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November 26, 2014

**PUBLIC DOCUMENT  
TRADE SECRET DATA EXCISED**

VIA ELECTRONIC FILING

Dr. Burl W. Haar  
Executive Secretary  
Minnesota Public Utilities Commission  
121 7th Place East, Suite 350  
St. Paul, MN 55101-2147

Re: In the Matter of Minnesota Power's Rider  
for Boswell Unit 4 Emission Reduction  
(BEC4 Rider) and 2015 Factor  
Docket No. E015/M-14-\_\_\_\_

Dear Dr. Haar:

Minnesota Power hereby electronically submits the attached Petition seeking Minnesota Public Utilities Commission approval of its 2015 Boswell Unit 4 Emission Reduction Factor. This Petition is filed pursuant to Minn. Stat. § 216B.1692 for cost recovery of investments, expenditures and costs related to the Boswell Energy Center Unit 4 mercury emission reduction project through Minnesota Power's Rider for Boswell Unit 4 Emission Reduction.

Minnesota Power has included a Summary with this filing. As reflected in the attached Affidavit of Service, the Summary has been filed on the official general service list utilized by Minnesota Power.

Please contact me at (218) 355-3601 or [lhoyum@mnpower.com](mailto:lhoyum@mnpower.com) with any questions related to this matter.

Yours truly,

A handwritten signature in cursive script that reads "Lori Hoyum".

Lori Hoyum  
Policy Manager

LH  
Enc.

**STATE OF MINNESOTA  
BEFORE THE  
MINNESOTA PUBLIC UTILITIES COMMISSION**

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In the Matter of Minnesota Power’s Rider  
for Boswell Unit 4 Emission Reduction  
(BEC4 Rider) and 2015 Factor

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Docket No. E015/M-14-\_\_\_\_\_

**SUMMARY OF FILING**

Minnesota Power submits this Petition to the Minnesota Public Utilities Commission (“Commission”) pursuant to Minn. Stat. § 216B.1692 seeking Commission approval to update cost recovery of investments, expenditures and costs related to the Boswell Energy Center Unit 4 mercury emission reduction project through Minnesota Power’s Commission-approved Rider for Boswell Unit 4 Emission Reduction.

## Table of Contents

I.	INTRODUCTION .....	1
II.	PROCEDURAL MATTERS .....	3
III.	EMISSIONS-REDUCTION RIDER AUTHORIZATION .....	6
IV.	PROJECT STATUS AND REQUIRED UPDATES .....	7
	A. Project Update .....	7
	B. Project Schedule .....	8
	C. Cost Containment Measures and Budget Estimate Update .....	10
	D. Notice of Violation Update .....	13
V.	COST RECOVERY .....	14
	A. BEC4 Rider - Revenue Requirements .....	14
	B. Cost Allocation and Rate Design .....	15
	C. Customer Impact .....	16
VI.	CONCLUSION .....	19

### List of Tables

Table 1 - Project Implementation Activity Update .....	9
Table 2--Estimated Customer Impact .....	18

### List of Figures

Figure 1 – Timeline of Project-cost Related Activities .....	12
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### List of Exhibits

Exhibit A-1 - Rider for Boswell Unit 4 Emission Reduction	
Exhibit B-1 - Summary of Revenue Requirements, Cost Allocation, Rate Design	
Exhibit B-2 - Revenue Requirements Detail by Project	
Exhibit B-3 - Capital Expenditures Detail by Project	
Exhibit B-4 - Rate of Return and Cost of Capital from Recent Rate Cases	
Exhibit B-5 - Allocation Factors from Recent Rate Cases	
Exhibit C – Pictures of Boswell Energy Center Unit 4 Emission Reduction Project	

**STATE OF MINNESOTA  
BEFORE THE  
MINNESOTA PUBLIC UTILITIES COMMISSION**

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In the Matter of Minnesota Power’s Rider  
for Boswell Energy Center Unit 4 Emission  
Reduction (BEC4 Rider) and 2015 Factor

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Docket No. E015/M-14-\_\_\_\_\_

**I. INTRODUCTION**

Minnesota Power submits this Petition to the Minnesota Public Utilities Commission (“Commission”) pursuant to Minn. Stat. § 216B.1692 seeking Commission approval to update cost recovery of investments, expenditures and costs related to the Boswell Energy Center Unit 4 (“BEC4”) mercury emission reduction project (“BEC4 Project”) through Minnesota Power’s Commission-approved Rider for Boswell Unit 4 Emission Reduction (“BEC4 Rider”). Upon Commission approval, Minnesota Power will adjust the line item on customers’ monthly electric bills under the Boswell 4 Plan Adjustment.

On August 31, 2012, Minnesota Power submitted its Boswell Energy Center Unit 4 mercury emission reduction plan petition (“BEC4 Plan”) in compliance with Minn. Stat. § 216B.6851 to the Commission and Minnesota Pollution Control Agency (“MPCA”). The BEC4 Plan is a multi-pollutant solution for reducing mercury, particulate matter (“PM”), sulfur dioxide (“SO<sub>2</sub>”), and other hazardous air pollutants being addressed by United States Environmental Protection Agency (“EPA”) regulations while also reducing plant wastewater. Minnesota Power is installing a semi-dry flue gas desulfurization system, fabric filter and powder activated carbon (“PAC”) injection system to help achieve compliance with the Minnesota Mercury Emissions Reduction Act (“MERA”), the EPA Mercury and Air Toxics Rule (“MATS”), and other enacted or pending federal and state environmental rulemakings regulating air and water emissions and solid byproducts from coal-fired power plants. Through multi-pollutant control technology, Minnesota Power will cost-effectively achieve the mercury reduction goals under MERA while ensuring compliance with other regulatory programs over the long term.

On March 7, 2013, Minnesota Power submitted its Petition seeking Commission approval pursuant to Minn. Stat. §§ 216B.683, subd. 1; 216B.686, subd. 2; and 216B.1692, subd. 3 to recover investments and expenditures associated with the BEC4 Project through the BEC4 Rider.

On November 5, 2013, the Commission approved Minnesota Power's BEC4 Project and established the BEC4 Rider through an order approving recovery of investments and expenditures for the BEC4 Project in Docket No. E015/M-12-920.

On December 20, 2013, Minnesota Power filed a Petition with the Commission requesting approval of its proposed rates for the BEC4 Rider.<sup>1</sup> On July 2, 2014, the Commission issued an order approving Minnesota Power's proposed rates through the BEC4 Rider. On August 1, 2014, Minnesota Power began implementing Boswell 4 Plan Adjustment factors and recovering costs on customers' bills.

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<sup>1</sup> See Docket No. E015/M-13-1166.

## **II. PROCEDURAL MATTERS**

Pursuant to Minn. Stat. §§ 216B.683; 216B.1692; 216B.6851, 216B.686; and 216B.16, subd. 1, and Minn. Rule 7829.1300, Minnesota Power provides the following required general filing information.

**1. Summary of Filing (Minn. Rule 7829.1300, subp. 1)**

A one-paragraph summary accompanies this petition.

**2. Service on Other Parties (Minn. Rule 7829.1300, subp. 2)**

Pursuant to Minn. Stat. § 216.17, subd. 3 and Minn. Rules 7829.1300, subp. 2, Minnesota Power eFiles a copy of this Petition on the Department of Commerce - Division of Energy Resources, and the Minnesota Office of the Attorney General – Antitrust and Utilities Division. A summary of the filing prepared in accordance with Minn. Rules 7829.1300, subp. 1 is being served on Minnesota Power’s general service list.

**3. Name, Address and Telephone Number of Utility (Minn. Rule 7829.1300, subp. 4(A))**

Minnesota Power  
30 West Superior  
Street Duluth, MN  
55802 (218) 722-2641

**4. Name, Address and Telephone Number of Utility Attorney (Minn. Rule 7829.1300, subp. 4(B))**

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Senior Attorney  
Minnesota Power  
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**5. Date of Filing and Date Proposed Rate Takes Effect (Minn. Rule 7829.1300, subp. 4(C))**

This Petition is being filed on November 26, 2014. The proposed effective date of the BEC4 Plan Adjustment is June 1, 2015.

**6. Statute Controlling Schedule for Processing the Filing (Minn. Rule 7829.1300, subp. 4(D))**

This Petition is made pursuant to Minn. Stat. §§ 216B.683, 216B.1692, 216B.6851, 216B.686 and 216B.16. Minn. Stat. § 216B.1692 allows Minnesota Power to recover the costs of the BEC4 Plan through the Commission-approved BEC4 Rider. Minn. Stat. § 216B.16, subd. 1 requires a 60 day notice to the Commission of a proposed rate change, after which time the proposed rate change takes effect unless suspended.

This Petition falls within the definition of a “Miscellaneous Tariff Filing” under Minn. Rule 7829.0100, subp. 11 since no determination of Minnesota Power’s general revenue requirement is necessary. Minn. Rule 7829.1400, subp. 1 and 4 respectively, permit comments in response to a miscellaneous filing to be filed within 30 days, and reply comments to be filed 10 days thereafter.

**7. Utility Employee Responsible for Filing (Minn. Rule 7829.1300, subp. 4(E))**

Lori Hoyum  
Policy Manager  
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Duluth, MN 55802  
(218) 355-3601  
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**8. Impact on Rates and Services (Minn. Rule 7829.1300, subp. 4(F))**

The Boswell 4 Plan Adjustment will have no effect on Minnesota Power’s base rates. The impact of the Boswell 4 Plan Adjustment miscellaneous rate change on customer rates is described in section V.C., pages 16-18.

**9. Service List (Minn. Rule 7829.0700)**

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**10. Modified Rates (Minn. Rule 7825.3600)**

Minn. Rule 7825.3600 requires all proposed changes in rates be shown by filing revised or new pages to the rate book and by identifying those pages which were not changed. See Exhibit A for redlined and clean versions of the tariff page showing the proposed revised Boswell 4 Plan Adjustment factors. No other rate book pages are changing as a result of this filing. Upon approval of the requested rate adjustment, Minnesota Power will submit a compliance filing containing the final approved tariff page.



### **III. EMISSIONS-REDUCTION RIDER AUTHORIZATION**

Minn. Stat. § 216B.1692, subd. 5(b) allows the Commission to approve an emissions-reduction rider to recover the costs of a qualifying emissions-reduction project outside of a general rate case proceeding under Minn. Stat. § 216B.16. The Commission may approve a rider that:

- (1) allows the utility to recover costs of qualifying emissions-reduction projects net of revenues attributable to the project;
- (2) allows an appropriate return on investment associated with qualifying emissions-reduction projects at the level established in the public utility's last general rate case;
- (3) allocates project costs appropriately between wholesale and retail customers;
- (4) provides a mechanism for recovery above cost, if necessary to improve the overall economics of the qualifying projects to ensure implementation;
- (5) recovers costs from retail customer classes in proportion to class energy consumption;  
and
- (6) terminates recovery once the costs of qualifying projects have been fully recovered.

The term of the rider shall extend for the period approved by the commission regardless of any subsequent state or federal requirement affecting any pollutant addressed by the approved emissions-reduction project and regardless of the sunset date in Minn. Stat. § 216B.1692, subd.

8.

## IV. PROJECT STATUS AND REQUIRED UPDATES

### A. Project Update

Minnesota Power is installing Alstom's circulating dry scrubber ("CDS") technology,<sup>2</sup> referred to as the NID system ("NID"), for the removal of PM, SO<sub>2</sub>, acid gases including hydrochloric acid and trace metals, and other hazardous air pollutants being addressed by EPA regulations, while also reducing plant wastewater. In addition to the NID system, Minnesota Power is installing a PAC system to capture flue gas mercury, in combination with the fabric filter integral to the NID to control PM. The PAC system and fabric filter are key components to achieving compliance with MERA, MATS, and other enacted or pending federal and state environmental rulemakings regulating air and water emissions and solid byproducts from coal-fired power plants. Through multi-pollutant control technology, Minnesota Power will cost effectively achieve the mercury reduction required by MERA while ensuring compliance with other regulatory programs over the long term.

Construction activities have been proceeding well. Erection of the NID building is underway, as well as fabrication of the fabric filter components. The NID equipment is nearly all on site. The elevator foundation, silo foundation, and compressor building foundation and floor slab are complete. Overall, construction is approximately 37 percent complete, engineering is more than 96 percent complete and the project stands at more than 54 percent complete.

Construction activities were halted in late November 2013 until spring 2014, while engineering and purchasing efforts continued through the winter. Construction activities resumed at the site in April 2014. Progress made since construction resumed includes:

- Completed all NID area foundations
- Installed outlet duct sections 1 & 2 along with all supporting steel
- Installed inlet duct plenum sections 1 – 9 with all supporting steel
- Erected all major building steel sections 1 – 9 up to penthouse<sup>3</sup>
- Fabricated and hung all venturi and J duct sections
- Fabricated nine hopper sections and hung five in place

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<sup>2</sup> See <http://www.alstom.com/Global/Power/Resources/Documents/Brochures/circulating-fluidised-bed-boiler-technology-coal-oil-power.pdf> for information on NID system.

<sup>3</sup> Penthouse is a term used to describe the equipment enclosure on top of the silo.

- All 9 baghouse compartments fabricated and in place
- Weld-out completed on sections 1-3 baghouse compartments
- Reactor ducts 1- 3 fabricated and in place
- Reactor ducts 4-9 fabricated
- Fabricated nine hopper sections and hung in place
- Waste ash silo wall pour complete and penthouse set
- Erected and enclosed NID electrical building, and turned it over to electrical contractor
- All cable tray set in NID electrical building and conduit near completion
- All NID electrical room switchgear in place
- Pulled 13.8KV cables from the Boswell Energy Center switchyard to NID electrical building
- All motor control centers set
- Building siding near complete for heat in lower NID building

Exhibit C contains pictures of the construction work at various stages of the project. Minnesota Power can report that through October 2014, with more than 362,000 hours worked on the project; there have been three OSHA (Occupational Safety and Health Administration) recordable injuries and no lost time injuries.

**B. Project Schedule**

Construction work is progressing on schedule as presented in the BEC4 Plan Petition (see Table 2, page 29) submitted on August 31, 2012, and the subsequent March 7, 2013 Petition seeking Commission approval to establish the BEC4 Rider (see Table 1, page 9).

Table 1 presents the projected schedules for implementation activities and status for activities to date.

**Table 1 - Project Implementation Activity Update**

Activity – Project Implementation	Timeline
<b>Phase 1 – Conceptual Engineering</b> Target Procurement Activities – Environmental Equipment <i>*Completed</i>	Apr 2012 – Dec 2012
<b>Phase 2 – Final Design &amp; Procurement</b> Fabricate/Deliver – Fabric Filter/CDS <i>*In Progress</i>	Jul 2012 – May 2015
<b>Phase 3 – Construction</b> Site Preparation <i>*Completed</i> Pile construction <i>*Completed</i> Construction – Civil & Foundations <i>*Completed</i> Construction – CDS/Fabric Filter and Ash Silo <i>*In Progress</i> Construction – Electrical and Controls <i>*In Progress</i>	Apr 2013 – Jul 2013 Jul 2013 – Nov 2013 Apr 2013 – Sep 2014 Apr 2014 – Jul 2015 Nov 2014 – Jul 2015
<b>Phase 4 – Start-Up</b> Checkout & Commission for Tuning Final Plant Start-Up and Tuning	Apr 2015 – Oct 2015 Oct 2015 – Jan 2016

Air and wetland/water permits from federal, state and local agencies, identified in Tables 3 and 4 on page 30 of the BEC4 Plan Petition, were required to begin construction of the BEC4 Project. Minnesota Power received all necessary permits.

### **C. Cost Containment Measures and Budget Estimate Update**

The BEC4 Project is a complex multi-year project. A rigorous technology evaluation, as well as a feasibility study, was conducted over an approximate five-year period to determine the most cost-effective path forward for retrofitting BEC4. To ensure the lowest overall cost for the BEC4 Project, Minnesota Power uses best practices in industry supply chain management. The Company uses its purchasing procedures to obtain competitive bids for as many purchases as possible, including equipment and labor packages, and award contracts to bidder(s) based on the best overall economic value for its customers. The Company also includes an appropriate contingency amount to cover costs of direct project related items such as bids coming in higher than estimated, change orders for items not included in the specifications, and scope items added to the project that weren't considered during the initial concept. Minnesota Power is pleased to report that the BEC4 Project total anticipated project cost has decreased to a current estimate of approximately \$260 million from an originally estimated approximately \$350 million. The total project cost reflects Minnesota Power's 80 percent<sup>4</sup> ownership interest in the equipment and facilities that comprise the BEC4 Project. The reasons for the decrease in total project cost for the BEC4 Project are discussed below.

First, the initial Project cost estimates from April 2012 were based upon the design and footprint for a recent installation of a specific CDS technology at another utility's facility similar to BEC4. Through the request for proposal process that took place in the first half of 2012, it was determined that Alstom's NID layout fit the BEC4 site much better, with the constraints created by the location of Blackwater Lake, than the CDS technology used in the initial estimate. The NID layout offers many advantages including:

- Reducing the impact to wetlands by approximately 50 percent from the initial estimate;
- Reducing the amount of steel and erection costs due to the smaller footprint; and
- Creating additional engineering opportunities to reduce other costs.

These advantages led to Alstom being awarded the contract in August 2012.

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<sup>4</sup> BEC4 is jointly owned by Minnesota Power and WPPI Energy. As a co-owner of BEC4, WPPI Energy will pay a proportionate share of the required capital and O&M (operations & maintenance) associated with the BEC4 Project. Amounts reflected are net of WPPI's 20% ownership interest in BEC4. Amounts include approximately \$3.6 million of AFUDC (Allowance for Funds Used During Construction) net of contra.

Second, over the past two-plus years Minnesota Power was able to refine its engineering of the project as the Company has progressed from the initial design stage through the planning, procurement and initial construction stages. Over the course of the project, Minnesota Power will put out for bid thirty (30) contracts associated with the BEC4 Project. Similar to the CDS technology, as the other contracts were either awarded or were in a bid evaluation process, the Company acquired the detailed knowledge and specifications needed to refine its engineering. As the percentage of engineering completed increased, the project cost values became more certain. As previously stated, approximately 95 percent of the contracts have currently been awarded and engineering is more than 96 percent complete. Many of these contracts were awarded for less than the estimated amounts. Moreover, the due diligence performed by the project team helped to minimize the incidents where the contractor hadn't included all of the necessary scope prior to awarding the bid. Over the past year, the Company has taken the opportunity to provide updated project cost estimates to its stakeholders through various filings submitted to the Commission that are associated with the BEC4 Project.

Finally, because approximately 95 percent of the contracts are awarded and costs determined, Minnesota Power is able to carry a lower contingency on the Project than what was included in the original estimate. The BEC4 Project cost updates the Company has provided in the past year each reflect a gradual decrease in the amount of contingency on the Project. Through the diligent efforts of Minnesota Power, and those working on behalf of Minnesota Power, the Company has been successful to this point in working towards achieving the lowest overall cost for the BEC4 Project on behalf of its customers.

Figure 1 illustrates the span of time and sequence for the project-cost related activities associated with the BEC4 Project.

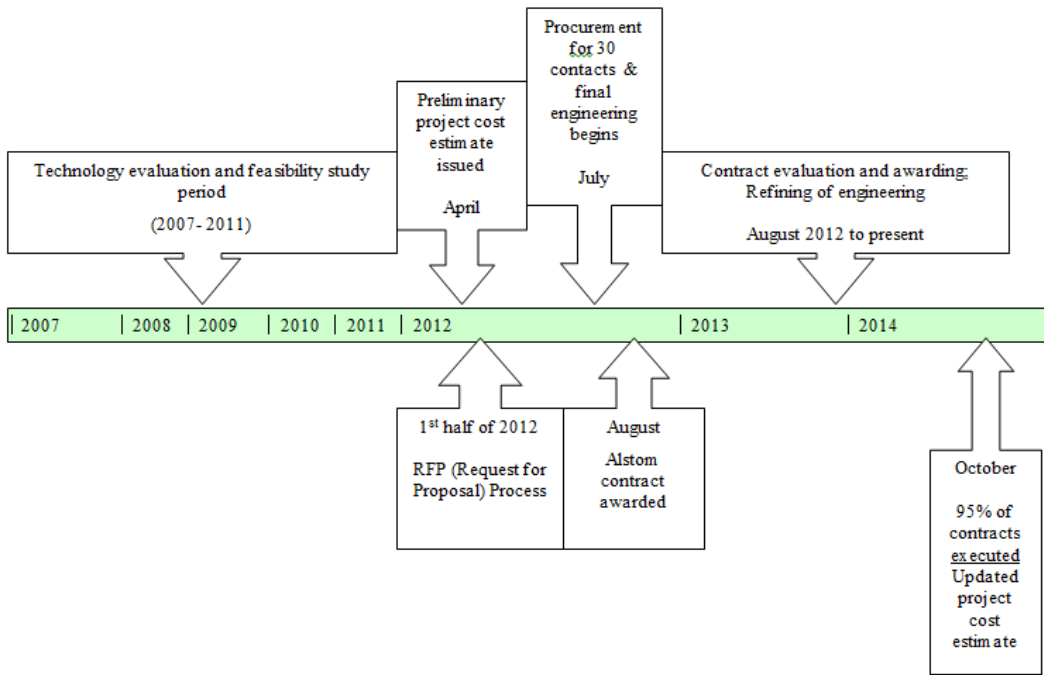


Figure 1 - Timeline of Project-cost Related Activities

#### **D. Notice of Violation Update**

Minnesota Power provides the following project update in compliance with Order Point 1.b. of the Commission's November 5, 2013 Order in Docket No. E015/M-12-920 that requires Minnesota Power to "include in its annual rate factor adjustment filing an update on its discussions with the EPA to resolve the notice of violation and shall identify and explain any costs related to the notice of violation included in its rate factor adjustment filings or other rate proceeding." On July 16, 2014, Minnesota Power reached a settlement agreement with the EPA and the MPCA related to alleged violations of the New Source Review requirements of the Clean Air Act at the Boswell Energy Center. The settlement is compatible with Minnesota Power's long term Energy*Forward* strategy to reduce emissions, diversify its energy mix and advance renewables; however, it does not include any admission of wrongdoing on the part of the company. The settlement agreement was approved by the U.S. District Court for the District of Minnesota and became effective September 29, 2014.

The BEC4 Project, as approved by the Commission in an Order dated November 5, 2013, will comply with the terms of the settlement, including the permissible level of SO<sub>2</sub> emissions at the completion of the BEC4 Project. The equipment requirements to meet the SO<sub>2</sub> emission limits specified in the settlement are the same as those required to meet the SO<sub>2</sub> emission limits under MATS and other enacted or pending federal and state air regulations; therefore, there are no incremental capital costs associated with settlement compliance. Minnesota Power will need to increase the amount of lime used in order to achieve compliance with the settlement terms for SO<sub>2</sub> emissions. Based on current engineering estimates, the projected cost differential for the additional lime usage is estimated to be less than \$150,000 annually. The cost differential is based on the pre-project baseline emission reduction level identified in the BEC4 Plan Petition. The small additional cost each year to reduce SO<sub>2</sub> emission to a level lower than what is required under other enacted or pending federal and state air regulations delivers further environmental value to Minnesota Power customers and other residents in northeastern Minnesota. These operating costs will not be incurred until the facility becomes operational. There are no costs related to the settlement of the notice of violation included in this Petition.



## V. COST RECOVERY

### A. BEC4 Rider - Revenue Requirements

Based upon the current estimated costs, the revenue requirements for the BEC4 Project have been calculated according to the cost recovery terms detailed in Minnesota Power's Petition as approved by the November 5, 2013 Order. Subsequent to the November 5, 2013 Order, the Commission approved Minnesota Power's 2013 Renewable Resources Rider Adjustment Factors in Docket No. E015/M-13-410. In its Order dated December 3, 2013, the Commission, "Directed the Company for all future Renewable Resources Rider and other rider recovery filings, to remove capitalized internal costs when calculating the amount of AFUDC (allowance for funds used during construction) included in the rate base for rider recovery purposes, consistent with the terms of its prior rider filings." Consistent with this directive, Minnesota Power has excluded internal capitalized labor and the AFUDC on internal capitalized labor from the project costs and overall revenue requirements calculations for the BEC4 Project. Refer to Exhibit B-3 for these specific deductions from the project costs.

In addition to the adjustments discussed in the above paragraph, another adjustment has been made to future revenue requirements. Equipment with Original Installed Cost ("OIC") of approximately \$40 million will be retired from BEC4 prior to the BEC4 Project being placed into service. When this occurs, Minnesota Power will deduct the estimated revenue requirements associated with this equipment that is currently in base rates from the BEC4 rider revenue requirements. This credit includes a return on average rate base, depreciation expense and associated O&M (operations & maintenance) expenses. This credit is applied beginning in October 2015 in this Petition and will continue until the BEC4 Project is rolled into base rates in Minnesota Power's subsequent rate case. Refer to Exhibit B-1, page 5 of 5, row E5 for the application of this expected credit, and to Exhibit B-2, page 11 of 11, for the calculation of this credit.

As part of a power sales agreement to Basin Electric Power Cooperative ("Basin"), Minnesota Power is allowed to collect costs associated with new emission control additions to BEC4 over a specified period from Basin. Minnesota Power is passing the benefits of this agreement directly to customers through crediting the revenue requirements by Basin's specified

share of the costs for a portion of the contract. Refer to Exhibit B-1, page 5, row E4 for Basin's total 2015 share.

Minnesota Power proposes to include a total of \$22.7 million in jurisdictional revenue requirements in the BEC4 Rider Adjustment Factors. The total revenue requirements for the BEC4 Rider Adjustment Factors consist of the projected 2014 year-end Tracker Balance of \$5.7 million and 2015 revenue requirements of \$17 million. As discussed below, the BEC4 Rider Adjustment Factors are calculated to recover the revenue requirements over a twelve-month period. Refer to Exhibit B-1 for a summary of the revenue requirements and to Exhibit B-2 for the detailed revenue requirement calculations.

## **B. Cost Allocation and Rate Design**

### **1. Jurisdictional and Class Allocation**

The jurisdictional and class allocations of revenue requirements for the BEC4 Project have been calculated based on the methodology detailed in Minnesota Power's Petition and the subsequent Order. Specifically, the revenue requirements have been allocated between jurisdictions using the Power Supply Production Demand (D-01) allocators as approved in Minnesota Power's 2009 rate case (Docket No. E015/GR-09-1151). Once revenue requirements are brought to jurisdiction, Minnesota Power utilized the Power Supply Production Demand (Peak & Average D-01) allocators, also approved in Minnesota Power's 2009 rate case (Docket No. E015/GR-09-1151), to allocate the revenue requirements to class. See Exhibit B-5 for further detail on these allocators.

Order Point 4 of the November 5, 2013 Order requires Minnesota Power to make annual rate factor adjustment filings, including adjusted retail allocation factors if any Large Power or wholesale customer's load changes by 10 megawatts ("MW") or more. In the present filing no adjustment has been made to the allocation factors, although it is anticipated this will be required in the 2016 Factor Filing if expected large load changes actually occur. Minnesota Power's anticipates a new retail Large Power customer with a demand of approximately 20 MW in 2015. While the additional billing units for this expected new customer are included in the billing units used to calculate the proposed Large Power Billing Factors, the allocation factors will be adjusted in the 2016 Factor Filing. In the 2016 Factor Filing, Minnesota Power will also

incorporate the 2014 loss of a firm Wholesale customer with an average 2013 load of approximately 19 MW. Assuming all else equal, these two load changes are anticipated to slightly increase the allocation to the Minnesota retail jurisdiction and to the Large Power class. There are no other known or anticipated current load changes of 10 MW or more associated with any retail Large Power or firm wholesale customer.

## **2. Rate Design**

Consistent with the terms of the BEC4 Rider, the Large Power (“LP”) rate design for the Boswell 4 Plan Adjustment incorporates demand (\$/kW-month) and energy (¢/kWh) adders that recover the costs in a manner that preserves LP base rate design. Specifically, the LP revenue requirements are split between demand and energy based on LP’s 2010 base rate demand and energy revenue split of approximately 60 percent demand and 40 percent energy from the Company’s most recent rate case (Docket No. E015/GR-09-1151). The LP demand rate adder is calculated as 60 percent of the projected LP revenue requirement divided by the LP class Billing Demand (kW-month) from the 2015 budget. The LP energy rate adder is calculated as 40 percent of the projected LP revenue requirement divided by the annual LP energy sales (kWh) from the 2015 budget. See Exhibit B-1, page 1 of 5, for further detail.

Also consistent with the terms of the BEC4 Rider, the rate design for the Boswell 4 Plan Adjustment for the remaining retail rate classes (non-LP) is an average energy-based (kWh) rate adder. This energy adder is calculated as an average energy (¢/kWh) charge consisting of the projected non-LP revenue requirements divided by the annual non-LP energy (kWh) sales from the 2015 budget. See Exhibit B-1, page 1 of 5, for further detail. Also, refer to Exhibit A for the proposed Rider for Boswell Unit 4 Emission Reduction tariff page.

## **C. Customer Impact**

Assuming the effective date is June 1, 2015, the rate impact for the average residential customer will be approximately \$0.86 per month or a 1.06 percent increase during the first twelve months of cost recovery.

For Large Power customers, the rate impact will be approximately 0.093¢ per kWh of energy or an increase of 1.61 percent during the first twelve months of cost recovery.

Table 2 summarizes the estimated revenue requirements and rate impacts by customer class for the twelve months beginning June 1, 2015.

**Table 2--Estimated Customer Impact**

<b>Proposed Billing Factor Effective</b>	<b>6/1/2015</b>
<b>Retail Revenue Requirements</b>	\$22,693,774
<b>Rate Class Impacts 1/</b>	
<b>Residential</b>	
Average Current Rate (¢/kWh)	9.995
Increase (¢/kWh)	0.106
Increase (%)	1.06
Average Impact (\$/month)	0.86
<b>General Service</b>	
Average Current Rate (¢/kWh)	9.990
Increase (¢/kWh)	0.106
Increase (%)	1.06
Average Impact (\$/month)	2.95
<b>Large Light &amp; Power</b>	
Average Current Rate (¢/kWh)	8.081
Increase (¢/kWh)	0.106
Increase (%)	1.31
Average Impact (\$/month)	241.64
<b>Large Power</b>	
Average Current Rate (¢/kWh)	5.740
Increase (demand + energy combined) (¢/kWh)	0.093
Increase (%)	1.61
Average Impact (\$/month)	46,554
<b>Municipal Pumping</b>	
Average Current Rate (¢/kWh)	9.149
Increase (¢/kWh)	0.106
Increase (%)	1.16
Average Impact (\$/month)	11.43
<b>Lighting</b>	
Average Current Rate (¢/kWh)	15.657
Increase (¢/kWh)	0.106
Increase (%)	0.68
Average Impact (\$/month)	0.39

**Notes:**

1/ Average current rates are 2015 estimated rates based on Final 2010 TY General Rates in 2009 Rate Case (E015/GR-09-1151) without riders, adjusted to include current rider rates. Current rider rates include Renewable Resources Rider rates, Transmission Cost Recovery Rider rates, BEC4 Rider rates, Conservation Program Adjustment, and estimated 2015 Fuel and Purchased Energy Adjustment. Average \$/month impact based on 2015 budgeted billing units.

## VI. CONCLUSION

Minnesota Power respectfully requests that the Commission approve Minnesota Power's rate adjustment under its Rider for Boswell Unit 4 Emission Reduction. Additionally, Minnesota Power appreciates the opportunity to update the Commission and its stakeholders on the progress of the BEC4 Project and the Company's efforts to reduce the overall cost of the project on behalf of its customers.

Dated: November 26, 2014

Respectfully submitted,

By: 

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Policy Manager  
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# EXHIBIT A

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RIDER FOR BOSWELL UNIT 4 EMISSION REDUCTION

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Applicable to electric service under all Company's Retail Rate Schedules except Competitive Rate Schedules - Rate Codes 73 and 79. In addition, this Rider is applicable to service under Company's Rider for Large Power Interruptible Service and Rider for Large Power Incremental Production Service.

The following charges are applicable in addition to all charges for service being taken under Company's standard rate schedules:

Rate Class	Boswell 4 Plan Adjustment
------------	---------------------------

Large Power	\$ <del>0.990</del> <del>.60</del> per kW-month of Billing Demand
-------------	--

and

	<del>0.094</del> <del>0.057</del> ¢/kWh
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All other applicable Retail Rate Customers	<del>0.262</del> <del>0.156</del> ¢/kWh
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Filing Date <u> February 26, 2013 </u>	MPUC Docket No. <u> E-015/M-13-1166 </u>
Effective Date <u> August 1, 2014 </u>	Order Date <u> July 2, 2014 </u>

Approved by:  Marcia A. Podratz   
Marcia A. Podratz  
Director - Rates



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**RIDER FOR BOSWELL UNIT 4 EMISSION REDUCTION**

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Applicable to electric service under all Company's Retail Rate Schedules except Competitive Rate Schedules - Rate Codes 73 and 79. In addition, this Rider is applicable to service under Company's Rider for Large Power Interruptible Service and Rider for Large Power Incremental Production Service.

The following charges are applicable in addition to all charges for service being taken under Company's standard rate schedules:

<b>Rate Class</b>	<b>Boswell 4 Plan Adjustment</b>
Large Power	\$0.99 per kW-month of Billing Demand  and  0.094¢/kWh
All other applicable Retail Rate Customers	0.262¢/kWh

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Filing Date \_\_\_\_\_ MPUC Docket No. \_\_\_\_\_  
Effective Date \_\_\_\_\_ Order Date \_\_\_\_\_

Approved by:  Marcia A. Podratz   
**Marcia A. Podratz**  
**Director - Rates**

# **EXHIBIT B**

Minnesota Power  
BEC4 Rider: 2015 Factor Filing  
Summary: Revenue Requirements, Cost Allocation and Rate Design

		MN Jurisdictional Amounts <u>Total</u>
Projected Year End 2014 Tracker Balance 1/	\$	5,667,325
2015 Net Revenue Requirements 2/	\$	<u>17,026,449</u>
Total 2015 Factor Revenue Requirements	\$	22,693,774

		Allocators 3/		
MN Jurisdictional & Class Revenue Requirements		100.00%	\$	22,693,774
Large Power		62.51%	\$	14,185,926
All Other Retail Classes		37.49%	\$	8,507,848

Billing Units 4/

Large Power	kW - month			716,608
	kWh			6,037,136,000
All Other Retail Classes	kWh			3,245,508,000

Billing Factors 5/

			<u>Proposed 6/1/2015</u>
Large Power	\$/kW - month		0.99
	¢/kWh		0.094
All Other Retail Classes	¢/kWh		0.262

		<u>Current Rate</u>	<u>Proposed</u>	<u>Increase</u>
Large Power	(\$/kW - month)	0.60	0.99	0.390
	(¢/kWh)	0.057	0.094	0.037
All Other Classes	(¢/kWh)	0.156	0.262	0.106

Notes:

1/ Refer to Exhibit B-1, page 3 of 5, row G3.

2/ Refer to Exhibit B-1, page 5 of 5, row E8.

3/ Jurisdictional Power Supply Demand (D-01) allocator and Peak & Average (P&A) class allocators from 2009 MPUC rate case Docket No. E-015/GR-09-1151. Refer to Exhibit B-5, line 11.

4/ 2015 Budget.

5/ The LP rate design is a demand rate adder (\$/kW-month) and an energy adder (¢/kWh). The LP allocated costs are to be split between demand and energy on the 2010 base rate demand and energy revenue split of approximately 60% demand and 40% energy per results of MP's most recent MPUC rate case (Docket No. E015/GR-09-1151). All other retail classes will have an energy adder (¢/kWh).

PUBLIC DOCUMENT  
TRADE SECRET DATA EXCISED

Minnesota Power  
BEC4 Rider  
2014 Revenue Requirements: Total Sum All Projects

Exhibit B-1  
Page 2 of 5

**2014 Revenue Requirements**

**Total Sum: All Projects**

Section	Line	Des-13	Jan-14	Feb-14	Mar-14	Apr-14	May-14	Jun-14	Jul-14	Aug-14	Sep-14	Oct-14	Nov-14	Dec-14	Total Year Dec-14
<b>A</b>	<b>Book Basis of Property</b>														
	0 CWIP (net of contra AFUDC & internal costs) 1/	60,653,451	67,309,385	74,393,761	84,019,187	91,690,914	99,185,813	104,779,955	110,611,126	119,381,370	130,694,623	138,808,812	146,950,210	146,950,210	
	1 Plant in Service (net of contra AFUDC & Internal costs)	-	-	-	-	-	-	-	-	-	-	-	-	-	
	2 Total Accumulated Depreciation	-	-	-	-	-	-	-	-	-	-	-	-	-	
	3 Net Plant	-	-	-	-	-	-	-	-	-	-	-	-	-	
	4 Total Depreciation	-	-	-	-	-	-	-	-	-	-	-	-	-	
<b>B</b>	<b>Tax Basis of Property</b>														
	1 Plant in Service	-	-	-	-	-	-	-	-	-	-	-	-	-	
	2 Accumulated Depreciation	-	-	-	-	-	-	-	-	-	-	-	-	-	
	3 Net Plant	-	-	-	-	-	-	-	-	-	-	-	-	-	
	4 Bonus Depreciation	-	-	-	-	-	-	-	-	-	-	-	-	-	
	5 Total Tax Depreciation (including bonus)	-	-	-	-	-	-	-	-	-	-	-	-	-	
	6 Tax Book Difference	-	-	-	-	-	-	-	-	-	-	-	-	-	
	7 Income Tax Rate	41.37%	41.37%	41.37%	41.37%	41.37%	41.37%	41.37%	41.37%	41.37%	41.37%	41.37%	41.37%	41.37%	
	8 Accumulated Deferred Income Tax Liability	-	-	-	-	-	-	-	-	-	-	-	-	-	
	9 Deferred Tax Expense debit / (Credit)	-	-	-	-	-	-	-	-	-	-	-	-	-	
<b>C-1</b>	<b>Revenue Requirements - Consolidated NOL</b>														
	1 Net Plant	-	-	-	-	-	-	-	-	-	-	-	-	-	
	2 Less: ADITL - Def Taxes	-	-	-	-	-	-	-	-	-	-	-	-	-	
	3 Rate Base	-	-	-	-	-	-	-	-	-	-	-	-	-	
	4 Average Rate Base	-	-	-	-	-	-	-	-	-	-	-	-	-	
	5 Current Return on CWIP 1/	605,314	647,812	717,372	801,966	889,532	966,313	1,032,577	1,090,417	1,164,337	1,266,010	1,364,361	1,446,655	11,992,667	
	6 Return on Average Rate Base	-	-	-	-	-	-	-	-	-	-	-	-	-	
	7 After Tax Return on Equity	-	-	-	-	-	-	-	-	-	-	-	-	-	
	8 Income Tax Component	-	-	-	-	-	-	-	-	-	-	-	-	-	
	9 Interest Expense Component	-	-	-	-	-	-	-	-	-	-	-	-	-	
	10 Total Return on Average Rate Base	-	-	-	-	-	-	-	-	-	-	-	-	-	
	11 Operation & Maintenance Expense	-	-	-	-	-	-	-	-	-	-	-	-	-	
	12 Depreciation Expense	-	-	-	-	-	-	-	-	-	-	-	-	-	
	13 Property Tax	-	-	-	-	-	-	-	-	-	-	-	-	-	
	14 Revenue Requirements	605,314	647,812	717,372	801,966	889,532	966,313	1,032,577	1,090,417	1,164,337	1,266,010	1,364,361	1,446,655	11,992,667	

1/ Refer to Exhibit B-3, page 2.



**PUBLIC DOCUMENT  
TRADE SECRET DATA EXCISED**

Minnesota Power  
BEC4 Rider  
2015 Revenue Requirements: Total Sum All Projects

Exhibit B-1  
Page 4 of 5

**2015 Revenue Requirements**

**Total Sum: All Projects**

Section	Line	Dec-14	Jan-15	Feb-15	Mar-15	Apr-15	May-15	Jun-15	Jul-15	Aug-15	Sep-15	Oct-15	Nov-15	Dec-15	Total Year Dec-15
<b>A</b>	<b>Book Basis of Property</b>														
	0 CWIP (net of contra AFUDC & internal costs) 1/	154,344,870	160,233,939	166,016,010	174,758,568	181,160,534	187,305,068	195,665,965	204,009,930	210,640,161	215,194,261	218,440,562	2,362,033	2,362,033	
	1 Plant in Service (net of contra AFUDC & Internal costs)	-	-	-	-	-	-	-	-	-	-	-	234,166,221	234,166,221	
	2 Total Accumulated Depreciation	-	-	-	-	-	-	-	-	-	-	-	487,846	487,846	
	3 Net Plant	-	-	-	-	-	-	-	-	-	-	-	233,678,375	233,678,375	
	4 Total Depreciation	-	-	-	-	-	-	-	-	-	-	-	487,846	487,846	
	5 Book Depreciation Rate														
<b>B</b>	<b>Tax Basis of Property</b>														
	1 Plant in Service	-	-	-	-	-	-	-	-	-	-	-	234,166,221	234,166,221	
	2 Accumulated Depreciation	-	-	-	-	-	-	-	-	-	-	-	2,551,208	2,551,208	
	3 Net Plant	-	-	-	-	-	-	-	-	-	-	-	231,615,014	231,615,014	
	4 Bonus Depreciation	-	-	-	-	-	-	-	-	-	-	-	-	-	
	5 Total Tax Depreciation (including bonus)	-	-	-	-	-	-	-	-	-	-	-	2,551,208	2,551,208	
	6 Accumulated Tax Depreciation	-	-	-	-	-	-	-	-	-	-	-	2,551,208	2,551,208	
	6 Tax Book Difference	-	-	-	-	-	-	-	-	-	-	-	2,063,361	2,063,361	
	7 Income Tax Rate	41.37%	41.37%	41.37%	41.37%	41.37%	41.37%	41.37%	41.37%	41.37%	41.37%	41.37%	41.37%	41.37%	
	8 Accumulated Deferred Income Tax Liability	-	-	-	-	-	-	-	-	-	-	-	853,613	853,613	
	9 Deferred Tax Expense debit / (Credit)	-	-	-	-	-	-	-	-	-	-	-	853,613	853,613	
	10 ADITA for NOL Carryforward	-	-	-	-	-	-	-	-	-	-	-	-	-	
	11 Carryforward utilized	-	-	-	-	-	-	-	-	-	-	-	-	-	
	12 ADITA - NOL	-	-	-	-	-	-	-	-	-	-	-	-	-	
<b>C-1</b>	<b>Revenue Requirements - Consolidated NOL</b>														
	1 Net Plant	-	-	-	-	-	-	-	-	-	-	-	233,678,375	233,678,375	
	2 Less: ADITL - Def Taxes	-	-	-	-	-	-	-	-	-	-	-	(853,613)	(853,613)	
	3 Plus: ADITA - NOL	-	-	-	-	-	-	-	-	-	-	-	-	-	
	3 Rate Base	-	-	-	-	-	-	-	-	-	-	-	232,824,762	232,824,762	
	4 Average Rate Base	-	-	-	-	-	-	-	-	-	-	-	116,412,381	116,412,381	
	5 Current Return on CWIP 1/	1,525,306	1,592,555	1,651,640	1,725,171	1,801,840	1,865,357	1,938,791	2,023,359	2,099,166	2,155,787	2,195,276	1,117,813	21,692,063	
	6 Return on Average Rate Base	-	-	-	-	-	-	-	-	-	-	-	-	-	
	7 After Tax Return on Equity	-	-	-	-	-	-	-	-	-	-	-	546,589	546,589	
	8 Income Tax Component	-	-	-	-	-	-	-	-	-	-	-	385,680	385,680	
	9 Interest Expense Component	-	-	-	-	-	-	-	-	-	-	-	246,406	246,406	
	10 Total Return on Average Rate Base	-	-	-	-	-	-	-	-	-	-	-	1,178,675	1,178,675	
	11 Operation & Maintenance Expense	-	-	-	-	-	-	-	-	-	-	810,000	810,000	1,620,000	
	12 Depreciation Expense	-	-	-	-	-	-	-	-	-	-	-	487,846	487,846	
	13 Property Tax	-	-	-	-	-	-	-	-	-	-	-	-	-	
	14 Revenue Requirements	1,525,306	1,592,555	1,651,640	1,725,171	1,801,840	1,865,357	1,938,791	2,023,359	2,099,166	2,155,787	3,005,276	3,594,335	24,978,585	

1/ Refer to Exhibit B-3, page 11.

**PUBLIC DOCUMENT**  
**TRADE SECRET DATA EXCISED**

Minnesota Power  
BEC4 Rider  
2015 Revenue Requirements: Total Sum All Projects

Exhibit B-1  
Page 5 of 5

**2015 Revenue Requirements**

**Total Sum: All Projects**

Section	Line	Dec-14	Jan-15	Feb-15	Mar-15	Apr-15	May-15	Jun-15	Jul-15	Aug-15	Sep-15	Oct-15	Nov-15	Dec-15	Total Year Dec-15
<b>C-2</b>	<b>Revenue Requirements - Stand Alone NOL</b>														
	1 Net Plant		-	-	-	-	-	-	-	-	-	-	-	233,678,375	233,678,375
	2 Less: ADITL - Def Taxes		-	-	-	-	-	-	-	-	-	-	-	(853,613)	(853,613)
	3 Rate Base		-	-	-	-	-	-	-	-	-	-	-	232,824,762	232,824,762
	4 Average Rate Base		-	-	-	-	-	-	-	-	-	-	-	116,412,381	
	5 Current Return on CWIP /1	1,525,306	1,592,555	1,651,640	1,725,171	1,801,840	1,865,357	1,938,791	2,023,359	2,099,166	2,155,787	2,195,276	1,117,813	1,117,813	21,692,063
	6 Return on Average Rate Base		-	-	-	-	-	-	-	-	-	-	-	-	-
	7 After Tax Return on Equity		-	-	-	-	-	-	-	-	-	-	-	546,589	546,589
	8 Income Tax Component		-	-	-	-	-	-	-	-	-	-	-	385,680	385,680
	9 Interest Expense Component		-	-	-	-	-	-	-	-	-	-	-	246,406	246,406
	10 Total Return on Average Rate Base		-	-	-	-	-	-	-	-	-	-	-	1,178,675	1,178,675
	11 Operation & Maintenance Expense		-	-	-	-	-	-	-	-	-	-	810,000	810,000	1,620,000
	12 Depreciation Expense		-	-	-	-	-	-	-	-	-	-	-	487,846	487,846
	13 Property Tax		-	-	-	-	-	-	-	-	-	-	-	-	-
	14 Revenue Requirements	1,525,306	1,592,555	1,651,640	1,725,171	1,801,840	1,865,357	1,938,791	2,023,359	2,099,166	2,155,787	3,005,276	3,594,335	3,594,335	24,978,585
<b>D</b>	<b>Stand Alone Taxable Income or Loss (NOL)</b>														
	1 Revenue Requirements	1,525,306	1,592,555	1,651,640	1,725,171	1,801,840	1,865,357	1,938,791	2,023,359	2,099,166	2,155,787	3,005,276	3,594,335	3,594,335	24,978,585
	2 Tax Depreciation		-	-	-	-	-	-	-	-	-	-	-	2,551,208	2,551,208
	3 Property Tax		-	-	-	-	-	-	-	-	-	-	-	-	-
	4 Interest Expense (including on CWIP) /1	318,871	332,929	345,281	360,653	376,681	389,959	405,311	422,990	438,838	450,675	458,930	480,089	480,089	4,781,208
	5 Operation & Maintenance Expense		-	-	-	-	-	-	-	-	-	-	810,000	810,000	1,620,000
	6 Total Tax Deduction	318,871	332,929	345,281	360,653	376,681	389,959	405,311	422,990	438,838	450,675	1,268,930	3,841,296	3,841,296	8,952,415
	7 Taxable Income (NOL)	1,206,436	1,259,626	1,306,359	1,364,518	1,425,159	1,475,398	1,533,480	1,600,369	1,660,328	1,705,112	1,736,346	(246,962)	(246,962)	16,026,169
	8 Current tax expense	499,102	521,108	540,441	564,502	589,589	610,372	634,401	662,072	686,878	705,405	718,327	(102,168)	(102,168)	6,630,029
	9 Taxable Income (NOL)	1,206,436	1,259,626	1,306,359	1,364,518	1,425,159	1,475,398	1,533,480	1,600,369	1,660,328	1,705,112	1,736,346	(246,962)	(246,962)	16,026,169
	10 NOL carryforward		-	-	-	-	-	-	-	-	-	-	-	-	-
	11 Taxable Income after NOL carryforward	1,206,436	1,259,626	1,306,359	1,364,518	1,425,159	1,475,398	1,533,480	1,600,369	1,660,328	1,705,112	1,736,346	15,920,705	15,920,705	16,026,169
	12 Expected stand alone ADITA NOL		-	-	-	-	-	-	-	-	-	-	-	-	-
<b>E</b>	<b>Summary: Revenue Requirements</b>														
	1 Revenue Requirement: Consolidated	1,525,306	1,592,555	1,651,640	1,725,171	1,801,840	1,865,357	1,938,791	2,023,359	2,099,166	2,155,787	3,005,276	3,594,335	3,594,335	24,978,585
	2 Revenue Requirement: Stand Alone	1,525,306	1,592,555	1,651,640	1,725,171	1,801,840	1,865,357	1,938,791	2,023,359	2,099,166	2,155,787	3,005,276	3,594,335	3,594,335	24,978,585
	3 Revenue Requirement: Rider 2/	1,525,306	1,592,555	1,651,640	1,725,171	1,801,840	1,865,357	1,938,791	2,023,359	2,099,166	2,155,787	3,005,276	3,594,335	3,594,335	24,978,585
	4 Revenue Credit for Basin's Share /3		-	-	-	(357,642)	(370,157)	(384,594)	(401,190)	(416,214)	(427,645)	(587,081)	(700,289)	(700,289)	(3,644,812)
	5 BEC 4 Base Rate Revenue Credit 4/		-	-	-	-	-	-	-	-	(191,372)	(191,372)	(191,372)	(191,372)	(574,115)
	6 Total Net Revenue Requirements	1,525,306	1,592,555	1,651,640	1,725,171	1,444,199	1,495,200	1,554,196	1,622,169	1,682,952	1,536,770	2,226,823	2,702,674	2,702,674	20,759,658
	7 MN Jurisdictional Allocator /5	0.82017	0.82017	0.82017	0.82017	0.82017	0.82017	0.82017	0.82017	0.82017	0.82017	0.82017	0.82017	0.82017	0.82017
	8 MN Jurisdictional Revenue Requirement	1,251,011	1,306,166	1,354,626	1,414,934	1,184,489	1,226,318	1,274,705	1,330,455	1,380,307	1,260,413	1,826,374	2,216,652	2,216,652	17,026,449
<b>F</b>	<b>Monthly Entry</b>														
	1 Monthly Entry needed	1,251,011	1,306,166	1,354,626	1,414,934	1,184,489	1,226,318	1,274,705	1,330,455	1,380,307	1,260,413	1,826,374	2,216,652	2,216,652	
	2 Cumulative Year	1,251,011	2,557,177	3,911,802	5,326,736	6,511,225	7,737,543	9,012,249	10,342,703	11,723,010	12,983,423	14,809,797	17,026,449	17,026,449	
	3 Booked YTD	1,251,011	2,557,177	3,911,802	5,326,736	6,511,225	7,737,543	9,012,249	10,342,703	11,723,010	12,983,423	14,809,797	17,026,449	17,026,449	
	4 Entry Needed	1,251,011	1,306,166	1,354,626	1,414,934	1,184,489	1,226,318	1,274,705	1,330,455	1,380,307	1,260,413	1,826,374	2,216,652	2,216,652	

1/ Refer to Exhibit B-3, page 11.  
2/ Lesser of E1 or E2.  
3/ Refer to Exhibit B-2, page 4, row E4 plus page 8, row E4.  
4/ Refer to Exhibit B-2, page 11, row C14.  
5/ Refer to Exhibit B-5, page 1, line 11.

**PUBLIC DOCUMENT**  
**TRADE SECRET DATA EXCISED**

Minnesota Power  
BEC4 Rider  
Revenue Requirements: Boswell 4 Environmental Retrofit

Exhibit B-2  
Page 1 of 11

BEC 4 Environmental Retrofit  
Project ID # 103698  
In Service 12/31/2015

Section	Line	Jan-14	Feb-14	Mar-14	Apr-14	May-14	Jun-14	Jul-14	Aug-14	Sep-14	Oct-14	Nov-14	Dec-14
<b>A</b>	<b>Book Basis of Property</b>												
	0 CWIP (net of contra AFUDC & internal costs) 1/	60,638,366	67,294,300	74,377,448	84,002,868	91,674,596	99,156,809	104,738,266	110,556,751	119,314,309	130,614,877	138,716,380	146,854,579
	1 Plant in Service (net of contra AFUDC & Internal costs) 1/												
	2 Accumulated Depreciation 12/2015 Plant	-	-	-	-	-	-	-	-	-	-	-	-
	3 Net Plant	-	-	-	-	-	-	-	-	-	-	-	-
	4 Total Depreciation	-	-	-	-	-	-	-	-	-	-	-	-
	5 Book Depreciation Rate (24 yrs remaining life 2012)												
<b>B</b>	<b>Tax Basis of Property</b>												
	1 Plant in Service	-	-	-	-	-	-	-	-	-	-	-	-
	2 Accumulated Depreciation	-	-	-	-	-	-	-	-	-	-	-	-
	3 Net Plant	-	-	-	-	-	-	-	-	-	-	-	-
	4 Bonus Depreciation												
	5 Net Depreciable 12/2015 Plant												
	6 Tax Depreciation Rate 12/2015 Plant 2/												
	7 Tax Depreciation 12/2015 Plant	-	-	-	-	-	-	-	-	-	-	-	-
	8 Tax Book Difference	-	-	-	-	-	-	-	-	-	-	-	-
	9 Income Tax Rate 3/	41.37%	41.37%	41.37%	41.37%	41.37%	41.37%	41.37%	41.37%	41.37%	41.37%	41.37%	41.37%
	10 Accumulated Deferred Income Tax Liability	-	-	-	-	-	-	-	-	-	-	-	-
	11 Deferred Tax Expense debit / (Credit)	-	-	-	-	-	-	-	-	-	-	-	-
<b>C-1</b>	<b>Revenue Requirements - Consolidated NOL</b>												
	1 Net Plant	-	-	-	-	-	-	-	-	-	-	-	-
	2 Less: ADITL - Def Taxes	-	-	-	-	-	-	-	-	-	-	-	-
	3 Rate Base	-	-	-	-	-	-	-	-	-	-	-	-
	4 Average Rate Base	-	-	-	-	-	-	-	-	-	-	-	-
	5 Current Return on CWIP 4/	605,162	647,659	717,213	801,800	889,367	966,084	1,032,219	1,089,931	1,163,722	1,265,267	1,363,489	1,445,703
	6 Return on Average Rate Base 4/												
	7 After Tax Return on Equity	-	-	-	-	-	-	-	-	-	-	-	-
	8 Income Tax Component	-	-	-	-	-	-	-	-	-	-	-	-
	9 Interest Expense Component	-	-	-	-	-	-	-	-	-	-	-	-
	10 Total Return on Average Rate Base	-	-	-	-	-	-	-	-	-	-	-	-
	11 Operation & Maintenance Expense	-	-	-	-	-	-	-	-	-	-	-	-
	12 Depreciation Expense	-	-	-	-	-	-	-	-	-	-	-	-
	13 Property Tax 5/	-	-	-	-	-	-	-	-	-	-	-	-
	14 Revenue Requirements	605,162	647,659	717,213	801,800	889,367	966,084	1,032,219	1,089,931	1,163,722	1,265,267	1,363,489	1,445,703

1/ Refer to Exhibit B-3.

2/ Refer to Exhibit B-6

3/ Minnesota Composite Income Tax Rate.

4/ Current Return on CWIP starts 10/1/13 (Avg. Monthly CWIP x ROR% / 12). Refer to Exhibit B-3 for CWIP calculations.

Pre-tax rate of return is 12.15% from 2009 MPUC rate case, Docket No. E-015/GR-09-1151. Refer to Exhibit B-4 rate of return components.

Return on Average Rate Base starts 12/31/15 (Avg. Monthly Rate Base x ROR% / 12).

5/ Project assumed to qualify for 100% property tax pollution control exemption per Tax Department.



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Minnesota Power  
BEC4 Rider  
Revenue Requirements: Boswell 4 Environmental Retrofit

Exhibit B-2  
Page 2 of 11

BEC 4 Environmental Retrofit  
Project ID # 103698  
In Service 12/31/2015

Section	Line	Jan-14	Feb-14	Mar-14	Apr-14	May-14	Jun-14	Jul-14	Aug-14	Sep-14	Oct-14	Nov-14	Dec-14
<b>C-2</b>	<b>Revenue Requirements - Stand Alone NOL</b>												
	1 Net Plant	-	-	-	-	-	-	-	-	-	-	-	-
	2 Less: ADITL - Def Taxes	-	-	-	-	-	-	-	-	-	-	-	-
	3 Plus: ADITA - NOL (Stand Alone)	-	-	-	-	-	-	-	-	-	-	-	-
	4 Rate Base	-	-	-	-	-	-	-	-	-	-	-	-
	5 Average Rate Base	-	-	-	-	-	-	-	-	-	-	-	-
	6 Current Return on CWIP 4/	605,162	647,659	717,213	801,800	889,367	966,084	1,032,219	1,089,931	1,163,722	1,265,267	1,363,489	1,445,703
	7 Return on Average Rate Base 4/												
	8 After Tax Return on Equity	-	-	-	-	-	-	-	-	-	-	-	-
	9 Income Tax Component	-	-	-	-	-	-	-	-	-	-	-	-
	10 Interest Expense Component	-	-	-	-	-	-	-	-	-	-	-	-
	11 Total Return on Average Rate Base	-	-	-	-	-	-	-	-	-	-	-	-
	12 Operation & Maintenance Expense	-	-	-	-	-	-	-	-	-	-	-	-
	13 Depreciation Expense	-	-	-	-	-	-	-	-	-	-	-	-
	14 Property Tax 5/	-	-	-	-	-	-	-	-	-	-	-	-
	15 Revenue Requirements	605,162	647,659	717,213	801,800	889,367	966,084	1,032,219	1,089,931	1,163,722	1,265,267	1,363,489	1,445,703
<b>D</b>	<b>Stand Alone Taxable Income or Loss (NOL)</b>												
	1 Revenue Requirements	605,162	647,659	717,213	801,800	889,367	966,084	1,032,219	1,089,931	1,163,722	1,265,267	1,363,489	1,445,703
	2 Tax Depreciation	-	-	-	-	-	-	-	-	-	-	-	-
	3 Property Tax	-	-	-	-	-	-	-	-	-	-	-	-
	4 Interest Expense (including on CWIP) 4/	126,511	135,395	149,936	167,619	185,925	201,963	215,789	227,854	243,280	264,508	285,042	302,229
	5 Operation & Maintenance Expense	-	-	-	-	-	-	-	-	-	-	-	-
	6 Total Tax Deduction	126,511	135,395	149,936	167,619	185,925	201,963	215,789	227,854	243,280	264,508	285,042	302,229
	7 Taxable Income (NOL)	478,650	512,264	567,277	634,181	703,442	764,121	816,430	862,077	920,442	1,000,758	1,078,447	1,143,474
	8 Current tax expense	198,018	211,923	234,683	262,361	291,014	316,117	337,757	356,641	380,787	414,014	446,154	473,055
	9 Taxable Income (NOL)	478,650	512,264	567,277	634,181	703,442	764,121	816,430	862,077	920,442	1,000,758	1,078,447	1,143,474
	10 NOL carryforward	-	-	-	-	-	-	-	-	-	-	-	-
	11 Taxable Income after NOL carryforward 6/	478,650	512,264	567,277	634,181	703,442	764,121	816,430	862,077	920,442	1,000,758	1,078,447	1,143,474
	12 Expected stand alone ADITA NOL	-	-	-	-	-	-	-	-	-	-	-	-
<b>E</b>	<b>Summary: Revenue Requirements</b>												
	1 Revenue Requirement: Consolidated	605,162	647,659	717,213	801,800	889,367	966,084	1,032,219	1,089,931	1,163,722	1,265,267	1,363,489	1,445,703
	2 Revenue Requirement: Stand Alone	605,162	647,659	717,213	801,800	889,367	966,084	1,032,219	1,089,931	1,163,722	1,265,267	1,363,489	1,445,703
	3 Revenue Requirement: Rider 7/	605,162	647,659	717,213	801,800	889,367	966,084	1,032,219	1,089,931	1,163,722	1,265,267	1,363,489	1,445,703
	4 Revenue Credit for Basin's Share 8/	-	-	-	-	-	-	-	-	-	-	-	-
	5 BEC 4 Base Rate Revenue Credit 9/	-	-	-	-	-	-	-	-	-	-	-	-
	6 Total Net Revenue Requirements	605,162	647,659	717,213	801,800	889,367	966,084	1,032,219	1,089,931	1,163,722	1,265,267	1,363,489	1,445,703
	7 MN Jurisdictional Allocator 10/	0.82017	0.82017	0.82017	0.82017	0.82017	0.82017	0.82017	0.82017	0.82017	0.82017	0.82017	0.82017
	8 MN Net Jurisdictional Revenue Requirement	496,335	531,191	588,237	657,613	729,432	792,353	846,595	893,929	954,450	1,037,734	1,118,293	1,185,722

4/ Current Return on CWIP starts 10/1/13 (Avg. Monthly CWIP x ROR% / 12). Refer to Exhibit B-3 for CWIP calculations.

Pre-tax rate of return is 12.15% from 2009 MPUC rate case, Docket No. E-015/GR-09-1151. Refer to Exhibit B-4 rate of return components.

Return on Average Rate Base starts 12/31/15 (Avg. Monthly Rate Base x ROR% / 12).

5/ Project assumed to qualify for 100% property tax pollution control exemption per Tax Department.

6/ For in-service year, any positive taxable income from return of CWIP is added to first month of taxable loss to establish the first month taxable income/loss.

7/ Lesser of E1 or E2.

8/ Refer to Exhibit B-2, page 9, row C11.

9/ Refer to Exhibit B-2, page 11, row C14.

10/ Refer to Exhibit B-5, page 2.

**PUBLIC DOCUMENT  
TRADE SECRET DATA EXCISED**

Minnesota Power  
BEC4 Rider  
Revenue Requirements: Boswell 4 Environmental Retrofit

Exhibit B-2  
Page 3 of 11

BEC 4 Environmental Retrofit  
Project ID # 103698  
In Service 12/31/2015

Section	Line	Jan-15	Feb-15	Mar-15	Apr-15	May-15	Jun-15	Jul-15	Aug-15	Sep-15	Oct-15	Nov-15	Dec-15
<b>A</b>	<b>Book Basis of Property</b>												
	0 CWIP (net of contra AFUDC & internal costs) 1/	154,212,688	160,029,535	165,703,952	174,231,737	180,221,170	186,006,730	193,666,693	201,913,716	208,451,126	212,933,005	216,115,324	
	1 Plant in Service (net of contra AFUDC & Internal costs) 1/												234,166,221
	2 Accumulated Depreciation 12/2015 Plant												487,846
	3 Net Plant												233,678,375
	4 Total Depreciation												487,846
	5 Book Depreciation Rate (24 yrs remaining life 2012)												0.42%
<b>B</b>	<b>Tax Basis of Property</b>												
	1 Plant in Service												234,166,221
	2 Accumulated Depreciation												2,551,208
	3 Net Plant												231,615,014
	4 Bonus Depreciation												
	5 Net Depreciable 12/2015 Plant												234,166,221
	6 Tax Depreciation Rate 12/2015 Plant 2/												1.089%
	7 Tax Depreciation 12/2015 Plant												2,551,208
	8 Tax Book Difference												2,063,361
	9 Income Tax Rate 3/	41.37%	41.37%	41.37%	41.37%	41.37%	41.37%	41.37%	41.37%	41.37%	41.37%	41.37%	41.37%
	10 Accumulated Deferred Income Tax Liability												853,613
	11 Deferred Tax Expense debit / (Credit)												853,613
<b>C-1</b>	<b>Revenue Requirements - Consolidated NOL</b>												
	1 Net Plant												233,678,375
	2 Less: ADITL - Def Taxes												(853,613)
	3 Rate Base												232,824,762
	4 Average Rate Base												116,412,381
	5 Current Return on CWIP 4/	1,524,153	1,590,851	1,649,026	1,720,924	1,794,418	1,854,029	1,922,097	2,002,626	2,077,472	2,133,257	2,172,057	1,094,084
	6 Return on Average Rate Base 4/												
	7 After Tax Return on Equity												546,589
	8 Income Tax Component												385,680
	9 Interest Expense Component												246,406
	10 Total Return on Average Rate Base												1,178,675
	11 Operation & Maintenance Expense											770,000	770,000
	12 Depreciation Expense												487,846
	13 Property Tax 5/												
	14 Revenue Requirements	1,524,153	1,590,851	1,649,026	1,720,924	1,794,418	1,854,029	1,922,097	2,002,626	2,077,472	2,133,257	2,172,057	3,530,605

2/ Refer to Exhibit B-6

3/ Minnesota Composite Income Tax Rate.

4/ Current Return on CWIP starts 10/1/13 (Avg. Monthly CWIP x ROR% / 12). Refer to Exhibit B-3 for CWIP calculations.

Pre-tax rate of return is 12.15% from 2009 MPUC rate case, Docket No. E-015/GR-09-1151. Refer to Exhibit B-4 rate of return components.

Return on Average Rate Base starts 12/31/15 (Avg. Monthly Rate Base x ROR% / 12).

5/ Project assumed to qualify for 100% property tax pollution control exemption per Tax Department.

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Minnesota Power  
BEC4 Rider  
Revenue Requirements: Boswell 4 Environmental Retrofit

BEC 4 Environmental Retrofit  
Project ID # 103698  
In Service 12/31/2015

Section	Line	Jan-15	Feb-15	Mar-15	Apr-15	May-15	Jun-15	Jul-15	Aug-15	Sep-15	Oct-15	Nov-15	Dec-15
<b>C-2</b>	<b>Revenue Requirements - Stand Alone NOL</b>												
	1 Net Plant	-	-	-	-	-	-	-	-	-	-	-	233,678,375
	2 Less: ADITL - Def Taxes	-	-	-	-	-	-	-	-	-	-	-	(853,613)
	3 Plus: ADITA - NOL (Stand Alone)	-	-	-	-	-	-	-	-	-	-	-	-
	4 Rate Base	-	-	-	-	-	-	-	-	-	-	-	232,824,762
	5 Average Rate Base	-	-	-	-	-	-	-	-	-	-	-	116,412,381
	6 Current Return on CWIP 4/	1,524,153	1,590,851	1,649,026	1,720,924	1,794,418	1,854,029	1,922,097	2,002,626	2,077,472	2,133,257	2,172,057	1,094,084
	7 Return on Average Rate Base 4/	-	-	-	-	-	-	-	-	-	-	-	-
	8 After Tax Return on Equity	-	-	-	-	-	-	-	-	-	-	-	546,589
	9 Income Tax Component	-	-	-	-	-	-	-	-	-	-	-	385,680
	10 Interest Expense Component	-	-	-	-	-	-	-	-	-	-	-	246,406
	11 Total Return on Average Rate Base	-	-	-	-	-	-	-	-	-	-	-	1,178,675
	12 Operation & Maintenance Expense	-	-	-	-	-	-	-	-	-	-	770,000	770,000
	13 Depreciation Expense	-	-	-	-	-	-	-	-	-	-	-	487,846
	14 Property Tax 5/	-	-	-	-	-	-	-	-	-	-	-	-
	15 Revenue Requirements	1,524,153	1,590,851	1,649,026	1,720,924	1,794,418	1,854,029	1,922,097	2,002,626	2,077,472	2,133,257	2,942,057	3,530,605
<b>D</b>	<b>Stand Alone Taxable Income or Loss (NOL)</b>												
	1 Revenue Requirements	1,524,153	1,590,851	1,649,026	1,720,924	1,794,418	1,854,029	1,922,097	2,002,626	2,077,472	2,133,257	2,942,057	3,530,605
	2 Tax Depreciation	-	-	-	-	-	-	-	-	-	-	-	2,551,208
	3 Property Tax	-	-	-	-	-	-	-	-	-	-	-	-
	4 Interest Expense (including on CWIP) 4/	318,630	332,573	344,735	359,765	375,129	387,591	401,821	418,656	434,303	445,965	454,076	475,128
	5 Operation & Maintenance Expense	-	-	-	-	-	-	-	-	-	-	770,000	770,000
	6 Total Tax Deduction	318,630	332,573	344,735	359,765	375,129	387,591	401,821	418,656	434,303	445,965	1,224,076	3,796,336
	7 Taxable Income (NOL)	1,205,524	1,258,278	1,304,291	1,361,159	1,419,289	1,466,438	1,520,276	1,583,970	1,643,169	1,687,292	1,717,981	(265,730)
	8 Current tax expense	498,725	520,550	539,585	563,112	587,160	606,665	628,938	655,288	679,779	698,033	710,729	(109,933)
	9 Taxable Income (NOL)	1,205,524	1,258,278	1,304,291	1,361,159	1,419,289	1,466,438	1,520,276	1,583,970	1,643,169	1,687,292	1,717,981	(265,730)
	10 NOL carryforward	-	-	-	-	-	-	-	-	-	-	-	-
	11 Taxable Income after NOL carryforward 6/	1,205,524	1,258,278	1,304,291	1,361,159	1,419,289	1,466,438	1,520,276	1,583,970	1,643,169	1,687,292	1,717,981	15,901,936
	12 Expected stand alone ADITA NOL	-	-	-	-	-	-	-	-	-	-	-	-
<b>E</b>	<b>Summary: Revenue Requirements</b>												
	1 Revenue Requirement: Consolidated	1,524,153	1,590,851	1,649,026	1,720,924	1,794,418	1,854,029	1,922,097	2,002,626	2,077,472	2,133,257	2,942,057	3,530,605
	2 Revenue Requirement: Stand Alone	1,524,153	1,590,851	1,649,026	1,720,924	1,794,418	1,854,029	1,922,097	2,002,626	2,077,472	2,133,257	2,942,057	3,530,605
	3 Revenue Requirement: Rider 7/	1,524,153	1,590,851	1,649,026	1,720,924	1,794,418	1,854,029	1,922,097	2,002,626	2,077,472	2,133,257	2,942,057	3,530,605
	4 Revenue Credit for Basin's Share 8/	-	-	-	-	(356,171)	(367,926)	(381,321)	(397,132)	(411,967)	(423,233)	(575,058)	(688,164)
	5 BEC 4 Base Rate Revenue Credit 9/	-	-	-	-	-	-	-	-	-	(191,372)	(191,372)	(191,372)
	6 Total Net Revenue Requirements	1,524,153	1,590,851	1,649,026	1,720,924	1,438,247	1,486,102	1,540,775	1,605,494	1,665,505	1,518,652	2,175,628	2,651,070
	7 MN Jurisdictional Allocator 10/	0.82017	0.82017	0.82017	0.82017	0.82017	0.82017	0.82017	0.82017	0.82017	0.82017	0.82017	0.82017
	8 MN Net Jurisdictional Revenue Requirement	1,250,065	1,304,768	1,352,481	1,411,451	1,179,607	1,218,856	1,263,698	1,316,778	1,365,998	1,245,553	1,784,385	2,174,328

4/ Current Return on CWIP starts 10/1/13 (Avg. Monthly CWIP x ROR% / 12). Refer to Exhibit B-3 for CWIP calculations.  
 Pre-tax rate of return is 12.15% from 2009 MPUC rate case, Docket No. E-015/GR-09-1151. Refer to Exhibit B-4 rate of return components.  
 Return on Average Rate Base starts 12/31/15 (Avg. Monthly Rate Base x ROR% / 12).  
 5/ Project assumed to qualify for 100% property tax pollution control exemption per Tax Department.  
 6/ For in-service year, any positive taxable income from return of CWIP is added to first month of taxable loss to establish the first month taxable income/loss.  
 7/ Lesser of E1 or E2.  
 8/ Refer to Exhibit B-2, page 9, row C11.  
 9/ Refer to Exhibit B-2, page 11, row C14.  
 10/ Refer to Exhibit B-5, page 2.

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TRADE SECRET DATA EXCISED**

Minnesota Power  
BEC4 Rider  
Revenue Requirements: Boswell Ash Pond Phase 1

Exhibit B-2  
Page 5 of 11

Boswell Ash Pond Phase 1  
Project ID # 106072  
In Service 12/31/2016

Section	Line	Jan-14	Feb-14	Mar-14	Apr-14	May-14	Jun-14	Jul-14	Aug-14	Sep-14	Oct-14	Nov-14	Dec-14
<b>A</b>	<b>Book Basis of Property</b>												
	0 CWIP (net of contra AFUDC & internal costs) 1/	15,085	15,085	16,312	16,318	16,318	29,004	41,689	54,375	67,061	79,746	92,432	95,632
	1 Plant in Service (net of contra AFUDC & Internal costs) 1/												
	2 Accumulated Depreciation 12/2016 Plant	-	-	-	-	-	-	-	-	-	-	-	-
	3 Net Plant	-	-	-	-	-	-	-	-	-	-	-	-
	4 Total Depreciation	-	-	-	-	-	-	-	-	-	-	-	-
	5 Book Depreciation Rate (24 yrs remaining life 2012)												
<b>B</b>	<b>Tax Basis of Property</b>												
	1 Plant in Service	-	-	-	-	-	-	-	-	-	-	-	-
	2 Accumulated Depreciation	-	-	-	-	-	-	-	-	-	-	-	-
	3 Net Plant	-	-	-	-	-	-	-	-	-	-	-	-
	4 Bonus Depreciation												
	5 Net Depreciable 12/2016 Plant												
	6 Tax Depreciation Rate 12/2016 Plant 2/												
	7 Total Tax Depreciation (including bonus)	-	-	-	-	-	-	-	-	-	-	-	-
	8 Tax Book Difference	-	-	-	-	-	-	-	-	-	-	-	-
	9 Income Tax Rate 3/	41.37%	41.37%	41.37%	41.37%	41.37%	41.37%	41.37%	41.37%	41.37%	41.37%	41.37%	41.37%
	10 Accumulated Deferred Income Tax Liability	-	-	-	-	-	-	-	-	-	-	-	-
	11 Deferred Tax Expense debit / (Credit)	-	-	-	-	-	-	-	-	-	-	-	-
<b>C-1</b>	<b>Revenue Requirements - Consolidated NOL</b>												
	1 Net Plant	-	-	-	-	-	-	-	-	-	-	-	-
	2 Less: ADITL - Def Taxes	-	-	-	-	-	-	-	-	-	-	-	-
	3 Rate Base	-	-	-	-	-	-	-	-	-	-	-	-
	4 Average Rate Base	-	-	-	-	-	-	-	-	-	-	-	-
	5 Current Return on CWIP 4/	153	153	159	165	165	229	358	486	615	743	872	952
	6 Return on Average Rate Base 4/												
	7 After Tax Return on Equity	-	-	-	-	-	-	-	-	-	-	-	-
	8 Income Tax Component	-	-	-	-	-	-	-	-	-	-	-	-
	9 Interest Expense Component	-	-	-	-	-	-	-	-	-	-	-	-
	10 Total Return on Average Rate Base	-	-	-	-	-	-	-	-	-	-	-	-
	11 Operation & Maintenance Expense 5/	-	-	-	-	-	-	-	-	-	-	-	-
	12 Depreciation Expense	-	-	-	-	-	-	-	-	-	-	-	-
	13 Property Tax 6/	-	-	-	-	-	-	-	-	-	-	-	-
	14 Revenue Requirements	153	153	159	165	165	229	358	486	615	743	872	952

1/ Refer to Exhibit B-3.  
 2/ Refer to Exhibit B-6  
 3/ Minnesota Composite Income Tax Rate.  
 4/ Current Return on CWIP starts 10/1/13 (Avg. Monthly CWIP x ROR% / 12). Refer to Exhibit B-3 for CWIP calculations.  
 Pre-tax rate of return is 12.15% from 2009 MPUC rate case, Docket No. E-015/GR-09-1151. Refer to Exhibit B-4.  
 Return on Average Rate Base starts 12/31/16 (Avg. Monthly Rate Base x ROR% / 12).  
 5/ All O&M for Ash Pond projects included in Phase 1 project.  
 6/ Project assumed to qualify for 100% property tax pollution control exemption per Tax Department.

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Minnesota Power  
BEC4 Rider  
Revenue Requirements: Boswell Ash Pond Phase 1

Exhibit B-2  
Page 6 of 11

Boswell Ash Pond Phase 1  
Project ID # 106072  
In Service 12/31/2016

Section	Line	Jan-14	Feb-14	Mar-14	Apr-14	May-14	Jun-14	Jul-14	Aug-14	Sep-14	Oct-14	Nov-14	Dec-14
<b>C-2</b>	<b>Revenue Requirements - Stand Alone NOL</b>												
	1 Net Plant	-	-	-	-	-	-	-	-	-	-	-	-
	2 Less: ADITL - Def Taxes	-	-	-	-	-	-	-	-	-	-	-	-
	3 Rate Base	-	-	-	-	-	-	-	-	-	-	-	-
	4 Average Rate Base	-	-	-	-	-	-	-	-	-	-	-	-
	5 Current Return on CWIP 4/	153	153	159	165	165	229	358	486	615	743	872	952
	6 Return on Average Rate Base 4/	-	-	-	-	-	-	-	-	-	-	-	-
	7 After Tax Return on Equity	-	-	-	-	-	-	-	-	-	-	-	-
	8 Income Tax Component	-	-	-	-	-	-	-	-	-	-	-	-
	9 Interest Expense Component	-	-	-	-	-	-	-	-	-	-	-	-
	10 Total Return on Average Rate Base	-	-	-	-	-	-	-	-	-	-	-	-
	11 Operation & Maintenance Expense 5/	-	-	-	-	-	-	-	-	-	-	-	-
	12 Depreciation Expense	-	-	-	-	-	-	-	-	-	-	-	-
	13 Property Tax 6/	-	-	-	-	-	-	-	-	-	-	-	-
	14 Revenue Requirements	153	153	159	165	165	229	358	486	615	743	872	952
<b>D</b>	<b>Stand Alone Taxable Income or Loss (NOL)</b>												
	1 Revenue Requirements	153	153	159	165	165	229	358	486	615	743	872	952
	2 Tax Depreciation	-	-	-	-	-	-	-	-	-	-	-	-
	3 Property Tax	-	-	-	-	-	-	-	-	-	-	-	-
	4 Interest Expense (including on CWIP) 4/	32	32	33	35	35	48	75	102	129	155	182	199
	5 Operation & Maintenance Expense	-	-	-	-	-	-	-	-	-	-	-	-
	6 Total Tax Deduction	32	32	33	35	35	48	75	102	129	155	182	199
	7 Taxable Income (NOL)	121	121	126	131	131	181	283	385	486	588	689	753
	8 Current tax expense	50	50	52	54	54	75	117	159	201	243	285	312
	9 Taxable Income (NOL)	121	121	126	131	131	181	283	385	486	588	689	753
	10 NOL carryforward	-	-	-	-	-	-	-	-	-	-	-	-
	11 Taxable Income after NOL carryforward 7/	121	121	126	131	131	181	283	385	486	588	689	753
	12 Expected stand alone ADITA NOL	-	-	-	-	-	-	-	-	-	-	-	-
	13 Annual Fed Production Tax Credit (\$)												
	14 Utilized PTC 8/												
	15 ADITA for PTC												
<b>E</b>	<b>Summary: Revenue Requirements</b>												
	1 Revenue Requirement: Consolidated	153	153	159	165	165	229	358	486	615	743	872	952
	2 Revenue Requirement: Stand Alone	153	153	159	165	165	229	358	486	615	743	872	952
	3 Revenue Requirement: Rider 7/	153	153	159	165	165	229	358	486	615	743	872	952
	4 Revenue Credit for Basin's Share 8/	-	-	-	-	-	-	-	-	-	-	-	-
	5 Total Net Revenue Requirements	153	153	159	165	165	229	358	486	615	743	872	952
	6 MN Jurisdictional Allocator 9/	0.82017	0.82017	0.82017	0.82017	0.82017	0.82017	0.82017	0.82017	0.82017	0.82017	0.82017	0.82017
	7 MN Net Jurisdictional Revenue Requirement	125	125	130	135	136	188	294	399	504	610	715	781

4/ Current Return on CWIP starts 10/1/13 (Avg. Monthly CWIP x ROR% / 12). Refer to Exhibit B-3 for CWIP calculations.

Pre-tax rate of return is 12.15% from 2009 MPUC rate case, Docket No. E-015/GR-09-1151. Refer to Exhibit B-4.

Return on Average Rate Base starts 12/31/16 (Avg. Monthly Rate Base x ROR% / 12).

5/ All O&M for Ash Pond projects included in Phase 1 project.

6/ Project assumed to qualify for 100% property tax pollution control exemption per Tax Department.

7/ Lesser of E1 or E2.

8/ Refer to Exhibit B-2, page 10, row C11.

9/ Refer to Exhibit B-5, line 11.

PUBLIC DOCUMENT  
TRADE SECRET DATA EXCISED

Minnesota Power  
BEC4 Rider  
Revenue Requirements: Boswell Ash Pond Phase 1

Boswell Ash Pond Phase 1  
Project ID # 106072  
In Service 12/31/2016

Section	Line	Jan-15	Feb-15	Mar-15	Apr-15	May-15	Jun-15	Jul-15	Aug-15	Sep-15	Oct-15	Nov-15	Dec-15
<b>A</b>	<b>Book Basis of Property</b>												
	0 CWIP (net of contra AFUDC & internal costs) 1/	132,182	204,404	312,057	526,831	939,365	1,298,338	1,999,272	2,096,213	2,189,035	2,261,257	2,325,238	2,362,033
	1 Plant in Service (net of contra AFUDC & Internal costs) 1/												
	2 Accumulated Depreciation 12/2016 Plant	-	-	-	-	-	-	-	-	-	-	-	-
	3 Net Plant	-	-	-	-	-	-	-	-	-	-	-	-
	4 Total Depreciation	-	-	-	-	-	-	-	-	-	-	-	-
	5 Book Depreciation Rate (24 yrs remaining life 2012)												
<b>B</b>	<b>Tax Basis of Property</b>												
	1 Plant in Service	-	-	-	-	-	-	-	-	-	-	-	-
	2 Accumulated Depreciation	-	-	-	-	-	-	-	-	-	-	-	-
	3 Net Plant	-	-	-	-	-	-	-	-	-	-	-	-
	4 Bonus Depreciation												
	5 Net Depreciable 12/2016 Plant												
	6 Tax Depreciation Rate 12/2016 Plant 2/												
	7 Total Tax Depreciation (including bonus)	-	-	-	-	-	-	-	-	-	-	-	-
	8 Tax Book Difference	-	-	-	-	-	-	-	-	-	-	-	-
	9 Income Tax Rate 3/	41.37%	41.37%	41.37%	41.37%	41.37%	41.37%	41.37%	41.37%	41.37%	41.37%	41.37%	41.37%
	10 Accumulated Deferred Income Tax Liability	-	-	-	-	-	-	-	-	-	-	-	-
	11 Deferred Tax Expense debit / (Credit)	-	-	-	-	-	-	-	-	-	-	-	-
<b>C-1</b>	<b>Revenue Requirements - Consolidated NOL</b>												
	1 Net Plant	-	-	-	-	-	-	-	-	-	-	-	-
	2 Less: ADITL - Def Taxes	-	-	-	-	-	-	-	-	-	-	-	-
	3 Rate Base	-	-	-	-	-	-	-	-	-	-	-	-
	4 Average Rate Base	-	-	-	-	-	-	-	-	-	-	-	-
	5 Current Return on CWIP 4/	1,153	1,704	2,615	4,247	7,423	11,328	16,694	20,733	21,694	22,530	23,219	23,729
	6 Return on Average Rate Base 4/												
	7 After Tax Return on Equity	-	-	-	-	-	-	-	-	-	-	-	-
	8 Income Tax Component	-	-	-	-	-	-	-	-	-	-	-	-
	9 Interest Expense Component	-	-	-	-	-	-	-	-	-	-	-	-
	10 Total Return on Average Rate Base	-	-	-	-	-	-	-	-	-	-	-	-
	11 Operation & Maintenance Expense 5/	-	-	-	-	-	-	-	-	-	-	40,000	40,000
	12 Depreciation Expense	-	-	-	-	-	-	-	-	-	-	-	-
	13 Property Tax 6/	-	-	-	-	-	-	-	-	-	-	-	-
	14 Revenue Requirements	1,153	1,704	2,615	4,247	7,423	11,328	16,694	20,733	21,694	22,530	63,219	63,729

1/ Refer to Exhibit B-3.

2/ Refer to Exhibit B-6

3/ Minnesota Composite Income Tax Rate.

4/ Current Return on CWIP starts 10/1/13 (Avg. Monthly CWIP x ROR% / 12). Refer to Exhibit B-3 for CWIP calculations.

Pre-tax rate of return is 12.15% from 2009 MPUC rate case, Docket No. E-015/GR-09-1151. Refer to Exhibit B-4.

Return on Average Rate Base starts 12/31/16 (Avg. Monthly Rate Base x ROR% / 12).

5/ All O&M for Ash Pond projects included in Phase 1 project.

6/ Project assumed to qualify for 100% property tax pollution control exemption per Tax Department.

**PUBLIC DOCUMENT**  
**TRADE SECRET DATA EXCISED**

Minnesota Power  
BEC4 Rider  
Revenue Requirements: Boswell Ash Pond Phase 1

Boswell Ash Pond Phase 1  
Project ID # 106072  
In Service 12/31/2016

Section	Line	Jan-15	Feb-15	Mar-15	Apr-15	May-15	Jun-15	Jul-15	Aug-15	Sep-15	Oct-15	Nov-15	Dec-15
<b>C-2</b>	<b>Revenue Requirements - Stand Alone NOL</b>												
	1 Net Plant	-	-	-	-	-	-	-	-	-	-	-	-
	2 Less: ADITL - Def Taxes	-	-	-	-	-	-	-	-	-	-	-	-
	3 Rate Base	-	-	-	-	-	-	-	-	-	-	-	-
	4 Average Rate Base	-	-	-	-	-	-	-	-	-	-	-	-
	5 Current Return on CWIP 4/	1,153	1,704	2,615	4,247	7,423	11,328	16,694	20,733	21,694	22,530	23,219	23,729
	6 Return on Average Rate Base 4/	-	-	-	-	-	-	-	-	-	-	-	-
	7 After Tax Return on Equity	-	-	-	-	-	-	-	-	-	-	-	-
	8 Income Tax Component	-	-	-	-	-	-	-	-	-	-	-	-
	9 Interest Expense Component	-	-	-	-	-	-	-	-	-	-	-	-
	10 Total Return on Average Rate Base	-	-	-	-	-	-	-	-	-	-	-	-
	11 Operation & Maintenance Expense 5/	-	-	-	-	-	-	-	-	-	-	40,000	40,000
	12 Depreciation Expense	-	-	-	-	-	-	-	-	-	-	-	-
	13 Property Tax 6/	-	-	-	-	-	-	-	-	-	-	-	-
	14 Revenue Requirements	1,153	1,704	2,615	4,247	7,423	11,328	16,694	20,733	21,694	22,530	63,219	63,729
<b>D</b>	<b>Stand Alone Taxable Income or Loss (NOL)</b>												
	1 Revenue Requirements	1,153	1,704	2,615	4,247	7,423	11,328	16,694	20,733	21,694	22,530	63,219	63,729
	2 Tax Depreciation	-	-	-	-	-	-	-	-	-	-	-	-
	3 Property Tax	-	-	-	-	-	-	-	-	-	-	-	-
	4 Interest Expense (including on CWIP) 4/	241	356	547	888	1,552	2,368	3,490	4,334	4,535	4,710	4,854	4,961
	5 Operation & Maintenance Expense	-	-	-	-	-	-	-	-	-	-	40,000	40,000
	6 Total Tax Deduction	241	356	547	888	1,552	2,368	3,490	4,334	4,535	4,710	44,854	44,961
	7 Taxable Income (NOL)	912	1,348	2,068	3,359	5,871	8,960	13,204	16,399	17,159	17,820	18,365	18,769
	8 Current tax expense	377	558	856	1,390	2,429	3,707	5,463	6,784	7,099	7,372	7,598	7,765
	9 Taxable Income (NOL)	912	1,348	2,068	3,359	5,871	8,960	13,204	16,399	17,159	17,820	18,365	18,769
	10 NOL carryforward	-	-	-	-	-	-	-	-	-	-	-	-
	11 Taxable Income after NOL carryforward 7/	912	1,348	2,068	3,359	5,871	8,960	13,204	16,399	17,159	17,820	18,365	18,769
	12 Expected stand alone ADITA NOL	-	-	-	-	-	-	-	-	-	-	-	-
	13 Annual Fed Production Tax Credit (\$)												
	14 Utilized PTC 8/												
	15 ADITA for PTC												
<b>E</b>	<b>Summary: Revenue Requirements</b>												
	1 Revenue Requirement: Consolidated	1,153	1,704	2,615	4,247	7,423	11,328	16,694	20,733	21,694	22,530	63,219	63,729
	2 Revenue Requirement: Stand Alone	1,153	1,704	2,615	4,247	7,423	11,328	16,694	20,733	21,694	22,530	63,219	63,729
	3 Revenue Requirement: Rider 7/	1,153	1,704	2,615	4,247	7,423	11,328	16,694	20,733	21,694	22,530	63,219	63,729
	4 Revenue Credit for Basin's Share 8/	-	-	-	-	(1,471)	(2,230)	(3,273)	(4,058)	(4,247)	(4,412)	(12,024)	(12,125)
	5 Total Net Revenue Requirements	1,153	1,704	2,615	4,247	5,952	9,098	13,421	16,675	17,447	18,118	51,195	51,604
	6 MN Jurisdictional Allocator 9/	0.82017	0.82017	0.82017	0.82017	0.82017	0.82017	0.82017	0.82017	0.82017	0.82017	0.82017	0.82017
	7 MN Net Jurisdictional Revenue Requirement	946	1,398	2,144	3,483	4,881	7,462	11,008	13,676	14,310	14,860	41,989	42,324

4/ Current Return on CWIP starts 10/1/13 (Avg. Monthly CWIP x ROR% / 12). Refer to Exhibit B-3 for CWIP calculations.

Pre-tax rate of return is 12.15% from 2009 MPUC rate case, Docket No. E-015/GR-09-1151. Refer to Exhibit B-4.

Return on Average Rate Base starts 12/31/16 (Avg. Monthly Rate Base x ROR% / 12).

5/ All O&M for Ash Pond projects included in Phase 1 project.

6/ Project assumed to qualify for 100% property tax pollution control exemption per Tax Department.

7/ Lesser of E1 or E2.

8/ Refer to Exhibit B-2, page 10, row C11.

9/ Refer to Exhibit B-5, line 11.

PUBLIC DOCUMENT  
TRADE SECRET DATA EXCISED

BEC 4 Environmental Retrofit: Basin  
Project ID # 103698  
In Service 12/31/2015

Minnesota Power  
BEC 4 Rider  
Basin's Revenue Requirements: Boswell 4 Environmental Retrofit

Exhibit B-2  
Page 9 of 11

Section	Line	Jan-15	Feb-15	Mar-15	Apr-15	May-15	Jun-15	Jul-15	Aug-15	Sep-15	Oct-15	Nov-15	Dec-15
<b>A</b>	<b>Book Basis of Property</b>												
	0 CWIP 1/	158,138,334	164,051,625	169,822,486	178,446,714	184,539,021	190,427,455	198,190,291	206,540,188	213,309,063	218,022,407	221,371,896	
	1 Plant in Service												239,589,963
	2 Accumulated Depreciation 12/2015 Plant	-	-	-	-	-	-	-	-	-	-	-	499,146
	3 Net Plant	-	-	-	-	-	-	-	-	-	-	-	239,090,818
	4 Total Depreciation	-	-	-	-	-	-	-	-	-	-	-	499,146
	5 Book Depreciation Rate (24 yrs remaining life 2012)												0.42%
<b>B</b>	<b>Tax Basis of Property</b>												
	1 Plant in Service	-	-	-	-	-	-	-	-	-	-	-	239,589,963
	2 Accumulated Depreciation	-	-	-	-	-	-	-	-	-	-	-	2,610,298
	3 Net Plant	-	-	-	-	-	-	-	-	-	-	-	236,979,665
	4 Bonus Depreciation												
	5 Net Depreciable 12/2015 Plant												239,589,963
	6 Tax Depreciation Rate 12/2015 Plant 2/												1.089%
	7 Tax Depreciation 12/2015 Plant	-	-	-	-	-	-	-	-	-	-	-	2,610,298
	8 Tax Book Difference	-	-	-	-	-	-	-	-	-	-	-	2,111,153
	9 Income Tax Rate 3/	41.37%	41.37%	41.37%	41.37%	41.37%	41.37%	41.37%	41.37%	41.37%	41.37%	41.37%	41.37%
	10 Accumulated Deferred Income Tax Liability	-	-	-	-	-	-	-	-	-	-	-	873,384
	11 Deferred Tax Expense debit / (Credit)	-	-	-	-	-	-	-	-	-	-	-	873,384
<b>C</b>	<b>Revenue Requirements - Basin 4/</b>												
	1 Net Plant	-	-	-	-	-	-	-	-	-	-	-	239,090,818
	2 Less: ADITL - Def Taxes	-	-	-	-	-	-	-	-	-	-	-	(873,384)
	3 Rate Base	-	-	-	-	-	-	-	-	-	-	-	238,217,434
	4 Average Rate Base	-	-	-	-	-	-	-	-	-	-	-	119,108,717
	5 Current Return on CWIP	-	-	-	-	356,171	367,926	381,321	397,132	411,967	423,233	431,145	217,216
	6 Return on Average Rate Base	-	-	-	-	-	-	-	-	-	-	-	233,745
	7 Operation & Maintenance Expense	-	-	-	-	-	-	-	-	-	-	143,913	143,913
	8 Depreciation Expense	-	-	-	-	-	-	-	-	-	-	-	93,290
	9 Property Tax 5/	-	-	-	-	-	-	-	-	-	-	-	-
	10 Revenue Requirements - Basin	-	-	-	-	356,171	367,926	381,321	397,132	411,967	423,233	575,058	688,164
	11 Revenue Credit for Basin's Share	-	-	-	-	(356,171)	(367,926)	(381,321)	(397,132)	(411,967)	(423,233)	(575,058)	(688,164)

1/ Refer to Exhibit B-3, page 29-31.

2/ Refer to Exhibit B-6.

3/ Minnesota Composite Income Tax Rate.

**TRADE SECRET DATA HAS BEEN EXCISED**

5/ Project assumed to qualify for 100% property tax pollution control exemption per Tax Department.



**PUBLIC DOCUMENT  
TRADE SECRET DATA EXCISED**

Minnesota Power  
BEC4 Rider  
Basin Revenue Requirements: Boswell Ash Pond Phase 1

Boswell Ash Pond Phase 1: Basin  
Project ID # 106072  
In Service 12/31/2016

Section	Line	Jan-15	Feb-15	Mar-15	Apr-15	May-15	Jun-15	Jul-15	Aug-15	Sep-15	Oct-15	Nov-15	Dec-15
<b>A</b>	<b>Book Basis of Property</b>												
	0 CWIP 1/	144,077	217,584	326,524	542,583	956,403	1,316,662	2,018,882	2,117,109	2,211,217	2,284,724	2,349,992	2,388,072
	1 Plant in Service												
	2 Accumulated Depreciation 12/2016 Plant	-	-	-	-	-	-	-	-	-	-	-	-
	3 Net Plant	-	-	-	-	-	-	-	-	-	-	-	-
	4 Total Depreciation	-	-	-	-	-	-	-	-	-	-	-	-
	5 Book Depreciation Rate (24 yrs remaining life 2012)												
<b>B</b>	<b>Tax Basis of Property</b>												
	1 Plant in Service	-	-	-	-	-	-	-	-	-	-	-	-
	2 Accumulated Depreciation	-	-	-	-	-	-	-	-	-	-	-	-
	3 Net Plant	-	-	-	-	-	-	-	-	-	-	-	-
	4 Bonus Depreciation												
	5 Net Depreciable 12/2016 Plant												
	6 Tax Depreciation Rate 12/2016 Plant 2/												
	7 Total Tax Depreciation (including bonus)	-	-	-	-	-	-	-	-	-	-	-	-
	8 Tax Book Difference	-	-	-	-	-	-	-	-	-	-	-	-
	9 Income Tax Rate 3/	41.37%	41.37%	41.37%	41.37%	41.37%	41.37%	41.37%	41.37%	41.37%	41.37%	41.37%	41.37%
	10 Accumulated Deferred Income Tax Liability	-	-	-	-	-	-	-	-	-	-	-	-
	11 Deferred Tax Expense debit / (Credit)	-	-	-	-	-	-	-	-	-	-	-	-
	12 ADITA for NOL Carryforward	-	-	-	-	-	-	-	-	-	-	-	-
	13 Carryforward utilized												
	14 ADITA - NOL	-	-	-	-	-	-	-	-	-	-	-	-
<b>C</b>	<b>Revenue Requirements - Basin 4/</b>												
	1 Net Plant	-	-	-	-	-	-	-	-	-	-	-	-
	2 Less: ADITL - Def Taxes	-	-	-	-	-	-	-	-	-	-	-	-
	3 Rate Base	-	-	-	-	-	-	-	-	-	-	-	-
	4 Average Rate Base	-	-	-	-	-	-	-	-	-	-	-	-
	5 Current Return on CWIP	-	-	-	-	1,471	2,230	3,273	4,058	4,247	4,412	4,548	4,649
	6 Return on Average Rate Base	-	-	-	-	-	-	-	-	-	-	-	-
	7 Operation & Maintenance Expense	-	-	-	-	-	-	-	-	-	-	7,476	7,476
	8 Depreciation Expense	-	-	-	-	-	-	-	-	-	-	-	-
	9 Property Tax 5/	-	-	-	-	-	-	-	-	-	-	-	-
	10 Revenue Requirements - Basin	-	-	-	-	1,471	2,230	3,273	4,058	4,247	4,412	12,024	12,125
	11 Revenue Credit for Basin's Share	-	-	-	-	(1,471)	(2,230)	(3,273)	(4,058)	(4,247)	(4,412)	(12,024)	(12,125)

1/ Refer to Exhibit B-3, pages 29-31.  
2/ Refer to Exhibit B-6.  
3/ Minnesota Composite Income Tax Rate.

**TRADE SECRET DATA HAS BEEN EXCISED**

5/ Project assumed to qualify for 100% property tax pollution control exemption per Tax Department.

Minnesota Power  
BEC 4 Rider  
Revenue Requirement Credit for Revenue Requirements in Base Rates Associated with Plant to be Retired

BEC 4 Environmental Retrofit: Base Rate Revenue Credit

Expected Property Retirement: October 2015

Section	Line	2009	Base Rates 2010
<b>A</b>	<b>Book Basis of Property to be Retired</b>		
	1 Plant in Service	38,547,474	38,446,916
	2 Total Accumulated Depreciation	21,988,517	22,424,632
	3 Net Plant	16,558,958	16,022,285
	4 Depreciation Expense		436,115
<b>B</b>	<b>Tax Basis of Property of to be Retired</b>		
	1 Plant in Service	38,547,474	38,446,916
	2 Accumulated Depreciation	37,285,386	37,326,552
	3 Net Plant	1,262,088	1,120,364
	4 Total Tax Depreciation		41,166
	5 Tax Book Difference	15,296,869	14,901,920
	6 Income Tax Rate 1/	41.37%	41.37%
	7 Accumulated Deferred Income Tax Liability	6,328,315	6,164,924
	8 Deferred Tax Expense debit / (Credit)		(163,390)
<b>C</b>	<b>Revenue Requirements in Base Rates</b>		
	1 Net Plant	16,558,958	16,022,285
	2 Less: ADITL - Def Taxes	(6,328,315)	(6,164,924)
	3 Rate Base	10,230,643	9,857,360
	4 Average Rate Base		10,044,001
	5 Return on Average Rate Base 2/		
	6 After Tax Return on Equity		565,913
	7 Income Tax Component		399,315
	8 Interest Expense Component		255,118
	9 Total Return on Average Rate Base		1,220,346
	10 Operation & Maintenance Expense Associated with Plant to be Retired		640,000
	11 Depreciation Expense		436,115
	12 Property Tax 3/		-
	13 Revenue Requirements in Base Rates Associated with Property to be Retired		2,296,461
	14 Monthly Credit for Revenue Requirements in Base Rates		(191,372)
	15 MN Jurisdictional Allocator 4/		0.82017
	16 Monthly MN jurisdictional Credit for Revenue Requirements in Base Rates 5/		(156,957)

1/ Minnesota Composite Income Tax Rate.

2/ Pre-tax rate of return is 12.15% from 2009 MPUC rate case, Docket No. E-015/GR-09-1151. Refer to Exhibit B-4 rate of return components.

3/ Property qualified for property tax pollution control exemption per Tax Department.

4/ Refer to Exhibit B-5, line 11.

5/ This monthly revenue requirement credit is needed beginning with when the property is retired (expected 10/2015) until the retirement and BEC 4 Project are incorporated into base rates in a subsequent rate case.









PUBLIC DOCUMENT  
TRADE SECRET DATA EXCISED

Minnesota Power  
BEC 4 Rider  
Plant Additions, AFUDC and Return on CWIP

Exhibit B-3  
Page 5 of 31

	Total Project	Feb-18	Mar-18	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	Apr-19
BEC 4 Environmental Retrofit In Service 12/31/2015	<b>234,166,221</b>															
BOM																
CapEx	235,985,298															
Less Internal Cost	-5,020,297															
AFUDC	3,604,666															
Less AFUDC on Internal Cost	-403,445															
EOM																
Return on CWIP																
After Tax Return on Equity																
Income Tax Component																
Interest Expense Component																
Total Return on CWIP																
BEC 4 Storm Water In Service 9/30/2016	<b>5,372,401</b>															
BOM																
CapEx	5,372,401															
Less Internal Cost	0															
AFUDC	0															
Less AFUDC on Internal Cost	0															
EOM																
Return on CWIP																
After Tax Return on Equity																
Income Tax Component																
Interest Expense Component																
Total Return on CWIP																
BEC 4 Ash Phase 1 In Service 12/31/2016	<b>5,031,629</b>															
BOM																
CapEx	5,073,016															
Less Internal Cost	-41,470															
AFUDC	84															
Less AFUDC on Internal Cost	0															
EOM																
Return on CWIP																
After Tax Return on Equity																
Income Tax Component																
Interest Expense Component																
Total Return on CWIP																
BEC 4 Ash Phase 2 In Service 12/31/2019	<b>823,997</b>															
BOM		53,666	107,333	160,999	214,666	268,332	321,998	375,665	429,331	482,998	536,664	590,330	643,997	658,997	673,997	688,997
CapEx	854,859	54,952	54,952	54,952	54,952	54,952	54,952	54,952	54,952	54,952	54,952	54,952	16,286	16,286	16,286	16,286
Less Internal Cost	-30,862	-1,286	-1,286	-1,286	-1,286	-1,286	-1,286	-1,286	-1,286	-1,286	-1,286	-1,286	-1,286	-1,286	-1,286	-1,286
AFUDC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Less AFUDC on Internal Cost	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EOM		107,333	160,999	214,666	268,332	321,998	375,665	429,331	482,998	536,664	590,330	643,997	658,997	673,997	688,997	703,997
Return on CWIP																
After Tax Return on Equity		378	630	882	1,134	1,386	1,638	1,890	2,142	2,394	2,646	2,898	3,059	3,129	3,200	3,270
Income Tax Component		267	444	622	800	978	1,156	1,333	1,511	1,689	1,867	2,045	2,158	2,208	2,258	2,308
Interest Expense Component		170	284	398	511	625	738	852	966	1,079	1,193	1,306	1,379	1,411	1,443	1,474
Total Return on CWIP		815	1,358	1,902	2,445	2,989	3,532	4,075	4,619	5,162	5,705	6,249	6,596	6,748	6,900	7,052

Minnesota Power  
BEC 4 Rider  
Plant Additions, AFUDC and Return on CWIP

	Total Project	May-19	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	Jul-20	Aug-20
BEC 4 Environmental Retrofit	<b>234,166,221</b>																
In Service 12/31/2015																	
BOM																	
CapEx	235,985,298																
Less Internal Cost	-5,020,297																
AFUDC	3,604,666																
Less AFUDC on Internal Cost	-403,445																
EOM																	
Return on CWIP																	
After Tax Return on Equity																	
Income Tax Component																	
Interest Expense Component																	
Total Return on CWIP																	
BEC 4 Storm Water	<b>5,372,401</b>																
In Service 9/30/2016																	
BOM																	
CapEx	5,372,401																
Less Internal Cost	0																
AFUDC	0																
Less AFUDC on Internal Cost	0																
EOM																	
Return on CWIP																	
After Tax Return on Equity																	
Income Tax Component																	
Interest Expense Component																	
Total Return on CWIP																	
BEC 4 Ash Phase 1	<b>5,031,629</b>																
In Service 12/31/2016																	
BOM																	
CapEx	5,073,016																
Less Internal Cost	-41,470																
AFUDC	84																
Less AFUDC on Internal Cost	0																
EOM																	
Return on CWIP																	
After Tax Return on Equity																	
Income Tax Component																	
Interest Expense Component																	
Total Return on CWIP																	
BEC 4 Ash Phase 2	<b>823,997</b>																
In Service 12/31/2019																	
BOM		703,997	718,997	733,997	748,997	763,997	778,997	793,997	808,997								
CapEx	854,859	16,286	16,286	16,286	16,286	16,286	16,286	16,286	16,286	16,286							
Less Internal Cost	-30,862	-1,286	-1,286	-1,286	-1,286	-1,286	-1,286	-1,286	-1,286	-1,286							
AFUDC	0	0	0	0	0	0	0	0	0	0							
Less AFUDC on Internal Cost	0	0	0	0	0	0	0	0	0	0							
EOM		718,997	733,997	748,997	763,997	778,997	793,997	808,997	823,997								
Return on CWIP																	
After Tax Return on Equity		3,341	3,411	3,482	3,552	3,622	3,693	3,763	3,833	3,903							
Income Tax Component		2,357	2,407	2,457	2,506	2,556	2,606	2,655	2,704	2,754							
Interest Expense Component		1,506	1,538	1,570	1,601	1,633	1,665	1,697	1,729	1,761							
Total Return on CWIP		7,204	7,356	7,508	7,660	7,811	7,963	8,115	8,267	8,419							



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Minnesota Power  
BEC 4 Rider  
Plant Additions, AFUDC and Return on CWIP

Exhibit B-3  
Page 7 of 31

	Total Project	to date Jan-13	Feb-13	Mar-13	Apr-13	May-13	Jun-13	Jul-13	Aug-13	Sep-13	Oct-13	Nov-13	Dec-13	Jan-14	Feb-14	Mar-14	Apr-14
<b>BEC 4 Ash Phase 3</b>	<b>1,378,067</b>																
In Service 12/31/2023																	
BOM		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CapEx	1,380,554																
Less Internal Cost	-2,487																
AFUDC	0																
Less AFUDC on Internal Cost	0																
EOM		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Return on CWIP																	
After Tax Return on Equity																	
Income Tax Component																	
Interest Expense Component																	
Total Return on CWIP																	
<b>BEC 4 Ash Phase 4</b>	<b>3,228,882</b>																
In Service 12/31/2029																	
BOM		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CapEx	3,234,710																
Less Internal Cost	-5,828																
AFUDC	0																
Less AFUDC on Internal Cost	0																
EOM		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Return on CWIP																	
After Tax Return on Equity																	
Income Tax Component																	
Interest Expense Component																	
Total Return on CWIP																	
<b>BEC 4 Ash Phase 5</b>	<b>3,941,852</b>																
In Service 12/31/2035																	
BOM		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CapEx	3,948,967																
Less Internal Cost	-7,115																
AFUDC	0																
Less AFUDC on Internal Cost	0																
EOM		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Return on CWIP																	
After Tax Return on Equity																	
Income Tax Component																	
Interest Expense Component																	
Total Return on CWIP																	
<b>Total</b>	<b>253,943,048</b>																
BOM		0	21,039,943	23,516,640	26,181,110	30,213,705	33,332,452	34,498,171	36,725,554	40,701,839	44,263,914	48,736,841	53,347,000	58,914,810	60,653,451	67,309,385	74,393,761
CapEx	255,849,805	20,189,572	2,439,572	2,594,454	3,961,992	3,061,934	1,055,311	2,124,604	3,867,591	3,425,444	4,562,365	4,723,148	5,760,918	1,807,357	6,752,543	7,197,255	9,743,583
Less Internal Cost	-5,108,060	-923,580	-86,728	-67,342	-84,473	-117,140	-79,762	-95,645	-105,757	-97,437	-89,439	-112,989	-193,108	-68,716	-96,609	-112,879	-118,158
AFUDC	3,604,750	1,890,832	130,909	144,921	163,139	182,681	199,839	208,671	225,361	245,648	14,567	15,400	16,892	17,454	18,124	18,972	19,907
Less AFUDC on Internal Cost	-403,445	-116,881	-7,056	-7,563	-8,063	-8,727	-9,669	-10,247	-10,910	-11,580	-14,567	-15,400	-16,892	-17,454	-18,124	-18,972	-19,907
EOM		21,039,943	23,516,640	26,181,110	30,213,705	33,332,452	34,498,171	36,725,554	40,701,839	44,263,914	48,736,841	53,347,000	58,914,810	60,653,451	67,309,385	74,393,761	84,019,187
Return on CWIP																	
After Tax Return on Equity	17,557,522	0	0	0	0	0	0	0	0	0	218,332	239,656	263,551	280,703	300,411	332,668	371,897
Income Tax Component	12,388,804	0	0	0	0	0	0	0	0	0	154,058	169,104	185,964	198,068	211,974	234,735	262,415
Interest Expense Component	7,915,054	0	0	0	0	0	0	0	0	0	98,426	108,039	118,810	126,543	135,427	149,969	167,654
Total Return on CWIP	37,861,380	0	0	0	0	0	0	0	0	0	470,816	516,799	568,325	605,314	647,812	717,372	801,966

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Minnesota Power  
BEC 4 Rider  
Plant Additions, AFUDC and Return on CWIP

	Total Project	May-14	Jun-14	Jul-14	Aug-14	Sep-14	Oct-14	Nov-14	Dec-14	Jan-15	Feb-15	Mar-15	Apr-15	May-15	Jun-15	Jul-15
<b>BEC 4 Ash Phase 3</b>	<b>1,378,067</b>															
In Service 12/31/2023																
BOM		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CapEx	1,380,554															
Less Internal Cost	-2,487															
AFUDC	0															
Less AFUDC on Internal Cost	0															
EOM		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Return on CWIP																
After Tax Return on Equity																
Income Tax Component																
Interest Expense Component																
Total Return on CWIP																
<b>BEC 4 Ash Phase 4</b>	<b>3,228,882</b>															
In Service 12/31/2029																
BOM		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CapEx	3,234,710															
Less Internal Cost	-5,828															
AFUDC	0															
Less AFUDC on Internal Cost	0															
EOM		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Return on CWIP																
After Tax Return on Equity																
Income Tax Component																
Interest Expense Component																
Total Return on CWIP																
<b>BEC 4 Ash Phase 5</b>	<b>3,941,852</b>															
In Service 12/31/2035																
BOM		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CapEx	3,948,967															
Less Internal Cost	-7,115															
AFUDC	0															
Less AFUDC on Internal Cost	0															
EOM		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Return on CWIP																
After Tax Return on Equity																
Income Tax Component																
Interest Expense Component																
Total Return on CWIP																
<b>Total</b>	<b>253,943,048</b>															
BOM		84,019,187	91,690,914	99,185,813	104,779,955	110,611,126	119,381,370	130,694,623	138,808,812	146,950,210	154,344,870	160,233,939	166,016,010	174,758,568	181,160,534	187,305,068
CapEx	255,849,805	7,846,569	7,615,893	5,715,110	5,945,755	8,867,973	11,410,984	8,276,215	8,239,128	7,492,390	5,986,799	5,879,800	8,840,288	6,506,126	6,248,693	8,465,056
Less Internal Cost	-5,108,060	-174,841	-120,994	-120,969	-114,583	-97,730	-97,730	-162,026	-97,730	-97,730	-97,730	-97,730	-104,160	-104,160	-104,160	-104,160
AFUDC	3,604,750	21,082	22,939	23,234	24,178	0	0	0	0	0	0	0	0	0	0	0
Less AFUDC on Internal Cost	-403,445	-21,082	-22,939	-23,234	-24,178	0	0	0	0	0	0	0	0	0	0	0
EOM		91,690,914	99,185,813	104,779,955	110,611,126	119,381,370	130,694,623	138,808,812	146,950,210	154,344,870	160,233,939	166,016,010	174,758,568	181,160,534	187,305,068	195,665,965
Return on CWIP																
After Tax Return on Equity	17,557,522	412,504	448,110	478,839	505,661	539,940	587,089	632,697	670,860	707,333	738,518	765,918	800,017	835,571	865,025	899,079
Income Tax Component	12,388,804	291,068	316,192	337,874	356,801	380,988	414,257	446,439	473,367	499,103	521,108	540,441	564,502	589,589	610,372	634,401
Interest Expense Component	7,915,054	185,960	202,011	215,864	227,956	243,409	264,664	285,224	302,428	318,871	332,929	345,281	360,653	376,681	389,959	405,311
Total Return on CWIP	37,861,380	889,532	966,313	1,032,577	1,090,417	1,164,337	1,266,010	1,364,361	1,446,655	1,525,306	1,592,555	1,651,640	1,725,171	1,801,840	1,865,357	1,938,791

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Minnesota Power  
BEC 4 Rider  
Plant Additions, AFUDC and Return on CWIP

	Total Project	Aug-15	Sep-15	Oct-15	Nov-15	Dec-15	Jan-16	Feb-16	Mar-16	Apr-16	May-16	Jun-16	Jul-16	Aug-16	Sep-16	Oct-16
BEC 4 Ash Phase 3 In Service 12/31/2023	<b>1,378,067</b>															
BOM		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CapEx	1,380,554															
Less Internal Cost	-2,487															
AFUDC	0															
Less AFUDC on Internal Cost	0															
EOM		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Return on CWIP																
After Tax Return on Equity																
Income Tax Component																
Interest Expense Component																
Total Return on CWIP																
BEC 4 Ash Phase 4 In Service 12/31/2029	<b>3,228,882</b>															
BOM		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CapEx	3,234,710															
Less Internal Cost	-5,828															
AFUDC	0															
Less AFUDC on Internal Cost	0															
EOM		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Return on CWIP																
After Tax Return on Equity																
Income Tax Component																
Interest Expense Component																
Total Return on CWIP																
BEC 4 Ash Phase 5 In Service 12/31/2035	<b>3,941,852</b>															
BOM		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CapEx	3,948,967															
Less Internal Cost	-7,115															
AFUDC	0															
Less AFUDC on Internal Cost	0															
EOM		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Return on CWIP																
After Tax Return on Equity																
Income Tax Component																
Interest Expense Component																
Total Return on CWIP																
<b>Total</b>	<b>253,943,048</b>															
BOM		195,665,965	204,009,930	210,640,161	215,194,261	218,440,562	236,528,254	236,750,720	236,973,187	237,195,653	237,418,120	238,408,072	239,398,024	240,387,976	241,377,929	243,902,852
CapEx	255,849,805	8,448,125	6,862,983	4,786,852	3,414,756	18,256,148	223,752	223,752	223,752	223,752	991,238	991,238	991,238	991,238	2,526,210	223,752
Less Internal Cost	-5,108,060	-104,160	-232,752	-232,752	-168,456	-168,456	-1,286	-1,286	-1,286	-1,286	-1,286	-1,286	-1,286	-1,286	-1,286	-1,286
AFUDC	3,604,750	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Less AFUDC on Internal Cost	-403,445	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EOM		204,009,930	210,640,161	215,194,261	218,440,562	236,528,254	236,750,720	236,973,187	237,195,653	237,418,120	238,408,072	239,398,024	240,387,976	241,377,929	243,902,852	244,125,319
Return on CWIP																
After Tax Return on Equity	17,557,522	938,296	973,450	999,707	1,018,019	518,365	11,613	12,657	13,702	14,746	17,593	22,241	26,889	31,537	27,176	21,014
Income Tax Component	12,388,804	662,073	686,878	705,405	718,327	365,765	8,194	8,931	9,668	10,405	12,414	15,693	18,973	22,253	19,176	14,827
Interest Expense Component	7,915,054	422,990	438,838	450,675	458,930	233,683	5,235	5,706	6,177	6,648	7,931	10,026	12,122	14,217	12,251	9,473
Total Return on CWIP	37,861,380	2,023,359	2,099,166	2,155,787	2,195,276	1,117,813	25,042	27,294	29,547	31,799	37,937	47,960	57,984	68,007	58,603	45,314



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Minnesota Power  
BEC 4 Rider  
Plant Additions, AFUDC and Return on CWIP

	Total Project	Feb-18	Mar-18	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	Apr-19
BEC 4 Ash Phase 3 In Service 12/31/2023	<b>1,378,067</b>															
BOM		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CapEx	1,380,554															
Less Internal Cost	-2,487															
AFUDC	0															
Less AFUDC on Internal Cost	0															
EOM		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Return on CWIP																
After Tax Return on Equity																
Income Tax Component																
Interest Expense Component																
Total Return on CWIP																
BEC 4 Ash Phase 4 In Service 12/31/2029	<b>3,228,882</b>															
BOM		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CapEx	3,234,710															
Less Internal Cost	-5,828															
AFUDC	0															
Less AFUDC on Internal Cost	0															
EOM		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Return on CWIP																
After Tax Return on Equity																
Income Tax Component																
Interest Expense Component																
Total Return on CWIP																
BEC 4 Ash Phase 5 In Service 12/31/2035	<b>3,941,852</b>															
BOM		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CapEx	3,948,967															
Less Internal Cost	-7,115															
AFUDC	0															
Less AFUDC on Internal Cost	0															
EOM		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Return on CWIP																
After Tax Return on Equity																
Income Tax Component																
Interest Expense Component																
Total Return on CWIP																
<b>Total</b>	<b>253,943,048</b>															
BOM		244,623,918	244,677,584	244,731,251	244,784,917	244,838,584	244,892,250	244,945,916	244,999,583	245,053,249	245,106,916	245,160,582	245,214,248	245,229,248	245,244,248	245,259,248
CapEx	255,849,805	54,952	54,952	54,952	54,952	54,952	54,952	54,952	54,952	54,952	54,952	54,952	16,286	16,286	16,286	16,286
Less Internal Cost	-5,108,060	-1,286	-1,286	-1,286	-1,286	-1,286	-1,286	-1,286	-1,286	-1,286	-1,286	-1,286	-1,286	-1,286	-1,286	-1,286
AFUDC	3,604,750	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Less AFUDC on Internal Cost	-403,445	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EOM		244,677,584	244,731,251	244,784,917	244,838,584	244,892,250	244,945,916	244,999,583	245,053,249	245,106,916	245,160,582	245,214,248	245,229,248	245,244,248	245,259,248	245,274,248
Return on CWIP																
After Tax Return on Equity	17,557,522	378	630	882	1,134	1,386	1,638	1,890	2,142	2,394	2,646	2,898	3,059	3,129	3,200	3,270
Income Tax Component	12,388,804	267	444	622	800	978	1,156	1,333	1,511	1,689	1,867	2,045	2,158	2,208	2,258	2,308
Interest Expense Component	7,915,054	170	284	398	511	625	738	852	966	1,079	1,193	1,306	1,379	1,411	1,443	1,474
Total Return on CWIP	37,861,380	815	1,358	1,902	2,445	2,989	3,532	4,075	4,619	5,162	5,705	6,249	6,596	6,748	6,900	7,052





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Minnesota Power  
BEC 4 Rider  
Plant Additions, AFUDC and Return on CWIP

	Total Project	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	Jul-22	Aug-22	Sep-22	Oct-22	Nov-22	Dec-22	Jan-23	Feb-23
<b>BEC 4 Ash Phase 3</b>	<b>1,378,067</b>															
In Service 12/31/2023																
BOM		0	0	4,261	8,521	12,782	17,042	21,303	25,563	29,824	34,084	38,345	42,605	46,866	51,126	161,705
CapEx	1,380,554		4,268	4,268	4,268	4,268	4,268	4,268	4,268	4,268	4,268	4,268	4,268	4,268	110,778	110,778
Less Internal Cost	-2,487		-8	-8	-8	-8	-8	-8	-8	-8	-8	-8	-8	-8	-200	-200
AFUDC	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0
Less AFUDC on Internal Cost	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0
EOM		0	4,261	8,521	12,782	17,042	21,303	25,563	29,824	34,084	38,345	42,605	46,866	51,126	161,705	272,283
Return on CWIP																
After Tax Return on Equity			10	30	50	70	90	110	130	150	170	190	210	230	500	1,019
Income Tax Component			7	21	35	49	64	78	92	106	120	134	148	162	353	719
Interest Expense Component			5	14	23	32	41	50	59	68	77	86	95	104	225	459
Total Return on CWIP			22	65	108	151	194	237	280	324	367	410	453	496	1,077	2,197
<b>BEC 4 Ash Phase 4</b>	<b>3,228,882</b>															
In Service 12/31/2029																
BOM		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CapEx	3,234,710															
Less Internal Cost	-5,828															
AFUDC	0															
Less AFUDC on Internal Cost	0															
EOM		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Return on CWIP																
After Tax Return on Equity																
Income Tax Component																
Interest Expense Component																
Total Return on CWIP																
<b>BEC 4 Ash Phase 5</b>	<b>3,941,852</b>															
In Service 12/31/2035																
BOM		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CapEx	3,948,967															
Less Internal Cost	-7,115															
AFUDC	0															
Less AFUDC on Internal Cost	0															
EOM		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Return on CWIP																
After Tax Return on Equity																
Income Tax Component																
Interest Expense Component																
Total Return on CWIP																
<b>Total</b>	<b>253,943,048</b>															
BOM		245,394,248	245,394,248	245,398,509	245,402,770	245,407,030	245,411,291	245,415,551	245,419,812	245,424,072	245,428,333	245,432,593	245,436,854	245,441,114	245,445,375	245,555,953
CapEx	255,849,805	0	4,268	4,268	4,268	4,268	4,268	4,268	4,268	4,268	4,268	4,268	4,268	4,268	110,778	110,778
Less Internal Cost	-5,108,060	0	-8	-8	-8	-8	-8	-8	-8	-8	-8	-8	-8	-8	-200	-200
AFUDC	3,604,750	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Less AFUDC on Internal Cost	-403,445	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EOM		245,394,248	245,398,509	245,402,770	245,407,030	245,411,291	245,415,551	245,419,812	245,424,072	245,428,333	245,432,593	245,436,854	245,441,114	245,445,375	245,555,953	245,666,531
Return on CWIP																
After Tax Return on Equity	17,557,522	0	10	30	50	70	90	110	130	150	170	190	210	230	500	1,019
Income Tax Component	12,388,804	0	7	21	35	49	64	78	92	106	120	134	148	162	353	719
Interest Expense Component	7,915,054	0	5	14	23	32	41	50	59	68	77	86	95	104	225	459
Total Return on CWIP	37,861,380	0	22	65	108	151	194	237	280	324	367	410	453	496	1,077	2,197



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Minnesota Power  
BEC 4 Rider  
Plant Additions, AFUDC and Return on CWIP

	Total Project	Mar-23	Apr-23	May-23	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23 In-Service 12/31/2023	Jan-24	Feb-24	Mar-24	Apr-24	May-24
<b>BEC 4 Ash Phase 3</b>	<b>1,378,067</b>															
In Service 12/31/2023																
BOM		272,283	382,861	493,440	604,018	714,596	825,175	935,753	1,046,331	1,156,910	1,267,488					
CapEx	1,380,554	110,778	110,778	110,778	110,778	110,778	110,778	110,778	110,778	110,778	110,778					
Less Internal Cost	-2,487	-200	-200	-200	-200	-200	-200	-200	-200	-200	-200					
AFUDC	0	0	0	0	0	0	0	0	0	0	0					
Less AFUDC on Internal Cost	0	0	0	0	0	0	0	0	0	0	0					
EOM		382,861	493,440	604,018	714,596	825,175	935,753	1,046,331	1,156,910	1,267,488	1,378,067					
Return on CWIP																
After Tax Return on Equity		1,538	2,057	2,576	3,096	3,615	4,134	4,653	5,172	5,692	2,976					
Income Tax Component		1,085	1,452	1,818	2,184	2,551	2,917	3,283	3,650	4,016	2,100					
Interest Expense Component		693	927	1,161	1,396	1,630	1,864	2,098	2,332	2,566	1,341					
Total Return on CWIP		3,317	4,436	5,556	6,675	7,795	8,915	10,034	11,154	12,274	6,417					
<b>BEC 4 Ash Phase 4</b>	<b>3,228,882</b>															
In Service 12/31/2029																
BOM		0	0	0	0	0	0	0	0	0	0	0	4,655	9,310	13,965	18,620
CapEx	3,234,710											4,663	4,663	4,663	4,663	4,663
Less Internal Cost	-5,828											-8	-8	-8	-8	-8
AFUDC	0											0	0	0	0	0
Less AFUDC on Internal Cost	0											0	0	0	0	0
EOM		0	0	0	0	0	0	0	0	0	0	4,655	9,310	13,965	18,620	23,275
Return on CWIP																
After Tax Return on Equity												11	33	55	76	98
Income Tax Component												8	23	39	54	69
Interest Expense Component												5	15	25	34	44
Total Return on CWIP												24	71	118	165	212
<b>BEC 4 Ash Phase 5</b>	<b>3,941,852</b>															
In Service 12/31/2035																
BOM		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CapEx	3,948,967															
Less Internal Cost	-7,115															
AFUDC	0															
Less AFUDC on Internal Cost	0															
EOM		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Return on CWIP																
After Tax Return on Equity																
Income Tax Component																
Interest Expense Component																
Total Return on CWIP																
<b>Total</b>	<b>253,943,048</b>															
BOM		245,666,531	245,777,110	245,887,688	245,998,267	246,108,845	246,219,423	246,330,002	246,440,580	246,551,158	246,661,737	246,772,315	246,776,970	246,781,625	246,786,280	246,790,935
CapEx	255,849,805	110,778	110,778	110,778	110,778	110,778	110,778	110,778	110,778	110,778	110,778	4,663	4,663	4,663	4,663	4,663
Less Internal Cost	-5,108,060	-200	-200	-200	-200	-200	-200	-200	-200	-200	-200	-8	-8	-8	-8	-8
AFUDC	3,604,750	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Less AFUDC on Internal Cost	-403,445	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EOM		245,777,110	245,887,688	245,998,267	246,108,845	246,219,423	246,330,002	246,440,580	246,551,158	246,661,737	246,772,315	246,776,970	246,781,625	246,786,280	246,790,935	246,795,590
Return on CWIP																
After Tax Return on Equity	17,557,522	1,538	2,057	2,576	3,096	3,615	4,134	4,653	5,172	5,692	2,976	11	33	55	76	98
Income Tax Component	12,388,804	1,085	1,452	1,818	2,184	2,551	2,917	3,283	3,650	4,016	2,100	8	23	39	54	69
Interest Expense Component	7,915,054	693	927	1,161	1,396	1,630	1,864	2,098	2,332	2,566	1,341	5	15	25	34	44
Total Return on CWIP	37,861,380	3,317	4,436	5,556	6,675	7,795	8,915	10,034	11,154	12,274	6,417	24	71	118	165	212

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Minnesota Power  
BEC 4 Rider  
Plant Additions, AFUDC and Return on CWIP

	Total Project	Jun-24	Jul-24	Aug-24	Sep-24	Oct-24	Nov-24	Dec-24	Jan-25	Feb-25	Mar-25	Apr-25	May-25	Jun-25	Jul-25	Aug-25	Sep-25
BEC 4 Ash Phase 3 In Service 12/31/2023	<b>1,378,067</b>																
BOM																	
CapEx	1,380,554																
Less Internal Cost	-2,487																
AFUDC	0																
Less AFUDC on Internal Cost	0																
EOM																	
Return on CWIP																	
After Tax Return on Equity																	
Income Tax Component																	
Interest Expense Component																	
Total Return on CWIP																	
<b>BEC 4 Ash Phase 4 In Service 12/31/2029</b>	<b>3,228,882</b>																
BOM		23,275	27,930	32,585	37,240	41,895	46,550	51,205	55,860	94,687	133,514	172,342	211,169	249,996	288,823	327,651	366,478
CapEx	3,234,710	4,663	4,663	4,663	4,663	4,663	4,663	4,663	38,897	38,897	38,897	38,897	38,897	38,897	38,897	38,897	38,897
Less Internal Cost	-5,828	-8	-8	-8	-8	-8	-8	-8	-70	-70	-70	-70	-70	-70	-70	-70	-70
AFUDC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Less AFUDC on Internal Cost	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EOM		27,930	32,585	37,240	41,895	46,550	51,205	55,860	94,687	133,514	172,342	211,169	249,996	288,823	327,651	366,478	405,305
Return on CWIP																	
After Tax Return on Equity		120	142	164	186	208	229	251	353	536	718	900	1,083	1,265	1,447	1,630	1,812
Income Tax Component		85	100	116	131	147	162	177	249	378	507	635	764	893	1,021	1,150	1,278
Interest Expense Component		54	64	74	84	94	103	113	159	242	324	406	488	570	652	735	817
Total Return on CWIP		259	306	353	401	448	495	542	762	1,155	1,548	1,942	2,335	2,728	3,121	3,514	3,907
<b>BEC 4 Ash Phase 5 In Service 12/31/2035</b>	<b>3,941,852</b>																
BOM		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CapEx	3,948,967																
Less Internal Cost	-7,115																
AFUDC	0																
Less AFUDC on Internal Cost	0																
EOM		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Return on CWIP																	
After Tax Return on Equity																	
Income Tax Component																	
Interest Expense Component																	
Total Return on CWIP																	
<b>Total</b>	<b>253,943,048</b>																
BOM		246,795,590	246,800,245	246,804,900	246,809,555	246,814,210	246,818,865	246,823,520	246,828,175	246,867,002	246,905,829	246,944,657	246,983,484	247,022,311	247,061,138	247,099,966	247,138,793
CapEx	255,849,805	4,663	4,663	4,663	4,663	4,663	4,663	4,663	38,897	38,897	38,897	38,897	38,897	38,897	38,897	38,897	38,897
Less Internal Cost	-5,108,060	-8	-8	-8	-8	-8	-8	-8	-70	-70	-70	-70	-70	-70	-70	-70	-70
AFUDC	3,604,750	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Less AFUDC on Internal Cost	-403,445	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EOM		246,800,245	246,804,900	246,809,555	246,814,210	246,818,865	246,823,520	246,828,175	246,867,002	246,905,829	246,944,657	246,983,484	247,022,311	247,061,138	247,099,966	247,138,793	247,177,620
Return on CWIP																	
After Tax Return on Equity	17,557,522	120	142	164	186	208	229	251	353	536	718	900	1,083	1,265	1,447	1,630	1,812
Income Tax Component	12,388,804	85	100	116	131	147	162	177	249	378	507	635	764	893	1,021	1,150	1,278
Interest Expense Component	7,915,054	54	64	74	84	94	103	113	159	242	324	406	488	570	652	735	817
Total Return on CWIP	37,861,380	259	306	353	401	448	495	542	762	1,155	1,548	1,942	2,335	2,728	3,121	3,514	3,907

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Minnesota Power  
BEC 4 Rider  
Plant Additions, AFUDC and Return on CWIP

	Total Project	Oct-25	Nov-25	Dec-25	Jan-26	Feb-26	Mar-26	Apr-26	May-26	Jun-26	Jul-26	Aug-26	Sep-26	Oct-26	Nov-26	Dec-26	Jan-27
<b>BEC 4 Ash Phase 3</b>	<b>1,378,067</b>																
In Service 12/31/2023																	
BOM																	
CapEx	1,380,554																
Less Internal Cost	-2,487																
AFUDC	0																
Less AFUDC on Internal Cost	0																
EOM																	
Return on CWIP																	
After Tax Return on Equity																	
Income Tax Component																	
Interest Expense Component																	
<b>Total Return on CWIP</b>	<b>3,228,882</b>																
<b>BEC 4 Ash Phase 4</b>	<b>3,228,882</b>																
In Service 12/31/2029																	
BOM		405,305	444,133	482,960	521,787	526,792	531,797	536,802	541,806	546,811	551,816	556,821	561,825	566,830	571,835	576,840	581,844
CapEx	3,234,710	38,897	38,897	38,897	5,014	5,014	5,014	5,014	5,014	5,014	5,014	5,014	5,014	5,014	5,014	5,014	5,014
Less Internal Cost	-5,828	-70	-70	-70	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-230
AFUDC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Less AFUDC on Internal Cost	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EOM		444,133	482,960	521,787	526,792	531,797	536,802	541,806	546,811	551,816	556,821	561,825	566,830	571,835	576,840	581,844	709,224
Return on CWIP																	
After Tax Return on Equity		1,994	2,176	2,359	2,462	2,485	2,509	2,532	2,556	2,579	2,603	2,626	2,650	2,673	2,697	2,720	3,031
Income Tax Component		1,407	1,536	1,664	1,737	1,754	1,770	1,787	1,803	1,820	1,836	1,853	1,870	1,886	1,903	1,919	2,139
Interest Expense Component		899	981	1,063	1,110	1,120	1,131	1,142	1,152	1,163	1,173	1,184	1,194	1,205	1,216	1,226	1,366
<b>Total Return on CWIP</b>	<b>4,300</b>	<b>4,693</b>	<b>5,087</b>	<b>5,308</b>	<b>5,359</b>	<b>5,410</b>	<b>5,460</b>	<b>5,511</b>	<b>5,562</b>	<b>5,612</b>	<b>5,663</b>	<b>5,714</b>	<b>5,764</b>	<b>5,815</b>	<b>5,866</b>	<b>6,536</b>	
<b>BEC 4 Ash Phase 5</b>	<b>3,941,852</b>																
In Service 12/31/2035																	
BOM		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CapEx	3,948,967																
Less Internal Cost	-7,115																
AFUDC	0																
Less AFUDC on Internal Cost	0																
EOM		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Return on CWIP																	
After Tax Return on Equity																	
Income Tax Component																	
Interest Expense Component																	
<b>Total Return on CWIP</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Total</b>	<b>253,943,048</b>																
BOM		247,177,620	247,216,448	247,255,275	247,294,102	247,299,107	247,304,112	247,309,117	247,314,121	247,319,126	247,324,131	247,329,136	247,334,140	247,339,145	247,344,150	247,349,155	247,354,160
CapEx	255,849,805	38,897	38,897	38,897	5,014	5,014	5,014	5,014	5,014	5,014	5,014	5,014	5,014	5,014	5,014	5,014	127,609
Less Internal Cost	-5,108,060	-70	-70	-70	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-230
AFUDC	3,604,750	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Less AFUDC on Internal Cost	-403,445	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EOM		247,216,448	247,255,275	247,294,102	247,299,107	247,304,112	247,309,117	247,314,121	247,319,126	247,324,131	247,329,136	247,334,140	247,339,145	247,344,150	247,349,155	247,354,160	247,481,539
Return on CWIP																	
After Tax Return on Equity	17,557,522	1,994	2,176	2,359	2,462	2,485	2,509	2,532	2,556	2,579	2,603	2,626	2,650	2,673	2,697	2,720	3,031
Income Tax Component	12,388,804	1,407	1,536	1,664	1,737	1,754	1,770	1,787	1,803	1,820	1,836	1,853	1,870	1,886	1,903	1,919	2,139
Interest Expense Component	7,915,054	899	981	1,063	1,110	1,120	1,131	1,142	1,152	1,163	1,173	1,184	1,194	1,205	1,216	1,226	1,366
<b>Total Return on CWIP</b>	<b>37,861,380</b>	<b>4,300</b>	<b>4,693</b>	<b>5,087</b>	<b>5,308</b>	<b>5,359</b>	<b>5,410</b>	<b>5,460</b>	<b>5,511</b>	<b>5,562</b>	<b>5,612</b>	<b>5,663</b>	<b>5,714</b>	<b>5,764</b>	<b>5,815</b>	<b>5,866</b>	<b>6,536</b>

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Minnesota Power  
BEC 4 Rider  
Plant Additions, AFUDC and Return on CWIP

	Total Project	Feb-27	Mar-27	Apr-27	May-27	Jun-27	Jul-27	Aug-27	Sep-27	Oct-27	Nov-27	Dec-27	Jan-28	Feb-28	Mar-28	Apr-28
BEC 4 Ash Phase 3 In Service 12/31/2023	<b>1,378,067</b>															
BOM																
CapEx	1,380,554															
Less Internal Cost	-2,487															
AFUDC	0															
Less AFUDC on Internal Cost	0															
EOM																
Return on CWIP																
After Tax Return on Equity																
Income Tax Component																
Interest Expense Component																
Total Return on CWIP																
<b>BEC 4 Ash Phase 4 In Service 12/31/2029</b>	<b>3,228,882</b>															
BOM		709,224	836,603	963,983	1,091,362	1,218,741	1,346,121	1,473,500	1,600,880	1,728,259	1,855,638	1,983,018	2,110,397	2,183,451	2,256,504	2,329,557
CapEx	3,234,710	127,609	127,609	127,609	127,609	127,609	127,609	127,609	127,609	127,609	127,609	127,609	73,185	73,185	73,185	73,185
Less Internal Cost	-5,828	-230	-230	-230	-230	-230	-230	-230	-230	-230	-230	-230	-132	-132	-132	-132
AFUDC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Less AFUDC on Internal Cost	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EOM		836,603	963,983	1,091,362	1,218,741	1,346,121	1,473,500	1,600,880	1,728,259	1,855,638	1,983,018	2,110,397	2,183,451	2,256,504	2,329,557	2,402,611
Return on CWIP																
After Tax Return on Equity		3,629	4,227	4,825	5,423	6,021	6,619	7,218	7,816	8,414	9,012	9,610	10,080	10,423	10,766	11,109
Income Tax Component		2,561	2,983	3,405	3,827	4,249	4,671	5,093	5,515	5,937	6,359	6,781	7,113	7,355	7,597	7,839
Interest Expense Component		<u>1,636</u>	<u>1,906</u>	<u>2,175</u>	<u>2,445</u>	<u>2,714</u>	<u>2,984</u>	<u>3,254</u>	<u>3,523</u>	<u>3,793</u>	<u>4,063</u>	<u>4,332</u>	<u>4,544</u>	<u>4,699</u>	<u>4,854</u>	<u>5,008</u>
Total Return on CWIP		7,826	9,115	10,405	11,695	12,985	14,274	15,564	16,854	18,143	19,433	20,723	21,738	22,477	23,217	23,957
<b>BEC 4 Ash Phase 5 In Service 12/31/2035</b>	<b>3,941,852</b>															
BOM		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CapEx	3,948,967															
Less Internal Cost	-7,115															
AFUDC	0															
Less AFUDC on Internal Cost	0															
EOM		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Return on CWIP																
After Tax Return on Equity																
Income Tax Component																
Interest Expense Component																
Total Return on CWIP																
<b>Total</b>	<b>253,943,048</b>															
BOM		247,481,539	247,608,918	247,736,298	247,863,677	247,991,056	248,118,436	248,245,815	248,373,195	248,500,574	248,627,953	248,755,333	248,882,712	248,955,766	249,028,819	249,101,872
CapEx	255,849,805	127,609	127,609	127,609	127,609	127,609	127,609	127,609	127,609	127,609	127,609	127,609	73,185	73,185	73,185	73,185
Less Internal Cost	-5,108,060	-230	-230	-230	-230	-230	-230	-230	-230	-230	-230	-230	-132	-132	-132	-132
AFUDC	3,604,750	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Less AFUDC on Internal Cost	-403,445	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EOM		247,608,918	247,736,298	247,863,677	247,991,056	248,118,436	248,245,815	248,373,195	248,500,574	248,627,953	248,755,333	248,882,712	248,955,766	249,028,819	249,101,872	249,174,926
Return on CWIP																
After Tax Return on Equity	17,557,522	3,629	4,227	4,825	5,423	6,021	6,619	7,218	7,816	8,414	9,012	9,610	10,080	10,423	10,766	11,109
Income Tax Component	12,388,804	2,561	2,983	3,405	3,827	4,249	4,671	5,093	5,515	5,937	6,359	6,781	7,113	7,355	7,597	7,839
Interest Expense Component	7,915,054	1,636	1,906	2,175	2,445	2,714	2,984	3,254	3,523	3,793	4,063	4,332	4,544	4,699	4,854	5,008
Total Return on CWIP	37,861,380	7,826	9,115	10,405	11,695	12,985	14,274	15,564	16,854	18,143	19,433	20,723	21,738	22,477	23,217	23,957

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Minnesota Power  
BEC 4 Rider  
Plant Additions, AFUDC and Return on CWIP

	Total Project	May-28	Jun-28	Jul-28	Aug-28	Sep-28	Oct-28	Nov-28	Dec-28	Jan-29	Feb-29	Mar-29	Apr-29	May-29	Jun-29	Jul-29
BEC 4 Ash Phase 3 In Service 12/31/2023	<b>1,378,067</b>															
BOM																
CapEx	1,380,554															
Less Internal Cost	-2,487															
AFUDC	0															
Less AFUDC on Internal Cost	0															
EOM																
Return on CWIP																
After Tax Return on Equity																
Income Tax Component																
Interest Expense Component																
Total Return on CWIP																
BEC 4 Ash Phase 4 In Service 12/31/2029	<b>3,228,882</b>															
BOM		2,402,611	2,475,664	2,548,718	2,621,771	2,694,825	2,767,878	2,840,932	2,913,985	2,987,039	3,007,192	3,027,346	3,047,499	3,067,653	3,087,807	3,107,960
CapEx	3,234,710	73,185	73,185	73,185	73,185	73,185	73,185	73,185	73,185	20,190	20,190	20,190	20,190	20,190	20,190	20,190
Less Internal Cost	-5,828	-132	-132	-132	-132	-132	-132	-132	-132	-36	-36	-36	-36	-36	-36	-36
AFUDC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Less AFUDC on Internal Cost	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EOM		2,475,664	2,548,718	2,621,771	2,694,825	2,767,878	2,840,932	2,913,985	2,987,039	3,007,192	3,027,346	3,047,499	3,067,653	3,087,807	3,107,960	3,128,114
Return on CWIP																
After Tax Return on Equity		11,452	11,795	12,138	12,481	12,824	13,167	13,510	13,853	14,072	14,167	14,262	14,356	14,451	14,545	14,640
Income Tax Component		8,081	8,323	8,565	8,807	9,049	9,291	9,533	9,775	9,930	9,996	10,063	10,130	10,197	10,263	10,330
Interest Expense Component		5,163	5,317	5,472	5,627	5,781	5,936	6,091	6,245	6,344	6,387	6,429	6,472	6,515	6,557	6,600
Total Return on CWIP		24,696	25,436	26,176	26,915	27,655	28,395	29,134	29,874	30,346	30,550	30,754	30,958	31,162	31,366	31,570
BEC 4 Ash Phase 5 In Service 12/31/2035	<b>3,941,852</b>															
BOM		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CapEx	3,948,967															
Less Internal Cost	-7,115															
AFUDC	0															
Less AFUDC on Internal Cost	0															
EOM		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Return on CWIP																
After Tax Return on Equity																
Income Tax Component																
Interest Expense Component																
Total Return on CWIP																
<b>Total</b>	<b>253,943,048</b>															
BOM		249,174,926	249,247,979	249,321,033	249,394,086	249,467,140	249,540,193	249,613,247	249,686,300	249,759,354	249,779,507	249,799,661	249,819,814	249,839,968	249,860,122	249,880,275
CapEx	255,849,805	73,185	73,185	73,185	73,185	73,185	73,185	73,185	73,185	20,190	20,190	20,190	20,190	20,190	20,190	20,190
Less Internal Cost	-5,108,060	-132	-132	-132	-132	-132	-132	-132	-132	-36	-36	-36	-36	-36	-36	-36
AFUDC	3,604,750	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Less AFUDC on Internal Cost	-403,445	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EOM		249,247,979	249,321,033	249,394,086	249,467,140	249,540,193	249,613,247	249,686,300	249,759,354	249,779,507	249,799,661	249,819,814	249,839,968	249,860,122	249,880,275	249,900,429
Return on CWIP																
After Tax Return on Equity	17,557,522	11,452	11,795	12,138	12,481	12,824	13,167	13,510	13,853	14,072	14,167	14,262	14,356	14,451	14,545	14,640
Income Tax Component	12,388,804	8,081	8,323	8,565	8,807	9,049	9,291	9,533	9,775	9,930	9,996	10,063	10,130	10,197	10,263	10,330
Interest Expense Component	7,915,054	5,163	5,317	5,472	5,627	5,781	5,936	6,091	6,245	6,344	6,387	6,429	6,472	6,515	6,557	6,600
Total Return on CWIP	37,861,380	24,696	25,436	26,176	26,915	27,655	28,395	29,134	29,874	30,346	30,550	30,754	30,958	31,162	31,366	31,570

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Minnesota Power  
BEC 4 Rider  
Plant Additions, AFUDC and Return on CWIP

	Total Project	Aug-29	Sep-29	Oct-29	Nov-29	Dec-29	Jan-30	Feb-30	Mar-30	Apr-30	May-30	Jun-30	Jul-30	Aug-30	Sep-30	Oct-30
<b>BEC 4 Ash Phase 3</b>	<b>1,378,067</b>															
In Service 12/31/2023																
BOM																
CapEx	1,380,554															
Less Internal Cost	-2,487															
AFUDC	0															
Less AFUDC on Internal Cost	0															
EOM																
Return on CWIP																
After Tax Return on Equity																
Income Tax Component																
Interest Expense Component																
Total Return on CWIP																
<b>BEC 4 Ash Phase 4</b>	<b>3,228,882</b>															
In Service 12/31/2029																
BOM		3,128,114	3,148,267	3,168,421	3,188,575											
CapEx	3,234,710	20,190	20,190	20,190	20,190	20,190	20,190	20,190								
Less Internal Cost	-5,828	-36	-36	-36	-36	-36	-36	-36								
AFUDC	0	0	0	0	0	0	0	0								
Less AFUDC on Internal Cost	0	0	0	0	0	0	0	0								
EOM		3,148,267	3,168,421	3,188,575	3,208,728	3,228,882										
Return on CWIP																
After Tax Return on Equity		14,735	14,829	14,924	15,019	111										
Income Tax Component		10,397	10,464	10,531	10,597	79										
Interest Expense Component		6,643	6,685	6,728	6,770	50										
Total Return on CWIP		31,774	31,978	32,182	32,386	240										
<b>BEC 4 Ash Phase 5</b>	<b>3,941,852</b>															
In Service 12/31/2035																
BOM		0	0	0	0	0	0	5,716	11,431	17,147	22,863	28,578	34,294	40,010	45,725	51,441
CapEx	3,948,967							5,726	5,726	5,726	5,726	5,726	5,726	5,726	5,726	5,726
Less Internal Cost	-7,115							-10	-10	-10	-10	-10	-10	-10	-10	-10
AFUDC	0							0	0	0	0	0	0	0	0	0
Less AFUDC on Internal Cost	0							0	0	0	0	0	0	0	0	0
EOM		0	0	0	0	0	0	5,716	11,431	17,147	22,863	28,578	34,294	40,010	45,725	51,441
Return on CWIP																
After Tax Return on Equity							13	40	67	94	121	148	174	201	228	255
Income Tax Component							9	28	47	66	85	104	123	142	161	180
Interest Expense Component							6	18	30	42	54	67	79	91	103	115
Total Return on CWIP							29	87	145	203	260	318	376	434	492	550
<b>Total</b>	<b>253,943,048</b>															
BOM		249,900,429	249,920,582	249,940,736	249,960,890	249,981,043	250,001,197	250,006,912	250,012,628	250,018,344	250,024,060	250,029,775	250,035,491	250,041,207	250,046,922	250,052,638
CapEx	255,849,805	20,190	20,190	20,190	20,190	20,190	20,190	5,726	5,726	5,726	5,726	5,726	5,726	5,726	5,726	5,726
Less Internal Cost	-5,108,060	-36	-36	-36	-36	-36	-36	-10	-10	-10	-10	-10	-10	-10	-10	-10
AFUDC	3,604,750	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Less AFUDC on Internal Cost	-403,445	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EOM		249,920,582	249,940,736	249,960,890	249,981,043	250,001,197	250,006,912	250,012,628	250,018,344	250,024,060	250,029,775	250,035,491	250,041,207	250,046,922	250,052,638	250,058,354
Return on CWIP																
After Tax Return on Equity	17,557,522	14,735	14,829	14,924	15,019	111	13	40	67	94	121	148	174	201	228	255
Income Tax Component	12,388,804	10,397	10,464	10,531	10,597	79	9	28	47	66	85	104	123	142	161	180
Interest Expense Component	7,915,054	6,643	6,685	6,728	6,770	50	6	18	30	42	54	67	79	91	103	115
Total Return on CWIP	37,861,380	31,774	31,978	32,182	32,386	240	29	87	145	203	260	318	376	434	492	550

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Minnesota Power  
BEC 4 Rider  
Plant Additions, AFUDC and Return on CWIP

	Total Project	Nov-30	Dec-30	Jan-31	Feb-31	Mar-31	Apr-31	May-31	Jun-31	Jul-31	Aug-31	Sep-31	Oct-31	Nov-31	Dec-31	Jan-32
BEC 4 Ash Phase 3 In Service 12/31/2023	<b>1,378,067</b>															
BOM																
CapEx	1,380,554															
Less Internal Cost	-2,487															
AFUDC	0															
Less AFUDC on Internal Cost	0															
EOM																
Return on CWIP																
After Tax Return on Equity																
Income Tax Component																
Interest Expense Component																
Total Return on CWIP																
 BEC 4 Ash Phase 4 In Service 12/31/2029	<b>3,228,882</b>															
BOM																
CapEx	3,234,710															
Less Internal Cost	-5,828															
AFUDC	0															
Less AFUDC on Internal Cost	0															
EOM																
Return on CWIP																
After Tax Return on Equity																
Income Tax Component																
Interest Expense Component																
Total Return on CWIP																
 BEC 4 Ash Phase 5 In Service 12/31/2035	<b>3,941,852</b>															
BOM		57,157	62,873	68,588	191,837	315,085	438,334	561,582	684,831	808,080	931,328	1,054,577	1,177,825	1,301,074	1,424,322	1,547,571
CapEx	3,948,967	5,726	5,726	123,471	123,471	123,471	123,471	123,471	123,471	123,471	123,471	123,471	123,471	123,471	123,471	0
Less Internal Cost	-7,115	-10	-10	-222	-222	-222	-222	-222	-222	-222	-222	-222	-222	-222	-222	0
AFUDC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Less AFUDC on Internal Cost	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EOM		62,873	68,588	191,837	315,085	438,334	561,582	684,831	808,080	931,328	1,054,577	1,177,825	1,301,074	1,424,322	1,547,571	1,547,571
Return on CWIP																
After Tax Return on Equity		282	309	611	1,190	1,769	2,347	2,926	3,505	4,084	4,662	5,241	5,820	6,398	6,977	7,266
Income Tax Component		199	218	431	840	1,248	1,656	2,065	2,473	2,881	3,290	3,698	4,106	4,515	4,923	5,127
Interest Expense Component		127	139	276	536	797	1,058	1,319	1,580	1,841	2,102	2,363	2,624	2,884	3,145	3,276
Total Return on CWIP		608	666	1,318	2,566	3,814	5,062	6,310	7,558	8,806	10,054	11,302	12,549	13,797	15,045	15,669
 <b>Total</b>	<b>253,943,048</b>															
BOM		250,058,354	250,064,069	250,069,785	250,193,034	250,316,282	250,439,531	250,562,779	250,686,028	250,809,276	250,932,525	251,055,774	251,179,022	251,302,271	251,425,519	251,548,768
CapEx	255,849,805	5,726	5,726	123,471	123,471	123,471	123,471	123,471	123,471	123,471	123,471	123,471	123,471	123,471	123,471	0
Less Internal Cost	-5,108,060	-10	-10	-222	-222	-222	-222	-222	-222	-222	-222	-222	-222	-222	-222	0
AFUDC	3,604,750	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Less AFUDC on Internal Cost	-403,445	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EOM		250,064,069	250,069,785	250,193,034	250,316,282	250,439,531	250,562,779	250,686,028	250,809,276	250,932,525	251,055,774	251,179,022	251,302,271	251,425,519	251,548,768	251,548,768
Return on CWIP																
After Tax Return on Equity	17,557,522	282	309	611	1,190	1,769	2,347	2,926	3,505	4,084	4,662	5,241	5,820	6,398	6,977	7,266
Income Tax Component	12,388,804	199	218	431	840	1,248	1,656	2,065	2,473	2,881	3,290	3,698	4,106	4,515	4,923	5,127
Interest Expense Component	7,915,054	127	139	276	536	797	1,058	1,319	1,580	1,841	2,102	2,363	2,624	2,884	3,145	3,276
Total Return on CWIP	37,861,380	608	666	1,318	2,566	3,814	5,062	6,310	7,558	8,806	10,054	11,302	12,549	13,797	15,045	15,669





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Minnesota Power  
BEC 4 Rider  
Plant Additions, AFUDC and Return on CWIP

Exhibit B-3  
Page 23 of 31

	Total Project	May-33	Jun-33	Jul-33	Aug-33	Sep-33	Oct-33	Nov-33	Dec-33	Jan-34	Feb-34	Mar-34	Apr-34	May-34	Jun-34	Jul-34
BEC 4 Ash Phase 3 In Service 12/31/2023	<b>1,378,067</b>															
BOM																
CapEx	1,380,554															
Less Internal Cost	-2,487															
AFUDC	0															
Less AFUDC on Internal Cost	0															
EOM																
Return on CWIP																
After Tax Return on Equity																
Income Tax Component																
Interest Expense Component																
Total Return on CWIP																
BEC 4 Ash Phase 4 In Service 12/31/2029	<b>3,228,882</b>															
BOM																
CapEx	3,234,710															
Less Internal Cost	-5,828															
AFUDC	0															
Less AFUDC on Internal Cost	0															
EOM																
Return on CWIP																
After Tax Return on Equity																
Income Tax Component																
Interest Expense Component																
Total Return on CWIP																
BEC 4 Ash Phase 5 In Service 12/31/2035	<b>3,941,852</b>															
BOM		1,547,571	1,547,571	1,547,571	1,547,571	1,547,571	1,547,571	1,547,571	1,547,571	1,547,571	1,553,221	1,558,871	1,564,521	1,570,171	1,575,821	1,581,471
CapEx	3,948,967	0	0	0	0	0	0	0	0	0	5,660	5,660	5,660	5,660	5,660	5,660
Less Internal Cost	-7,115	0	0	0	0	0	0	0	0	0	-10	-10	-10	-10	-10	-10
AFUDC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Less AFUDC on Internal Cost	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EOM		1,547,571	1,547,571	1,547,571	1,547,571	1,547,571	1,547,571	1,547,571	1,547,571	1,553,221	1,558,871	1,564,521	1,570,171	1,575,821	1,581,471	1,587,121
Return on CWIP																
After Tax Return on Equity		7,266	7,266	7,266	7,266	7,266	7,266	7,266	7,266	7,280	7,306	7,333	7,359	7,386	7,412	7,439
Income Tax Component		5,127	5,127	5,127	5,127	5,127	5,127	5,127	5,127	5,137	5,155	5,174	5,193	5,211	5,230	5,249
Interest Expense Component		<u>3,276</u>	<u>3,276</u>	<u>3,276</u>	<u>3,276</u>	<u>3,276</u>	<u>3,276</u>	<u>3,276</u>	<u>3,276</u>	<u>3,282</u>	<u>3,294</u>	<u>3,306</u>	<u>3,318</u>	<u>3,330</u>	<u>3,341</u>	<u>3,353</u>
Total Return on CWIP		15,669	15,669	15,669	15,669	15,669	15,669	15,669	15,669	15,698	15,755	15,812	15,869	15,927	15,984	16,041
<b>Total</b>	<b>253,943,048</b>															
BOM		251,548,768	251,548,768	251,548,768	251,548,768	251,548,768	251,548,768	251,548,768	251,548,768	251,548,768	251,554,418	251,560,068	251,565,718	251,571,368	251,577,018	251,582,668
CapEx	255,849,805	0	0	0	0	0	0	0	0	5,660	5,660	5,660	5,660	5,660	5,660	5,660
Less Internal Cost	-5,108,060	0	0	0	0	0	0	0	0	-10	-10	-10	-10	-10	-10	-10
AFUDC	3,604,750	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Less AFUDC on Internal Cost	-403,445	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EOM		251,548,768	251,548,768	251,548,768	251,548,768	251,548,768	251,548,768	251,548,768	251,548,768	251,554,418	251,560,068	251,565,718	251,571,368	251,577,018	251,582,668	251,588,318
Return on CWIP																
After Tax Return on Equity	17,557,522	7,266	7,266	7,266	7,266	7,266	7,266	7,266	7,266	7,280	7,306	7,333	7,359	7,386	7,412	7,439
Income Tax Component	12,388,804	5,127	5,127	5,127	5,127	5,127	5,127	5,127	5,127	5,137	5,155	5,174	5,193	5,211	5,230	5,249
Interest Expense Component	7,915,054	<u>3,276</u>	<u>3,276</u>	<u>3,276</u>	<u>3,276</u>	<u>3,276</u>	<u>3,276</u>	<u>3,276</u>	<u>3,276</u>	<u>3,282</u>	<u>3,294</u>	<u>3,306</u>	<u>3,318</u>	<u>3,330</u>	<u>3,341</u>	<u>3,353</u>
Total Return on CWIP	37,861,380	15,669	15,669	15,669	15,669	15,669	15,669	15,669	15,669	15,698	15,755	15,812	15,869	15,927	15,984	16,041

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Minnesota Power  
BEC 4 Rider  
Plant Additions, AFUDC and Return on CWIP

	Total Project	Aug-34	Sep-34	Oct-34	Nov-34	Dec-34	Jan-35	Feb-35	Mar-35	Apr-35	May-35	Jun-35	Jul-35	Aug-35	Sep-35	Oct-35
BEC 4 Ash Phase 3 In Service 12/31/2023	<b>1,378,067</b>															
BOM																
CapEx	1,380,554															
Less Internal Cost	-2,487															
AFUDC	0															
Less AFUDC on Internal Cost	0															
EOM																
Return on CWIP																
After Tax Return on Equity																
Income Tax Component																
Interest Expense Component																
Total Return on CWIP																
BEC 4 Ash Phase 4 In Service 12/31/2029	<b>3,228,882</b>															
BOM																
CapEx	3,234,710															
Less Internal Cost	-5,828															
AFUDC	0															
Less AFUDC on Internal Cost	0															
EOM																
Return on CWIP																
After Tax Return on Equity																
Income Tax Component																
Interest Expense Component																
Total Return on CWIP																
BEC 4 Ash Phase 5 In Service 12/31/2035	<b>3,941,852</b>															
BOM		1,587,121	1,592,771	1,598,421	1,604,071	1,609,721	1,615,371	1,809,244	2,003,118	2,196,991	2,390,864	2,584,738	2,778,611	2,972,485	3,166,358	3,360,231
CapEx	3,948,967	5,660	5,660	5,660	5,660	5,660	5,660	194,223	194,223	194,223	194,223	194,223	194,223	194,223	194,223	194,223
Less Internal Cost	-7,115	-10	-10	-10	-10	-10	-10	-350	-350	-350	-350	-350	-350	-350	-350	-350
AFUDC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Less AFUDC on Internal Cost	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EOM		1,592,771	1,598,421	1,604,071	1,609,721	1,615,371	1,809,244	2,003,118	2,196,991	2,390,864	2,584,738	2,778,611	2,972,485	3,166,358	3,360,231	3,554,105
Return on CWIP																
After Tax Return on Equity		7,465	7,492	7,518	7,545	7,571	8,040	8,950	9,860	10,771	11,681	12,591	13,502	14,412	15,322	16,232
Income Tax Component		5,268	5,286	5,305	5,324	5,342	5,673	6,315	6,958	7,600	8,242	8,885	9,527	10,169	10,811	11,454
Interest Expense Component		3,365	3,377	3,389	3,401	3,413	3,624	3,379	4,035	4,445	4,855	5,266	5,676	6,087	6,497	7,318
Total Return on CWIP		16,098	16,155	16,213	16,270	16,327	17,337	19,300	21,263	23,226	25,189	27,152	29,115	31,078	33,041	35,004
<b>Total</b>	<b>253,943,048</b>															
BOM		251,588,318	251,593,968	251,599,618	251,605,268	251,610,918	251,616,568	251,810,441	252,004,314	252,198,188	252,392,061	252,585,935	252,779,808	252,973,681	253,167,555	253,361,428
CapEx	255,849,805	5,660	5,660	5,660	5,660	5,660	5,660	194,223	194,223	194,223	194,223	194,223	194,223	194,223	194,223	194,223
Less Internal Cost	-5,108,060	-10	-10	-10	-10	-10	-10	-350	-350	-350	-350	-350	-350	-350	-350	-350
AFUDC	3,604,750	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Less AFUDC on Internal Cost	-403,445	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EOM		251,593,968	251,599,618	251,605,268	251,610,918	251,616,568	251,810,441	252,004,314	252,198,188	252,392,061	252,585,935	252,779,808	252,973,681	253,167,555	253,361,428	253,555,302
Return on CWIP																
After Tax Return on Equity	17,557,522	7,465	7,492	7,518	7,545	7,571	8,040	8,950	9,860	10,771	11,681	12,591	13,502	14,412	15,322	16,232
Income Tax Component	12,388,804	5,268	5,286	5,305	5,324	5,342	5,673	6,315	6,958	7,600	8,242	8,885	9,527	10,169	10,811	11,454
Interest Expense Component	7,915,054	3,365	3,377	3,389	3,401	3,413	3,624	4,035	4,445	4,855	5,266	5,676	6,087	6,497	6,907	7,318
Total Return on CWIP	37,861,380	16,098	16,155	16,213	16,270	16,327	17,337	19,300	21,263	23,226	25,189	27,152	29,115	31,078	33,041	35,004

Minnesota Power  
BEC 4 Rider  
Plant Additions, AFUDC and Return on CWIP

	Total Project	<u>Nov-35</u>	<u>Dec-35</u>
BEC 4 Ash Phase 3	<b>1,378,067</b>		
In Service 12/31/2023			
BOM			
CapEx	1,380,554		
Less Internal Cost	-2,487		
AFUDC	0		
Less AFUDC on Internal Cost	0		
EOM			
Return on CWIP			
After Tax Return on Equity			
Income Tax Component			
Interest Expense Component			
Total Return on CWIP			
BEC 4 Ash Phase 4	<b>3,228,882</b>		
In Service 12/31/2029			
BOM			
CapEx	3,234,710		
Less Internal Cost	-5,828		
AFUDC	0		
Less AFUDC on Internal Cost	0		
EOM			
Return on CWIP			
After Tax Return on Equity			
Income Tax Component			
Interest Expense Component			
Total Return on CWIP			
BEC 4 Ash Phase 5	<b>3,941,852</b>		<u>In-Service</u>
In Service 12/31/2035			12/31/2035
BOM		3,554,105	3,747,978
CapEx	3,948,967	194,223	194,223
Less Internal Cost	-7,115	-350	-350
AFUDC	0	0	0
Less AFUDC on Internal Cost	0	0	0
EOM		3,747,978	3,941,852
Return on CWIP			
After Tax Return on Equity		17,143	8,799
Income Tax Component		12,096	6,209
Interest Expense Component		<u>7,728</u>	<u>3,967</u>
Total Return on CWIP		36,967	18,974
<b>Total</b>	<b>253,943,048</b>		
BOM		253,555,302	253,749,175
CapEx	255,849,805	194,223	194,223
Less Internal Cost	-5,108,060	-350	-350
AFUDC	3,604,750	0	0
Less AFUDC on Internal Cost	-403,445	0	0
EOM		253,749,175	253,943,048
Return on CWIP			
After Tax Return on Equity	17,557,522	17,143	8,799
Income Tax Component	12,388,804	12,096	6,209
Interest Expense Component	7,915,054	7,728	3,967
Total Return on CWIP	37,861,380	36,967	18,974

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Minnesota Power  
BEC4 Rider  
Plant Additions, AFUDC and Return on CWIP for Basin's Share

	Total Project	to date Jan-13	Feb-13	Mar-13	Apr-13	May-13	Jun-13	Jul-13	Aug-13	Sep-13	Oct-13	Nov-13	Dec-13	Jan-14	Feb-14	Mar-14	Apr-14
<b>BEC 4 Environmental Retrofit</b>	<b>239,589,963</b>																
In Service 12/31/2015																	
BOM		0	22,080,404	24,650,462	27,389,835	31,514,963	34,759,576	36,011,448	38,344,703	42,437,297	46,108,367	50,684,738	55,419,850	61,190,666	63,015,477	69,786,144	77,001,143
CapEx	235,985,298	20,189,572	2,439,150	2,594,454	3,961,992	3,061,934	1,052,045	2,124,604	3,867,255	3,425,444	4,561,805	4,719,711	5,753,924	1,807,357	6,752,543	7,196,027	9,743,271
Less Internal Cost 1/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AFUDC	3,604,666	1,890,832	130,908	144,919	163,136	182,679	199,828	208,650	225,340	245,626	14,567	15,400	16,892	17,454	18,124	18,972	19,907
EOM		22,080,404	24,650,462	27,389,835	31,514,963	34,759,576	36,011,448	38,344,703	42,437,297	46,108,367	50,684,738	55,419,850	61,190,666	63,015,477	69,786,144	77,001,143	86,764,321
<b>Basin's Return on CWIP</b>																	
<b>BEC 4 Storm Water</b>	<b>5,372,401</b>																
In Service 9/30/2016																	
BOM		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CapEx	5,372,401	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Less Internal Cost 1/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AFUDC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EOM		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Basin's Return on CWIP</b>																	
<b>BEC 4 Ash Phase 1</b>	<b>5,073,100</b>																
In Service 12/31/2016																	
BOM		0	0	423	426	428	430	3,708	3,728	4,086	4,108	4,669	8,105	15,099	15,099	15,099	16,327
CapEx	5,073,016	0	422	0	0	0	3,266	0	336	0	560	3,436	6,994	0	0	1,228	312
Less Internal Cost 1/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AFUDC	84	0	1	2	2	2	11	20	21	22	0	0	0	0	0	0	0
EOM		0	423	426	428	430	3,708	3,728	4,086	4,108	4,669	8,105	15,099	15,099	15,099	16,327	16,639
<b>Basin's Return on CWIP</b>																	
<b>BEC 4 Ash Phase 2</b>	<b>854,859</b>																
In Service 12/31/2019																	
BOM		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CapEx	854,859	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Less Internal Cost 1/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AFUDC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EOM		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Basin's Return on CWIP</b>		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Notes:  
1/ Internal costs and AFUC on internal costs are not excluded for Basin calculations.







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Minnesota Power  
BEC4 Rider  
Plant Additions, AFUDC and Return on CWIP for Basin's Share

	Total Project	Feb-18	Mar-18	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	Apr-19
BEC 4 Environmental Retrofit In Service 12/31/2015	<b>239,589,963</b>															
BOM																
CapEx	235,985,298															
Less Internal Cost 1/	0															
AFUDC	3,604,666															
EOM																
Basin's Return on CWIP																
BEC 4 Storm Water In Service 9/30/2016	<b>5,372,401</b>															
BOM																
CapEx	5,372,401															
Less Internal Cost 1/	0															
AFUDC	0															
EOM																
Basin's Return on CWIP																
BEC 4 Ash Phase 1 In Service 12/31/2016	<b>5,073,100</b>															
BOM																
CapEx	5,073,016															
Less Internal Cost 1/	0															
AFUDC	84															
EOM																
Basin's Return on CWIP																
BEC 4 Ash Phase 2 In Service 12/31/2019	<b>854,859</b>															
BOM		54,952	109,905	164,857	219,809	274,762	329,714	384,666	439,619	494,571	549,523	604,476	659,428	675,714	692,000	708,286
CapEx	854,859	54,952	54,952	54,952	54,952	54,952	54,952	54,952	54,952	54,952	54,952	54,952	16,286	16,286	16,286	16,286
Less Internal Cost 1/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AFUDC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EOM		109,905	164,857	219,809	274,762	329,714	384,666	439,619	494,571	549,523	604,476	659,428	675,714	692,000	708,286	724,572
Basin's Return on CWIP		162	270	377	485	593	701	809	917	1,024	1,132	1,240	1,310	1,342	1,374	1,406



Minnesota Power  
BEC4 Rider  
Plant Additions, AFUDC and Return on CWIP for Basin's Share

	Total Project	May-19	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20
BEC 4 Environmental Retrofit In Service 12/31/2015	<b>239,589,963</b>									
BOM										
CapEx	235,985,298									
Less Internal Cost 1/	0									
AFUDC	3,604,666									
EOM										
Basin's Return on CWIP										
BEC 4 Storm Water In Service 9/30/2016	<b>5,372,401</b>									
BOM										
CapEx	5,372,401									
Less Internal Cost 1/	0									
AFUDC	0									
EOM										
Basin's Return on CWIP										
BEC 4 Ash Phase 1 In Service 12/31/2016	<b>5,073,100</b>									
BOM										
CapEx	5,073,016									
Less Internal Cost 1/	0									
AFUDC	84									
EOM										
Basin's Return on CWIP										
BEC 4 Ash Phase 2 In Service 12/31/2019	<b>854,859</b>									<u>In-Service</u> 12/31/2019
BOM		724,572	740,857	757,143	773,429	789,715	806,001	822,287		838,573
CapEx	854,859	16,286	16,286	16,286	16,286	16,286	16,286	16,286	16,286	16,286
Less Internal Cost 1/	0	0	0	0	0	0	0	0	0	0
AFUDC	0	0	0	0	0	0	0	0	0	0
EOM		740,857	757,143	773,429	789,715	806,001	822,287	838,573		854,859
Basin's Return on CWIP		1,438	1,470	1,502	1,534	1,566	1,598	1,630		1,662

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Minnesota Power  
BEC4 Rider

Exhibit B-4  
Page 1 of 1

MPUC Docket E015/GR-09-1151  
Rate of Return / Cost of Capital Summary  
(thousands of dollars)  
Commission Decision (9/29/2010)

Average for 13 months Ended 12/31/10						
	Amount	% of Total	Component Cost	Weighted Cost	Pre-tax Rate	After-Tax Rate
Long Term Debt	\$ 696,677	45.71%	5.56%	2.540%	2.540%	1.490%
Common Equity	\$ 827,534	54.29%	10.38%	5.640%	9.610%	5.640%
	\$ 1,524,211	100.00%		8.180%	12.150%	7.130%
			Federal & State Income Tax Rate			41.37%
			Pretax "Gross-up" Factor			1.70560
			After Tax Return on Equity			5.6343% 1/
			Income Tax Component			3.9757% 2/
			Interest Expense Component			2.5400%
			Pre-tax Return			12.1500%

1/ Rounding forced to equity.

2/ Shown here as a component of the pretax rate of return. Can also be computed as 70.56% gross up on After Tax Return on Equity.

Minnesota Power  
BEC 4 Rider  
2010 Rate Case Allocators

Demand Responsibility of Power Supply Cost Based on Peak & Average Methodology: D-01 & D-02  
Test Year 2010 Rebuttal Customer Budget  
Revised from original work paper AF-3, page 14  
MP Exhibit (SJS) Rebuttal Schedule 2, page 9 of 15  
Docket No. E-015/GR-09-1151

		<u>Total Retail</u>	<u>Residential</u>	<u>General Service</u>	<u>Large Light &amp; Power</u>	<u>Large Power</u>	<u>Municipal Pumping</u>	<u>Lighting</u>
1	Annual Energy (E-01 with losses)	8,973,590	1,164,063	645,945	1,311,171	5,768,410	61,116	22,885
2	Average Demand	1,024,382	132,884	73,738	149,677	658,494	6,977	2,612
3	Percent	100.000	12.972	7.198	14.611	64.282	0.681	0.255
4	Annual CP Demand (loss adjusted)	1,267,035	214,342	116,138	224,399	697,256	9,334	5,567
5	Percent	100.000	16.917	9.166	17.711	55.031	0.737	0.439
6	Annual Load Factor (Line 2 / Line 4)	0.80849						
7	1.0 - Load Factor	0.19151						
8	Average Factor (Line 3 x Line 6 total)	80.849	10.488	5.820	11.813	51.971	0.551	0.206
9	Peak Factor (Line 5 x Line 7 total)	19.151	3.240	1.755	3.392	10.539	0.141	0.084
10	Composite Factor - D-01 (Line 8 + Line 9)	100.000	13.728	7.575	15.205	62.510	0.692	0.290
11	Power Supply Production - D-01 Adjusted for Jurisdictional Split <span style="border: 1px solid black; padding: 2px;">(Line 10 x .82017)</span>	82.017	11.259	6.213	12.471	51.269	0.568	0.237
12	Power Supply Transmission - D-02 Adjusted for Jurisdictional Split <span style="border: 1px solid black; padding: 2px;">(Line 10 x .77570)</span>	77.570	10.649	5.876	11.795	48.489	0.537	0.224

Notes:

Residential, General Service, Large Light and Power and Municipal Pumping CP demands per customer from load research multiplied by budgeted number of customers and adjusted for losses. Large Power CP demand based on 2008 CP adjusted for losses and ratio of 2008 to Test Year average demand. Large Light and Power and Large Power loads normalized to reflect three customers that moved from Large Power to Large Light and Power. Lighting CP is average load based on Test Year budgeted total energy and 4,200 burning hours and adjusted for losses.

Minnesota Power  
BEC 4 Environmental Rider: 2015 Factor Filing  
Allocation Factors

	D-01 Rate Case	Normalized
MN Jurisdiction	0.82017	1.0000
Residential	0.11259	0.1373
General Service	0.06213	0.0758
Large Light & Power	0.12471	0.1521
Large Power	0.51269	0.6251
Municipal Pumping	0.00568	0.0069
Lighting	0.00237	0.0029

The D-01 allocators from MP's 2009 MPUC rate case Docket No. E-015/GR-09-1151.  
Because the revenue tracker amounts are 100% MN Jurisdictional, the factor are normalized to obtain class allocations.

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Minnesota Power  
BEC4 Rider  
Tax Depreciation Table

Exhibit B-6  
Page 1 of 1

**BEC4 Environmental Retrofit Project**

	20 yr PUP 40%	Pollution Control 60%	Weighted Average
	<u>Weighting</u> 1/	<u>Weighting</u> 2/	
Year 1	0.938%	1.1905%	1.0895%
Year 2	7.430%	14.2857%	11.5434%
Year 3	6.872%	14.2857%	11.3202%
Year 4	6.357%	14.2857%	11.1142%
Year 5	5.880%	14.2857%	10.9234%
Year 6	5.439%	14.2857%	10.7470%
Year 7	5.031%	14.2857%	10.5838%
Year 8	4.654%	13.095%	9.7187%
Year 9	4.458%	0.000%	1.7832%
Year 10	4.458%	0.000%	1.7832%
Year 11	4.458%	0.000%	1.7832%
Year 12	4.458%	0.000%	1.7832%
Year 13	4.458%	0.000%	1.7832%
Year 14	4.458%	0.000%	1.7832%
Year 15	4.458%	0.000%	1.7832%
Year 16	4.458%	0.000%	1.7832%
Year 17	4.458%	0.000%	1.7832%
Year 18	4.459%	0.000%	1.7836%
Year 19	4.458%	0.000%	1.7832%
Year 20	4.459%	0.000%	1.7836%
Year 21	3.901%	0.000%	1.5604%
	<u>100.000%</u>	<u>100.000%</u>	<u>100.000%</u>

**Boswell Ash Pond Projects**

	20 yr PUP 40%	Pollution Control 60%	Weighted Average
	<u>Weighting</u> 3/	<u>Weighting</u> 4/	
Year 1	3.750%	1.1905%	2.2143%
Year 2	7.219%	14.2857%	11.4590%
Year 3	6.677%	14.2857%	11.2422%
Year 4	6.177%	14.2857%	11.0422%
Year 5	5.713%	14.2857%	10.8566%
Year 6	5.285%	14.2857%	10.6854%
Year 7	4.888%	14.2857%	10.5266%
Year 8	4.522%	13.095%	9.6659%
Year 9	4.462%	0.000%	1.7848%
Year 10	4.461%	0.000%	1.7844%
Year 11	4.462%	0.000%	1.7848%
Year 12	4.461%	0.000%	1.7844%
Year 13	4.462%	0.000%	1.7848%
Year 14	4.461%	0.000%	1.7844%
Year 15	4.462%	0.000%	1.7848%
Year 16	4.461%	0.000%	1.7844%
Year 17	4.462%	0.000%	1.7848%
Year 18	4.461%	0.000%	1.7844%
Year 19	4.462%	0.000%	1.7848%
Year 20	4.461%	0.000%	1.7844%
Year 21	2.231%	0.000%	0.8924%
	<u>100.000%</u>	<u>100.000%</u>	<u>100.000%</u>

Weighting allocation per Internal Revenue Code Regulation 1.169-4.

1/ 40% weighting is 20 year PUP tax table, mid 4th quarter

2/ 60% weighting of pollution control portion is 84 month straight line.

Plant in-service in December, so one month depreciation taken in first year and eleven months taken in final year.

Weighting allocation per Internal Revenue Code Regulation 1.169-4.

3/ 40% weighting is 20 year PUP tax table, half-year

4/ 60% weighting of pollution control portion is 84 month straight line. Plant in-service in December, so one month depreciation taken in first year and eleven months taken in final year.

**Boswell Storm Water Project**

	20 yr PUP 40%	Pollution Control 60%	Weighted Average
	<u>Weighting</u> 5/	<u>Weighting</u> 6/	
Year 1	3.750%	4.7619%	4.3571%
Year 2	7.219%	14.2857%	11.4590%
Year 3	6.677%	14.2857%	11.2422%
Year 4	6.177%	14.2857%	11.0422%
Year 5	5.713%	14.2857%	10.8566%
Year 6	5.285%	14.2857%	10.6854%
Year 7	4.888%	14.2857%	10.5266%
Year 8	4.522%	9.524%	7.5231%
Year 9	4.462%	0.000%	1.7848%
Year 10	4.461%	0.000%	1.7844%
Year 11	4.462%	0.000%	1.7848%
Year 12	4.461%	0.000%	1.7844%
Year 13	4.462%	0.000%	1.7848%
Year 14	4.461%	0.000%	1.7844%
Year 15	4.462%	0.000%	1.7848%
Year 16	4.461%	0.000%	1.7844%
Year 17	4.462%	0.000%	1.7848%
Year 18	4.461%	0.000%	1.7844%
Year 19	4.462%	0.000%	1.7848%
Year 20	4.461%	0.000%	1.7844%
Year 21	2.231%	0.000%	0.8924%
	<u>100.000%</u>	<u>100.000%</u>	<u>100.000%</u>

Weighting allocation per Internal Revenue Code Regulation 1.169-4.

5/ 40% weighting is 20 year PUP tax table, half-year

6/ 60% weighting of pollution control portion is 84 month straight line.

Plant in-service in September, so four month depreciation taken in first year and eight months taken in final year.

# **EXHIBIT C**













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1 TON CAPACITY

1 TON CAPACITY

1 TON CAPACITY

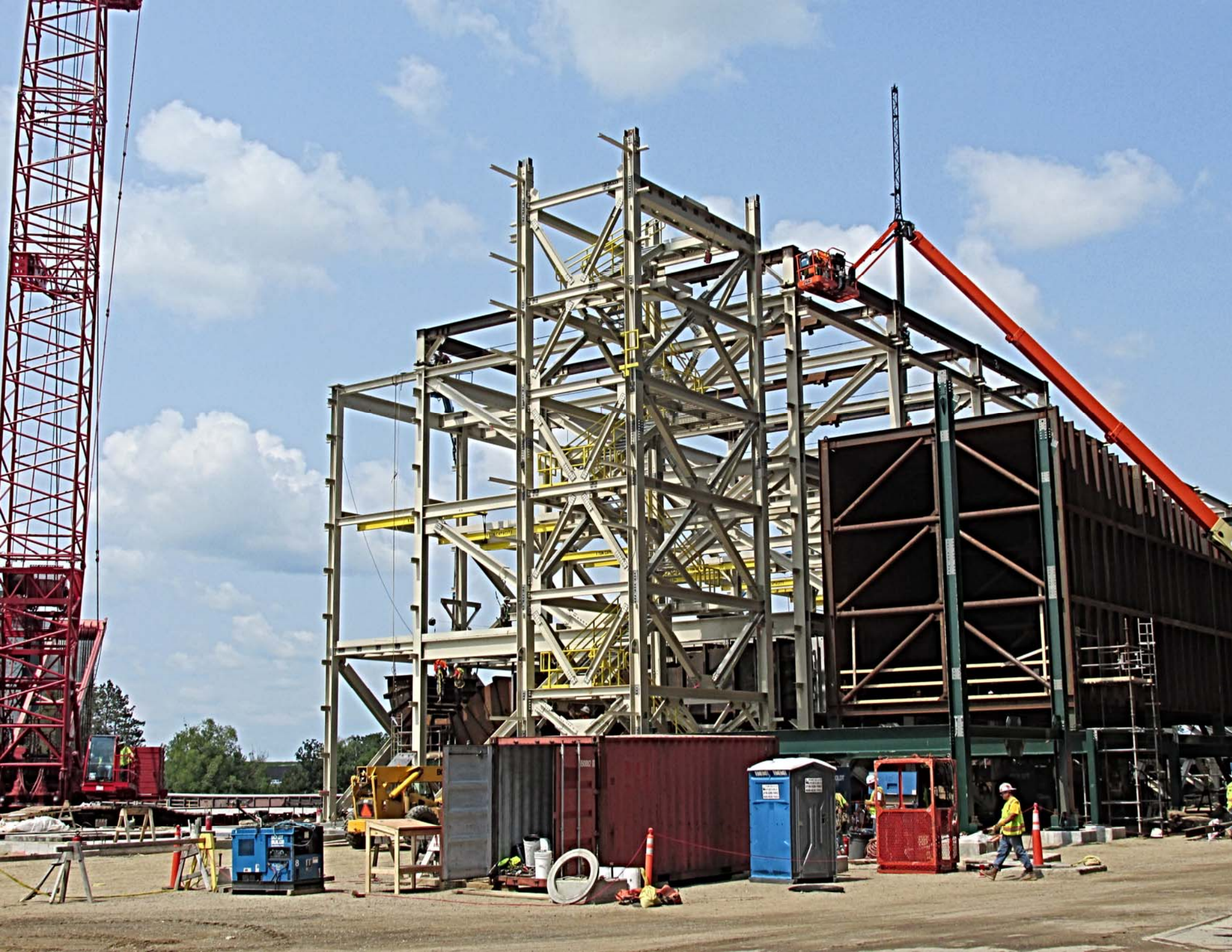
1 TON CAPACITY

1 TON CAPACITY

Snorkel

BOLO  
BOLT









United Rentals  
Z-135/70

09/09/2014

NO ENTRY  
Without proper training  
and authorization  
of personnel  
10/27

BUILD

BUILD

BUILD

STATE OF MINNESOTA     )  
  ) ss  
COUNTY OF ST. LOUIS     )

AFFIDAVIT OF SERVICE VIA  
ELECTRONIC FILING

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Susan Romans of the City of Duluth, County of St. Louis, State of Minnesota, says that on the 26th day of November, 2014, she served Minnesota Power's Petition to 2015 Boswell Unit 4 Emission Reduction Factor to the Minnesota Public Utilities Commission via electronic filing. The persons on the attached General Service List were served as requested.

*Susan Romans*

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First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
Julia	Anderson	Julia.Anderson@ag.state.mn.us	Office of the Attorney General-DOC	1800 BRM Tower 445 Minnesota St St. Paul, MN 551012134	Electronic Service	Yes	GEN_SL_Minnesota Power_Minnesota Power General Service List
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