

**NorthWestern Energy
Docket EL14-106
South Dakota Electric Rate Case**

**South Dakota Public Utilities Commission
Seventh Data Request (7-1 – 7-6)**

Data Requests received July 23, 2015

Beethoven Wind

- 7-6. Refer to the Company's news release on 7/23/15 regarding the agreement to purchase Beethoven Wind.
- a) Provide all information necessary to make an adjustment to the cost of service to include the costs of the project in base rates.
 - b) Further explain the Company's decision to purchase the project and the benefits this will have for customers compared to the current QF PPA.

RESPONSE:

- a) Please see the attached pdf file, 7-6a Beethoven – Cost Considerations that summarizes the effect on Statement M based on the inclusion of Beethoven under two scenarios. The first is the annual cost of service in rates. The second is the five-year levelized approach to including the costs in rates. Also included is a spreadsheet, CONFIDENTIAL Attachment 7-6a Beethoven – Cost of Service Model. This spreadsheet shows the detailed costs of the project supporting the revised Statement M for each scenario.
- b) NorthWestern believes the opportunity to purchase this asset will result in significant benefits to customers.

From a financial perspective, this acquisition provides significant cost savings for customers. As shown in the response to 7-6(a), the nominal savings to customers over the next 25 years is estimated to be \$37,291,481, which is a net present value benefit of \$12,730,233.

Currently, under the QF PPA, NorthWestern is required to take the energy produced by the wind farm. When the energy market moves negative during light load shoulder months, NorthWestern is required to pay Beethoven for the energy produced at the contracted rate and then sell the energy to the market at rates that are typically lower than the cost. After the acquisition, NorthWestern will be able to economically dispatch the wind farm. If the energy is not needed or is not economical to sell, NorthWestern can reduce the output to zero. NorthWestern expects this operational flexibility to result in lower overall costs to customers.

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In accordance with ARSD §§ 20:10:01:39 through 42, NorthWestern respectfully requests confidential treatment of a portion of this response. In compliance with ARSD § 20:10:01:41, this response file includes "Confidential" in its name and all pages have been marked as "Confidential".

- (1) NorthWestern requests confidential treatment of the following:
 - A. CONFIDENTIAL Attachment 7-6a Beethoven – Cost of Service Model

- (2) Duration of request: Forever

- (3) Persons to be contacted regarding the confidentiality request: Pamela A. Bonrud and Al Brogan (contact information in the service list for this docket)

- (4) Legal grounds for confidential treatment:

Confidential treatment is requested on the grounds that the material is defined as confidential information by ARSD § 20:10:01:39(4) and (5).

- (5) Factual grounds for confidential treatment:

The material qualifies for confidential treatment because it contains proprietary business information that NorthWestern does not disclose to the public. It includes forward looking financial information and proprietary business analysis. Disclosure of the material would result in material damage to NorthWestern's financial or competitive position.

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Supplemental Questions and Responses
(August 13, 2015)

Is the internal labor (item #2 and 7) included with labor already included in the rate case cost of service, or will Beethoven require additional labor costs? Please explain. Also, please explain how the labor cost estimates were determined and provide any back-up calculations.

#2 – Internal Labor – Operating Supervision and Engineering

The internal labor of the Superintendent MT Production and the Manager Thermal and Wind Generation was not included in the rate case cost of service. It is estimated that annual labor costs from these two positions charged to SD Electric will be \$63,334 in addition to \$10,500 of travel cost that was not included in the cost of service.

#7 – Wildlife Monitoring & Internal Labor Expense

Most of these expenses will be outside services. The remainder of the expense will be internal labor and travel for environmental personnel in Montana to direct charge to SD. It is anticipated the environmental supervisory and travel will be \$24,000 in addition to a wildlife study costing \$175,692 for the first year. Future years' cost for these two items will be approximately \$70,000.

Please explain the following line items in more detail:

○ *GE FSA Performance Bonus Estimate*

This is a contracted bonus in the Facilities Services Agreements (FSA). The FSA requires generator availability of 95% in the first year and 97.5% in the remaining 9 years. Based on the study of availability by DNV-GL, a bonus may be paid to GE due to their exceedance of the first year requirement, but DNV-GL estimated that future availability will be at the guaranteed level average over the rest of the term of the agreement.

○ *Substation*

Rents paid for land the substation sits on.

○ *Waiver*

These are waiver payments associated with land leases.

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- *Trans. Line Easement*
Easement payments for the 7 miles of 115kv line.
- *Alt. Use Payments*
Easement payments for lands that are not directly tied to generation or collection but do count as improvements for the project. (i.e. roads, drainage)
- *Alternative Rent Payment*
The alternative rent payments (APR) are created by documents that secured more land than is going to be needed. The Owner's intention has been to review these and decide what lands are needed (for access roads, transmission lines.....) and release the remaining lands. The ARP is the amount that was paid annually to keep these lands available to the Owner. The Owner has a surveyor working to identify all the lands that are to be retained, and the balance will/ must be released by January 1, 2016.
- *Back Feed Electric*
Estimated cost of power to back feed into the generation facility when the wind is not generating electricity.
- *Wind Forecasting*
In the day ahead and real time markets, wind generation facilities are required to forecast day ahead and current day output. The project has contracted with Vaisala for these services. This is the same forecasting service used by all of NorthWestern's wind PPA facilities.
- *BOP Operating & Utility Expenses*
 - Balance of plant expenses identified in the Technical Due Diligence Report from DNV-GL.
 - The expenses include site maintenance, tools and supplies, and substation and collector system maintenance. Most of this work will be contracted to third parties.

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- o *BayWa Asset Management Fee*

This contract is currently being negotiated with BayWa. BayWa personnel will be retained on site to manage BOP maintenance and coordinate operations.

Explain the similarities and differences between Beethoven Wind and Spion Kop and explain why Spion Kop is a reasonable basis for estimating certain Beethoven O&M costs.

<u>Beethoven</u>	<u>Spion Kop</u>
80 MW	40 MW
10-Year FSA	10-Year FSA

These plants have similar terms and similar General Electric equipment. Both have GE facility agreements, and management of EPC was the same for both projects. Project management and foundations were very similar. However, although there are similarities between the projects, most of the costs were derived from the DNV-GL Independent Engineer Report that specifically reviewed costs for Beethoven.

Explain the basis for the escalation factors found in column B on the cost of service tab.

Column B is reproduced below followed by an explanation of the escalation factors.

Return (Avg. Rate Base*Cost of Capital)	7.76%
Turbine - O&M (GE Yrs. 1-10; NWE Yrs. 11-25)	2.00%
Internal Labor & Travel (SK Est.)	2.50%
Landowners - Operating Fees and Substation (per BayWa)	1.50%
Waiver, Trans. Line Easement, & Alt. Use Payments (per BayWa)	0.00%
Alternative Rent (per BayWa)	0.00%
Back Feed Electric, Wind Forecasting, & Property Ins. Exp. (SK Est.)	2.50%
Wildlife Monitoring & Internal Labor Expense (SK Est.)	2.50%
BOP Operating & Utility Expenses (per DNV)	2.50%
Property Taxes (Bon Homme, Hutchinson, & Charles Mix, SD)	0.89%
BayWa Asset Management Fee	2.00%

- Turbine O&M – contracted amount
- Internal Labor/Travel – cost of goods escalation (assumed inflation)

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- Landowners – contracted amount
- Waiver, Trans. Line Easement, & Alt. Use Payments – These costs are not escalated
- Alternative Rent – These costs are not escalated
- Back Feed – cost of goods escalation (assumed inflation)
- Wildlife Monitoring – cost of goods escalation (assumed inflation)
- BOP Oper. & Utility Exp. – cost of goods escalation (assumed inflation)
- Property Taxes – forecasted and escalates with capital expenditures
- BayWa AMA (Services Agreement) – estimated contract rate, but is still being negotiated

Regarding the assumed capacity factors found on the general assumptions tab, please explain all items in the cost of service calculation impacted by these estimates. Also, provide the basis for the assumed capacity factors and compare to actual capacity factors of NWE's other wind PPAs in the last few years.

- *Itemize all items, in the cost of service calculation impacted by these estimates.*
 - GE FSA Performance Bonus – This may be affected by changes in the capacity factor. This bonus is only reflected in year one of the model.
 - No other cost of service items are affected by this factor.
- *Provide basis for assumed capacity factors.*
 - NorthWestern contracted DNV-GL to provide an Energy Assessment Report of the Beethoven project.
 - The average capacity factor from the study was 46.9% (P50 Net Energy).
 - The study utilized 5 years of onsite wind data and referenced about 15 years of regional data from various sites in southeast SD.

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- *Compare to actual capacity factors of NW's other wind PPAs in the last few years.*

NorthWestern only has historical generation for Titan as shown below. Oak Tree came on line in January of 2015 and historical data is not available.

- 2009 – Start up
- 2010 – 38%
- 2011 – 44%
- 2012 – 43%
- 2013 – 43%
- 2014 – 39%

UPDATED RESPONSE (September 23, 2015):

- a) Based on the agreed-upon Return on Rate Base of 7.24% and upon new information regarding property taxes, the required adjustment to the cost of service to include the project in base rates is lower than presented in NorthWestern's initial response. Subsequent to responding to the data request, NorthWestern verified that Beethoven will be subject to the taxes imposed by SDCL 10-35-18 and 10-35-19.1 in lieu of all other property taxes. This lowers the property tax to \$386,085 from \$1,274,547.