSP Contract Extension | 2011 | 105.00 | - | 21.00 | 77.50 | - |
| Diamond Willow Addition ¹ | 2010 | 2.24 | 2400.00 | 10.16 | -27.23 | - |
| Cedar Hills Wind ¹ | 2010 | 4.37 | 2400.00 | 10.16 | -28.77 | - |

1 - Summer Accredited Capacity is based on 22.43% capacity factor. Variable O&M cost includes the Production Tax Credit, which is represented by a negative \$/MWh cost value.

Table A-5

Resources Alternatives Available to Montana-Dakota

| <u>Unit</u> | <u>Size (MW)</u> | <u>Available Date</u> | <u>Capital Cost (\$/kW)²</u> | <u>Fixed O&M (\$/kW-year)³</u> | <u>Variable O&M (\$/MWh)³</u> | <u>Fuel Cost (\$/MBTU)</u> |
|-------------------------------|------------------|-----------------------|---|---|--|----------------------------|
| Combustion Turbine | 43 | 2010 | 850 | \$11.63 | \$2.00 | \$6.90 |
| Combustion Turbine | 75 | 2010 | 750 | \$8.67 | \$2.00 | \$6.90 |
| Combined Cycle | 140 | 2010 | 1150 | \$12.50 | \$6.00 | \$6.90 |
| Coal | blocks of 30 | 2013 | 3900 | \$48.00 | \$2.50 | \$1.50 |
| Wind | blocks of 30 | 2009 | 2400 | \$23.33 | \$2.00 | - |
| Wind before 2014 ¹ | blocks of 30 | 2013 | 2400 | \$23.33 | -\$27.23 | - |
| Purchased Capacity | blocks of 10 | 2012 | - | \$34.80 | \$111.50 | - |

1 - Variable O&M cost includes the Production Tax Credit, which is represented by a negative \$/MWh cost value.

2 - In 2008 dollars escalated at 7%

3- In 2008 dollars escalated at 4%

Attachment B

Summary Results for Additional Wind Analysis

| Year | Scenario 1 | | Scenario 2 | |
|------|-------------------|----------------------|-------------------|----------------------|
| | With Big Stone II | Without Big Stone II | With Big Stone II | Without Big Stone II |
| 2009 | Glen Ullin | Glen Ullin & DW I | Glen Ullin & DW I | Glen Ullin & DW I |
| 2010 | | | DW II & CH | DW II & CH |
| 2011 | 20 MW Purchase | 20 MW Purchase | 10 MW Purchase | 10 MW Purchase |
| 2012 | 140 MW Purchase | 130 MW Purchase | 120 MW Purchase | 120 MW Purchase |
| 2013 | 150 MW Purchase | 140 MW Purchase | 130 MW Purchase | 130 MW Purchase |
| 2014 | 150 MW Purchase | 150 MW Purchase | 140 MW Purchase | 140 MW Purchase |
| 2015 | BSP II & CT75 | 2-CT75 & CT43 | CT75 | 2-CT75 & CT43 |
| 2016 | | | | |
| 2017 | | | | |
| 2018 | | | | |
| 2019 | CT43 | CT43 | | CT43 |
| 2020 | | | | |
| 2021 | | | CT43 | |
| 2022 | | | | |
| 2023 | | CT43 | | |
| 2024 | CT43 | | | CT43 |
| 2025 | | | CT43 | |
| 2026 | | | | |
| 2027 | | CT43 | | |
| 2028 | CT43 | | | CT43 |
| NPV* | 1,439.82 | 1,370.48 | 1,481.72 | 1,386.85 |

*Net Present Value (NPV) in millions of Dollars over 20 year study period

CT43 – 43 MW Combustion Turbine

CT75 – 75 MW Combustion Turbine

DWI – Diamond Willow I

DWII – Diamond Willow II

CH – Cedar Hills

Purchase – Purchased Capacity

Attachment C

\$20 & \$40/MWh Market Prices

Results

On-Peak: \$40/MWh in 2008 dollars escalated at 3%

Off-peak: \$20/MWh in 2008 dollars escalated at 3%

- **First Scenario**

- No wind selected with Big Stone II
- No wind selected without Big Stone II

| Case | Net Present Value* |
|----------------------|---------------------------|
| With Big Stone II | \$1,410.12 Mill |
| Without Big Stone II | \$1,314.64 Mill |

- **Second Scenario**

- This Scenario committed all wind not selected in the first scenario.

| Case | Net Present Value* | Percent Increase Over First Scenario |
|----------------------|---------------------------|---|
| With Big Stone II | \$1,458.68 Mill | 3.4 % |
| Without Big Stone II | \$1,337.89 Mill | 1.8 % |

*Net Present Value based over 20 years

\$30 & \$50/MWh Market Prices

On-Peak: \$50/MWh in 2008 dollars escalated at 3%

Off-peak: \$30/MWh in 2008 dollars escalated at 3%

- First Scenario

- No wind selected with Big Stone II
- Diamond Willow I selected without Big Stone II

| Case | Net Present Value* |
|----------------------|---------------------------|
| With Big Stone II | \$1,427.35 Mill |
| Without Big Stone II | \$1,345.79 Mill |

- Second Scenario

- This Scenario committed all wind not selected in the first scenario.

| Case | Net Present Value* | Percent Increase Over First Scenario |
|----------------------|---------------------------|---|
| With Big Stone II | \$1,472.34 Mill | 3.2 % |
| Without Big Stone II | \$1,364.87 Mill | 1.4 % |

*Net Present Value based over 20 years

25 Year Book Life
\$40 & \$60/MWh Market Prices

Results

On-Peak: \$60/MWh in 2008 dollars escalated at 3%

Off-peak: \$40/MWh in 2008 dollars escalated at 3%

- First Scenario
 - No wind selected with Big Stone II
 - Diamond Willow I selected without Big Stone II

| Case | Net Present Value* |
|----------------------|---------------------------|
| With Big Stone II | \$1,648.70 Mill |
| Without Big Stone II | \$1,593.51 Mill |

- Second Scenario
 - This Scenario committed all wind not selected in the first scenario.

| Case | Net Present Value* | Percent Increase Over First Scenario |
|----------------------|---------------------------|---|
| With Big Stone II | \$1,675.67 Mill | 1.6 % |
| Without Big Stone II | \$1,599.57 Mill | 0.4 % |

*Net Present Value based over 25 years

25 Year Book Life

\$20 & \$40/MWh Market Prices

Results

On-Peak: \$40/MWh in 2008 dollars escalated at 3%

Off-peak: \$20/MWh in 2008 dollars escalated at 3%

- First Scenario

- No wind selected with Big Stone II
- Diamond Willow I selected without Big Stone II

| Case | Net Present Value* |
|----------------------|---------------------------|
| With Big Stone II | \$1,614.40 Mill |
| Without Big Stone II | \$1,529.05 Mill |

- Second Scenario

- This Scenario committed all wind not selected in the first scenario.

| Case | Net Present Value* | Percent Increase Over First Scenario |
|----------------------|---------------------------|---|
| With Big Stone II | \$1,648.99 Mill | 2.1 % |
| Without Big Stone II | \$1,541.03 Mill | 0.8 % |

*Net Present Value based over 25 years

25 Year Book Life

\$30 & \$50/MWh Market Prices

On-Peak: \$50/MWh in 2008 dollars escalated at 3%

Off-peak: \$30/MWh in 2008 dollars escalated at 3%

- First Scenario

- No wind selected with Big Stone II
- Diamond Willow I selected without Big Stone II

| Case | Net Present Value* |
|----------------------|---------------------------|
| With Big Stone II | \$1,634.17 Mill |
| Without Big Stone II | \$1,563.93 Mill |

- Second Scenario

- This Scenario committed all wind not selected in the first scenario.

| Case | Net Present Value* | Percent Increase Over First Scenario |
|----------------------|---------------------------|---|
| With Big Stone II | \$1,664.70 Mill | 1.9 % |
| Without Big Stone II | \$1,572.99 Mill | 0.6 % |

*Net Present Value based over 25 years

Summary Results for 25 year book life

| Year | Scenario 1 | | Scenario 2 | |
|------|-----------------|-------------------|-------------------|-------------------|
| | Big Stone II | No Big Stone II | Big Stone II | No Big Stone II |
| 2009 | Glen Ullin | Glen Ullin & DW I | Glen Ullin & DW I | Glen Ullin & DW I |
| 2010 | | | DW II & CH | DW II & CH |
| 2011 | 20 MW Purchase | 20 MW Purchase | 10 MW Purchase | 10 MW Purchase |
| 2012 | 140 MW Purchase | 130 MW Purchase | 120 MW Purchase | 120 MW Purchase |
| 2013 | 150 MW Purchase | 140 MW Purchase | 130 MW Purchase | 130 MW Purchase |
| 2014 | 150 MW Purchase | 150 MW Purchase | 140 MW Purchase | 140 MW Purchase |
| 2015 | BSP II & CT43 | 2-CT75 & CT43 | BSP II & CT75 | 2-CT43 & CT75 |
| 2016 | CT43 | | | |
| 2017 | | | | |
| 2018 | | | | |
| 2019 | | CT43 | | |
| 2020 | | | | CT43 |
| 2021 | CT43 | | CT43 | |
| 2022 | | | | |
| 2023 | | CT75 | | |
| 2024 | | | | |
| 2025 | CT43 | | CT43 | CT43 |
| 2026 | | | | |
| 2027 | | | | |
| 2028 | | | | |

CT43 – 43 MW Combustion Turbine
 CT75 – 75 MW Combustion Turbine
 DW I – Diamond Willow
 DW II – Diamond Willow
 CH – Cedar Hills
 Purchase – Purchased Capacity