Debbra A. Davey Supervisor, Accounting

July 31, 2015

VIA ELECTRONIC FILING
Mr. Daniel P. Wolf, Executive Secretary
MN Public Utilities Commission
121 7th Place East, Suite 350
St. Paul, MN 55101-2147

Re: In the Matter of Minnesota Power's 2015 Remaining Life Depreciation Petition
Docket No. E015/D-15-____

Dear Mr. Wolf:

Minnesota Power hereby electronically submits its 2015 Remaining Life Depreciation Petition.

Please contact me at 218-355-3714 if you have any questions regarding this filing.

Sincerely,

/s/ Debbra A. Davey

Debbra A. Davey

DAD:sr
Attch.
c: Service List

STATE OF MINNESOTA
BEFORE THE
MINNESOTA PUBLIC UTILITIES COMMISSION

In the Matter of Minnesota Power's 2015 Remaining Life Depreciation Petition	Docket No. E015/D-15-___ 2015 REMAINING LIFE DEPRECIATION PETITION

SUMMARY

Pursuant to Minn. Stat. §§ 216B.08 and 216B.11, and Minn. Rules 7825.0600 and 7825.0700, Minnesota Power hereby petitions the Minnesota Public Utilities Commission (Commission) for approval of its Petition to establish 2015 remaining lives and salvage rates for all of Minnesota Power's production plant assets, along with certain general plant accounts. The remaining lives and salvage rates will be used to determine depreciation expense for these assets effective January 1, 2015.

STATE OF MINNESOTA
BEFORE THE
MINNESOTA PUBLIC UTILITIES COMMISSION

In the Matter of Minnesota Power's 2015 Remaining Life Depreciation Petition	Docket No. E015/D-15-___ 2015 REMAINING LIFE DEPRECIATION PETITION

I. INTRODUCTION

Minnesota Power hereby petitions the Minnesota Public Utilities Commission (Commission) for approval of its 2015 Remaining Life Depreciation Petition (Petition). Minnesota Power is requesting that the remaining lives of all facilities be adjusted for one year's passage of time, with the exception of Laskin Energy Center.

Laskin Energy Center's proposed life extension through 2030 is based on Minnesota Power completing the conversion of units 1 and 2 of its Laskin Energy Center to gas peaking generation facilities in June 2015. Minnesota Power believes this gas peaking generation facility has a fifteen year life. Therefore, Minnesota Power is requesting a life extension through 2030.

Minnesota Power announced on July 9, 2015 the company's plan to cease coal operations at Taconite Harbor Energy Center (THEC) units 1 and 2 in 2020 and economically idle THEC units 1 and 2 in the fall of 2016 , which will be reflected in its 2015 Integrated Resource Plan (2015 IRP). Minnesota Power requests that the remaining net plant balances of all Taconite Harbor units retired be recovered over the current remaining life of the plant, which is 2026.

Minnesota Power is in discussions with Sappi Cloquet LLC (Sappi) and believes it is likely that Sappi will exercise an option under the contract to transfer ownership of the Cloquet Energy Center Generator No. 5 from Minnesota Power to Sappi for a nominal amount on July 1, 2016. If Sappi exercises this option, Minnesota Power requests that the

assets transferred be treated as normal retirements and the remaining depreciable balance be depreciated over the remaining useful life of 2024.

Minnesota Power proposes estimated salvage rates be adjusted in accordance with the results of the latest decommissioning study dated April 2015. The decommissioning study was updated with new decommissioning estimates to be used in the 2015 IRP due September 1, 2015. The estimates of closure costs for ash and water management infrastructure at Boswell Energy Center changed due to the estimated impacts of the Environmental Protection Agency's (EPA) new Coal Combustion Residual Rules. Decommissioning estimates were also included for Bison 1 through 4 and Taconite Ridge I wind facilities.

The estimated salvage rate changes and proposed life extensions result in an estimated decrease to 2015 annual depreciation expense of $570,000.

In future years, Minnesota Power requests that in the year the company files an Integrated Resource Plan the Remaining Life Depreciation Petition for that year is due on the same date as the IRP. If the IRP is due before April 15, Minnesota Power requests the due date of the Petition remains at April 15. This is to ensure that information in Minnesota Power's Petition and the IRP is consistently applied or the reasons for any differences are explained.

II. BASIS FOR PREPARING THIS PETITION

On March 1, 2013, Minnesota Power filed its 2013 Integrated Resource Plan (2013 IRP) for the years 2013-2027 in Docket No. E015/RP-13-53. The Commission approved Minnesota Power's 2013 IRP on November 12, 2013. For purposes of this Petition, Minnesota Power is utilizing the information and forecast periods provided in the approved 2013 IRP. Minnesota Power's Petition is being filed on July 31, 2015 to ensure that information in this Petition and 2015 IRP is consistently applied or the reasons for any differences are explained. Minnesota Power will file its 2015 IRP by September 1, 2015.

Minnesota Power engaged a consulting firm to prepare a Site Decommissioning Study in 2015 (report dated April 2015) and incorporated it into this Petition. These new decommissioning estimates were used to calculate new estimated salvage rates. This latest Site Decommissioning Study and supporting schedules can be found in Attachment D.

III. PROCEDURAL REQUIREMENTS

Pursuant to Minn. Rules 7825.3200, 7825.3500 and 7829.1300, subp. 3, Minnesota Power provides the following required information.

A. Name, Address and Telephone Number of Utility (Minn. Rules 7825.3500(A) and 7829.1300, subp. 3(A))

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

B. Name, Address and Telephone Number of Utility Attorney (Minn. Rules 7825.3500(A) and 7829.1300, subp. 3(B))

Christopher D. Anderson
Associate General Counsel
Minnesota Power
30 West Superior Street
Duluth, MN 55802
(218) 723-3961
canderson@allete.com

C. Date of Filing and Date Proposed Rates Take Effect (Minn. Rules 7825.3500(B) and 7829.1300, subp. 3(C))

This Petition is being filed on July 31, 2015. Minnesota Power respectfully requests that the Commission approve the Petition, with depreciation rates to become effective as of January 1, 2015.

D. Statute Controlling Schedule for Processing the Filing (Minn. Rules 7829.1300, subp. 3(D))

This Petition is made in accordance with Minn. Stat. § 216B.11 and prior Commission orders. No statutorily imposed time frame for a Commission decision applies to this filing.

E. Utility Employee Responsible for Filing (Minn. Rules 7825.3500(E) and 7829.1300, subp. 3(E))

Debbra A. Davey
Supervisor, Accounting
Minnesota Power
30 West Superior Street
Duluth, MN 55802
(218) 355-3714
ddavey@allete.com

F. Service List

Pursuant to Minn. Rules 7829.0700, Minnesota Power requests that the following persons be placed on the Commission's official service list for this matter:

Christopher D. Anderson
Associate General Counsel
Minnesota Power
30 West Superior Street
Duluth, MN 55802
canderson@allete.com

Debbra A. Davey
Supervisor, Accounting
Minnesota Power
30 West Superior Street
Duluth, MN 55802
ddavey@allete.com

G. Service on Other Parties

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

H. Summary of Filing

A one-paragraph summary accompanies this Petition pursuant to Minn. Rules 7829.1300, subp. 1.

IV. REMAINING LIFE ADJUSTMENTS

Minnesota Power has reviewed its remaining lives and salvage value estimates for thermal, hydroelectric and wind production facilities. Minnesota Power has determined that all remaining lives of these facilities should be adjusted for one year's passage of time, with the exception of Laskin Energy Center. Laskin Energy Center's proposed life extension through 2030 is based on Minnesota Power completing the conversion of units 1 and 2 of its Laskin Energy Center to gas peaking generation facilities in June 2015. Minnesota Power believes a gas peaking generation facility has a fifteen year life. Therefore, Minnesota Power is requesting this life extension through 2030. Minnesota Power proposes estimated salvage rates be adjusted in accordance with updated decommissioning estimates for the thermal production facilities from the latest decommissioning study dated April 2015.

For purposes of this Petition, Minnesota Power is utilizing the information and forecast periods provided in the 2013 IRP. Appendix C of the 2013 IRP specifically addresses Minnesota Power's fossil generation resources.

Minnesota Power engaged a consulting firm to prepare a Site Decommissioning Study in 2015 (report dated April 2015) and incorporated it into this Petition. These new decommissioning estimates were used to calculate new estimated salvage rates. This latest Site Decommissioning Study and supporting schedules can be found in Attachment D.

The following schedule indicates the requested changes to remaining lives and salvage rates:

	Proposed Remaining Life (Years)	Proposed Salvage Rate
Thermal Production Plants		
Hibbard Renewable Energy Center	10.0	(1.08%)
Laskin Energy Center	16.0	(15.29%)
Boswell Energy Center		
Unit 1	10.0	(7.67%)
Unit 2	10.0	(9.88%)
Unit 3	20.0	(5.68%)
Unit 4	21.0	(6.03%)
Common	15.0	(2.10%)
Taconite Harbor Energy Center	12.0	(4.66%)
Cloquet Energy Center	10.0	0
Hydroelectric Production Plants		
Prairie River HE Station	49.0	0
Thomson HE Station	49.0	0
Fond du Lac HE Station	49.0	0
Winton HE Station	49.0	0
Knife Falls HE Station	49.0	0
Scanlon HE Station	49.0	0
Little Falls HE Station	49.0	0
Blanchard HE Station	49.0	0
Sylvan HE Station	49.0	0
Pillager HE Station	49.0	0
Birch Lake Reservoir	49.0	0
Boulder Lake Reservoir	49.0	0
Fish Lake Reservoir	49.0	0
Island Lake Reservoir	49.0	0
Rice Lake Reservoir	49.0	0
Whiteface Reservoir	49.0	0
Gauging Stations and White Iron Lake Reservoir	49.0	0
Other Production Plants		
Taconite Ridge I Wind	28.0	(0.33%)
Bison 1 Wind – Phase 1	30.0	(0.95%)
Bison 1 Wind – Phase 2	31.0	(0.93%)
Bison 2 Wind	32.0	(0.35%)
Bison 3 Wind	32.0	(0.42%)
Bison 4 Wind	34.0	0.03%

No changes were made to the decommissioning probabilities used to calculate the above salvage rates. Minnesota Power is waiting for direction in The Matter of a Commission Inquiry into Decommissioning Policies Related to Depreciation (Docket No. E,G-999/CI-13-626) before changing any decommissioning probabilities.

Within the 2013 IRP, Minnesota Power recognized that a key factor in the latter portion of the long-term plan period will be the aging of its generation fleet and uncertainty of carbon and other environmental compliance policies. During the 2013-2027 forecast period of this 2013 IRP, Minnesota Power proposed to remove THEC unit 3 from Minnesota Power's system by the end of 2015. Minnesota Power also proposed to refuel Laskin units 1 and 2 to operate on natural gas by 2015. THEC unit 3 ceased coal operations at the end of May 2015. Minnesota Power completed the conversion of units 1 and 2 of its Laskin Energy Center to gas peaking generation facilities in June 2015. Minnesota Power announced on July 9, 2015 the company's plan to cease coal operations at THEC units 1 and 2 in 2020 and economically idle THEC units 1 and 2 in the fall of 2016, which will be reflected in its 2015 IRP. Minnesota Power requests that the remaining net plant balances of all Taconite Harbor units retired be recovered over the current remaining life of the plant, which is 2026. The following is a discussion of Minnesota Power's production facilities and the proposed remaining lives of these facilities.

Hydroelectric Production Facilities

All of Minnesota Power's hydroelectric facilities hold Federal Energy Regulatory Commission (FERC) licenses and the facilities are being maintained in accordance with the terms of these licenses. The reservoirs, dams and gauging stations are expected to have a useful economic and operating life matching that of the hydro stations they support. All of Minnesota Power's hydroelectric production plant facilities are expected to operate beyond 2027, with estimated remaining lives through 2063. These estimated remaining lives agree with the proposed remaining lives in the 2015 IRP.

Wind Production Facilities

Taconite Ridge I Wind Energy Center, a 25 MW wind production facility with ten turbines, was placed in service on June 30, 2008. All production assets of the wind facility

are expected to operate beyond 2027, with an estimated remaining life through 2043. This estimated remaining life agrees with the proposed remaining life in the 2015 IRP.

In March 2009, Minnesota Power filed a petition for approval of investments and expenditures in the Bison 1 Wind Project (Docket No. E015/M-09-285). Minnesota Power received Commission approval on July 7, 2009. Minnesota Power developed this 81.8 MW wind production facility with thirty-one wind turbines as an integral part of the Company's Renewable Plan for obtaining 25 percent of its electricity for its retail customers from renewable energy sources by the year 2025. Minn. Stat. § 216B.1691. All production assets of the Bison 1 Wind facilities are expected to operate beyond 2027, with estimated remaining lives through 2045 and 2046 for Phase 1 and Phase 2, respectively. These estimated remaining lives agree with the proposed remaining lives in the 2015 IRP.

In March 2011, Minnesota Power filed a petition for approval of investments and expenditures in the Bison 2 Wind Project (Docket No. E015/M-11-234). Minnesota Power received Commission approval on September 8, 2011. Minnesota Power developed this 105 MW wind production facility with thirty-five wind turbines as an integral part of the Company's Renewable Plan for obtaining 25 percent of its electricity for its retail customers from renewable energy sources by the year 2025. Minn. Stat. § 216B.1691. All production assets of the Bison 2 Wind facilities are expected to operate beyond 2027, with an estimated remaining life through 2047. This estimated remaining life agrees with the proposed remaining life in the 2015 IRP.

In June 2011, Minnesota Power filed a petition for approval of investments and expenditures in the Bison 3 Wind Project (Docket No. E015/M-11-626). Minnesota Power received Commission approval on November 2, 2011. Minnesota Power developed this 105 MW wind production facility with thirty-five wind turbines as an integral part of the Company's Renewable Plan for obtaining 25 percent of its electricity for its retail customers from renewable energy sources by the year 2025. Minn. Stat. § 216B.1691. All production assets of the Bison 3 Wind facilities are expected to operate beyond 2027, with an estimated remaining life through 2047. This estimated remaining life agrees with the proposed remaining life in the 2015 IRP.

In September 2013, Minnesota Power filed a petition for approval of investments and expenditures in the Bison 4 Wind Project (Docket No. E015/M-13-907). Minnesota Power received Commission approval on December 10, 2013. Minnesota Power developed this 204.8 MW wind production facility with sixty-four wind turbines as an integral part of the Company's Renewable Plan for obtaining 25 percent of its electricity for its retail customers from renewable energy sources by the year 2025. Minn. Stat. § 216B.1691. All production assets of the Bison 4 Wind facilities are expected to operate beyond 2027, with an estimated remaining life through 2049. This estimated remaining life agrees with the proposed remaining life in the 2015 IRP.

Regulated Thermal Production Facilities

Minnesota Power's thermal units have remaining lives extending through the 2013 resource planning period or beyond with the exception of Hibbard Renewable Energy Center, Boswell units 1 and 2, Taconite Harbor Energy Center, and Cloquet Energy Center. Minnesota Power recognizes that a key factor in resource planning will be carbon and environmental legislation/regulation and its impact on its generation fleet.

The table below summarizes the differences between the proposed remaining lives of its facilities and both the end of the 2013 Resource Plan planning period and the 2015 IRP proposed remaining lives:

Thermal Production Plant	Proposed Remaining Life	2013 IRP Planning Period	2015 IRP Proposed Remaining Life
Hibbard Renewable Energy Center	2024	2027	2024
Laskin Energy Center	2030	2027	2030
Boswell Energy Center			
Unit 1	2024	2027	2024
Unit 2	2024	2027	2024
Unit 3	2034	2027	2034
Unit 4	2035	2027	2035
Common	2030	2027	2030
Taconite Harbor Energy Center	2026	2027	2026
Cloquet Energy Center	2024	2027	2024

Hibbard Renewable Energy Center (HREC) units 3 and 4, located at the M. L. Hibbard Facility, operate as peaking resources and have been providing a portion of Minnesota Power's spinning reserves since 2004. Steam that drives HREC units 3 and 4 turbine generators had been provided by the City of Duluth's Steam District #2, which also provides large quantities of steam to the adjacent NewPage paper mill. In 2008 Minnesota Power came to agreement with the City of Duluth and NewPage to purchase the steam production assets, HREC units 3 and 4 boilers and related facilities, from the City and supply steam to NewPage under a long term contract. On September 22, 2009, the Commission issued an Order approving the purchase (Docket No. E015/PA-08-928). The assets were transferred to Minnesota Power on September 30, 2009. The proposed salvage rate for Hibbard decreased due to lower decommissioning cost estimates primarily as a result of using a land fill that is closer and results in less disposal costs. The current remaining life of these units is estimated to extend to 2024 which is three years less than the 2027 date in the 2013 IRP and agrees with the proposed remaining life in the 2015 IRP.

Laskin Energy Center (Laskin) units 1 and 2 are sister units – similar in design and intended operation. Both units provide peaking energy. Laskin is treated as one unit and has one remaining life for purposes of computing annual depreciation accruals. Ongoing reinvestment has maintained the units in good overall condition. Minnesota Power completed the conversion of units 1 and 2 of its Laskin Energy Center to gas peaking generation facilities in June 2015. Minnesota Power proposes continuing to treat Laskin as one unit with one remaining life for purposes of computing annual depreciation accruals. The vast majority of Laskin's existing assets are required to serve the new mission; however, some assets will no longer be used now that the conversion to a gas plant has occurred. Coal related assets retired in June 2015 totaled $7.2 million and were accounted for as normal retirement units of utility plant. Laskin units 1 and 2 will continue operating as gas peaking generation facilities, and the remaining net plant balances retired will be recovered over the remaining lives of those facilities. In Minnesota Power's 2013 IRP and its Appendix L: *Accounting for Proposed Retirements and Decommissioning Study Discussion* it states that Minnesota Power will file the final accounting entries when final retirement amounts are available. The entry made in June 2015 was a debit to Account 10810 Accumulated Provision for Depreciation for

$7.2 million and a credit to Account 10110 Electric Plant in Service for $7.2 million. See additional information in Minnesota Power's 2013 IRP and its Appendix L: *Accounting for Proposed Retirements and Decommissioning Study Discussion.* Minnesota Power was in the process of investigating options for decommissioning the Laskin ash ponds when the final Coal Combustion Residuals (CCR) rule was issued by the EPA. The impact of the final CCR rule on the decommissioning cost estimates for Laskin ash ponds is still being evaluated. Minnesota Power expects to have a new plan in effect for decommissioning the Laskin ash ponds in 2016 and the decommissioning cost estimates related to this new plan will be reflected in 2016. Laskin Energy Center's proposed life extension through 2030 is based on Minnesota Power completing the conversion of units 1 and 2 of its Laskin Energy Center to gas peaking generation facilities in June 2015. Minnesota Power believes this gas peaking generation facility has a fifteen year life. Therefore, Minnesota Power is requesting this life extension through 2030. This proposed economic life of 2030 extends beyond the 2027 date in the 2013 IRP and agrees with the proposed remaining life in the 2015 IRP.

Boswell Energy Center units 1 and 2 are sister boilers – similar in design and intended operation. Both units provide base load energy and ancillary services. The units operate with emission control equipment including low NOx burners and bag houses to control particulates and mercury emissions. Minnesota Power has installed additional NOx emission reduction control systems including Rotating Opposed Fired Air and selective non-catalytic reduction at Boswell units 1 and 2. Additional environmental investments are under consideration for Boswell units 1 and 2 with implementation post-2015. The nature and timing of any future environmental investments has yet to be determined pending resolution of new environmental regulations and associated system requirements. The current remaining life of these units is estimated to extend to 2024 which is three year less than the 2027 date in the 2013 IRP and agrees with the proposed remaining life in the 2015 IRP.

Boswell Energy Center Unit 3 provides base load energy operating at a high load factor. On October 27, 2006, Minnesota Power submitted its Boswell 3 Environmental Improvement Plan (Boswell 3 Plan) which addresses the Mercury Emissions Reduction Act of 2006 as well as new state and federal emission control regulations and is one of Minnesota Power's steps toward meeting overall system requirements for mercury reductions, regional

haze and interstate air quality (Docket No. E-015/M-06-1501). Under the Boswell 3 Plan, Minnesota Power installed the most mature, commercially available technology to significantly reduce emissions of mercury and well-established control technologies that have the ability to meet Best Available Control Technology performance standards to significantly reduce NO_X, SO_2 and PM. Minnesota Power began on-site construction for the Boswell 3 Plan in spring 2007 and placed the retrofit in-service in November 2009. The current economic life of 2034 extends well beyond the 2027 date in the 2013 IRP and agrees with the proposed remaining life in the 2015 IRP.

Boswell Energy Center Unit 4 (BEC4) provides base load energy operating at a high load factor and is jointly owned by Minnesota Power (80 percent) and WPPI Energy (20 percent). The unit operates with NO_X emission reduction control systems including low NO_X burners and selective non-catalytic reduction, along with a high efficiency turbine rotor. Additional emission reduction options were studied in consideration of the Minnesota Mercury Reduction Act and additional federal regulatory standards that may apply. These options for BEC4 were provided to the Commission on June 30, 2011 in a report required under Minn. Stat. § 216B.6851, subd. 5 (Docket No. E015/M-11-712). On August 31, 2012, Minnesota Power filed with the Minnesota Public Utilities Commission and Minnesota Pollution Control Agency its mercury emission reduction plan filing for BEC4 in compliance with Minn. Stat. § 216B.6851. Minnesota Power received Commission approval on November 5, 2013. Minnesota Power is executing an environmental retrofit project on BEC4 as a multi-pollutant solution for reducing mercury, particulate matter, sulfur dioxide, and other hazardous air pollutants being addressed by EPA regulations while also reducing plant wastewater contemplated for regulation under EPA's Effluent Limit Guidelines. Minnesota Power's installing a semi-dry flue gas desulfurization system, fabric filter and powder activated carbon injection system to achieve compliance with the Minnesota Mercury Emission Reduction Act (MERA), the EPA Mercury and Air Toxics Rule, 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 emission reduction required by MERA while positioning the facility for compliance with other regulatory programs over the long term. Current operation and maintenance practices will continue with

performance of routine maintenance inspections and actions implemented as needed. The current economic life of 2035 extends beyond the 2027 date in the 2013 IRP and agrees with the proposed remaining life in the 2015 IRP.

The Company is currently evaluating whether the remaining life factors for all generating units at Boswell should be treated as one. Once this evaluation is complete, Minnesota Power intends to submit a separate filing with the Commission requesting approval to unify Boswell generation for depreciation purposes.

At Taconite Harbor Energy Center, significant reinvestment was made in the three units when the units restarted in 2002 after Minnesota Power acquired the facility in 2001, and again in the period 2006 to 2008 as part of Minnesota Power's Arrowhead Regional Emission Abatement (AREA) initiative. THEC units 1 and 2 were fitted with Mobotec multi-emission control technology designed to reduce NO_X, SO_2 and mercury emissions and electrostatic precipitator upgrades to reduce particulate emissions. Reinvestment has maintained them in overall good condition. Minnesota Power treats THEC as one unit with one remaining life for purposes of computing annual depreciation accruals and proposes continuing to treat THEC in this manner. Minnesota Power identified that the investment in retrofit technology for THEC unit 3 is not in the best interest of its customers. To protect affordability for customers in the near term and reduce emissions further in the region, Minnesota Power ceased coal operation for THEC unit 3 in May 2015. Assets retired in June 2015 attributable to THEC unit 3, and not needed for the continued operation of THEC units 1 and 2, totaled $17.7 million and were accounted for as normal retirements of utility plant. In Minnesota Power's 2013 IRP and its Appendix L: *Accounting for Proposed Retirements and Decommissioning Study Discussion* it states that Minnesota Power will file the final accounting entries when final retirement amounts are available. The entry made in June 2015 was a debit to Account 10810 Accumulated Provision for Depreciation for $17.7 million and a credit to Account 10110 Electric Plant in Service for $17.7 million. See additional information in Minnesota Power's 2013 IRP and its Appendix L: *Accounting for Proposed Retirements and Decommissioning Study Discussion.* In Minnesota Power's 2015 IRP due by September 1, 2015, the Commission ordered Minnesota Power to include full analysis of the effects of retiring or repowering THEC units 1 and 2, including transmission and

distribution effects. Minnesota Power announced on July 9, 2015 the company's plan to cease coal operations at THEC units 1 and 2 in 2020 and economically idle THEC units 1 and 2 in the fall of 2016, which will be reflected in its 2015 IRP. Minnesota Power requests that the remaining net plant balances of all Taconite Harbor units retired be recovered over the current remaining life of the plant, which is 2026. This current remaining life is one year less than the 2027 date in the 2013 IRP and agrees with the proposed remaining life in the 2015 IRP.

In 2000, Minnesota Power acquired an ownership interest in Sappi/Cloquet Generator No. 5 (S/C5) at Sappi's Cloquet paper mill as a non-regulated asset. See In the Matter of a Request by Minnesota Power, Inc. for a Personal Property Tax Exemption Finding, Docket No. E-015/M-00-572. Under the parties' agreement, Minnesota Power has an ownership interest in S/C5 for a period of 15 years, through July 1, 2016, at which time Sappi may choose at its own discretion to purchase the generator from Minnesota Power for a nominal amount. As part of Minnesota Power's prior general rate case (Docket No. E015/GR-08-415), the Department of Commerce, Division of Energy Resources [formerly the Office of Energy Security (OES)] recommended that S/C5 be included in Minnesota Power's rate base. The Administrative Law Judge (ALJ) agreed with OES's recommendation to include S/C5 in Minnesota Power's rate base. See ALJ Finding Paragraph 272. In its May 4, 2009 Order, the Commission adopted the ALJ's finding and S/C5 is now a regulated asset. The current remaining life of this unit is 2024, which is three years less than the 2027 date in the 2013 IRP and agrees with the proposed remaining life in the 2015 IRP. Minnesota Power is in discussions with Sappi and believes it is likely that Sappi will exercise an option under the contract to transfer ownership of the Cloquet Energy Center Generator No. 5 from Minnesota Power to Sappi for a nominal amount on July 1, 2016. If Sappi exercises this option, Minnesota Power requests that the assets transferred be treated as normal retirements and the remaining depreciable balance be depreciated over the remaining useful life of 2024.

Minnesota Power will continue to address the reconciliation between remaining lives and the latest approved Integrated Resource Plan (currently the 2013 IRP) in a reasonable and timely manner. Minnesota Power received approval of its 2013 IRP in an order dated November 12, 2013. Minnesota Power's Petition is being filed on July 31, 2015 to ensure

that information in the Petition and the 2015 IRP is consistently applied or the reasons for any differences are explained. As reconciliation issues are addressed, Minnesota Power will review its remaining lives, making any adjustment based on the factors known at that time.

In future years, Minnesota Power requests that in the year the company files an Integrated Resource Plan the Remaining Life Depreciation Petition for that year is due on the same date as the IRP. If the IRP is due before April 15, Minnesota Power requests the due date of the Petition remains at April 15. This is to ensure that information in Minnesota Power's Petition and the IRP is consistently applied or the reasons for any differences are explained.

Minnesota Power has also reviewed its remaining lives and salvage value estimates for certain general plant accounts. These accounts include Account 3900-Structures and Improvements and Account 3928-Transportation Equipment/Fixed-Wing Aircraft.

Minnesota Power recommends no changes except for the passage of one year's time for Accounts 3900 and 3928.

Acct. No.	Class of Utility Plant	Remaining Life (Years)	Net Salvage
3900	Structures & Improvements	23.0	0%
3928	Transportation Equipment Fixed-Wing Aircraft	3.0	75%

Enclosed in Attachment A please find depreciation schedules as required by Commission filing requirements, Minn. Rules 7825.0700, subp. 1: Plant in Service, Analysis of Depreciation Reserve, and Summary of Annual Depreciation Accruals. Also, enclosed in Attachment B is a schedule comparing Minnesota Power's depreciation expense calculated using its current decommissioning probabilities and its depreciation expense calculated without decommissioning uncertainties. Last, enclosed in Attachment C is a schedule of supplemental depreciation expense recorded in prior years as well as the supplemental depreciation expense to be recorded in the future.

V. FUTURE ADDITIONS OR RETIREMENTS AFFECTING CURRENT CERTIFICATION

Subpart B of this section requires a list of any major future additions or retirements to the plant accounts that the utility believes may have a material effect on the current certification results. Minnesota Power does not have any major future additions or retirements to plant accounts that would materially impact the 2015 depreciation accruals.

Minnesota Power announced on July 9, 2015 the company's plan to cease coal operations at THEC 1 and 2 in 2020 and economically idle THEC 1 and 2 in the fall of 2016, which will be reflected in its 2015 IRP.

VI. CONCLUSION

Minnesota Power respectfully requests that the Commission approve the Petition. Minnesota Power is requesting that the remaining lives of all facilities be adjusted for one year's passage of time, with the exception of Laskin Energy Center.

Laskin Energy Center's proposed life extension through 2030 is based on Minnesota Power completing the conversion of units 1 and 2 of its Laskin Energy Center to gas peaking generation facilities in June 2015. Minnesota Power believes this gas peaking generation facility has a fifteen year life. Therefore, Minnesota Power is requesting a life extension through 2030.

Minnesota Power announced on July 9, 2015 the company's plan to cease coal operations at THEC units 1 and 2 in 2020 and economically idle THEC units 1 and 2 in the fall of 2016, which will be reflected in its 2015 IRP. Minnesota Power requests that the remaining net plant balances of all Taconite Harbor units retired be recovered over the current remaining life of the plant, which is 2026.

Minnesota Power is in discussions with Sappi and believes it is likely that Sappi will exercise an option under the contract to transfer ownership of the Cloquet Energy Center Generator No. 5 from Minnesota Power to Sappi for a nominal amount on July 1, 2016. If

Sappi exercises this option, Minnesota Power requests that the assets transferred be treated as normal retirements and the remaining depreciable balance be depreciated over the remaining useful life of 2024.

Minnesota Power proposes estimated salvage rates be adjusted in accordance with the results of the latest decommissioning study dated April 2015. The decommissioning study was updated with new decommissioning estimates to be used in the 2015 IRP due by September 1, 2015. The estimates of closure costs for ash and water management infrastructure at Boswell Energy Center changed due to the estimated impacts of the new EPA's Coal Combustion Residual Rules. Decommissioning estimates were also included for Bison 1 through 4 and Taconite Ridge I wind facilities.

The proposed changes to remaining lives and estimated salvage rates result in an estimated decrease to 2015 annual depreciation expense of $570,000.

In future years, Minnesota Power requests that in the year the company files an Integrated Resource Plan the Remaining Life Depreciation Petition for that year is due on the same date as the IRP. If the IRP is due before April 15, Minnesota Power requests the due date of the Petition remains at April 15. This is to ensure that information in Minnesota Power's Petition and the IRP is consistently applied or the reasons for any differences are explained.

Date: July 31, 2015

Respectfully submitted,

/s/ Debbra A. Davey

Debbra A. Davey
Supervisor, Accounting
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Duluth, MN 55802
(218) 355-3714
ddavey@allete.com

STATE OF MINNESOTA	)	AFFIDAVIT OF SERVICE VIA ELECTRONIC FILING
	) ss	
COUNTY OF ST. LOUIS	)	

Susan Romans of the City of Duluth, County of St. Louis, State of Minnesota, says that on the 31st day of July, 2015, she served Minnesota Power's 2015 Remaining Life Petition on the Minnesota Public Utilities Commission and the Energy Resources Division of the Minnesota Department of Commerce via electronic filing. The persons on the attached service list were served as requested.

Susan Romans

First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
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MINNESOTA POWER
PRODUCTION PLANT
COMPARISON OF PRESENT AND PROPOSED REMAINING LIVES
2015

	Depreciable Plant Balance 12/31/14	Depreciation Reserve 12/31/14	Present Rates: Remaining Life (01/01/15)	Present Rates: Salvage Value (01/01/15)	Present Rates: 2015 Annual Accrual	Proposed Rates: Remaining Life (01/01/15)	Proposed Rates: Salvage Value (01/01/15)	Proposed Rates: 2015 Annual Accrual	Effect of Rate Changes to 2015 Accrual
Steam Generation									
Hibbard SE Station:	91,181,441	50,028,547	10	-2.42%	4,335,948	10	-1.08%	4,213,765	(122,183)
Laskin Energy Center	80,048,373	57,129,153	10	-14.50%	3,452,623	16	-15.29%	2,197,414	(1,255,209)
Boswell Energy Center:	1,082,262,136	455,924,021			36,683,428			37,343,131	659,703
Unit No. 1	46,359,481	25,424,653	10	-6.09%	2,375,812	10	-7.67%	2,449,060	73,248
Unit No. 2	36,410,959	24,557,632	10	-7.90%	1,472,979	10	-9.88%	1,545,073	72,094
Unit No. 3	459,289,395	139,735,182	20	-4.50%	17,011,112	20	-5.68%	17,282,093	270,981
Unit No. 4	355,130,026	172,518,768	21	-4.62%	9,477,060	21	-6.03%	9,715,505	238,445
Common	185,072,275	93,687,786	15	-2.06%	6,346,465	15	-2.10%	6,351,400	4,935
Taconite Harbor Energy Center	155,530,451	57,729,062			8,671,925			8,734,643	62,718
Structure/Unit	150,522,026	52,720,637	12	-4.16%	8,671,925	12	-4.66%	8,734,643	62,718
Ash Ponds*	5,008,425	5,008,425	0	-4.16%	-	0	-4.66%	-	-
Cloquet Energy Center	8,259,986	5,568,756	10	0.00%	269,123	10	0.00%	269,123	-
Total Steam Generation	1,417,282,387	626,379,539			53,413,047			52,758,076	(654,971)
Wind Generation									
Bison 1A	76,427,719	9,898,321	30	0.00%	2,217,647	30	-0.95%	2,241,849	24,202
Bison 1B	73,284,514	4,247,500	31	0.00%	2,227,000	31	-0.93%	2,248,986	21,986
Bison 2	150,335,809	10,189,365	32	0.00%	4,379,576	32	-0.35%	4,396,019	16,443
Bison 3	149,488,322	8,980,978	32	0.00%	4,390,855	32	-0.42%	4,410,475	19,620
Bison 4	320,956,002	667,806	34	0.00%	9,420,241	34	0.03%	9,417,409	(2,832)
Subtotal Bison	770,492,366	33,983,970			22,635,319			22,714,738	79,419
Taconite Ridge I Energy Center	45,602,384	4,559,381	28	0.00%	1,465,822	28	-0.33%	1,471,196	5,374
Total Wind Generation	816,094,750	38,543,351			24,101,141			24,185,934	84,793
Hydroelectric Production Plants									
Birch Lake Reservoir	3,475,668	215,713	49	0.00%	66,530	49	0.00%	66,530	-
Blanchard HE Station	10,474,221	5,632,427	49	0.00%	98,812	49	0.00%	98,812	-
Boulder Lake Reservoir	483,407	315,850	49	0.00%	3,420	49	0.00%	3,420	-
Fish Lake Reservoir	945,803	215,592	49	0.00%	14,902	49	0.00%	14,902	-
Fond du Lac HE Station	18,148,759	3,211,808	49	0.00%	304,836	49	0.00%	304,836	-
Gauging Stations	125,451	61,044	49	0.00%	1,314	49	0.00%	1,314	-
Island Lake Reservoir	1,459,633	1,033,723	49	0.00%	8,692	49	0.00%	8,692	-
Knife Falls HE Station	3,328,194	1,810,291	49	0.00%	30,978	49	0.00%	30,978	-
Little Falls HE Station	8,010,145	4,091,729	49	0.00%	79,968	49	0.00%	79,968	-
Pillager HE Station	2,089,208	1,299,244	49	0.00%	16,122	49	0.00%	16,122	-
Prairie River HE Station	4,996,088	905,183	49	0.00%	83,488	49	0.00%	83,488	-
Rice Lake Reservoir	73,324	51,114	49	0.00%	453	49	0.00%	453	-
Scanlon HE Station	2,569,705	1,517,430	49	0.00%	21,475	49	0.00%	21,475	-
Sylvan HE Station	2,252,289	1,495,341	49	0.00%	15,448	49	0.00%	15,448	-
Thomson HE Station	75,892,815	14,116,792	49	0.00%	1,260,735	49	0.00%	1,260,735	-
White Iron Lake Reservoir	28,934	13,703	49	0.00%	311	49	0.00%	311	-
Whiteface Reservoir	1,224,487	581,499	49	0.00%	13,122	49	0.00%	13,122	-
Winton HE Station	4,845,829	2,486,441	49	0.00%	48,151	49	0.00%	48,151	-
Total Hydroelectric Production Plants	140,423,960	39,054,924			2,068,757			2,068,757	-
Total Generation	2,373,801,097	703,977,814			79,582,945			79,012,767	(570,178)

2015 Impact of Increase in Annual Accural 2008-2012 Due to Using Gross Salvage Rates 1,490,400

** The ash ponds have a 5 year life, as they are built and filled in on a 5-year cycle. New Ash Ponds with 5 year life added in 2010.*

Sources: MP Plant In Service report, PowerPlant Depr-1033 report and Remaining Life Comparison to IRP

Minnesota Power
Plant in Service - 2014
Steam Production

Facility	Plant Accout	Beginning Balance	Current Additions	Current Retirements	Current Transfer/Adjustments	Ending Balance
Boswel Energy Center Common: 0115	3100 Land & Land Rights, Fee	4,295,713.93	-	-	-	4,295,713.93
	3110 Structures & Improv	20,829,772.07	661,954.15	(19,540.00)	-	21,472,186.22
	3111 Structures & Improv, Pollution	14,275,945.04	-	-	-	14,275,945.04
	3120 Boiler Plant Equip	53,586,706.76	2,481,394.28	(628,874.55)	-	55,439,226.49
	3121 Boiler Plant Equip, Pollution	73,924,536.31	1,065,429.00	(178,021.68)	-	74,811,943.63
	3140 Turbogenerator Units	1,057,687.06	-	-	-	1,057,687.06
	3141 Turbogenerator Units,Pollution	67,393.37	57,285.57	(12,789.47)	-	111,889.47
	3150 Accessory Elec Equip	8,642,887.53	2,274,375.50	(213,697.45)	-	10,703,565.58
	3151 Accessory Elec Equip,Pollution	2,301,997.61	-	-	-	2,301,997.61
	3160 Misc Power Plt Eq	4,813,896.13	175,715.79	(91,912.14)	-	4,897,699.78
	3161 Misc Power Plt Eq, Pollution	133.76	-	-	-	133.76
	Total	**183,796,669.57**	**6,716,154.29**	**(1,144,835.29)**	**-**	**189,367,988.57**
Boswell Energy Center Unit 1: 0111	3100 Land & Land Rights, Fee	59,858.35	-	-	-	59,858.35
	3110 Structures & Improv	2,800,821.98	(8,729.13)	(4,557.00)	-	2,787,535.85
	3111 Structures & Improv, Pollution	31,336.53	-	-	-	31,336.53
	3120 Boiler Plant Equip	13,723,228.23	121,175.77	-	-	13,844,404.00
	3121 Boiler Plant Equip, Pollution	12,788,495.44	391,521.74	-	-	13,180,017.18
	3140 Turbogenerator Units	8,732,407.43	(836.48)	-	-	8,731,570.95
	3141 Turbogenerator Units,Pollution	215,707.27	(7,515.77)	-	-	208,191.50
	3150 Accessory Elec Equip	8,172,583.46	(832,924.87)	-	-	7,339,658.59
	3151 Accessory Elec Equip,Pollution	236,766.85	-	-	-	236,766.85
	3160 Misc Power Plt Eq	-	-	-	-	-
	Total	**46,761,205.54**	**(337,308.74)**	**(4,557.00)**	**-**	**46,419,339.80**
Boswell Energy Center Unit 2: 0112	3100 Land & Land Rights, Fee	59,687.82	-	-	-	59,687.82
	3110 Structures & Improv	1,810,150.01	-	-	-	1,810,150.01
	3111 Structures & Improv, Pollution	1,039.83	-	-	-	1,039.83
	3120 Boiler Plant Equip	12,917,337.71	-	-	-	12,917,337.71
	3121 Boiler Plant Equip, Pollution	9,022,408.09	406,192.64	-	-	9,428,600.73
	3140 Turbogenerator Units	8,901,899.28	-	-	-	8,901,899.28
	3141 Turbogenerator Units,Pollution	53,247.44	-	-	-	53,247.44
	3150 Accessory Elec Equip	3,298,684.42	-	-	-	3,298,684.42
	3160 Misc Power Plt Eq	-	-	-	-	-
	Total	**36,064,454.60**	**406,192.64**	**-**	**-**	**36,470,647.24**
Boswell Energy Center Unit 3: 0113	3100 Land & Land Rights, Fee	3,104,623.53	-	-	-	3,104,623.53
	3110 Structures & Improv	21,165,997.60	455,879.37	-	-	21,621,876.97
	3111 Structures & Improv, Pollution	19,558,786.06	-	-	-	19,558,786.06
	3120 Boiler Plant Equip	84,847,544.78	3,053,010.81	(23,149.00)	-	87,877,406.59
	3121 Boiler Plant Equip, Pollution	246,280,420.55	4,035,824.27	-	-	250,316,244.82
	3140 Turbogenerator Units	34,273,556.15	1,657,447.17	-	-	35,931,003.32
	3141 Turbogenerator Units,Pollution	5,238,203.92	127,107.36	-	-	5,365,311.28
	3150 Accessory Elec Equip	35,504,746.93	-	(175,000.00)	-	35,329,746.93

Minnesota Power
Plant in Service - 2014
Steam Production

Facility	Plant Accout	Beginning Balance	Current Additions	Current Retirements	Current Transfer/Adjustments	Ending Balance
	3151 Accessory Elec Equip,Pollution	2,722,017.86	(8,764.54)	-	-	2,713,253.32
	3160 Misc Power Plt Eq	575,765.44	-	-	-	575,765.44
	Total	**453,271,662.82**	**9,320,504.44**	**(198,149.00)**	**-**	**462,394,018.26**
Boswell Energy Center Unit 4: 0114	3100 Land & Land Rights, Fee	355,534.09	-	-	-	355,534.09
	3110 Structures & Improv	28,363,981.76	1,053,818.59	-	-	29,417,800.35
	3111 Structures & Improv, Pollution	15,082,516.58	-	-	-	15,082,516.58
	3120 Boiler Plant Equip	115,035,925.35	1,393,877.43	(844,220.86)	-	115,585,581.92
	3121 Boiler Plant Equip, Pollution	79,494,923.41	399,598.94	(158,408.83)	-	79,736,113.52
	3140 Turbogenerator Units	57,856,531.10	(575,725.70)	(802,153.61)	-	56,478,651.79
	3141 Turbogenerator Units,Pollution	12,136,296.62	121,697.40	(25,532.64)	-	12,232,461.38
	3150 Accessory Elec Equip	28,557,298.73	(39,427.00)	-	-	28,517,871.73
	3151 Accessory Elec Equip,Pollution	16,690,357.20	-	-	-	16,690,357.20
	3160 Misc Power Plt Eq	959,565.75	-	-	-	959,565.75
	3161 Misc Power Plt Eq, Pollution	429,105.31	-	-	-	429,105.31
	Total	**354,962,035.90**	**2,353,839.66**	**(1,830,315.94)**	**-**	**355,485,559.62**
Cloquet Energy Center: 0170	3110 Structures & Improv	1,112,885.18	-	-	-	1,112,885.18
	3120 Boiler Plant Equip	1,401,448.87	-	-	-	1,401,448.87
	3140 Turbogenerator Units	5,100,045.82	34,183.91	-	-	5,134,229.73
	3141 Turbogenerator Units,Pollution	72,348.34	-	-	-	72,348.34
	3150 Accessory Elec Equip	539,073.80	-	-	-	539,073.80
	Total	**8,225,802.01**	**34,183.91**	**-**	**-**	**8,259,985.92**
Hibbard EC 100% HEC - Loc 101: 0101	3100 Land & Land Rights, Fee	30,716.52	-	-	-	30,716.52
	3110 Structures & Improv	4,356,252.72	886,666.02	(30,474.04)	-	5,212,444.70
	3111 Structures & Improv, Pollution	-	-	-	-	-
	3120 Boiler Plant Equip	55,119,692.06	6,903,360.82	(3,357,412.36)	-	58,665,640.52
	3121 Boiler Plant Equip, Pollution	12,025,095.38	(42,455.46)	-	-	11,982,639.92
	3140 Turbogenerator Units	10,331,002.02	(10,737.51)	-	-	10,320,264.51
	3150 Accessory Elec Equip	4,038,673.94	45,144.54	(190.00)	-	4,083,628.48
	3160 Misc Power Plt Eq	916,771.03	51.67	-	-	916,822.70
	Total	**86,818,203.67**	**7,782,030.08**	**(3,388,076.40)**	**-**	**91,212,157.35**
LASKIN ENERGY CENTER: 0105	3100 Land & Land Rights, Fee	253,164.48	-	-	-	253,164.48
	3110 Structures & Improv	6,079,866.42	344,110.94	(32,449.00)	-	6,391,528.36
	3111 Structures & Improv, Pollution	4,770,998.40	(15,994.54)	-	-	4,755,003.86
	3120 Boiler Plant Equip	24,010,568.24	(962.72)	(9,000.00)	-	24,000,605.52
	3121 Boiler Plant Equip, Pollution	25,823,332.39	(22,272.82)	(22,165.00)	-	25,778,894.57
	3140 Turbogenerator Units	11,005,824.12	24,565.22	(29,287.37)	-	11,001,101.97
	3141 Turbogenerator Units,Pollution	754,598.17	-	-	-	754,598.17
	3150 Accessory Elec Equip	5,336,668.76	42,950.53	(23,109.45)	-	5,356,509.84
	3151 Accessory Elec Equip,Pollution	628,544.24	-	-	-	628,544.24
	3160 Misc Power Plt Eq	1,363,551.64	-	-	-	1,363,551.64

Minnesota Power
Plant in Service - 2014
Steam Production

Facility	Plant Accout	Beginning Balance	Current Additions	Current Retirements	Current Transfer/Adjustments	Ending Balance
	3161 Misc Power Plt Eq, Pollution	18,035.02	-	-	-	18,035.02
	Total	**80,045,151.88**	**372,396.61**	**(116,010.82)**	**-**	**80,301,537.67**
Taconite Harbor Energy Center: 0185	3100 Land & Land Rights, Fee	143,350.45	-	-	-	143,350.45
	3110 Structures & Improv	11,353,396.99	334,686.75	(157,620.08)	-	11,530,463.66
	3111 Structures & Improv, Pollution	5,371,703.29	-	-	-	5,371,703.29
	3120 Boiler Plant Equip	39,706,695.13	538,262.60	(379,487.77)	-	39,865,469.96
	3121 Boiler Plant Equip, Pollution	62,389,260.05	479,007.93	-	-	62,868,267.98
	3140 Turbogenerator Units	13,913,982.41	(12,141.71)	(30,000.00)	-	13,871,840.70
	3141 Turbogenerator Units,Pollution	552,793.99	-	-	-	552,793.99
	3150 Accessory Elec Equip	13,921,888.78	149,981.84	(53.48)	-	14,071,817.14
	3151 Accessory Elec Equip,Pollution	6,234,191.44	-	-	-	6,234,191.44
	3160 Misc Power Plt Eq	1,162,015.12	1,888.09	-	-	1,163,903.21
	Total	**154,749,277.65**	**1,491,685.50**	**(567,161.33)**	**-**	**155,673,801.82**
	Grand Total	**1,404,694,463.64**	**28,139,678.39**	**(7,249,105.78)**	**-**	**1,425,585,036.25**
Summary all Steam Plants	3100 Land & Land Rights, Fee	8,302,649.17	-	-	-	8,302,649.17
	3110 Structures & Improv	97,873,124.73	3,728,386.69	(244,640.12)	-	101,356,871.30
	3111 Structures & Improv, Pollution	59,092,325.73	(15,994.54)	-	-	59,076,331.19
	3120 Boiler Plant Equip	400,349,147.13	14,490,118.99	(5,242,144.54)	-	409,597,121.58
	3121 Boiler Plant Equip, Pollution	521,748,471.62	6,712,846.24	(358,595.51)	-	528,102,722.35
	3140 Turbogenerator Units	151,172,935.39	1,116,754.90	(861,440.98)	-	151,428,249.31
	3141 Turbogenerator Units,Pollution	19,090,589.12	298,574.56	(38,322.11)	-	19,350,841.57
	3150 Accessory Elec Equip	108,012,506.35	1,640,100.54	(412,050.38)	-	109,240,556.51
	3151 Accessory Elec Equip,Pollution	28,813,875.20	(8,764.54)	-	-	28,805,110.66
	3160 Misc Power Plt Eq	9,791,565.11	177,655.55	(91,912.14)	-	9,877,308.52
	3161 Misc Power Plt Eq, Pollution	447,274.09	-	-	-	447,274.09
	Grand Total	**1,404,694,463.64**	**28,139,678.39**	**(7,249,105.78)**	**-**	**1,425,585,036.25**

Minnesota Power
Plant in Service-2014
Hydro

Facility	Plant Account	Beginning Balance	Current Addition	Current Retirements	Transfers and Adjustments	Ending Balance
BIRCH LAKE RESERVOIR - PROJECT 469	3300 Land & Land Rights, Fee	1,556.25	-	-	-	1,556.25
	3305 Land & Land Rights, Easements	232.79	-	-	-	232.79
	3307 Land & Land Rights-Recr, Easem	381.50	-	-	-	381.50
	3312 Structure & Improvements, Recr	14,922.38	-	-	-	14,922.38
	3320 Reservoirs, Dams & Waterways	260,898.97	3,171,096.50	-	-	3,431,995.47
	3322 Reservoirs, Dams & Water, Recr	1,176.00	-	-	-	1,176.00
	3340 Accessory Electric Equipment	27,573.67	-	-	-	27,573.67
	Total	**306,741.56**	**3,171,096.50**	**-**	**-**	**3,477,838.06**
BLANCHARD HE STATION - PROJECT 346	3300 Land & Land Rights, Fee	56,631.61	-	-	-	56,631.61
	3302 Land & Land Rights-Recr, Fee	2,018.12	-	-	-	2,018.12
	3305 Land & Land Rights, Easements	75,807.00	-	-	-	75,807.00
	3310 Structure & Improvements	780,570.96	-	-	-	780,570.96
	3312 Structure & Improvements, Recr	83,759.38	-	-	-	83,759.38
	3320 Reservoirs, Dams & Waterways	3,492,083.10	599,650.25	-	-	4,091,733.35
	3330 Water Wheels, Turbines & Gen	3,391,594.70	-	-	-	3,391,594.70
	3340 Accessory Electric Equipment	1,974,930.43	-	-	-	1,974,930.43
	3350 Miscellaneous Power Plant Equi	151,631.93	-	-	-	151,631.93
	Total	**10,009,027.23**	**599,650.25**	**-**	**-**	**10,608,677.48**
BOULDER LAKE RESERVOIR - PROJECT 23	3300 Land & Land Rights, Fee	82,749.91	-	-	-	82,749.91
	3302 Land & Land Rights-Recr, Fee	130.73	-	-	-	130.73
	3305 Land & Land Rights, Easements	3,682.00	-	-	-	3,682.00
	3310 Structure & Improvements	3,142.11	-	-	-	3,142.11
	3312 Structure & Improvements, Recr	254,592.89	-	-	-	254,592.89
	3320 Reservoirs, Dams & Waterways	191,288.68	-	-	-	191,288.68
	3322 Reservoirs, Dams & Water, Recr	1,745.39	-	-	-	1,745.39
	3340 Accessory Electric Equipment	20,039.76	-	-	-	20,039.76
	3360 Roads, Railroads And Bridges	12,598.51	-	-	-	12,598.51
	Total	**569,969.98**	**-**	**-**	**-**	**569,969.98**
CLOQUET AND ST LOUIS RVR GAG'G STA	3300 Land & Land Rights, Fee	2,068.21	-	-	-	2,068.21
	3320 Reservoirs, Dams & Waterways	69,586.38	-	-	-	69,586.38

Minnesota Power
Plant in Service-2014
Hydro

Facility	Plant Account	Beginning Balance	Current Addition	Current Retirements	Transfers and Adjustments	Ending Balance
	3340 Accessory Electric Equipment	55,864.48	-	-	-	55,864.48
	Total	**127,519.07**	**-**	**-**	**-**	**127,519.07**
FISH LAKE RESERVOIR - PROJECT 2360	3300 Land & Land Rights, Fee	43,203.60	-	-	-	43,203.60
	3302 Land & Land Rights-Recr, Fee	86.24	-	-	-	86.24
	3305 Land & Land Rights, Easements	19,193.38	-	-	-	19,193.38
	3312 Structure & Improvements, Recr	43,537.22	-	-	-	43,537.22
	3320 Reservoirs, Dams & Waterways	881,122.70	-	-	-	881,122.70
	3322 Reservoirs, Dams & Water, Recr	2,278.05	-	-	-	2,278.05
	3340 Accessory Electric Equipment	18,864.63	-	-	-	18,864.63
	Total	**1,008,285.82**	**-**	**-**	**-**	**1,008,285.82**
FOND DU LAC HE STA PROJECT 2360	3300 Land & Land Rights, Fee	874,753.53	-	-	-	874,753.53
	3310 Structure & Improvements	828,352.56	-	-	-	828,352.56
	3312 Structure & Improvements, Recr	24,973.68	-	-	-	24,973.68
	3320 Reservoirs, Dams & Waterways	10,062,653.55	875,134.90	(16,841.00)	-	10,920,947.45
	3330 Water Wheels, Turbines & Gen	3,163,099.85	1,993,206.22	(369,032.00)	-	4,787,274.07
	3340 Accessory Electric Equipment	4,236,499.52	(2,770,613.54)	-	-	1,465,885.98
	3350 Miscellaneous Power Plant Equi	104,120.79	-	-	-	104,120.79
	3360 Roads, Railroads And Bridges	17,204.68	-	-	-	17,204.68
	Total	**19,311,658.16**	**97,727.58**	**(385,873.00)**	**-**	**19,023,512.74**
ISLAND LAKE RESERVOIR - PROJECT 236	3300 Land & Land Rights, Fee	245,752.63	-	-	-	245,752.63
	3301 Land & Land Rights-Fish, Fee	588.76	-	-	-	588.76
	3302 Land & Land Rights-Recr, Fee	1,831.33	-	-	-	1,831.33
	3305 Land & Land Rights, Easements	70,314.04	-	-	-	70,314.04
	3307 Land & Land Rights-Recr, Easem	500.00	-	-	-	500.00
	3310 Structure & Improvements	26,447.12	-	-	-	26,447.12
	3312 Structure & Improvements, Recr	374,891.34	-	-	-	374,891.34
	3320 Reservoirs, Dams & Waterways	1,049,850.09	-	-	-	1,049,850.09
	3322 Reservoirs, Dams & Water, Recr	5,448.42	-	-	-	5,448.42
	3360 Roads, Railroads And Bridges	2,996.41	-	-	-	2,996.41
	Total	**1,778,620.14**	**-**	**-**	**-**	**1,778,620.14**

Minnesota Power
Plant in Service-2014
Hydro

Facility	Plant Account	Beginning Balance	Current Addition	Current Retirements	Transfers and Adjustments	Ending Balance
KNIFE FALLS HE STATION - PROJECT 23	3300 Land & Land Rights, Fee	3,779.70	-	-	-	3,779.70
	3305 Land & Land Rights, Easements	34,453.54	-	-	-	34,453.54
	3310 Structure & Improvements	231,511.94	-	-	-	231,511.94
	3312 Structure & Improvements, Recr	2,759.52	-	-	-	2,759.52
	3320 Reservoirs, Dams & Waterways	1,885,244.85	-	-	-	1,885,244.85
	3330 Water Wheels, Turbines & Gen	290,616.45	-	-	-	290,616.45
	3340 Accessory Electric Equipment	903,730.37	-	-	-	903,730.37
	3350 Miscellaneous Power Plant Equi	13,873.55	-	-	-	13,873.55
	3360 Roads, Railroads And Bridges	457.30	-	-	-	457.30
	Total	**3,366,427.22**	**-**	**-**	**-**	**3,366,427.22**
LITTLE FALLS HE STATION - PROJECT 2	3300 Land & Land Rights, Fee	182,693.08	-	-	-	182,693.08
	3305 Land & Land Rights, Easements	21,429.84	-	-	-	21,429.84
	3310 Structure & Improvements	1,015,948.15	-	-	-	1,015,948.15
	3312 Structure & Improvements, Recr	6,042.41	-	-	-	6,042.41
	3320 Reservoirs, Dams & Waterways	2,500,574.65	212,297.41	-	-	2,712,872.06
	3330 Water Wheels, Turbines & Gen	2,449,731.95	834,566.63	(11,578.22)	-	3,272,720.36
	3340 Accessory Electric Equipment	1,647,124.24	(848,113.13)	-	-	799,011.11
	3350 Miscellaneous Power Plant Equi	194,427.36	9,123.30	-	-	203,550.66
	Total	**8,017,971.68**	**207,874.21**	**(11,578.22)**	**-**	**8,214,267.67**
MISC OPERATING LANDS - KAWISHIWI RI	3305 Land & Land Rights, Easements	60.31	-	-	-	60.31
	Total	**60.31**	**-**	**-**	**-**	**60.31**
MISC OPERATING LANDS - MIDWAY RIVER	3300 Land & Land Rights, Fee	1,954.32	-	-	-	1,954.32
	Total	**1,954.32**	**-**	**-**	**-**	**1,954.32**
MISC OPERATING LANDS - ST LOUIS RIV	3300 Land & Land Rights, Fee	62,649.52	-	-	-	62,649.52
	3305 Land & Land Rights, Easements	503,278.12	-	-	-	503,278.12
	Total	**565,927.64**	**-**	**-**	**-**	**565,927.64**
PILLAGER HE STATION - PROJECT 2663	3300 Land & Land Rights, Fee	61,067.17	-	-	-	61,067.17

Minnesota Power
Plant in Service-2014
Hydro

Facility	Plant Account	Beginning Balance	Current Addition	Current Retirements	Transfers and Adjustments	Ending Balance
	3305 Land & Land Rights, Easements	68,003.91	-	-	-	68,003.91
	3310 Structure & Improvements	107,643.63	-	-	-	107,643.63
	3312 Structure & Improvements, Recr	12,789.11	-	-	-	12,789.11
	3320 Reservoirs, Dams & Waterways	1,458,642.50	-	-	-	1,458,642.50
	3330 Water Wheels, Turbines & Gen	219,148.56	-	-	-	219,148.56
	3340 Accessory Electric Equipment	234,571.29	41,955.59	-	-	276,526.88
	3350 Miscellaneous Power Plant Equi	12,960.27	-	-	-	12,960.27
	3360 Roads, Railroads And Bridges	1,497.48	-	-	-	1,497.48
	Total	**2,176,323.92**	**41,955.59**	**-**	**-**	**2,218,279.51**
PRAIRIE RIVER HE STATION - MINOR PR	3300 Land & Land Rights, Fee	1,031.76	-	-	-	1,031.76
	3310 Structure & Improvements	3,726,033.26	(113,778.68)	-	-	3,612,254.58
	3312 Structure & Improvements, Recr	6,098.46	-	-	-	6,098.46
	3320 Reservoirs, Dams & Waterways	959,420.36	-	-	-	959,420.36
	3330 Water Wheels, Turbines & Gen	417,908.55	-	-	-	417,908.55
	3340 Accessory Electric Equipment	405.94	-	-	-	405.94
	3350 Miscellaneous Power Plant Equi	-	-	-	-	-
	Total	**5,110,898.33**	**(113,778.68)**	**-**	**-**	**4,997,119.65**
RICE LAKE RESERVOIR - PROJECT 2360	3300 Land & Land Rights, Fee	13,319.62	-	-	-	13,319.62
	3305 Land & Land Rights, Easements	6,359.61	-	-	-	6,359.61
	3312 Structure & Improvements, Recr	2,497.79	-	-	-	2,497.79
	3320 Reservoirs, Dams & Waterways	52,557.61	-	-	-	52,557.61
	3340 Accessory Electric Equipment	18,269.12	-	-	-	18,269.12
	Total	**93,003.75**	**-**	**-**	**-**	**93,003.75**
SCANLON HE STATION - PROJECT 2360	3300 Land & Land Rights, Fee	16,283.77	-	-	-	16,283.77
	3305 Land & Land Rights, Easements	500.00	-	-	-	500.00
	3310 Structure & Improvements	204,251.14	-	-	-	204,251.14
	3312 Structure & Improvements, Recr	100,152.33	-	-	-	100,152.33
	3320 Reservoirs, Dams & Waterways	1,141,684.06	43,102.67	-	-	1,184,786.73
	3330 Water Wheels, Turbines & Gen	216,738.61	-	-	-	216,738.61
	3340 Accessory Electric Equipment	834,074.72	-	-	-	834,074.72

Minnesota Power
Plant in Service-2014
Hydro

Facility	Plant Account	Beginning Balance	Current Addition	Current Retirements	Transfers and Adjustments	Ending Balance
	3350 Miscellaneous Power Plant Equi	12,529.21	-	-	-	12,529.21
	3360 Roads, Railroads And Bridges	17,171.99	-	-	-	17,171.99
	Total	**2,543,385.83**	**43,102.67**	**-**	**-**	**2,586,488.50**
SYLVAN HE STATION - PROJECT NO 2454	3300 Land & Land Rights, Fee	103,210.35	-	-	-	103,210.35
	3305 Land & Land Rights, Easements	17,118.86	-	-	-	17,118.86
	3310 Structure & Improvements	313,620.63		-	-	313,620.63
	3312 Structure & Improvements, Recr	36,001.73	-	-	-	36,001.73
	3320 Reservoirs, Dams & Waterways	1,420,194.94	61,288.19	-	-	1,481,483.13
	3330 Water Wheels, Turbines & Gen	222,259.37	-	-	-	222,259.37
	3340 Accessory Electric Equipment	177,557.69	-	-	-	177,557.69
	3350 Miscellaneous Power Plant Equi	19,391.61	-	-	-	19,391.61
	3360 Roads, Railroads And Bridges	1,974.52	-	-	-	1,974.52
	Total	**2,311,329.70**	**61,288.19**	**-**	**-**	**2,372,617.89**
THOMSON HE STATION - PROJECT 2360	3300 Land & Land Rights, Fee	332,449.65	-	-	-	332,449.65
	3305 Land & Land Rights, Easements	394.59	-	-	-	394.59
	3310 Structure & Improvements	2,988,040.55	1,001,394.56	(21,399.23)	-	3,968,035.88
	3312 Structure & Improvements, Recr	52,627.95	-	-	-	52,627.95
	3320 Reservoirs, Dams & Waterways	10,194,470.60	33,263,526.05	(33,529.00)	-	43,424,467.65
	3322 Reservoirs, Dams & Water, Recr	305.38	-	-	-	305.38
	3330 Water Wheels, Turbines & Gen	9,026,588.07	4,947,456.69	(75,876.00)	-	13,898,168.76
	3340 Accessory Electric Equipment	2,937,838.96	11,361,467.84	(282,020.13)	-	14,017,286.67
	3350 Miscellaneous Power Plant Equi	442,908.16	37,606.67	-	-	480,514.83
	3360 Roads, Railroads And Bridges	51,408.16	-	-	-	51,408.16
	Total	**26,027,032.07**	**50,611,451.81**	**(412,824.36)**	**-**	**76,225,659.52**
WHITE IRON LAKE RESERVOIR - PROJECT	3305 Land & Land Rights, Easements	349.88	-	-	-	349.88
	3320 Reservoirs, Dams & Waterways	6,141.88	-	-	-	6,141.88
	3340 Accessory Electric Equipment	22,792.48	-	-	-	22,792.48
	Total	**29,284.24**	**-**	**-**	**-**	**29,284.24**
WHITEFACE RESERVOIR - PROJECT 2360	3300 Land & Land Rights, Fee	43,073.87	-	-	-	43,073.87

Minnesota Power
Plant in Service-2014
Hydro

Facility	Plant Account	Beginning Balance	Current Addition	Current Retirements	Transfers and Adjustments	Ending Balance
	3305 Land & Land Rights, Easements	94,923.20	-	-	-	94,923.20
	3312 Structure & Improvements, Recr	34,312.69	-	-	-	34,312.69
	3320 Reservoirs, Dams & Waterways	1,026,731.18	145,549.21	-	-	1,172,280.39
	3340 Accessory Electric Equipment	17,894.17	-	-	-	17,894.17
	Total	**1,216,935.11**	**145,549.21**	**-**	**-**	**1,362,484.32**
WINTON HE STATION - PROJECT 469	3300 Land & Land Rights, Fee	106,603.64	-	-	-	106,603.64
	3302 Land & Land Rights-Recr, Fee	1,797.73	-	-	-	1,797.73
	3305 Land & Land Rights, Easements	210,170.75	-	-	-	210,170.75
	3310 Structure & Improvements	398,212.04	-	(8,384.58)	-	389,827.46
	3312 Structure & Improvements, Recr	155,301.29	-	-	-	155,301.29
	3320 Reservoirs, Dams & Waterways	1,938,936.94	-	-	-	1,938,936.94
	3330 Water Wheels, Turbines & Gen	332,393.10	-	(8,578.28)	-	323,814.82
	3340 Accessory Electric Equipment	1,131,827.04	1,029,901.98	(167,587.16)	-	1,994,141.86
	3350 Miscellaneous Power Plant Equi	1,074,447.82	(1,029,901.98)	(739.22)	-	43,806.62
	Total	**5,349,690.35**	**-**	**(185,289.24)**	**-**	**5,164,401.11**
	Grand Total	**89,922,046.43**	**54,865,917.33**	**(995,564.82)**	**-**	**143,792,398.94**

SUMMARY BY ACCOUNT

	3300 Land & Land Rights, Fee	2,234,832.19	-	-	-	2,234,832.19
	3301 Land & Land Rights-Fish, Fee	588.76	-	-	-	588.76
	3302 Land & Land Rights-Recr, Fee	5,864.15	-	-	-	5,864.15
	3305 Land & Land Rights, Easements	1,126,271.82	-	-	-	1,126,271.82
	3307 Land & Land Rights-Recr, Easem	881.50	-	-	-	881.50
	3310 Structure & Improvements	10,623,774.09	887,615.88	(29,783.81)	-	11,481,606.16
	3312 Structure & Improvements, Recr	1,205,260.17	-	-	-	1,205,260.17
	3320 Reservoirs, Dams & Waterways	38,592,083.04	38,371,645.18	(50,370.00)	-	76,913,358.22
	3322 Reservoirs, Dams & Water, Recr	10,953.24	-	-	-	10,953.24
	3330 Water Wheels, Turbines & Gen	19,730,079.21	7,775,229.54	(465,064.50)	-	27,040,244.25
	3340 Accessory Electric Equipment	14,259,858.51	8,814,598.74	(449,607.29)	-	22,624,849.96
	3350 Miscellaneous Power Plant Equi	2,026,290.70	(983,172.01)	(739.22)	-	1,042,379.47

Minnesota Power
Plant in Service-2014
Hydro

Facility	Plant Account	Beginning Balance	Current Addition	Current Retirements	Transfers and Adjustments	Ending Balance
	3360 Roads, Railroads And Bridges	105,309.05	-	-	-	105,309.05
	Total	**89,922,046.43**	**54,865,917.33**	**(995,564.82)**	**-**	**143,792,398.94**

Minnesota Power
Plant in Service - 2014
Wind Production

Facility	Plant Account	Beginning Balance	Current Additions	Current Retirements	Current Transfer/Adjustments	Ending Balance
BISON WIND GENERATION 1A: 0195	3400 Land and Land Rights	-	-	-	-	-
	3410 Structures and Improvements	7,471,983.68	-	-	-	7,471,983.68
	3440 Generators	67,886,248.40	-	-	-	67,886,248.40
	3450 Accessory Electric Equipment	182,921.24	301,855.66	-	-	484,776.90
	3460 Misc Power Plant Equipment	548,239.37	36,470.94	-	-	584,710.31
	Total	**76,089,392.69**	**338,326.60**	**-**	**-**	**76,427,719.29**
BISON WIND GENERATION 1B: 0193	3400 Land and Land Rights	380,982.94	-	-	-	380,982.94
	3410 Structures and Improvements	4,041,169.03	-	-	-	4,041,169.03
	3440 Generators	65,010,924.30	-	-	-	65,010,924.30
	3450 Accessory Electric Equipment	4,214,552.21	-	-	-	4,214,552.21
	3460 Misc Power Plant Equipment	17,868.66	-	-	-	17,868.66
	Total	**73,665,497.14**	**-**	**-**	**-**	**73,665,497.14**
BISON WIND GENERATION 2 : 0196	3400 Land and Land Rights	-	267,122.03	-	-	267,122.03
	3410 Structures and Improvements	10,284,450.87	(620,214.13)	-	-	9,664,236.74
	3440 Generators	126,356,390.87	(1,768,123.46)	-	-	124,588,267.41
	3450 Accessory Electric Equipment	13,726,377.43	107,668.67	-	-	13,834,046.10
	3460 Misc Power Plant Equipment	-	2,249,258.65	-	-	2,249,258.65
	Total	**150,367,219.17**	**235,711.76**	**-**	**-**	**150,602,930.93**
BISON WIND GENERATION 3 :0198	3400 Land and Land Rights	-	191,747.95	-	-	191,747.95
	3410 Structures and Improvements	-	10,853,624.82	-	-	10,853,624.82
	3440 Generators	150,322,344.10	(28,684,389.44)	-	-	121,637,954.66
	3450 Accessory Electric Equipment	-	16,996,742.36	-	-	16,996,742.36
	3460 Misc Power Plant Equipment	-	-	-	-	-
	Total	**150,322,344.10**	**(642,274.31)**	**-**	**-**	**149,680,069.79**
BISON WIND GENERATION 4 :0199	3400 Land and Land Rights	-	-	-	-	-
	3410 Structures and Improvements	-	-	-	-	-
	3440 Generators	-	320,956,001.91	-	-	320,956,001.91
	3450 Accessory Electric Equipment	-	-	-	-	-
	3460 Misc Power Plant Equipment	-	-	-	-	-

Minnesota Power
Plant in Service - 2014
Wind Production

Facility	Plant Account	Beginning Balance	Current Additions	Current Retirements	Current Transfer/Adjustments	Ending Balance
	Total	**-**	**320,956,001.91**	**-**	**-**	**320,956,001.91**
Taconite Ridge Energy Center: 0190	3400 Land and Land Rights	-	-	-	-	-
	3410 Structures and Improvements	4,435,056.26	5,327.12	-	-	4,440,383.38
	3440 Generators	41,752,796.61	-	(1,667,742.77)	-	40,085,053.84
	3450 Accessory Electric Equipment	798,624.85	21.03	-	-	798,645.88
	3460 Misc Power Plant Equipment	130,020.70	148,279.96	-	-	278,300.66
	Total	**47,116,498.42**	**153,628.11**	**(1,667,742.77)**	**-**	**45,602,383.76**
	Grand Total	**497,560,951.52**	**321,041,394.07**	**(1,667,742.77)**	**-**	**816,934,602.82**
SUMMARY BY ACCOUNT	3400 Land and Land Rights	380,982.94	458,869.98	-	-	839,852.92
	3410 Structures and Improvements	26,232,659.84	10,238,737.81	-	-	36,471,397.65
	3440 Generators	451,328,704.28	290,503,489.01	(1,667,742.77)	-	740,164,450.52
	3450 Accessory Electric Equipment	18,922,475.73	17,406,287.72	-	-	36,328,763.45
	3460 Misc Power Plant Equipment	696,128.73	2,434,009.55	-	-	3,130,138.28
	Total	**497,560,951.52**	**321,041,394.07**	**(1,667,742.77)**	**-**	**816,934,602.82**

Minnesota Power
Depreciation Reserve - 2014
Steam Production

Facility and Plant Account	Beginning Reserve	Provision	Retirements	Cost of Removal	Salvage and Other Credits	Transfers and Adjustments	Ending Reserve
Boswell Common							
3110 Structure & Improvements	11,587,467.62	630,897.05	(19,540.00)	(11,413.10)	-	37,482.00	12,224,893.57
3111 Structure & Improvements, Pollution	11,601,178.12	184,296.03	-	-	-	38,352.00	11,823,826.15
3120 Boiler Plant Equipment	26,379,459.22	1,848,698.48	(628,874.55)	(70,178.98)	-	84,573.00	27,613,677.17
3121 Boiler Plant Equipment, Pollution	28,514,737.48	3,006,132.35	(178,021.68)	(102,836.03)	-	89,067.00	31,329,079.12
3140 Turbogenerator Units	862,115.60	13,491.89	-	-	-	2,841.00	878,448.49
3141 Turbogenerator Units, Pollution	12,354.17	6,123.99	(12,789.47)	-	-	-	5,688.69
3150 Accessory Elec Equipment	5,085,702.64	313,781.05	(213,697.45)	(52,567.81)	-	16,431.00	5,149,649.43
3151 Accessory Elec Equipment, Pollution	1,920,315.06	26,611.23	-	-	-	6,336.00	1,953,262.29
3160 Misc Power Pit Eq	2,652,730.65	139,947.52	(91,912.14)	(208.22)	-	8,586.00	2,709,143.81
3161 Misc Power Pit Eq, Pollution	116.39	1.20	-	-	-	-	117.59
Total	**88,616,176.95**	**6,169,980.79**	**(1,144,835.29)**	**(237,204.14)**	**-**	**283,668.00**	**93,687,786.31**
Boswell Unit 1							
3110 Structure & Improvements	2,211,230.07	67,852.73	(4,557.00)	(9,123.94)	-	23,646.00	2,289,047.86
3111 Structure & Improvements, Pollution	29,082.92	364.65	-	-	-	249.00	29,696.57
3120 Boiler Plant Equipment	8,084,602.15	585,421.54	-	-	-	85,689.00	8,755,712.69
3121 Boiler Plant Equipment, Pollution	4,630,824.79	814,973.17	-	-	-	48,216.00	5,494,013.96
3140 Turbogenerator Units	5,357,037.25	352,233.31	-	-	-	55,863.00	5,765,133.56
3141 Turbogenerator Units, Pollution	74,219.98	13,988.90	-	-	-	633.00	88,841.88
3150 Accessory Elec Equipment	2,332,453.89	565,263.48	-	-	-	23,502.00	2,921,219.37
3151 Accessory Elec Equipment, Pollution	66,455.43	16,762.49	-	-	-	567.00	83,784.92
3160 Misc Power Pit Eq	(3,049.93)	278.78	-	-	-	(27.00)	(2,798.15)
3161 Misc Power Pit Eq, Pollution	-	-	-	-	-	-	-
Total	**22,782,856.55**	**2,417,139.05**	**(4,557.00)**	**(9,123.94)**	**-**	**238,338.00**	**25,424,652.66**
Boswell Unit 2							
3110 Structure & Improvements	1,453,338.14	44,589.25	-	-	-	16,071.00	1,513,998.39
3111 Structure & Improvements, Pollution	4,636.29	(321.77)	-	-	-	42.00	4,356.52
3120 Boiler Plant Equipment	9,502,852.16	397,642.00	-	-	-	104,829.00	10,005,323.16
3121 Boiler Plant Equipment, Pollution	3,051,826.72	611,016.26	-	-	-	32,595.00	3,695,437.98
3140 Turbogenerator Units	5,973,896.46	326,645.76	-	-	-	65,628.00	6,366,170.22
3141 Turbogenerator Units, Pollution	50,410.88	615.84	-	-	-	444.00	51,470.72
3150 Accessory Elec Equipment	2,825,239.64	65,077.42	-	-	-	31,320.00	2,921,637.06
3151 Accessory Elec Equipment, Pollution	-	-	-	-	-	-	-
3160 Misc Power Pit Eq	(838.13)	76.14	-	-	-	-	(761.99)
3161 Misc Power Pit Eq, Pollution	-	-	-	-	-	-	-
Total	**22,861,362.16**	**1,445,340.90**	**-**	**-**	**-**	**250,929.00**	**24,557,632.06**
Boswell Unit 3							
3110 Structure & Improvements	7,588,532.49	696,610.27	-	-	-	29,631.00	8,314,773.76
3111 Structure & Improvements, Pollution	4,985,797.70	735,411.32	-	-	-	18,480.00	5,739,689.02
3120 Boiler Plant Equipment	40,617,908.64	2,311,235.95	(23,149.00)	(7,355.27)	-	161,928.00	43,060,568.32
3121 Boiler Plant Equipment, Pollution	44,585,738.04	10,184,702.90	-	-	-	155,229.00	54,925,669.94

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Facility and Plant Account	Beginning Reserve	Provision	Retirements	Cost of Removal	Salvage and Other Credits	Transfers and Adjustments	Ending Reserve
3140 Turbogenerator Units	14,690,851.14	1,029,391.99	-	-	-	57,801.00	15,778,044.13
3141 Turbogenerator Units, Pollution	1,791,998.65	175,985.88	-	-	-	6,900.00	1,974,884.53
3150 Accessory Elec Equipment	7,863,154.75	1,391,601.11	(175,000.00)	-	-	28,470.00	9,108,225.86
3151 Accessory Elec Equipment, Pollution	504,664.09	111,358.90	-	-	-	1,761.00	617,783.99
3160 Misc Power Pit Eq	195,460.99	19,325.09	-	-	-	756.00	215,542.08
3161 Misc Power Pit Eq, Pollution	-	-	-	-	-	-	-
Total	**122,824,106.49**	**16,655,623.41**	**(198,149.00)**	**(7,355.27)**	**-**	**460,956.00**	**139,735,181.63**
Boswell Unit 4							
3110 Structure & Improvements	17,790,788.30	565,774.68	-	-	-	55,569.00	18,412,131.98
3111 Structure & Improvements, Pollution	10,139,130.18	255,634.96	-	-	-	31,791.00	10,426,556.14
3120 Boiler Plant Equipment	50,655,463.43	3,198,339.77	(844,220.86)	(252,095.35)	71,107.91	155,382.00	52,983,976.90
3121 Boiler Plant Equipment, Pollution	40,659,710.06	1,952,500.09	(158,408.83)	(174,018.78)	-	125,688.00	42,405,470.54
3140 Turbogenerator Units	12,741,844.27	2,147,153.24	(802,153.61)	(24,823.51)	-	35,928.00	14,097,948.39
3141 Turbogenerator Units, Pollution	3,781,659.94	408,943.67	(25,532.64)	(1,496.79)	-	11,169.00	4,174,743.18
3150 Accessory Elec Equipment	16,331,063.67	612,729.80	-	-	-	50,751.00	16,994,544.47
3151 Accessory Elec Equipment, Pollution	12,036,248.47	245,721.85	-	-	-	37,860.00	12,319,830.32
3160 Misc Power Pit Eq	337,190.67	30,281.32	-	-	-	1,011.00	368,482.99
3161 Misc Power Pit Eq, Pollution	328,599.10	5,445.50	-	-	-	1,038.00	335,082.60
Total	**164,801,698.09**	**9,422,524.88**	**(1,830,315.94)**	**(452,434.43)**	**71,107.91**	**506,187.00**	**172,518,767.51**
Cloquet Energy Center							
3110 Structure & Improvements	769,742.30	28,297.81	-	-	-	-	798,040.11
3120 Boiler Plant Equipment	969,331.34	35,635.24					1,004,966.58
3140 Turbogenerator Units	3,139,721.06	187,583.15					3,327,304.21
3141 Turbogenerator Units, Pollution	50,040.72	1,839.63					51,880.35
3150 Accessory Elec Equipment	372,857.79	13,707.26					386,565.05
Total	**5,301,693.21**	**267,063.09**	**-**	**-**	**-**	**-**	**5,568,756.30**
Hibbard Renewable Energy Center							
3110 Structure & Improvements	2,089,964.98	296,028.72	(30,474.04)	-	-	-	2,355,519.66
3111 Structure & Improvements, Pollution	(340.58)	30.96	-	-	-	-	(309.62)
3120 Boiler Plant Equipment	34,854,141.64	2,204,553.02	(3,357,412.36)	(522,871.48)	1,007.16	-	33,179,417.98
3121 Boiler Plant Equipment, Pollution	7,483,907.02	437,957.96	-	-	-	-	7,921,864.98
3140 Turbogenerator Units	4,378,610.26	563,809.32	-	-	-	-	4,942,419.58
3150 Accessory Elec Equipment	901,011.76	299,535.85	(190.00)	(6,756.95)	-	-	1,193,600.66
3160 Misc Power Pit Eq	385,725.46	50,308.58	-	-	-	-	436,034.04
Total	**50,093,020.54**	**3,852,224.41**	**(3,388,076.40)**	**(529,628.43)**	**1,007.16**	**-**	**50,028,547.28**
Laskin Units 1 and 2							
3110 Structure & Improvements	4,622,305.67	188,411.23	(32,449.00)	(7,126.43)	-	118,010.00	4,889,151.47
3111 Structure & Improvements, Pollution	2,001,017.42	266,832.90	-	-	-	48,469.00	2,316,319.32
3120 Boiler Plant Equipment	16,851,995.88	816,790.01	(9,000.00)	-	-	428,072.00	18,087,857.89
3121 Boiler Plant Equipment, Pollution	16,229,736.33	1,024,985.52	(22,165.00)	-	-	408,734.00	17,641,290.85
3140 Turbogenerator Units	7,874,147.23	365,299.19	(29,287.37)	(9,360.42)	-	199,806.00	8,400,604.63

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Facility and Plant Account	Beginning Reserve	Provision	Retirements	Cost of Removal	Salvage and Other Credits	Transfers and Adjustments	Ending Reserve
3141 Turbogenerator Units, Pollution	604,177.84	19,891.07	-	-	-	15,433.00	639,501.91
3150 Accessory Elec Equipment	3,328,836.36	214,728.29	(23,109.45)	-	-	83,922.00	3,604,377.20
3151 Accessory Elec Equipment, Pollution	572,489.18	11,195.40	-	-	-	14,730.00	598,414.58
3160 Misc Power Pit Eq	855,836.96	54,210.95	-	-	-	22,631.00	932,678.91
3161 Misc Power Pit Eq, Pollution	18,527.70	165.54	-	-	-	263.00	18,956.24
Total	**52,959,070.57**	**2,962,510.10**	**(116,010.82)**	**(16,486.85)**	**-**	**1,340,070.00**	**57,129,153.00**
Taconite Harbor							
3110 Structure & Improvements	3,579,279.23	640,958.05	(157,620.08)	(18,986.81)	-	17,400.00	4,061,030.39
3111 Structure & Improvements, Pollution	2,003,456.85	275,762.35	-	-	-	11,148.00	2,290,367.20
3120 Boiler Plant Equipment	11,322,487.81	2,349,319.28	(379,487.77)	(140,655.19)	-	55,497.00	13,207,161.13
3121 Boiler Plant Equipment, Pollution	22,370,558.70	3,664,202.94	-	-	-	144,786.00	26,179,547.64
3140 Turbogenerator Units	2,130,334.06	950,373.85	(30,000.00)	-	-	10,152.00	3,060,859.91
3141 Turbogenerator Units, Pollution	206,142.31	28,384.01	-	-	-	1,089.00	235,615.32
3150 Accessory Elec Equipment	4,019,438.14	812,086.92	(53.48)	-	-	19,902.00	4,851,373.58
3151 Accessory Elec Equipment, Pollution	3,052,445.18	263,994.05	-	-	-	14,970.00	3,331,409.23
3160 Misc Power Pit Eq	450,849.57	58,457.47	-	-	-	2,391.00	511,698.04
3161 Misc Power Pit Eq, Pollution	-	-	-	-	-	-	-
Total	**49,134,991.85**	**9,043,538.92**	**(567,161.33)**	**(159,642.00)**	**-**	**277,335.00**	**57,729,062.44**
Grand Total	**579,374,976.41**	**52,235,945.55**	**(7,249,105.78)**	**(1,411,875.06)**	**72,115.07**	**3,357,483.00**	**626,379,539.19**
Summary for All Steam							
3110 Structure & Improvements	51,692,648.80	3,159,419.79	(244,640.12)	(46,650.28)	-	297,809.00	54,858,587.19
3111 Structure & Improvements, Pollution	30,763,958.90	1,718,011.40	-	-	-	148,531.00	32,630,501.30
3120 Boiler Plant Equipment	199,238,242.27	13,747,635.29	(5,242,144.54)	(993,156.27)	72,115.07	1,075,970.00	207,898,661.82
3121 Boiler Plant Equipment, Pollution	167,527,039.14	21,696,471.19	(358,595.51)	(276,854.81)	-	1,004,315.00	189,592,375.01
3140 Turbogenerator Units	57,148,557.33	5,935,981.70	(861,440.98)	(34,183.93)	-	428,019.00	62,616,933.12
3141 Turbogenerator Units, Pollution	6,571,004.49	655,772.99	(38,322.11)	(1,496.79)	-	35,668.00	7,222,626.58
3150 Accessory Elec Equipment	43,059,758.64	4,288,511.18	(412,050.38)	(59,324.76)	-	254,298.00	47,131,192.68
3151 Accessory Elec Equipment, Pollution	18,152,617.41	675,643.92	-	-	-	76,224.00	18,904,485.33
3160 Misc Power Pit Eq	4,873,906.24	352,885.85	(91,912.14)	(208.22)	-	35,348.00	5,170,019.73
3161 Misc Power Pit Eq, Pollution	347,243.19	5,612.24	-	-	-	1,301.00	354,156.43
Grand Total	**579,374,976.41**	**52,235,945.55**	**(7,249,105.78)**	**(1,411,875.06)**	**72,115.07**	**3,357,483.00**	**626,379,539.19**

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Facility	Plant Account	Beginning Balance	Provision	Retirement	Cost of Removal	Salvage Credits	Transfers and Adjustments	gain_loss	Ending Balance
Birch Lake Resv	3300 Land & Land Rights, Fee	-	-	-	-	-	-	-	-
	3305 Land & Land Rights, Easements	-	-	-	-	-	-	-	-
	3307 Land & Land Rights-Recr, Easem	-	-	-	-	-	-	-	-
	3312 Structure & Improvements, Recr	6,558.99	167.28	-	-	-	-	-	6,726.27
	3320 Reservoirs, Dams & Waterways	175,843.64	4,393.05	-	-	-	-	-	180,236.69
	3322 Reservoirs, Dams & Water, Recr	1,176.00	-	-	-	-	-	-	1,176.00
	3340 Accessory Electric Equipment	27,573.67	-	-	-	-	-	-	27,573.67
	Total	**211,152.30**	**4,560.33**	**-**	**-**	**-**	**-**	**-**	**215,712.63**
Blanchard HE	3300 Land & Land Rights, Fee	1.52	-	-	-	-	-	-	1.52
	3302 Land & Land Rights-Recr, Fee	-	-	-	-	-	-	-	-
	3305 Land & Land Rights, Easements	-	-	-	-	-	-	-	-
	3310 Structure & Improvements	470,625.24	6,198.96	-	-	-	-	-	476,824.20
	3312 Structure & Improvements, Recr	47,583.75	723.48	-	-	-	-	-	48,307.23
	3320 Reservoirs, Dams & Waterways	1,613,368.40	40,449.29	-	-	-	-	-	1,653,817.69
	3330 Water Wheels, Turbines & Gen	2,073,996.34	26,352.00	-	-	-	-	-	2,100,348.34
	3340 Accessory Electric Equipment	1,251,822.28	14,462.16	-	-	-	-	-	1,266,284.44
	3350 Miscellaneous Power Plant Equi	85,520.93	1,322.16	-	-	-	-	-	86,843.09
	Total	**5,542,918.46**	**89,508.05**	**-**	**-**	**-**	**-**	**-**	**5,632,426.51**
Boulder Lake Resv	3300 Land & Land Rights, Fee	-	-	-	-	-	-	-	-
	3302 Land & Land Rights-Recr, Fee	-	-	-	-	-	-	-	-
	3305 Land & Land Rights, Easements	-	-	-	-	-	-	-	-
	3310 Structure & Improvements	2,032.49	22.20	-	-	-	-	-	2,054.69
	3312 Structure & Improvements, Recr	125,191.49	2,588.04	-	-	-	-	-	127,779.53
	3320 Reservoirs, Dams & Waterways	166,880.52	488.16	-	-	-	-	-	167,368.68
	3322 Reservoirs, Dams & Water, Recr	1,294.03	9.00	-	-	-	-	-	1,303.03
	3340 Accessory Electric Equipment	10,736.64	186.12	-	-	-	-	-	10,922.76
	3360 Roads, Railroads And Bridges	6,295.47	126.10	-	-	-	-	-	6,421.57
	Total	**312,430.64**	**3,419.62**	**-**	**-**	**-**	**-**	**-**	**315,850.26**
Cloquet/St Louis Rvr	3300 Land & Land Rights, Fee	-	-	-	-	-	-	-	-
	3320 Reservoirs, Dams & Waterways	34,192.69	707.88	-	-	-	-	-	34,900.57
	3340 Accessory Electric Equipment	25,536.94	606.60	-	-	-	-	-	26,143.54
	Total	**59,729.63**	**1,314.48**	**-**	**-**	**-**	**-**	**-**	**61,044.11**
Fish Lake Resv	3300 Land & Land Rights, Fee	-	-	-	-	-	-	-	-
	3302 Land & Land Rights-Recr, Fee	-	-	-	-	-	-	-	-
	3305 Land & Land Rights, Easements	-	-	-	-	-	-	-	-
	3312 Structure & Improvements, Recr	6,837.38	734.04	-	-	-	-	-	7,571.42
	3320 Reservoirs, Dams & Waterways	182,967.25	13,963.08	-	-	-	-	-	196,930.33
	3322 Reservoirs, Dams & Water, Recr	1,602.13	13.56	-	-	-	-	-	1,615.69

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Facility	Plant Account	Beginning Balance	Provision	Retirement	Cost of Removal	Salvage Credits	Transfers and Adjustments	gain_loss	Ending Balance
	3340 Accessory Electric Equipment	9,283.03	191.64	-	-	-	-	-	9,474.67
	Total	**200,689.79**	**14,902.32**	**-**	**-**	**-**	**-**	**-**	**215,592.11**
Fond Du Lac HE	3300 Land & Land Rights, Fee	-	-	-	-	-	-	-	-
	3305 Land & Land Rights, Easements	-	-	-	-	-	-	-	-
	3310 Structure & Improvements	483,781.71	6,891.36	-	-	-	-	-	490,673.07
	3312 Structure & Improvements, Recr	15,255.08	194.40	-	-	-	-	-	15,449.48
	3320 Reservoirs, Dams & Waterways	2,344,998.18	155,447.13	(16,841.00)	(68,316.84)	3,885.25	-	-	2,419,172.72
	3330 Water Wheels, Turbines & Gen	493,710.26	55,379.14	(369,032.00)	(247,269.04)	-	-	-	(67,211.64)
	3340 Accessory Electric Equipment	240,673.90	77,707.29	-	-	-	-	-	318,381.19
	3350 Miscellaneous Power Plant Equi	18,314.41	1,716.12	-	-	-	-	-	20,030.53
	3360 Roads, Railroads And Bridges	15,274.07	38.64	-	-	-	-	-	15,312.71
	Total	**3,612,007.61**	**297,374.08**	**(385,873.00)**	**(315,585.88)**	**3,885.25**	**-**	**-**	**3,211,808.06**
Island Lake Resv	3300 Land & Land Rights, Fee	-	-	-	-	-	-	-	-
	3301 Land & Land Rights-Fish, Fee	-	-	-	-	-	-	-	-
	3302 Land & Land Rights-Recr, Fee	-	-	-	-	-	-	-	-
	3305 Land & Land Rights, Easements	-	-	-	-	-	-	-	-
	3307 Land & Land Rights-Recr, Easem	-	-	-	-	-	-	-	-
	3310 Structure & Improvements	16,632.99	196.32	-	-	-	-	-	16,829.31
	3312 Structure & Improvements, Recr	252,406.86	2,449.68	-	-	-	-	-	254,856.54
	3320 Reservoirs, Dams & Waterways	749,815.54	6,000.72	-	-	-	-	-	755,816.26
	3322 Reservoirs, Dams & Water, Recr	4,060.74	27.72	-	-	-	-	-	4,088.46
	3360 Roads, Railroads And Bridges	2,114.73	17.64	-	-	-	-	-	2,132.37
	Total	**1,025,030.86**	**8,692.08**	**-**	**-**	**-**	**-**	**-**	**1,033,722.94**
Knife Falls HE	3300 Land & Land Rights, Fee	-	-	-	-	-	-	-	-
	3305 Land & Land Rights, Easements	-	-	-	-	-	-	-	-
	3310 Structure & Improvements	149,105.70	1,648.08	-	-	-	-	-	150,753.78
	3312 Structure & Improvements, Recr	1,953.33	16.08	-	-	-	-	-	1,969.41
	3320 Reservoirs, Dams & Waterways	763,585.95	22,433.17	-	-	-	-	-	786,019.12
	3330 Water Wheels, Turbines & Gen	126,206.66	3,288.24	-	-	-	-	-	129,494.90
	3340 Accessory Electric Equipment	726,254.64	3,549.58	-	-	-	-	-	729,804.22
	3350 Miscellaneous Power Plant Equi	11,772.62	42.00	-	-	-	-	-	11,814.62
	3360 Roads, Railroads And Bridges	434.76	0.48	-	-	-	-	-	435.24
	Total	**1,779,313.66**	**30,977.63**	**-**	**-**	**-**	**-**	**-**	**1,810,291.29**
Little Falls HE	3300 Land & Land Rights, Fee	-	-	-	-	-	-	-	-
	3305 Land & Land Rights, Easements	-	-	-	-	-	-	-	-
	3310 Structure & Improvements	614,978.17	8,019.36	-	-	-	-	-	622,997.53
	3312 Structure & Improvements, Recr	3,997.05	40.92	-	-	-	-	-	4,037.97
	3320 Reservoirs, Dams & Waterways	1,397,786.74	22,235.98	-	-	-	-	-	1,420,022.72

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Facility	Plant Account	Beginning Balance	Provision	Retirement	Cost of Removal	Salvage Credits	Transfers and Adjustments	gain_loss	Ending Balance
	3330 Water Wheels, Turbines & Gen	1,234,510.02	38,168.88	(11,578.22)	(85,144.30)	-	-	-	1,175,956.38
	3340 Accessory Electric Equipment	707,516.64	6,129.45	-	-	-	-	-	713,646.09
	3350 Miscellaneous Power Plant Equi	154,256.67	811.15	-	-	-	-	-	155,067.82
	Total	**4,113,045.29**	**75,405.74**	**(11,578.22)**	**(85,144.30)**	**-**	**-**	**-**	**4,091,728.51**
Pillager HE	3300 Land & Land Rights, Fee	-	-	-	-	-	-	-	-
	3305 Land & Land Rights, Easements	-	-	-	-	-	-	-	-
	3310 Structure & Improvements	101,871.29	115.44	-	-	-	-	-	101,986.73
	3312 Structure & Improvements, Recr	8,893.97	77.88	-	-	-	-	-	8,971.85
	3320 Reservoirs, Dams & Waterways	742,885.36	14,315.16	-	-	-	-	-	757,200.52
	3330 Water Wheels, Turbines & Gen	210,054.40	181.92	-	-	-	-	-	210,236.32
	3340 Accessory Electric Equipment	206,193.45	603.10	-	-	-	-	-	206,796.55
	3350 Miscellaneous Power Plant Equi	12,560.76	8.04	-	-	-	-	-	12,568.80
	3360 Roads, Railroads And Bridges	1,482.87	0.24	-	-	-	-	-	1,483.11
	Total	**1,283,942.10**	**15,301.78**	**-**	**-**	**-**	**-**	**-**	**1,299,243.88**
Prairie River HE	3300 Land & Land Rights, Fee	-	-	-	-	-	-	-	-
	3310 Structure & Improvements	276,432.85	66,994.86	-	-	-	-	-	343,427.71
	3312 Structure & Improvements, Recr	4,813.01	25.68	-	-	-	-	-	4,838.69
	3320 Reservoirs, Dams & Waterways	371,449.29	11,759.52	-	-	-	-	-	383,208.81
	3330 Water Wheels, Turbines & Gen	180,590.98	4,746.36	-	-	-	-	-	185,337.34
	3340 Accessory Electric Equipment	(11,214.34)	232.44	-	-	-	-	-	(10,981.90)
	3350 Miscellaneous Power Plant Equi	(660.51)	13.20	-	-	-	-	-	(647.31)
	Total	**821,411.28**	**83,772.06**	**-**	**-**	**-**	**-**	**-**	**905,183.34**
Rice Lake Resv	3300 Land & Land Rights, Fee	-	-	-	-	-	-	-	-
	3302 Land & Land Rights-Recr, Fee	-	-	-	-	-	-	-	-
	3305 Land & Land Rights, Easements	-	-	-	-	-	-	-	-
	3312 Structure & Improvements, Recr	1,925.34	11.40	-	-	-	-	-	1,936.74
	3320 Reservoirs, Dams & Waterways	39,743.69	256.32	-	-	-	-	-	40,000.01
	3340 Accessory Electric Equipment	8,992.16	185.52	-	-	-	-	-	9,177.68
	Total	**50,661.19**	**453.24**	**-**	**-**	**-**	**-**	**-**	**51,114.43**
Scanlon HE	3300 Land & Land Rights, Fee	-	-	-	-	-	-	-	-
	3305 Land & Land Rights, Easements	-	-	-	-	-	-	-	-
	3310 Structure & Improvements	112,111.65	1,842.84	-	-	-	-	-	113,954.49
	3312 Structure & Improvements, Recr	42,594.37	1,151.16	-	-	-	-	-	43,745.53
	3320 Reservoirs, Dams & Waterways	514,770.65	12,574.91	-	-	-	-	-	527,345.56
	3330 Water Wheels, Turbines & Gen	169,060.20	953.52	-	-	-	-	-	170,013.72
	3340 Accessory Electric Equipment	634,316.56	3,995.16	-	-	-	-	-	638,311.72
	3350 Miscellaneous Power Plant Equi	10,333.22	43.92	-	-	-	-	-	10,377.14
	3360 Roads, Railroads And Bridges	13,610.85	71.28	-	-	-	-	-	13,682.13

Minnesota Power
Depreciation Reserve-2014
Hydro

Facility	Plant Account	Beginning Balance	Provision	Retirement	Cost of Removal	Salvage Credits	Transfers and Adjustments	gain_loss	Ending Balance
	Total	**1,496,797.50**	**20,632.79**	**-**	**-**	**-**	**-**	**-**	**1,517,430.29**
Sylan HE	3300 Land & Land Rights, Fee	(17,606.15)	-	-	-	-	-	-	(17,606.15)
	3302 Land & Land Rights-Recr, Fee	-	-	-	-	-	-	-	-
	3305 Land & Land Rights, Easements	-	-	-	-	-	-	-	-
	3310 Structure & Improvements	178,181.65	2,708.76	-	-	-	-	-	180,890.41
	3312 Structure & Improvements, Recr	25,077.41	218.52	-	-	-	-	-	25,295.93
	3320 Reservoirs, Dams & Waterways	902,517.30	10,405.62	-	-	-	-	-	912,922.92
	3330 Water Wheels, Turbines & Gen	213,337.61	178.44	-	-	-	-	-	213,516.05
	3340 Accessory Electric Equipment	162,196.25	307.20	-	-	-	-	-	162,503.45
	3350 Miscellaneous Power Plant Equi	15,771.93	72.36	-	-	-	-	-	15,844.29
	3360 Roads, Railroads And Bridges	1,974.52	-	-	-	-	-	-	1,974.52
	Total	**1,481,450.52**	**13,890.90**	**-**	**-**	**-**	**-**	**-**	**1,495,341.42**
Thomson HE	3300 Land & Land Rights, Fee	-	-	-	-	-	-	-	-
	3305 Land & Land Rights, Easements	-	-	-	-	-	-	-	-
	3310 Structure & Improvements	1,053,893.16	46,390.53	(21,399.23)	(40,953.13)	-	-	-	1,037,931.33
	3312 Structure & Improvements, Recr	23,838.82	575.76	-	-	-	-	-	24,414.58
	3320 Reservoirs, Dams & Waterways	6,567,266.67	214,358.49	(33,529.00)	(137,665.02)	-	-	-	6,610,431.14
	3322 Reservoirs, Dams & Water, Recr	223.63	1.68	-	-	-	-	-	225.31
	3330 Water Wheels, Turbines & Gen	5,474,283.05	129,888.29	(75,876.00)	(612,591.16)	-	-	-	4,915,704.18
	3340 Accessory Electric Equipment	1,545,922.21	67,670.00	(282,020.13)	-	-	-	-	1,331,572.08
	3350 Miscellaneous Power Plant Equi	173,696.49	5,543.48	-	-	-	-	-	179,239.97
	3360 Roads, Railroads And Bridges	16,576.44	696.60	-	-	-	-	-	17,273.04
	Total	**14,855,700.47**	**465,124.83**	**(412,824.36)**	**(791,209.31)**	**-**	**-**	**-**	**14,116,791.63**
White Iron Lake Resv	3305 Land & Land Rights, Easements	63.61	-	-	-	-	-	-	63.61
	3320 Reservoirs, Dams & Waterways	2,829.12	66.24	-	-	-	-	-	2,895.36
	3340 Accessory Electric Equipment	10,497.98	245.88	-	-	-	-	-	10,743.86
	Total	**13,390.71**	**312.12**	**-**	**-**	**-**	**-**	**-**	**13,702.83**
Whiteface Resv	3300 Land & Land Rights, Fee	-	-	-	-	-	-	-	-
	3302 Land & Land Rights-Recr, Fee	-	-	-	-	-	-	-	-
	3305 Land & Land Rights, Easements	-	-	-	-	-	-	-	-
	3312 Structure & Improvements, Recr	24,211.00	202.08	-	-	-	-	-	24,413.08
	3320 Reservoirs, Dams & Waterways	538,201.23	9,895.19	-	-	-	-	-	548,096.42
	3340 Accessory Electric Equipment	8,807.62	181.68	-	-	-	-	-	8,989.30
	Total	**571,219.85**	**10,278.95**	**-**	**-**	**-**	**-**	**-**	**581,498.80**
Winton HE	3300 Land & Land Rights, Fee	-	-	-	-	-	-	-	-
	3302 Land & Land Rights-Recr, Fee	-	-	-	-	-	-	-	-
	3305 Land & Land Rights, Easements	-	-	-	-	-	-	-	-

Minnesota Power
Depreciation Reserve-2014
Hydro

Facility	Plant Account	Beginning Balance	Provision	Retirement	Cost of Removal	Salvage Credits	Transfers and Adjustments	gain_loss	Ending Balance
	3310 Structure & Improvements	327,821.08	1,415.77	(8,384.58)	(5,590.45)	-	-	-	315,261.82
	3312 Structure & Improvements, Recr	68,560.12	1,734.84	-	-	-	-	-	70,294.96
	3320 Reservoirs, Dams & Waterways	1,061,477.75	17,549.16	-	-	-	-	-	1,079,026.91
	3330 Water Wheels, Turbines & Gen	332,393.10	190.89	(8,578.28)	(9,949.45)	-	-	-	314,056.26
	3340 Accessory Electric Equipment	783,971.76	28,511.24	(167,587.16)	(93,763.40)	-	-	-	551,132.44
	3350 Miscellaneous Power Plant Equi	160,376.19	(2,110.63)	(739.22)	(857.98)	-	-	-	156,668.36
	Total	**2,734,600.00**	**47,291.27**	**(185,289.24)**	**(110,161.28)**	**-**	**-**	**-**	**2,486,440.75**
	Grand Total	**40,165,491.86**	**1,183,212.27**	**(995,564.82)**	**(1,302,100.77)**	**3,885.25**	**-**	**-**	**39,054,923.79**
Summary for all Hydro									
	3300 Land & Land Rights, Fee	(17,604.63)	-	-	-	-	-	-	(17,604.63)
	3301 Land & Land Rights-Fish, Fee	-	-	-	-	-	-	-	-
	3302 Land & Land Rights-Recr, Fee	-	-	-	-	-	-	-	-
	3305 Land & Land Rights, Easements	63.61	-	-	-	-	-	-	63.61
	3307 Land & Land Rights-Recr, Easem	-	-	-	-	-	-	-	-
	3310 Structure & Improvements	3,787,467.98	142,444.48	(29,783.81)	(46,543.58)	-	-	-	3,853,585.07
	3312 Structure & Improvements, Recr	659,697.97	10,911.24	-	-	-	-	-	670,609.21
	3320 Reservoirs, Dams & Waterways	18,170,579.97	557,299.07	(50,370.00)	(205,981.86)	3,885.25	-	-	18,475,412.43
	3322 Reservoirs, Dams & Water, Recr	8,356.53	51.96	-	-	-	-	-	8,408.49
	3330 Water Wheels, Turbines & Gen	10,508,142.62	259,327.68	(465,064.50)	(954,953.95)	-	-	-	9,347,451.85
	3340 Accessory Electric Equipment	6,349,081.39	204,765.06	(449,607.29)	(93,763.40)	-	-	-	6,010,475.76
	3350 Miscellaneous Power Plant Equi	641,942.71	7,461.80	(739.22)	(857.98)	-	-	-	647,807.31
	3360 Roads, Railroads And Bridges	57,763.71	950.98	-	-	-	-	-	58,714.69
	Total	**40,165,491.86**	**1,183,212.27**	**(995,564.82)**	**(1,302,100.77)**	**3,885.25**	**-**	**-**	**39,054,923.79**

Appendix A

Minnesota Power
Depreciation Reserve 2014
Wind Production

Facility and Plant Account	Beginning Reserve	Provision	Retirements	Cost of Removal	Salvage and Other Credits	Transfers and Adjustments	Ending Reserve
MP BISON 1A Wind							
3400 Land and Land Rights	-						-
3410 Structure Improvements	333,274.76	223,667.13					556,941.89
3440 Generators	7,385,492.82	1,895,584.95					9,281,077.77
3450 Accessory Electric Equipment	4,344.20	10,624.98					14,969.18
3460 Misc Power Plant Equipment	28,944.40	16,387.20					45,331.60
Total	**7,752,056.18**	**2,146,264.26**	**-**	**-**	**-**	**-**	**9,898,320.44**
MP BISON 1B Wind							
3400 Land and Land Rights	-						-
3410 Structure Improvements	82,129.82	119,970.85					202,100.67
3440 Generators	1,929,008.24	1,911,573.17					3,840,581.41
3450 Accessory Electric Equipment	78,324.37	125,340.24					203,664.61
3460 Misc Power Plant Equipment	631.16	522.36					1,153.52
Total	**2,090,093.59**	**2,157,406.62**	**-**	**-**	**-**	**-**	**4,247,500.21**
MP BISON 2 Wind							
3400 Land and Land Rights	-						-
3410 Structure Improvements	695,517.51	278,137.49					973,655.00
3440 Generators	4,677,701.11	3,567,204.59					8,244,905.70
3450 Accessory Electric Equipment	569,041.42	387,655.76					956,697.18
3460 Misc Power Plant Equipment	-	14,107.26					14,107.26
Total	**5,942,260.04**	**4,247,105.10**	**-**	**-**	**-**	**-**	**10,189,365.14**
MP BISON 3 Wind							
3400 Land and Land Rights	-	-					-
3410 Structure Improvements	-	86,121.99				581,444.19	667,566.18
3440 Generators	4,448,300.69	4,311,925.83				(1,491,983.96)	7,268,242.56
3450 Accessory Electric Equipment	-	134,629.48				910,539.77	1,045,169.25
3460 Misc Power Plant Equipment	-	-					-
Total	**4,448,300.69**	**4,532,677.30**	**-**	**-**	**-**	**-**	**8,980,977.99**
MP BISON 4 Wind							
3400 Land and Land Rights	-	-					-
3410 Structure Improvements	-	-					-
3440 Generators	-	667,805.52					667,805.52
3450 Accessory Electric Equipment	-	-					-
3460 Misc Power Plant Equipment	-	-					-
Total	**-**	**667,805.52**	**-**	**-**	**-**	**-**	**667,805.52**
MP Tac Ridge Wind							
3400 Land and Land Rights	-	-					-
3410 Structure Improvements	550,391.04	132,230.39					682,621.43
3440 Generators	4,178,433.87	1,279,455.75	(1,667,742.77)	(65,610.01)			3,724,536.84
3450 Accessory Electric Equipment	115,534.99	25,099.41					140,634.40
3460 Misc Power Plant Equipment	5,199.15	6,389.37					11,588.52
Total	**4,849,559.05**	**1,443,174.92**	**(1,667,742.77)**	**(65,610.01)**	**-**	**-**	**4,559,381.19**
Grand Total	**25,082,269.55**	**15,194,433.72**	**(1,667,742.77)**	**(65,610.01)**	**-**	**-**	**38,543,350.49**
Summary for All Wind							
3400 Land and Land Rights	-	-	-	-	-	-	-
3410 Structure Improvements	1,661,313.13	840,127.85	-	-	-	581,444.19	3,082,885.17
3440 Generators	22,618,936.73	13,633,549.81	(1,667,742.77)	(65,610.01)	-	(1,491,983.96)	33,027,149.80
3450 Accessory Electric Equipment	767,244.98	683,349.87	-	-	-	910,539.77	2,361,134.62
3460 Misc Power Plant Equipment	34,774.71	37,406.19	-	-	-	-	72,180.90
Grand Total	**25,082,269.55**	**15,194,433.72**	**(1,667,742.77)**	**(65,610.01)**	**-**	**-**	**38,543,350.49**

Minnesota Power
Depreciation Expense Calculation - 2014
Steam Production

Facility	Plant Accout	Beginning Balance	Ending Balance	Average Plant Balance	Beginning Reserve Balance	2014 Salvage Rate	2014 Remaining Life	2014 Provision
Boswel Energy Center Common	3100 Land & Land Rights, Fee	4,295,713.93	4,295,713.93	n/a				
	3110 Structures & Improv	20,829,772.07	21,472,186.22	21,150,979.15	11,587,467.62	(2.06)	16.0	630,897.05
	3111 Structures & Improv, Pollution	14,275,945.04	14,275,945.04	14,275,945.04	11,601,178.12	(2.06)	16.0	184,296.03
	3120 Boiler Plant Equip	53,586,706.76	55,439,226.49	54,512,966.63	26,379,459.22	(2.06)	16.0	1,848,698.48
	3121 Boiler Plant Equip, Pollution	73,924,536.31	74,811,943.63	74,368,239.97	28,514,737.48	(2.06)	16.0	3,006,132.35
	3140 Turbogenerator Units	1,057,687.06	1,057,687.06	1,057,687.06	862,115.60	(2.06)	16.0	13,491.89
	3141 Turbogenerator Units,Pollution	67,393.37	111,889.47	89,641.42	12,354.17	(2.06)	16.0	6,123.99
	3150 Accessory Elec Equip	8,642,887.53	10,703,565.58	9,673,226.56	5,085,702.64	(2.06)	16.0	313,781.05
	3151 Accessory Elec Equip,Pollution	2,301,997.61	2,301,997.61	2,301,997.61	1,920,315.06	(2.06)	16.0	26,611.23
	3160 Misc Power Plt Eq	4,813,896.13	4,897,699.78	4,855,797.96	2,652,730.65	(2.06)	16.0	139,947.52
	3161 Misc Power Plt Eq, Pollution	133.76	133.76	133.76	116.39	(2.06)	16.0	1.20
	Total	**183,796,669.57**	**189,367,988.57**		**88,616,176.95**			**6,169,980.79**
Boswell Energy Center Unit 1	3100 Land & Land Rights, Fee	59,858.35	59,858.35	n/a				
	3110 Structures & Improv	2,800,821.98	2,787,535.85	2,794,178.92	2,211,230.07	(6.09)	11.0	67,852.73
	3111 Structures & Improv, Pollution	31,336.53	31,336.53	31,336.53	29,082.92	(6.09)	11.0	364.65
	3120 Boiler Plant Equip	13,723,228.23	13,844,404.00	13,783,816.12	8,084,602.15	(6.09)	11.0	585,421.54
	3121 Boiler Plant Equip, Pollution	12,788,495.44	13,180,017.18	12,984,256.31	4,630,824.79	(6.09)	11.0	814,973.17
	3140 Turbogenerator Units	8,732,407.43	8,731,570.95	8,731,989.19	5,357,037.25	(6.09)	11.0	352,233.31
	3141 Turbogenerator Units,Pollution	215,707.27	208,191.50	211,949.39	74,219.98	(6.09)	11.0	13,988.90
	3150 Accessory Elec Equip	8,172,583.46	7,339,658.59	7,756,121.03	2,332,453.89	(6.09)	11.0	565,263.48
	3151 Accessory Elec Equip,Pollution	236,766.85	236,766.85	236,766.85	66,455.43	(6.09)	11.0	16,762.49
	3160 Misc Power Plt Eq	-	-	-	(3,049.93)	(6.09)	11.0	278.78
	Total	**46,761,205.54**	**46,419,339.80**		**22,782,856.55**			**2,417,139.05**
Boswell Energy Center Unit 2	3100 Land & Land Rights, Fee	59,687.82	59,687.82	n/a				
	3110 Structures & Improv	1,810,150.01	1,810,150.01	1,810,150.01	1,453,338.14	(7.90)	11.0	44,589.25
	3111 Structures & Improv, Pollution	1,039.83	1,039.83	1,039.83	4,636.29	(7.90)	11.0	(321.77)
	3120 Boiler Plant Equip	12,917,337.71	12,917,337.71	12,917,337.71	9,502,852.16	(7.90)	11.0	397,642.00
	3121 Boiler Plant Equip, Pollution	9,022,408.09	9,428,600.73	9,225,504.41	3,051,826.72	(7.90)	11.0	611,016.26
	3140 Turbogenerator Units	8,901,899.28	8,901,899.28	8,901,899.28	5,973,896.46	(7.90)	11.0	326,645.76
	3141 Turbogenerator Units,Pollution	53,247.44	53,247.44	53,247.44	50,410.88	(7.90)	11.0	615.84
	3150 Accessory Elec Equip	3,298,684.42	3,298,684.42	3,298,684.42	2,825,239.64	(7.90)	11.0	65,077.42
	3160 Misc Power Plt Eq	-	-	-	(838.13)	(7.90)	11.0	76.14
	Total	**36,064,454.60**	**36,470,647.24**		**22,861,362.16**			**1,445,340.90**
Boswell Energy Center Unit 3	3100 Land & Land Rights, Fee	3,104,623.53	3,104,623.53	n/a				
	3110 Structures & Improv	21,165,997.60	21,621,876.97	21,393,937.29	7,588,532.49	(4.50)	21.0	696,610.27
	3111 Structures & Improv, Pollution	19,558,786.06	19,558,786.06	19,558,786.06	4,985,797.70	(4.50)	21.0	735,411.32
	3120 Boiler Plant Equip	84,847,544.78	87,877,406.59	86,362,475.69	40,617,908.64	(4.50)	21.0	2,311,235.95
	3121 Boiler Plant Equip, Pollution	246,280,420.55	250,316,244.82	248,298,332.69	44,585,738.04	(4.50)	21.0	10,184,702.90
	3140 Turbogenerator Units	34,273,556.15	35,931,003.32	35,102,279.74	14,690,851.14	(4.50)	21.0	1,029,391.99
	3141 Turbogenerator Units,Pollution	5,238,203.92	5,365,311.28	5,301,757.60	1,791,998.65	(4.50)	21.0	175,985.88
	3150 Accessory Elec Equip	35,504,746.93	35,329,746.93	35,417,246.93	7,863,154.75	(4.50)	21.0	1,391,601.11
	3151 Accessory Elec Equip,Pollution	2,722,017.86	2,713,253.32	2,717,635.59	504,664.09	(4.50)	21.0	111,358.90
	3160 Misc Power Plt Eq	575,765.44	575,765.44	575,765.44	195,460.99	(4.50)	21.0	19,325.09
	Total	**453,271,662.82**	**462,394,018.26**		**122,824,106.49**			**16,655,623.41**
Boswell Energy Center Unit 4	3100 Land & Land Rights, Fee	355,534.09	355,534.09	n/a				
	3110 Structures & Improv	28,363,981.76	29,417,800.35	28,890,891.06	17,790,788.30	(4.62)	22.0	565,774.68
	3111 Structures & Improv, Pollution	15,082,516.58	15,082,516.58	15,082,516.58	10,139,130.18	(4.62)	22.0	255,634.96
	3120 Boiler Plant Equip	115,035,925.35	115,585,581.92	115,310,753.64	50,655,463.43	(4.62)	22.0	3,198,339.77
	3121 Boiler Plant Equip, Pollution	79,494,923.41	79,736,113.52	79,615,518.47	40,659,710.06	(4.62)	22.0	1,952,500.09
	3140 Turbogenerator Units	57,856,531.10	56,478,651.79	57,167,591.45	12,741,844.27	(4.62)	22.0	2,147,153.24
	3141 Turbogenerator Units,Pollution	12,136,296.62	12,232,461.38	12,184,379.00	3,781,659.94	(4.62)	22.0	408,943.67
	3150 Accessory Elec Equip	28,557,298.73	28,517,871.73	28,537,585.23	16,331,063.67	(4.62)	22.0	612,729.80
	3151 Accessory Elec Equip,Pollution	16,690,357.20	16,690,357.20	16,690,357.20	12,036,248.47	(4.62)	22.0	245,721.85
	3160 Misc Power Plt Eq	959,565.75	959,565.75	959,565.75	337,190.67	(4.62)	22.0	30,281.32
	3161 Misc Power Plt Eq, Pollution	429,105.31	429,105.31	429,105.31	328,599.10	(4.62)	22.0	5,445.50
	Total	**354,962,035.90**	**355,485,559.62**		**164,801,698.09**			**9,422,524.88**
Cloquet Energy Center	3110 Structures & Improv	1,112,885.18	1,112,885.18	1,112,885.18	769,742.30	(0.00)	11.0	28,297.81
	3120 Boiler Plant Equip	1,401,448.87	1,401,448.87	1,401,448.87	969,331.34	(0.00)	11.0	35,635.24

Minnesota Power
Depreciation Expense Calculation - 2014
Steam Production

Facility	Plant Accout	Beginning Balance	Ending Balance	Average Plant Balance	Beginning Reserve Balance	2014 Salvage Rate	2014 Remaining Life	2014 Provision
	3140 Turbogenerator Units	5,100,045.82	5,134,229.73	5,117,137.78	3,139,721.06	(0.00)	11.0	187,583.15
	3141 Turbogenerator Units,Pollution	72,348.34	72,348.34	72,348.34	50,040.72	(0.00)	11.0	1,839.63
	3150 Accessory Elec Equip	539,073.80	539,073.80	539,073.80	372,857.79	(0.00)	11.0	13,707.26
	Total	**8,225,802.01**	**8,259,985.92**		**5,301,693.21**			**267,063.09**
Hibbard EC 100% HEC - Loc 101	3100 Land & Land Rights, Fee	30,716.52	30,716.52	n/a				
	3110 Structures & Improv	4,356,252.72	5,212,444.70	4,784,348.71	2,089,964.98	(2.42)	11.0	296,028.72
	3111 Structures & Improv, Pollution	-	-	-	(340.58)	(2.42)	11.0	30.96
	3120 Boiler Plant Equip	55,119,692.06	58,665,640.52	56,892,666.29	34,854,141.64	(2.42)	11.0	2,204,553.02
	3121 Boiler Plant Equip, Pollution	12,025,095.38	11,982,639.92	12,003,867.65	7,483,907.02	(2.42)	11.0	437,957.96
	3140 Turbogenerator Units	10,331,002.02	10,320,264.51	10,325,633.27	4,378,610.26	(2.42)	11.0	563,809.32
	3150 Accessory Elec Equip	4,038,673.94	4,083,628.48	4,061,151.21	901,011.76	(2.42)	11.0	299,535.85
	3160 Misc Power Plt Eq	916,771.03	916,822.70	916,796.87	385,725.46	(2.42)	11.0	50,308.58
	Total	**86,818,203.67**	**91,212,157.35**		**50,093,020.54**			**3,852,224.41**
LASKIN ENERGY CENTER	3100 Land & Land Rights, Fee	253,164.48	253,164.48	n/a				
	3110 Structures & Improv	6,079,866.42	6,391,528.36	6,235,697.39	4,622,305.67	(14.50)	11.0	188,411.23
	3111 Structures & Improv, Pollution	4,770,998.40	4,755,003.86	4,763,001.13	2,001,017.42	(14.50)	11.0	266,832.90
	3120 Boiler Plant Equip	24,010,568.24	24,000,605.52	24,005,586.88	16,851,995.88	(14.50)	11.0	816,790.01
	3121 Boiler Plant Equip, Pollution	25,823,332.39	25,778,894.57	25,801,113.48	16,229,736.33	(14.50)	11.0	1,024,985.52
	3140 Turbogenerator Units	11,005,824.12	11,001,101.97	11,003,463.05	7,874,147.23	(14.50)	11.0	365,299.19
	3141 Turbogenerator Units,Pollution	754,598.17	754,598.17	754,598.17	604,177.84	(14.50)	11.0	19,891.07
	3150 Accessory Elec Equip	5,336,668.76	5,356,509.84	5,346,589.30	3,328,836.36	(14.50)	11.0	214,728.29
	3151 Accessory Elec Equip,Pollution	628,544.24	628,544.24	628,544.24	572,489.18	(14.50)	11.0	11,195.40
	3160 Misc Power Plt Eq	1,363,551.64	1,363,551.64	1,363,551.64	855,836.96	(14.50)	11.0	54,210.95
	3161 Misc Power Plt Eq, Pollution	18,035.02	18,035.02	18,035.02	18,527.70	(14.50)	11.0	165.54
	Total	**80,045,151.88**	**80,301,537.67**		**52,959,070.57**			**2,962,510.10**
Taconite Harbor Energy Center	3100 Land & Land Rights, Fee	143,350.45	143,350.45	n/a	-			
	3110 Structures & Improv	11,353,396.99	11,530,463.66	11,441,930.33	3,579,279.23	(4.16)	13.0	640,958.05
	3111 Structures & Improv, Pollution	5,371,703.29	5,371,703.29	5,371,703.29	2,003,456.85	(4.16)	13.0	275,762.35
	3120 Boiler Plant Equip	39,706,695.13	39,865,469.96	39,786,082.55	11,322,487.81	(4.16)	13.0	2,349,319.28
	3121 Boiler Plant Equip, Pollution	62,389,260.05	62,868,267.98	62,628,764.02	22,370,558.70	(4.16)	13.0	3,664,202.94
	3140 Turbogenerator Units	13,913,982.41	13,871,840.70	13,892,911.56	2,130,334.06	(4.16)	13.0	950,373.85
	3141 Turbogenerator Units,Pollution	552,793.99	552,793.99	552,793.99	206,142.31	(4.16)	13.0	28,384.01
	3150 Accessory Elec Equip	13,921,888.78	14,071,817.14	13,996,852.96	4,019,438.14	(4.16)	13.0	812,086.92
	3151 Accessory Elec Equip,Pollution	6,234,191.44	6,234,191.44	6,234,191.44	3,052,445.18	(4.16)	13.0	263,994.05
	3160 Misc Power Plt Eq	1,162,015.12	1,163,903.21	1,162,959.17	450,849.57	(4.16)	13.0	58,457.47
	Total	**154,749,277.65**	**155,673,801.82**		**49,134,991.85**			**9,043,538.92**
	Grand Total	**1,404,694,463.64**	**1,425,585,036.25**		**579,374,976.41**			**52,235,945.55**
Summary all Steam	3100 Land & Land Rights, Fee	8,302,649.17	8,302,649.17	n/a	-			-
	3110 Structures & Improv	97,873,124.73	101,356,871.30	99,614,998.02	51,692,648.80			3,159,419.79
	3111 Structures & Improv, Pollution	59,092,325.73	59,076,331.19	59,084,328.46	30,763,958.90			1,718,011.40
	3120 Boiler Plant Equip	400,349,147.13	409,597,121.58	404,973,134.36	199,238,242.27			13,747,635.29
	3121 Boiler Plant Equip, Pollution	521,748,471.62	528,102,722.35	524,925,596.99	167,527,039.14			21,696,471.19
	3140 Turbogenerator Units	151,172,935.39	151,428,249.31	151,300,592.35	57,148,557.33			5,935,981.70
	3141 Turbogenerator Units,Pollution	19,090,589.12	19,350,841.57	19,220,715.35	6,571,004.49			655,772.99
	3150 Accessory Elec Equip	108,012,506.35	109,240,556.51	108,626,531.43	43,059,758.64			4,288,511.18
	3151 Accessory Elec Equip,Pollution	28,813,875.20	28,805,110.66	28,809,492.93	18,152,617.41			675,643.92
	3160 Misc Power Plt Eq	9,791,565.11	9,877,308.52	9,834,436.82	4,873,906.24			352,885.85
	3161 Misc Power Plt Eq, Pollution	447,274.09	447,274.09	447,274.09	347,243.19			5,612.24
	Grand Total	**1,404,694,463.64**	**1,425,585,036.25**		**579,374,976.41**			**52,235,945.55**

Minnesota Power
Depreciation Expense Calculation - 2014
Hydro

Facility & Plant Account			Beginning Plant Balance	Ending Plant Balance	Average Plant Balance	Beginning Reserve Balance	2014 Remaining Life	2014 Provision
BIRCH LAKE RESERVOIR 0250								
	3300	Land & Land Rights-Fee	1,556.25	1,556.25	n/a			
	3305	Land & Land Rght-Easements	232.79	232.79	n/a			
	3307	Land & Land Rght-Ease-Rec	381.50	381.50	n/a			
	3312	Structures & Improv. Rec.	14,922.38	14,922.38	14,922.38	6,558.99	50.0	167.28
	3320	Reservoirs, Dams & Bridges	260,898.97	3,431,995.47	1,846,447.22	175,843.64	50.0	4,393.05
	3322	Res, Dams, & Wtrways - Rec.	1,176.00	1,176.00	1,176.00	1,176.00	50.0	-
	3340	Accessory Electric Equip.	27,573.67	27,573.67	27,573.67	27,573.67	50.0	-
		Totals	**306,741.56**	**3,477,838.06**		**211,152.30**		**4,560.33**
BLANCHARD H. E. STATION 0235 PROJ. 346								
	3300	Land & Land Rights-Fee	56,631.61	56,631.61	n/a	1.52		
	3302	Land & Land Rights-Fee-Rec	2,018.12	2,018.12	n/a	-		
	3305	Land & Land Rght-Easements	75,807.00	75,807.00	n/a	-		
	3310	Structures & Improvements	780,570.96	780,570.96	780,570.96	470,625.24	50.0	6,198.96
	3312	Structures & Improv. Rec.	83,759.38	83,759.38	83,759.38	47,583.75	50.0	723.48
	3320	Reservoirs, Dams & Bridges	3,492,083.10	4,091,733.35	3,791,908.23	1,613,368.40	50.0	40,449.29
	3330	Water Wheels, Turb. & Gen.	3,391,594.70	3,391,594.70	3,391,594.70	2,073,996.34	50.0	26,352.00
	3340	Accessory Electric Equip.	1,974,930.43	1,974,930.43	1,974,930.43	1,251,822.28	50.0	14,462.16
	3350	Misc. Power Plant Equip.	151,631.93	151,631.93	151,631.93	85,520.93	50.0	1,322.16
		Totals	**10,009,027.23**	**10,608,677.48**		**5,542,918.46**		**89,508.05**
BOULDER LAKE RESERVOIR 0255								
	3300	Land & Land Rights-Fee	82,749.91	82,749.91	n/a			
	3302	Land & Land Rights-Fee-Rec	130.73	130.73	n/a			
	3305	Land & Land Rght-Easements	3,682.00	3,682.00	n/a			
	3310	Structures & Improvements	3,142.11	3,142.11	3,142.11	2,032.49	50.0	22.20
	3312	Structures & Improv. Rec.	254,592.89	254,592.89	254,592.89	125,191.49	50.0	2,588.04
	3320	Reservoirs, Dams & Bridges	191,288.68	191,288.68	191,288.68	166,880.52	50.0	488.16
	3322	Res, Dams, & Wtrways - Rec.	1,745.39	1,745.39	1,745.39	1,294.03	50.0	9.00
	3340	Accessory Electric Equip.	20,039.76	20,039.76	20,039.76	10,736.64	50.0	186.12
	3350	Misc. Power Plant Equip.	-	-	-	-	50.0	-
	3360	Roads, Railroads & Bridges	12,598.51	12,598.51	12,598.51	6,295.47	50.0	126.10
		Totals	**569,969.98**	**569,969.98**		**312,430.64**		**3,419.62**
GAUGING STATIONS 0280								
	3300	Land & Land Rights-Fee	2,068.21	2,068.21	n/a			
	3320	Reservoirs, Dams & Bridges	69,586.38	69,586.38	69,586.38	34,192.69	50.0	707.88
	3340	Accessory Electric Equip.	55,864.48	55,864.48	55,864.48	25,536.94	50.0	606.60
		Totals	**127,519.07**	**127,519.07**		**59,729.63**		**1,314.48**
FISH LAKE RESERVOIR 0260								
	3300	Land & Land Rights-Fee	43,203.60	43,203.60	n/a			
	3302	Land & Land Rights-Fee-Rec	86.24	86.24	n/a			
	3305	Land & Land Rght-Easements	19,193.38	19,193.38	n/a			

Minnesota Power
Depreciation Expense Calculation - 2014
Hydro

Facility & Plant Account			Beginning Plant Balance	Ending Plant Balance	Average Plant Balance	Beginning Reserve Balance	2014 Remaining Life	2014 Provision
	3312	Structures & Improv. Rec.	43,537.22	43,537.22	43,537.22	6,837.38	50.0	734.04
	3320	Reservoirs, Dams & Bridges	881,122.70	881,122.70	881,122.70	182,967.25	50.0	13,963.08
	3322	Res, Dams, & Wtrways - Rec.	2,278.05	2,278.05	2,278.05	1,602.13	50.0	13.56
	3340	Accessory Electric Equip.	18,864.63	18,864.63	18,864.63	9,283.03	50.0	191.64
		Totals	**1,008,285.82**	**1,008,285.82**		**200,689.79**		**14,902.32**
FOND DU LAC H. E. STATION 2360								
	3300	Land & Land Rights-Fee	874,753.53	874,753.53	n/a			
	3310	Structures & Improvements	828,352.56	828,352.56	828,352.56	483,781.71	50.0	6,891.36
	3312	Structures & Improv. Rec.	24,973.68	24,973.68	24,973.68	15,255.08	50.0	194.40
	3320	Reservoirs, Dams & Bridges	10,062,653.55	10,920,947.45	10,491,800.50	2,344,998.18	50.0	155,447.13
	3330	Water Wheels, Turb. & Gen.	3,163,099.85	4,787,274.07	3,975,186.96	493,710.26	50.0	55,379.14
	3340	Accessory Electric Equip.	4,236,499.52	1,465,885.98	2,851,192.75	240,673.90	50.0	77,707.29
	3350	Misc. Power Plant Equip.	104,120.79	104,120.79	104,120.79	18,314.41	50.0	1,716.12
	3360	Roads, Railroads & Bridges	17,204.68	17,204.68	17,204.68	15,274.07	50.0	38.64
		Totals	**19,311,658.16**	**19,023,512.74**		**3,612,007.61**		**297,374.08**
ISLAND LAKE RESERVOIR 0265								
	3300	Land & Land Rights-Fee	245,752.63	245,752.63	n/a			
	3301	Land & Land Rght-Fish & Wld	588.76	588.76	n/a			
	3302	Land & Land Rights-Fee-Rec	1,831.33	1,831.33	n/a			
	3305	Land & Land Rght-Easements	70,314.04	70,314.04	n/a			
	3307	Land & Land Rght-Ease-Rec	500.00	500.00	n/a			
	3310	Structures & Improvements	26,447.12	26,447.12	26,447.12	16,632.99	50.0	196.32
	3312	Structures & Improv. Rec.	374,891.34	374,891.34	374,891.34	252,406.86	50.0	2,449.68
	3320	Reservoirs, Dams & Bridges	1,049,850.09	1,049,850.09	1,049,850.09	749,815.54	50.0	6,000.72
	3322	Res, Dams, & Wtrways - Rec.	5,448.42	5,448.42	5,448.42	4,060.74	50.0	27.72
	3360	Roads, Railroads & Bridges	2,996.41	2,996.41	2,996.41	2,114.73	50.0	17.64
		Totals	**1,778,620.14**	**1,778,620.14**		**1,025,030.86**		**8,692.08**
KNIFE FALLS H. E. STATION 0220								
	3300	Land & Land Rights-Fee	3,779.70	3,779.70	n/a			
	3305	Land & Land Rght-Easements	34,453.54	34,453.54	n/a			
	3310	Structures & Improvements	231,511.94	231,511.94	231,511.94	149,105.70	50.0	1,648.08
	3312	Structures & Improv. Rec.	2,759.52	2,759.52	2,759.52	1,953.33	50.0	16.08
	3320	Reservoirs, Dams & Bridges	1,885,244.85	1,885,244.85	1,885,244.85	763,585.95	50.0	22,433.17
	3330	Water Wheels, Turb. & Gen.	290,616.45	290,616.45	290,616.45	126,206.66	50.0	3,288.24
	3340	Accessory Electric Equip.	903,730.37	903,730.37	903,730.37	726,254.64	50.0	3,549.58
	3350	Misc. Power Plant Equip.	13,873.55	13,873.55	13,873.55	11,772.62	50.0	42.00
	3360	Roads, Railroads & Bridges	457.30	457.30	457.30	434.76	50.0	0.48
		Totals	**3,366,427.22**	**3,366,427.22**		**1,779,313.66**		**30,977.63**
LITTLE FALLS H. E. STATION 0230 PROJ 2532								
	3300	Land & Land Rights-Fee	182,693.08	182,693.08	n/a			
	3305	Land & Land Rght-Easements	21,429.84	21,429.84	n/a			

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Hydro

Facility & Plant Account			Beginning Plant Balance	Ending Plant Balance	Average Plant Balance	Beginning Reserve Balance	2014 Remaining Life	2014 Provision
	3310	Structures & Improvements	1,015,948.15	1,015,948.15	1,015,948.15	614,978.17	50.0	8,019.36
	3312	Structures & Improv. Rec.	6,042.41	6,042.41	6,042.41	3,997.05	50.0	40.92
	3320	Reservoirs, Dams & Bridges	2,500,574.65	2,712,872.06	2,606,723.36	1,397,786.74	50.0	22,235.98
	3330	Water Wheels, Turb. & Gen.	2,449,731.95	3,272,720.36	2,861,226.16	1,234,510.02	50.0	38,168.88
	3340	Accessory Electric Equip.	1,647,124.24	799,011.11	1,223,067.68	707,516.64	50.0	6,129.45
	3350	Misc. Power Plant Equip.	194,427.36	203,550.66	198,989.01	154,256.67	50.0	811.15
		Totals	**8,017,971.68**	**8,214,267.67**		**4,113,045.29**		**75,405.74**
MISCELLANOUS OPERATING LANDS								
	3300	Land & Land Rights-Fee	64,603.84	64,603.84				
	3305	Land & Land Rght-Easements	503,338.43	503,338.43	n/a			
		Totals	**567,942.27**	**567,942.27**				
PILLAGER H. E. STATION 0245 PROJ.								
	3300	Land & Land Rights-Fee	61,067.17	61,067.17	n/a			
	3305	Land & Land Rght-Easements	68,003.91	68,003.91	n/a			
	3310	Structures & Improvements	107,643.63	107,643.63	107,643.63	101,871.29	50.0	115.44
	3312	Structures & Improv. Rec.	12,789.11	12,789.11	12,789.11	8,893.97	50.0	77.88
	3320	Reservoirs, Dams & Bridges	1,458,642.50	1,458,642.50	1,458,642.50	742,885.36	50.0	14,315.16
	3330	Water Wheels, Turb. & Gen.	219,148.56	219,148.56	219,148.56	210,054.40	50.0	181.92
	3340	Accessory Electric Equip.	234,571.29	276,526.88	255,549.09	206,193.45	50.0	603.10
	3350	Misc. Power Plant Equip.	12,960.27	12,960.27	12,960.27	12,560.76	50.0	8.04
	3360	Roads, Railroads & Bridges	1,497.48	1,497.48	1,497.48	1,482.87	50.0	0.24
		Totals	**2,176,323.92**	**2,218,279.51**		**1,283,942.10**		**15,301.78**
PRAIRIE RIVER H. E. STATION 0200								
	3300	Land & Land Rights	1,031.76	1,031.76	n/a			
	3310	Structures & Improvements	3,726,033.26	3,612,254.58	3,669,143.92	276,432.85	50.0	66,994.86
	3312	Structures & Improv. Rec.	6,098.46	6,098.46	6,098.46	4,813.01	50.0	25.68
	3320	Reservoirs, Dams & Bridges	959,420.36	959,420.36	959,420.36	371,449.29	50.0	11,759.52
	3330	Water Wheels, Turb. & Gen.	417,908.55	417,908.55	417,908.55	180,590.98	50.0	4,746.36
	3340	Accessory Electric Equip.	405.94	405.94	405.94	(11,214.34)	50.0	232.44
	3350	Misc. Power Plant Equip.	-	-	-	(660.51)	50.0	13.20
		Totals	**5,110,898.33**	**4,997,119.65**		**821,411.28**		**83,772.06**
RICE LAKE RESERVOIR 0270								
	3300	Land & Land Rights-Fee	13,319.62	13,319.62	n/a			
	3305	Land & Land Rght-Easements	6,359.61	6,359.61	n/a			
	3312	Structures & Improv. Rec.	2,497.79	2,497.79	2,497.79	1,925.34	50.0	11.40
	3320	Reservoirs, Dams & Bridges	52,557.61	52,557.61	52,557.61	39,743.69	50.0	256.32
	3340	Accessory Electric Equip.	18,269.12	18,269.12	18,269.12	8,992.16	50.0	185.52
		Totals	**93,003.75**	**93,003.75**		**50,661.19**		**453.24**
SCANLON H. E. STATION 0225								
	3300	Land & Land Rights-Fee	16,283.77	16,283.77	n/a			

Minnesota Power
Depreciation Expense Calculation - 2014
Hydro

Facility & Plant Account			Beginning Plant Balance	Ending Plant Balance	Average Plant Balance	Beginning Reserve Balance	2014 Remaining Life	2014 Provision
	3305	Land & Land Rght-Easements	500.00	500.00	n/a			
	3310	Structures & Improvements	204,251.14	204,251.14	204,251.14	112,111.65	50.0	1,842.84
	3312	Structures & Improv. Rec.	100,152.33	100,152.33	100,152.33	42,594.37	50.0	1,151.16
	3320	Reservoirs, Dams & Bridges	1,141,684.06	1,184,786.73	1,163,235.40	514,770.65	50.0	12,574.91
	3330	Water Wheels, Turb. & Gen.	216,738.61	216,738.61	216,738.61	169,060.20	50.0	953.52
	3340	Accessory Electric Equip.	834,074.72	834,074.72	834,074.72	634,316.56	50.0	3,995.16
	3350	Misc. Power Plant Equip.	12,529.21	12,529.21	12,529.21	10,333.22	50.0	43.92
	3360	Roads, Railroads & Bridges	17,171.99	17,171.99	17,171.99	13,610.85	50.0	71.28
		Totals	**2,543,385.83**	**2,586,488.50**		**1,496,797.50**		**20,632.79**
SYLVAN H. E. STATION 0240 PROJ. 2454								
	3300	Land & Land Rights-Fee	103,210.35	103,210.35	n/a	(17,606.15)		
	3305	Land & Land Rght-Easements	17,118.86	17,118.86	n/a	-		
	3310	Structures & Improvements	313,620.63	313,620.63	313,620.63	178,181.65	50.0	2,708.76
	3312	Structures & Improv. Rec.	36,001.73	36,001.73	36,001.73	25,077.41	50.0	218.52
	3320	Reservoirs, Dams & Bridges	1,420,194.94	1,481,483.13	1,450,839.04	902,517.30	50.0	10,405.62
	3330	Water Wheels, Turb. & Gen.	222,259.37	222,259.37	222,259.37	213,337.61	50.0	178.44
	3340	Accessory Electric Equip.	177,557.69	177,557.69	177,557.69	162,196.25	50.0	307.20
	3350	Misc. Power Plant Equip.	19,391.61	19,391.61	19,391.61	15,771.93	50.0	72.36
	3360	Roads, Railroads & Bridges	1,974.52	1,974.52	1,974.52	1,974.52	50.0	-
		Totals	**2,311,329.70**	**2,372,617.89**		**1,481,450.52**		**13,890.90**
THOMSON H. E. STATION 0205								
	3300	Land & Land Rights-Fee	332,449.65	332,449.65	n/a			
	3305	Land & Land Rght-Easements	394.59	394.59	n/a			
	3310	Structures & Improvements	2,988,040.55	3,968,035.88	3,478,038.22	1,053,893.16	50.0	46,390.53
	3312	Structures & Improv. Rec.	52,627.95	52,627.95	52,627.95	23,838.82	50.0	575.76
	3320	Reservoirs, Dams & Bridges	10,194,470.60	43,424,467.65	26,809,469.13	6,567,266.67	50.0	214,358.49
	3322	Res, Dams, & Wtrways - Rec.	305.38	305.38	305.38	223.63	50.0	1.68
	3330	Water Wheels, Turb. & Gen.	9,026,588.07	13,898,168.76	11,462,378.42	5,474,283.05	50.0	129,888.29
	3340	Accessory Electric Equip.	2,937,838.96	14,017,286.67	8,477,562.82	1,545,922.21	50.0	67,670.00
	3350	Misc. Power Plant Equip.	442,908.16	480,514.83	461,711.50	173,696.49	50.0	5,543.48
	3360	Roads, Railroads & Bridges	51,408.16	51,408.16	51,408.16	16,576.44	50.0	696.60
		Totals	**26,027,032.07**	**76,225,659.52**		**14,855,700.47**		**465,124.83**
WHITE IRON LAKE RESERVOIR 0242								
	3305	Land & Land Rght-Easements	349.88	349.88	n/a	63.61		
	3320	Reservoirs, Dams & Bridges	6,141.88	6,141.88	6,141.88	2,829.12	50.0	66.24
	3340	Accessory Electric Equip.	22,792.48	22,792.48	22,792.48	10,497.98	50.0	245.88
		Totals	**29,284.24**	**29,284.24**		**13,390.71**		**312.12**
WHITEFACE RESERVOIR 0275								
	3300	Land & Land Rights-Fee	43,073.87	43,073.87	n/a			
	3305	Land & Land Rght-Easements	94,923.20	94,923.20	n/a			
	3312	Structures & Improv. Rec.	34,312.69	34,312.69	34,312.69	24,211.00	50.0	202.08

Minnesota Power
Depreciation Expense Calculation - 2014
Hydro

Facility & Plant Account			Beginning Plant Balance	Ending Plant Balance	Average Plant Balance	Beginning Reserve Balance	2014 Remaining Life	2014 Provision
	3320	Reservoirs, Dams & Bridges	1,026,731.18	1,172,280.39	1,099,505.79	538,201.23	50.0	9,895.19
	3340	Accessory Electric Equip.	17,894.17	17,894.17	17,894.17	8,807.62	50.0	181.68
		Totals	**1,216,935.11**	**1,362,484.32**		**571,219.85**		**10,278.95**
WINTON H. E. STATION 0215								
	3300	Land & Land Rights-Fee	106,603.64	106,603.64	n/a			
	3302	Land & Land Rght-Fee-Rec	1,797.73	1,797.73	n/a			
	3305	Land & Land Rght-Easements	210,170.75	210,170.75	n/a			
	3310	Structures & Improvements	398,212.04	389,827.46	394,019.75	327,821.08	50.0	1,415.77
	3312	Structures & Improv. Rec.	155,301.29	155,301.29	155,301.29	68,560.12	50.0	1,734.84
	3320	Reservoirs, Dams & Bridges	1,938,936.94	1,938,936.94	1,938,936.94	1,061,477.75	50.0	17,549.16
	3330	Water Wheels, Turb. & Gen.	332,393.10	323,814.82	328,103.96	332,393.10	50.0	190.89
	3340	Accessory Electric Equip.	1,131,827.04	1,994,141.86	1,562,984.45	783,971.76	50.0	28,511.24
	3350	Misc. Power Plant Equip.	1,074,447.82	43,806.62	559,127.22	160,376.19	50.0	(2,110.63)
		Totals	**5,349,690.35**	**5,164,401.11**		**2,734,600.00**		**47,291.27**
Total Hydro Generation			**89,922,046.43**	**143,792,398.94**		**40,165,491.86**		**1,183,212.27**
SUMMARY ALL HYDRO								
	3300	Land & Land Rights-Fee	2,234,832.19	2,234,832.19	n/a	(17,604.63)		-
	3301	Land & Land Rght-Fish & Wld	588.76	588.76	n/a	-		-
	3302	Land & Land Rights-Fee-Rec	5,864.15	5,864.15	n/a	-		-
	3305	Land & Land Rght-Easements	1,126,271.82	1,126,271.82	n/a	63.61		-
	3307	Land & Land Rght-Ease-Rec	881.50	881.50	n/a	-		-
	3310	Structures & Improvements	10,623,774.09	11,481,606.16	11,052,690.13	3,787,467.98		142,444.48
	3312	Structures & Improv. Rec.	1,205,260.17	1,205,260.17	1,205,260.17	659,697.97		10,911.24
	3320	Reservoirs, Dams & Bridges	38,592,083.04	76,913,358.22	57,752,720.63	18,170,579.97		557,299.07
	3322	Res, Dams, & Wtrways - Rec.	10,953.24	10,953.24	10,953.24	8,356.53		51.96
	3330	Water Wheels, Turb. & Gen.	19,730,079.21	27,040,244.25	23,385,161.73	10,508,142.62		259,327.68
	3340	Accessory Electric Equip.	14,259,858.51	22,624,849.96	18,442,354.24	6,349,081.39		204,765.06
	3350	Misc. Power Plant Equip.	2,026,290.70	1,042,379.47	1,534,335.09	641,942.71		7,461.80
	3360	Roads, Railroads & Bridges	105,309.05	105,309.05	105,309.05	57,763.71		950.98
		Totals	**89,922,046.43**	**143,792,398.94**		**40,165,491.86**		**1,183,212.27**

Appendix A

Minnesota Power
Depreciation Expense Calculation - 2014
Wind Production

Facility	Plant Account	Beginning Balance	Ending Balance	Average Plant Balance	Beginning Reserve Balance	Salvage Rate	2014 Remaining Life	2014 Provision
BISON WIND GENERATION 1A: 0195	3400 Land and Land Rights	-	-	N/A				
	3410 Structures and Improvements	7,471,983.68	7,471,983.68	7,471,983.68	333,274.76	(0.00)	31.0	223,667.13
	3440 Generators	67,886,248.40	67,886,248.40	67,886,248.40	7,385,492.82	(0.00)	31.0	1,895,584.95
	3450 Accessory Electric Equipment	182,921.24	484,776.90	333,849.07	4,344.20	(0.00)	31.0	10,624.98
	3460 Misc Power Plant Equipment	548,239.37	584,710.31	566,474.84	28,944.40	(0.00)	31.0	16,387.20
	Total	**76,089,392.69**	**76,427,719.29**		**7,752,056.18**			**2,146,264.26**
BISON WIND GENERATION 1B: 0193	3400 Land and Land Rights	380,982.94	380,982.94	N/A				
	3410 Structures and Improvements	4,041,169.03	4,041,169.03	4,041,169.03	82,129.82	(0.00)	32.0	119,970.85
	3440 Generators	65,010,924.30	65,010,924.30	65,010,924.30	1,929,008.24	(0.00)	32.0	1,911,573.17
	3450 Accessory Electric Equipment	4,214,552.21	4,214,552.21	4,214,552.21	78,324.37	(0.00)	32.0	125,340.24
	3460 Misc Power Plant Equipment	17,868.66	17,868.66	17,868.66	631.16	(0.00)	32.0	522.36
	Total	**73,665,497.14**	**73,665,497.14**		**2,090,093.59**			**2,157,406.62**
BISON WIND GENERATION 2 : 0196	3400 Land and Land Rights	-	267,122.03	N/A				
	3410 Structures and Improvements	10,284,450.87	9,664,236.74	9,974,343.81	695,517.51	(0.00)	33.0	278,137.49
	3440 Generators	126,356,390.87	124,588,267.41	125,472,329.14	4,677,701.11	(0.00)	33.0	3,567,204.59
	3450 Accessory Electric Equipment	13,726,377.43	13,834,046.10	13,780,211.77	569,041.42	(0.00)	33.0	387,655.76
	3460 Misc Power Plant Equipment	-	2,249,258.65	1,124,629.33	-	(0.00)	33.0	14,107.26
	Total	**150,367,219.17**	**150,602,930.93**		**5,942,260.04**			**4,247,105.10**
BISON WIND GENERATION 3 :0198	3400 Land and Land Rights	-	191,747.95	N/A				
	3410 Structures and Improvements	-	10,853,624.82	5,426,812.41	-	(0.00)	33.0	-
	3440 Generators	150,322,344.10	121,637,954.66	135,980,149.38	4,448,300.69	(0.00)	33.0	86,121.99
	3450 Accessory Electric Equipment	-	16,996,742.36	8,498,371.18	-	(0.00)	33.0	4,311,925.83
	3460 Misc Power Plant Equipment	-	-	-	-	(0.00)	33.0	134,629.48
	Total	**150,322,344.10**	**149,680,069.79**		**4,448,300.69**			**4,532,677.30**
BISON WIND GENERATION 4 :0199	3400 Land and Land Rights	-	-	N/A				
	3410 Structures and Improvements	-	-	-	-	(0.00)	35.0	-
	3440 Generators	-	320,956,001.91	160,478,000.96	-	(0.00)	35.0	667,805.52
	3450 Accessory Electric Equipment	-	-	-	-	(0.00)	35.0	-
	3460 Misc Power Plant Equipment	-	-	-	-	(0.00)	35.0	-
	Total	**-**	**320,956,001.91**		**-**			**667,805.52**
Taconite Ridge Energy Center: 0190	3400 Land and Land Rights	-	-	N/A				
	3410 Structures and Improvements	4,435,056.26	4,440,383.38	4,437,719.82	550,391.04	(0.00)	29.0	132,230.39
	3440 Generators	41,752,796.61	40,085,053.84	40,918,925.23	4,178,433.87	(0.00)	29.0	1,279,455.75
	3450 Accessory Electric Equipment	798,624.85	798,645.88	798,635.37	115,534.99	(0.00)	29.0	25,099.41
	3460 Misc Power Plant Equipment	130,020.70	278,300.66	204,160.68	5,199.15	(0.00)	29.0	6,389.37
	Total	**47,116,498.42**	**45,602,383.76**		**4,849,559.05**			**1,443,174.92**
	Grand Total	**497,560,951.52**	**816,934,602.82**		**25,082,269.55**			**15,194,433.72**
SUMMARY ALL WIND	3400 Land and Land Rights	380,982.94	839,852.92	N/A	-			-
	3410 Structures and Improvements	26,232,659.84	36,471,397.65	31,352,028.75	1,661,313.13			754,005.86
	3440 Generators	451,328,704.28	740,164,450.52	595,746,577.40	22,618,936.73			9,407,745.97
	3450 Accessory Electric Equipment	18,922,475.73	36,328,763.45	27,625,619.59	767,244.98			4,860,646.22
	3460 Misc Power Plant Equipment	696,128.73	3,130,138.28	1,913,133.51	34,774.71			172,035.67
	Total	**497,560,951.52**	**816,934,602.82**		**25,082,269.55**			**15,194,433.72**

MINNESOTA POWER
STRUCTURE AND AIRCRAFT
2014

PLANT IN SERVICE

Plant Account		Beginning Plant Balance	Current Additions	Current Retirements	Current Transfers	Current Adjustments	Ending Plant Balance
3900	Structures and Improvements	55,123,682.26	2,222,080.98	(32,840.69)	-	-	57,312,922.55
3928	Aircraft -Fixed Wing	3,034,142.63	-	-	-	-	3,034,142.63

DEPRECIATION RESERVE SUMMARY

Plant		Beginning Reserve Balance	Provision	Retirements	Cost of Removal	Salvage and Other Credits	Transfers and Adjustments	Ending Reserve
3900	Structures and Improvements	26,631,286.74	1,512,073.62	(32,840.69)	(1,120.57)	-	-	28,109,399.10
3928	Aircraft -Fixed Wing	646,743.74	37,263.98	-	-	-	-	684,007.72

DEPRECIATION EXPENSE CALCULATION

Plant		Beginning Plant Balance	Ending Plant Balance	Average Plant Balance	Beginning Reserve Balance	Salvage Rate	2014 Remaining Life	Provision
3900	Structures and Improvements	55,123,682.26	57,312,922.55	56,218,302.41	26,631,286.74		24.0	1,512,073.62
3928	Aircraft -Fixed Wing	3,034,142.63	3,034,142.63	3,034,142.63	646,743.74	-75.00%	4.0	37,263.98

MINNESOTA POWER
PRODUCTION PLANT
COMPARISON OF PROPOSED REMAINING LIVES TO PROPOSED REMAINING LIVES WITH 100% DECOMMISSIONING PROBABILITIES
2015

	Depreciable Plant Balance 12/31/14	Depreciation Reserve 12/31/14	Proposed Rates: Remaining Life (01/01/15)	Proposed Rates: Salvage Value (01/01/15)	Proposed Rates: 2015 Annual Accrual	Proposed Rates - Using 100% Decomm. Probabilities: Remaining Life (01/01/15)	Proposed Rates - Using 100% Decomm. Probabilities: Salvage Value (01/01/15)	Proposed Rates - Using 100% Decomm. Probabilities: 2015 Annual Accrual	Effect of 100% Decomm. Probabilities to 2015 Accrual
Steam Generation									
Hibbard SE Station:	91,181,441	50,028,547	10	-1.08%	4,213,765	10	-2.17%	4,313,153	99,388
Laskin Energy Center	80,048,373	57,129,153	16	-15.29%	2,197,414	16	-15.29%	2,197,414	-
Boswell Energy Center:	1,082,262,136	455,924,021			37,343,131			39,769,710	2,426,579
Unit No. 1	46,359,481	25,424,653	10	-7.67%	2,449,060	10	-15.34%	2,804,637	355,577
Unit No. 2	36,410,959	24,557,632	10	-9.88%	1,545,073	10	-19.75%	1,904,449	359,376
Unit No. 3	459,289,395	139,735,182	20	-5.68%	17,282,093	20	-7.57%	17,716,121	434,028
Unit No. 4	355,130,026	172,518,768	21	-6.03%	9,715,505	21	-12.06%	10,735,235	1,019,730
Common	185,072,275	93,687,786	15	-2.10%	6,351,400	15	-4.19%	6,609,268	257,868
Taconite Harbor Energy Center	155,530,451	57,729,062			8,734,643			8,881,402	146,759
Structure/Unit	150,522,026	52,720,637	12	-4.66%	8,734,643	12	-5.83%	8,881,402	146,759
Ash Ponds*	5,008,425	5,008,425	0	-4.66%	-	0	-5.83%	-	-
Cloquet Energy Center	8,259,986	5,568,756	10	0.00%	269,123	10	0.00%	269,123	-
Total Steam Generation	1,417,282,387	626,379,539			52,758,076			55,430,802	2,672,726
Wind Generation									
Bison 1A	76,427,719	9,898,321	30	-0.95%	2,241,849	30	-0.95%	2,241,849	-
Bison 1B	73,284,514	4,247,500	31	-0.93%	2,248,986	31	-0.93%	2,248,986	-
Bison 2	150,335,809	10,189,365	32	-0.35%	4,396,019	32	-0.35%	4,396,019	-
Bison 3	149,488,322	8,980,978	32	-0.42%	4,410,475	32	-0.42%	4,410,475	-
Bison 4	320,956,002	667,806	34	0.03%	9,417,409	34	0.03%	9,417,409	-
Subtotal Bison	770,492,366	33,983,970			22,714,738			22,714,738	
Taconite Ridge I Energy Center	45,602,384	4,559,381	28	-0.33%	1,471,196	28	-0.33%	1,471,196	-
Total Wind Generation	816,094,750	38,543,351			24,185,934			24,185,934	-
Hydroelectric Production Plants									
Birch Lake Reservoir	3,475,668	215,713	49	0.00%	66,530	49	0.00%	66,530	-
Blanchard HE Station	10,474,221	5,632,427	49	0.00%	98,812	49	0.00%	98,812	-
Boulder Lake Reservoir	483,407	315,850	49	0.00%	3,420	49	0.00%	3,420	-
Fish Lake Reservoir	945,803	215,592	49	0.00%	14,902	49	0.00%	14,902	-
Fond du Lac HE Station	18,148,759	3,211,808	49	0.00%	304,836	49	0.00%	304,836	-
Gauging Stations	125,451	61,044	49	0.00%	1,314	49	0.00%	1,314	-
Island Lake Reservoir	1,459,633	1,033,723	49	0.00%	8,692	49	0.00%	8,692	-
Knife Falls HE Station	3,328,194	1,810,291	49	0.00%	30,978	49	0.00%	30,978	-
Little Falls HE Station	8,010,145	4,091,729	49	0.00%	79,968	49	0.00%	79,968	-
Pillager HE Station	2,089,208	1,299,244	49	0.00%	16,122	49	0.00%	16,122	-
Prairie River HE Station	4,996,088	905,183	49	0.00%	83,488	49	0.00%	83,488	-
Rice Lake Reservoir	73,324	51,114	49	0.00%	453	49	0.00%	453	-
Scanlon HE Station	2,569,705	1,517,430	49	0.00%	21,475	49	0.00%	21,475	-
Sylvan HE Station	2,252,289	1,495,341	49	0.00%	15,448	49	0.00%	15,448	-
Thomson HE Station	75,892,815	14,116,792	49	0.00%	1,260,735	49	0.00%	1,260,735	-
Whieface Reservoir	28,934	13,703	49	0.00%	311	49	0.00%	311	-
White Iron Lake Reservoir	1,224,487	581,499	49	0.00%	13,122	49	0.00%	13,122	-
Winton HE Station	4,845,829	2,486,441	49	0.00%	48,151	49	0.00%	48,151	-
Total Hydroelectric Production Plants	140,423,960	39,054,924			2,068,757			2,068,757	-
Total Generation	2,373,801,097	703,977,814			79,012,767			81,685,493	**2,672,726**

Increase to 2015 Accrual

The ash ponds have a 5 year life, as they are built and filled in on a 5-year cycle.

** New Ash Ponds with 5 year life added in 2010*

Sources: MP Plant In Service report, PowerPlant Depr-1033 report and Remaining Life Comparison to IRP

MINNESOTA POWER
By Year and Total Impact of Increase in Annual Accrual 2008-2012 Due to Using Gross Salvage Rates

	2013	2014	2015	2016	Total
Steam Generation					
Laskin Energy Center	147,000	588,000	588,000	441,000	1,764,000
Boswell					
Unit No. 1	11,100	44,400	44,400	33,300	133,200
Unit No. 2	12,300	49,200	49,200	36,900	147,600
Unit No. 3	77,400	309,600	309,600	232,200	928,800
Unit No. 4	86,700	346,800	346,800	260,100	1,040,400
Common	42,000	168,000	168,000	126,000	504,000
Taconite Harbor Energy Center					
Structure/Unit	(4,200)	(16,800)	(16,800)	(12,600)	(50,400)
Ash Ponds	300	1,200	1,200	900	3,600
Total	**372,600**	**1,490,400**	**1,490,400**	**1,117,800**	**4,471,200**

BURNS McDONNELL

Site Decommissioning Study 2015

minnesota power
AN ALLETE COMPANY

Minnesota Power

Project No. 68913

04/1/2015

Site Decommissioning Study 2015

prepared for

Minnesota Power
Duluth, Minnesota

Project No. 68913

04/1/2015

prepared by

Burns & McDonnell Engineering Company, Inc.
Kansas City, Missouri

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LIST OF ABBREVIATIONS

Abbreviation	Term/Phrase/Name
ACM	Asbestos containing material
BEC	Boswell Energy Center
BMcD	Burns & McDonnell Engineering Company, Inc.
BOP	Balance-of-Plant
BWEC	Bison Wind Energy Center
CCOFA	Close-coupled Over-fire Air
F	Fahrenheit
Facilities	Collectively refers to the coal plants and wind farms evaluated in this report.
FD	Forced draft
HREC	Hibbard Renewable Energy Center
ID	Induced draft
kV	Kilovolt
lbs/hr	Pounds per hour
LEC	Laskin Energy Center
LNB	Low NO_x Burner
MP	Minnesota Power
MW	Megawatt
NO_x	Mono-nitrogen oxide
O&M	Operations and Maintenance
OFA	Over-fire Air
PCB	Polychlorinated biphenyl
Plants	Collectively refers to the coal plants and wind farms evaluated in this report.
PRB	Powder River Basin
Psig	Pounds per square inch gage
SCR	Selective Catalytic Reduction
SNCR	Selective Non-Catalytic Reduction
SO_2	Sulfur dioxide

Abbreviation	Term/Phrase/Name
SOFA	Separated Over-fire Air
STG	Steam turbine generator
Study	This Site Decommissioning Study
THEC	Taconite Harbor Energy Center
TRWEC	Taconite Ridge Wind Energy Center
WLF OFGD	Wet Limestone Forced Oxidation Flue Gas Desulfurization

1.0 EXECUTIVE SUMMARY

1.1 Study Objective

Burns & McDonnell Engineering Company, Inc. was retained by Minnesota Power to conduct a Site Decommissioning Study for five (5) Minnesota Power facilities, which serves as an update to the 2013 decommissioning study prepared by Burns & McDonnell. The purpose of the Study was to review the facilities and to make a recommendation to MP regarding the total cost to dismantle the facilities and return it to a condition suitable for redevelopment.

1.2 Project Descriptions

The Study evaluated the cost for five (5) facilities owned by Minnesota Power including four (4) coal plants and one (1) wind farm. Figure 1.1 shows the locations of each of the facilities included in this Study. Following the figure is a brief description of each of the Plants.

Figure 1.1: General Plant Locations

Boswell Energy Center: Located in Cohasset, Minnesota and consists of four (4) units, all of which are coal fired steam generators with combined turbine generators. BEC was first in operation in 1958 with an original rating of 75 MW. As additional units were installed over time (commissioned in 1973 and 1980), BEC's capacity has increased to a gross of 1110 MW with units 3 and 4 capable of generating 375 MW and 585 MW of gross capacity (or net of 350 MW and 537 MW), respectively.

Hibbard Renewable Energy Center: Located in Duluth, Minnesota and consists of four (4) units, two of which have been abandoned in place. Originally designed for burning coal, HREC was retrofitted to burn fuel oil in the 1970s and eventually shut down in 1982. In 1987 the facility was restarted and converted to burning biomass fuel mainly for steam to be used at the adjacent paper mill.

Laskin Energy Center: Located in Aurora, Minnesota and consists of two (2) identical units with both units commissioned in 1953. In 1966, each turbine generator was upgraded to produce 60 MW of gross capacity with a collective plant nameplate of 120 MW. Both units were converted to burn natural gas in 2015.

Taconite Harbor Energy Center: Located in Schroeder, Minnesota and consists of three (3) units, each of which has a gross capacity of 75 MW. THEC began commercial operation in 1957 with a gross capacity of 150 MW. In 1967, an additional unit was commissioned at THEC increasing the plant capacity to 225 MW. Unit 3 ceased coal-fired operation in 2015.

Bison Wind Energy Center: Located in Morton County and Oliver County, North Dakota, BWEC was developed in four (4) phases. The first phase was commissioned in February 2012 which includes 16 Siemens SWT 2.3-101 and 15 Siemens SWT 3.0-101 wind turbine generators having a collective nameplate capacity of approximately 82 MW. The second and third phase were commissioned in December 2012 and each provide an additional nameplate capacity of approximately 105 MW (or 210 MW collectively) and include 35 SWT 3.0-101 (or 70 SWT 3.0-101 collectively) wind generator turbines. Phase IV of the BWEC was recently commissioned and includes a 64 SWT 3.2-113 wind generator turbine. Including all phases of BWEC, the facility has a nameplate capacity of 496.6 MW.

1.3 Results

BMcD prepared estimates in current dollars (2015$) for the dismantlement of the Plants, with the exception of the pond and landfill closure costs for the Boswell Energy Center and the Taconite Harbor Energy Center. Those pond and landfill closure costs were developed by Barr Engineering through a separate study for Minnesota Power, and provided to BMcD for inclusion in the cost estimates in this Study. The estimates were based on the dismantlement of all equipment (using the assumptions noted in the Study) minus the scrap value of any salvageable, above grade equipment and steel structures at each of the Plants. These costs are summarized in Table 1-1.

Several of the coal facilities were identified as having asbestos and may require asbestos remediation prior to commencement of any other demolition activities. In order to properly dispose of asbestos, the remediation will need to be performed in compliance with all state and federal regulations, including, but not limited to, requirements for sealing off work areas and maintaining negative pressure throughout the removal process. Further, final clearances and approvals may also be required prior to performing further demolition activities.

Table 1-1: Site Decommissioning Cost Estimate (2015$)

Asset	Demolition Cost	Credits	Net Project Cost	Project Duration
Boswell Energy Center	$120,627,000	($9,347,000)	$111,280,000	18 to 20 months
Hibbard Energy Center	$6,543,000	($3,263,000)	$3,280,000	12 months
Laskin Energy Center	$15,208,000	($2,969,000)	$12,239,000	12 months
Taconite Harbor Energy Center	$13,062,000	($3,998,000)	$9,064,000	12 months
Bison Wind Energy Center	$23,397,000	($20,936,000)	$2,461,000	12 months

The total project costs presented above include the costs to return the site to a condition compatible with the surrounding land, similar to the conditions that existed before development of the Plant including any necessary costs for imported topsoil, seed, and fertilizer at the site. Further, these estimates include costs to dismantle the power generating equipment and BOP facilities owned by MP.

1.4 Statement of Limitations

In preparation of this Study, BMcD has relied upon information provided by MP. While BMcD has no reason to believe that the information provided, and upon which BMcD has relied, is inaccurate or incomplete in any material respect, BMcD has not independently verified such information and cannot guarantee its accuracy or completeness.

BMcD's estimates and projections of demolition costs are based on experience, qualifications and judgment. Since BMcD has no control over weather, cost and availability of labor, material and equipment, labor productivity, contractors' procedures and methods, unavoidable delays, economic conditions, government regulations and laws (including interpretation thereof), competitive bidding, market conditions, or other factors affecting such estimates or projections, BMcD does not guarantee the accuracy of its estimates or predictions.

BMcD's estimates and projections of costs do not include allowances for unforeseen environmental liabilities associated with unexpected environmental contamination due to events not considered part of normal operations, such as fuel tank ruptures, oil spills, etc. Estimates also do not include allowances for environmental remediation associated with changes in classification of hazardous materials.

2.0 INTRODUCTION

2.1 Study Overview

Burns & McDonnell Engineering Company, Inc. ("BMcD") was retained by Minnesota Power ("MP") to conduct a Site Decommissioning Study ("Study") for five (5) Minnesota Power facilities (collectively called "Facilities" or "Plants"), which serves as an update to the 2013 decommissioning study prepared by Burns & McDonnell. The purpose of the Study was to review the Facilities and to make a recommendation to MP regarding the total cost to dismantle the Facilities and return them to a condition suitable for redevelopment.

2.2 Organization of Report

This report is organized into several separate chapters and supporting appendices. These individual sections are listed below, along with a brief description of their contents.

Section 1.0 - Executive Summary: An executive summary of the Study.

Section 2.0 - Introduction: A description of the Study's objectives and the structure of this report.

Section 3.0 - Site Descriptions: An overview of each site location and noteworthy characteristics of each Plant.

Section 4.0 - Site Demolition Evaluation: Descriptions of both the general assumptions and site specific assumption used for evaluating the cost for each Plant.

Section 5.0 - Results: Summary of the estimated cost of decommissioning each of the Plants evaluated in this Study.

3.0 SITE DESCRIPTIONS

The following sections provide a general description of each facility evaluated in this Study.

3.1 Boswell Energy Center

The Boswell Energy Center ("BEC") is located in Cohasset, Minnesota and consists of four (4) units, all coal-fired steam generators with turbine generators. Figure 3.1 shows an aerial of BEC. The first two units, Unit 1 and Unit 2, were commissioned in 1958 and 1960, respectively. These two units are rated at 69 megawatts ("MW") (net) and 75 MW (gross) each and consist of pulverized coal-fired Riley-Stoker Wall-Fired Steam Generators. Boswell Units 1 and 2 currently employ low mono-nitrogen oxides ("NO_x") burners and Selective Non-Catalytic Reduction ("SNCR") system for NO_x control and a fabric filter for particulate control. No sulfur dioxide ("SO_2") control is currently installed at these units. Unit 1 and Unit 2 utilize once-through cooling drawing water from the nearby lake.

Figure 3.1: BEC Site Aerial

The third unit, Unit 3, at BEC was commissioned in 1973 and includes a pulverized coal-fired Combustion Engineering Tangentially-Fired Steam Generator, with a rated power output of 350 MW (net) and 375 MW (gross). In 2009, air quality control systems were installed to control NO_x, SO_2, particulates, and mercury emissions. During this retrofit, Low NO_x Burners ("LNBs"), Over-fire Air ("OFA") system, and Selective Catalytic Reduction ("SCR") using ammonia were installed to reduce NO_x

emissions. To reduce SO_2 emissions, the unit was equipped with a Wet Limestone Forced Oxidation Flue Gas Desulfurization ("WLF OFGD") system, which utilizes dry ground limestone as reagent. Additionally, a Fabric Filter and an Activated Carbon Injection System were installed to collect fly ash and control mercury emissions, respectively. The fly ash collected by the Fabric Filter is conditioned and disposed on-site in one of the ash ponds. The unit also utilizes a wet cooling tower to reject waste heat into the atmosphere.

The fourth unit, Unit 4, was commissioned in 1980 and includes a pulverized coal-fired Combustion Engineering Tangentially-Fired Steam Generator (similar to Unit 3) with a rated power output of 537 MW (net) and 585 MW (gross). This unit currently employs low NO_x burners and close-coupled Over-fire Air ("CCOFA") for NO_x control, a venturi scrubber for particulate control, and a spray tower absorber for SO_2 control. A small portion of the flue gas (approximately 2 to 5 percent) bypasses the venturi scrubber and spray tower absorber and is treated by an Electro Static Precipitator for particulate control before being blended with the remainder of the flue gas. Once blended, the flue gas is recycled to reheat the flue gas treated by the venturi scrubber and spray tower absorber. The unit also utilizes a wet cooling tower to reject waste heat into the atmosphere.

3.2 Hibbard Renewable Energy Center

The Hibbard Renewable Energy Center ("HREC") is located in Duluth, Minnesota approximately five miles southwest of MP's General Office, consisting of four (4) units. Figure 3.2 shows an aerial of HREC.

Figure 3.2: HREC Site Aerial

The first two units commissioned, Unit 1 and Unit 2, are currently abandoned but remain unaltered at the site. The second set of units, Unit 3 and Unit 4, are currently operational with rated power output of 35 MW (gross) and 39.5 MW (gross), respectively. The units at HREC were originally built to burn coal, but were converted to burn fuel oil in the 1970s and eventually shut down in 1982. In 1987, the facility was converted to burn biomass fuel to mainly produce steam for an adjacent paper mill. Later, an ESP was also installed directly above the boiler roof. One of the units, Unit 3, also includes an OFA to reduce NO_x emissions. Due to the limitation in available space at the site, the ash collected at the site is trucked offsite to a landfill.

3.3 Laskin Energy Center

The Laskin Energy Center ("LEC") is located in Aurora, Minnesota and consists of two identical units. Figure 3.3 shows an aerial of LEC.

Figure 3.3: LEC Site Aerial

The two units, Unit 1 and Unit 2, at LEC were commissioned in October and July of 1953, respectively, and consist of pulverized coal-fired Combustion Engineering Tangentially-Fired Steam Generators with three (3) drums designed for balanced draft firing. These units were originally designed for a maximum continuous capacity of 425,000 pounds per hour ("lbs/hr"), firing pulverized bituminous coal with steam conditions at the superheater outlet of 955 degrees Fahrenheit ("F") at 1,350 pounds per square inch gage ("psig") and a feedwater temperature of 420 degrees F. In 1966 the steam generators were upgraded to produce 525,000 lbs/hr steam flow with steam conditions of 955 degrees F at 1,315 psig. This upgrade included the addition of an attemporator and modification of the superheater and boiler bank baffles. Each unit has three Raymond Bowl RB-533 coal mills and associated tilting tangential burners. Further, in 1966 the facility was also upgraded to produce 60 MW (gross) by upgrading the Westinghouse non-reheat condensing turbine generators, originally rated for up to 44 MW. By the end of 1970, the units had been converted to burn Powder River Basin ("PRB") coal which required upgrades to each unit's feed pumps, fans, mill exhauster fans, wet particulate scrubbers, and a 300-ft high common chimney. The installation of the wet particulate scrubber allows for approximately 50 percent SO_2 control.

Additionally, each unit employs low NO_x burners and Separated Over-fire Air ("SOFA") system to control NO_x. Both units were converted to burn natural gas in 2015.

3.4 Taconite Harbor Energy Center

The Taconite Harbor Energy Center ("THEC") is located in Schroeder, Minnesota and includes three coal-fired units, each approximately 75 MW (gross). Figure 3.4 shows an aerial of THEC.

Figure 3.4: THEC Site Aerial

The first two units, Unit 1 and Unit 2, were originally constructed in the mid 1950s with both beginning commercial operation in 1957. The last unit, Unit 3, was commissioned 10 years later in 1967. Unit 3 ceased coal-fired operation in 2015. The onsite coal for the THEC units is received via barge delivery at the Cliffs Erie barge unloading facility located adjacent to the Plant, however, the barge unloading facility is not actually property of the Plant. In addition to the three units, THEC also has several buildings such as an administrative building, warehouse, water intake pump house, fuels garage, and water treatment building. THEC includes several large silos for lime and ash storage which are located in the pollution control equipment building.

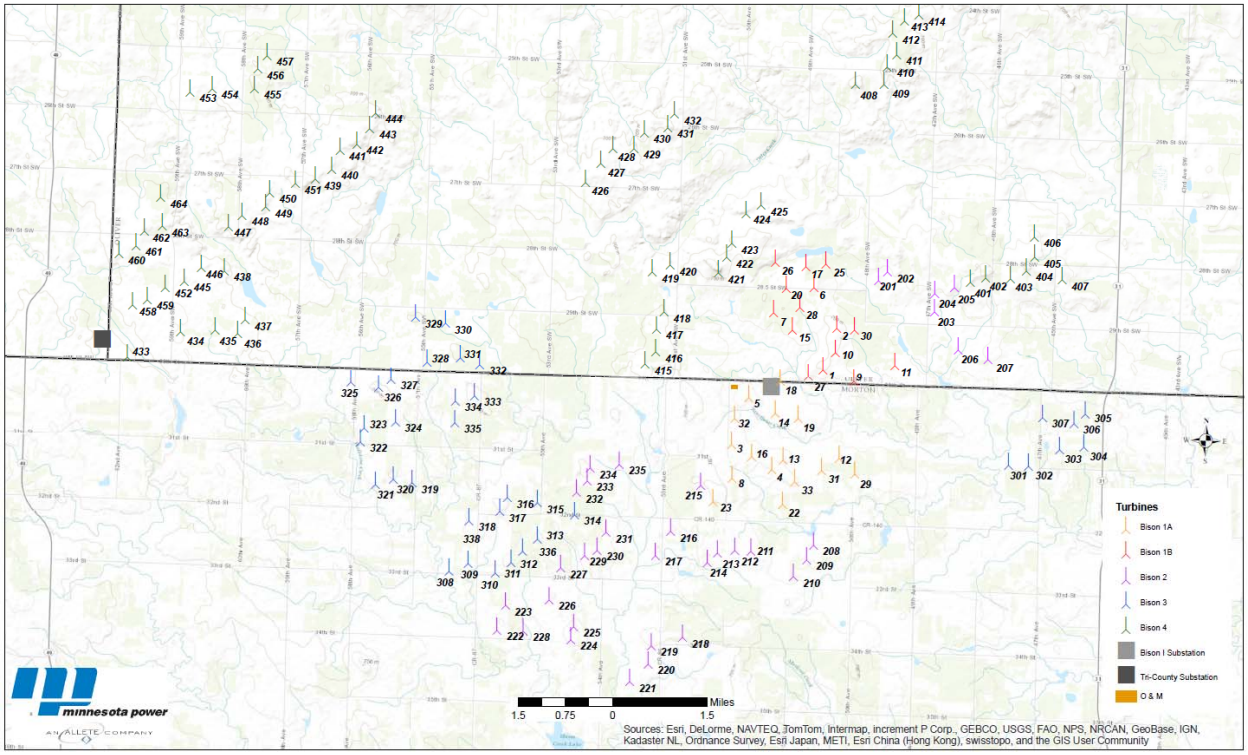
THEC has a large substation and switchyard located adjacent to the site, which is assumed to remain in operation after the facility is retired. The substation will remain in operation to support the transmission system in the area.

The facility utilizes once through cooling from water supplied from Lake Superior. Similar to other facilities constructed during the same time period, THEC has a significant amount of asbestos based insulation and siding.

3.5 Bison Wind Energy Center

The Bison Wind Energy Center ("BWEC") is located in Morton County and Oliver County, North Dakota. The first three (3) phases were commissioned in 2012 and include a total of 16 Siemens SWT 2.3-101 and 85 Siemens SWT 3.0-101 wind turbine generators with an accumulative nameplate capacity of 291.8 MW. Recently Phase IV was proposed which will include an additional 204.8 MW with the installation of 64 SWT-3.2-113 wind turbine generators.

Figure 3.5: BWEC Site Layout



The turbines used at the BWEC include variants of the G2 and D3 Siemens wind turbine platforms such as the SWT 2.3 MW model and SWT 3.0 MW or greater models, respectively. Main differences between these models are the generator type and drive system. The G2 platform includes a doubly-fed induction generator with a gearbox to operate within the power curve of the platform. The D3 platform uses a direct drive permanent magnet generator which allows for the turbine to operate within its power curve without the use of a gearbox.

Table 3-1: O&M Facility Dimensions

O&M Facility	Dimensions
1	140’ x 80’ x 14’
2	85’ x 60’ x 10’
3	40’ x 65’ x 10’

Table 3-1 shows the dimensions of the three (3) operations and maintenance (“O&M”) facilities located at BWEC. Additionally, the project has two substations, the first being an existing substation which converts the output of the first three (3) phases from 34.5 kilovolt (“kV”), the collection system voltage, to 230 kV. The second substation is at the western boundary of the site and is proposed to be built to support the Phase IV collector system.

4.0 SITE DEMOLITION EVALUATION

Burns & McDonnell has prepared dismantlement estimates for the five (5) facilities. When MP determines that the site should be retired, the above grade equipment and steel structures are assumed to have sufficient scrap value to a salvage contractor to offset a portion of the site dismantlement costs. However, MP will incur costs of dismantlement of the Plants and restoration of the sites to the extent that those costs exceed the salvage value of equipment and bulk steel.

The site demolition cost includes the cost to return the site to a condition compatible with the surrounding land, similar to the conditions that existed before development of the Plants. The site will be seeded and restored to green space. Included are the costs to dismantle all of the assets owned by MP at the site, including power generating equipment and balance-of-plant ("BOP") facilities.

The site demolition costs were developed using information provided by MP, and in-house data Burns & McDonnell has collected from previous project experience. Burns & McDonnell estimated quantities for equipment based on a visual inspection of the facilities, combined with Burns & McDonnell's in house database of plant equipment quantities, and Burns & McDonnell's professional judgment and MP provided drawings. This resulted in an estimate of quantities for the tasks required to be performed for each dismantlement effort.

Current market pricing for man-hour rates and unit pricing were then developed for each task. The man-hour rates and unit pricing were developed for the site based on the labor rates, equipment costs, and disposal costs specific to the area in which the work is to be performed. These rates were applied to the quantities for the Plant to determine the total cost of dismantlement for each site.

4.1 General Decommissioning Assumptions

The following general assumptions were made as the basis for all the cost estimates:

1. Above grade structures and buildings are included for demolition, unless otherwise noted herein.
2. Estimates include the demolition of onsite buildings including administration buildings, maintenance buildings, warehouses, storage buildings, and any other ancillary buildings. Any spare parts, tools, inventory, or equipment in the buildings will be transferred to another facility or sold prior to decommissioning activities commencing, the value of which is excluded from the estimates.
3. Facilities will be decommissioned to zero generating output. Existing utilities will remain in place for use by the contractor for the duration of these demolition activities.

4. Work will take place in the most cost efficient method.
5. Transmission switchyards and substations within the boundaries of the plant are not part of the demolition scope. The main step-up transformer(s) at the substation is assumed to be removed, but the transmission infrastructure is assumed to remain operational for support of the transmission system.
6. Step up transformers, auxiliary transformers, and spare transformers are included for removal and scrap value in the estimate.
7. No environmental costs have been included to address site clean-up of contaminated soils, hazardous materials, or other conditions present on-site having a negative environmental impact, other than those specifically listed in these assumptions. No allowances are included for unforeseen environmental remediation activities.
8. Handling and disposal of hazardous material will be performed in compliance with the approved methods of MP and governing agencies.
9. Site areas will be graded to achieve suitable site drainage to natural drainage patterns, but grading will be minimized to the extent possible.
10. Major equipment, electrical cabling, and structural steel are included for scrap value. All other demolished materials are considered debris.
11. Credits for salvage value are based on scrap value alone. Resale of equipment and materials is not included.
12. Labor costs are based on a regular forty (40)-hour workweek without overtime.
13. Soil testing and any other on-site testing has not been conducted for this study.
14. Disturbed site areas will be seeded after they are graded to provide suitable ground cover to prevent soil erosion.
15. Estimates are in 2015 dollars and excludes escalation.
16. Project indirects are included at ten (10) percent for field overhead, three (3) percent for home office costs, and ten (10) percent for profit on both labor and material costs.
17. A ten (10) percent contingency was included on the direct costs in the estimates to cover unknowns as well as owner indirects.
18. Market conditions may result in cost variations at the time of contract execution.

4.2 General and Site Specific Assumptions for Coal Plants

In addition to the general decommissioning assumptions stated in Section 4.1, the following general decommissioning assumptions were made for the coal based Plants:

1. Abatement of asbestos and arsenic in the boiler refractory (where applicable) will precede any other demolition work. After final air quality clearances have been reached, demolition can proceed.
2. Removal of asbestos will be done in accordance with any and all applicable Federal, State and Local laws, rules, and regulations.
3. The estimate includes an allowance for abatement of asbestos containing material ("ACM"), unless otherwise stated.
4. Equipment and structures covered with lead-based paint are assumed to be removed and handled by OSHA certified personnel. The lead-based paint is assumed to be abated by the scrap dealer upon recycling.
5. Asbestos costs are based on material estimates included in surveys provided by MP.
6. MP will remove all burnable coal, fuel oil, and chemicals prior to commencement of demolition activities.
7. Coal pile will be closed by removing 6-inches of material for offsite disposal as a non-hazardous waste, backfilling with clean fill, covering with 6-inches of topsoil and hydroseeded to establish vegetation.
8. If present, all polychlorinated biphenyl ("PCB") oil will be removed and disposed of properly.
9. Landfill dikes will be removed and re-graded with the dike material used as fill.
10. All existing basements will be used to bury non-hazardous debris, with the exception of the Hibbard Renewable Energy Center. Concrete in trenches and basements will be perforated to create drainage.
11. Structures at grade and above will be demolished. All structures below grade will be abandoned in-place unless deemed hazardous by MP or otherwise stated in the assumptions as being demolished.
12. Costs for offsite disposal are included for materials in excess of the onsite inert debris disposal capacity. With the exception of the Hibbard Renewable Energy Center site, concrete, masonry, and bricks are assumed to be disposed in the on-site landfill.
13. Valuation and sale of land and all replacement generation costs are excluded from this scope.
14. Sewers, catch basins, and ducts will be collapsed to two (2) feet below grade, filled and sealed on the upstream side. Horizontal runs will be abandoned in place after being closed.
15. Underground piping will be abandoned in place if it is less than four (4) feet in diameter. Circulating water pipes will be capped, have the tops broken up, and backfilled the pipe hollow with on-site soil.

16. Intake and discharge structures that will no longer serve a purpose after station operation will be filled and closed unless otherwise noted in the site specific assumptions. Equipment and structures above the seawall will be removed.
17. Existing sheet piling along the plant property shorelines to the natural bodies of water will remain in place.
18. Crushed rock is assumed to be disposed of on-site by using it for clean fill, disposed in the on-site landfill, or will be recycled by the demolition contractor for beneficial use.
19. Costs are included to clean out the fuel oil tanks and to remove the soil within the immediate vicinity of the tanks to account for the potential for this soil to be contaminated during normal operations.
20. Scrap value of steel is included at $235 per ton.
21. Scrap value of copper is included at $2.35 per pound.

4.2.1 Boswell Energy Center

The following assumptions were made for the BEC facilities are assumed to be demolished:

1. Fly ash, bottom ash, and sludge pond closure estimates for all BEC units were estimated by Barr Engineering Company. These estimates exclude the cost for onsite pond maintenance building and other miscellaneous pond infrastructures. For assumptions stated by BARR Engineering Company see Appendix C. These estimates were not independently verified by BMcD.
2. Unit 1, Unit 2, Unit 3, and Unit 4 Power blocks, including boilers, turbines and turbine hall, fan room, diesel-fired generator set, coal bunkers, fly and bottom ash silos, precipitators, administrative building, and stacks are included in the decommissioning.
3. The SNCR system and a SCR system will be removed in conjunction with Unit 2 and Unit 3, respectively.
4. BOP buildings and facilities such as the absorber building, warehouse, low point sump building, water treatment buildings and clarifiers, and storage buildings are included in the decommissioning.
5. Coal handling equipment, coal rotary unloader and indexer, silos, and conveyors will be removed from site.
6. Unit 1 and Unit 2 utilize intake structures connected to Blackwater Lake, including circulating water pumps, which will be removed.
7. The cooling system serving Unit 3 and Unit 4 including cooling towers, tower basins, and circulating water pumps will be removed.
8. Pollution control equipment storage is included in decommission.

9. Concrete foundations and miscellaneous structures will be removed to grade. Foundations and structures below grade will be left in place.
10. The rail and ballast south of Old Highway No. 6, including rail loop, will be removed.

The following BEC-specific assumptions were used as the basis for the cost estimate.

11. Auger cast piles and steel tube piles underneath foundations will remain in place.
12. The sheet piling along the lake shore will remain in place.
13. The 230 kV substation and transmission lines and associated appurtenances are excluded from the decommission estimate.
14. Intake water building foundation will be removed and the excavation filled in with inert demolition material.
15. Water generated during dewatering of the ash ponds will be treated through the onsite water treatment system prior to closure.

4.2.2 Hibbard Renewable Energy Center

The following HREC facilities are assumed to be demolished:

1. Power block, including boilers, turbines and turbine hall, forced draft ("FD") and Induced Draft ("ID") fans room, coal bunkers, fly and bottom ash silos, and stack are included in the decommission.
2. The fly ash precipitators for Unit 3 and Unit 4 are included in decommission.
3. Wood fuel unloading, hogging, handling and storage equipment including hogging structure and A-frame storage building will be removed.
4. The remaining coal handling equipment and conveyors will be removed.
5. Warehouse and intake water house including traveling water screens will be removed.
6. Concrete foundations and miscellaneous structures will be removed to grade. Foundations and structures below grade will be left in place.
7. Pipe trestle (aboveground piping, structural steel, foundations) and underground piping connecting the HREC and the paper mill will be removed including the "slanted vertical piping" rising out of the ground near the paper mill.
8. Instruments containing mercury based on the plant inventory report will be removed.
9. Refractory containing arsenic assumed for Unit 1 and Unit 2 boilers, and for Unit 3 and Unit 4 from the level above the gas burners and upwards (original boiler casing and refractory) will be removed.

The following assumptions were made for the HREC as the basis for the cost estimate.

10. No on-site disposal of demolished materials will be permitted. Demolition debris will be hauled off and disposed of in an off-site landfill.
11. Auger cast piles and steel tube piles underneath foundations will remain in place.
12. The sheet piling along the lake shore will remain in place.
13. The 115 kV substation and transmission lines and associated appurtenances will remain in place.
14. Intake water building (serving Unit 2, Unit 3, and Unit 4) foundation will be removed and the excavation filled in with inert demolition material.
15. No pond closure costs were included in decommissioning.
16. Costs for the removal, transportation and offsite disposal of 1-foot of soil beneath the former fuel oil tank are included. Costs for backfilling, grading and hydroseeding are also included.

4.2.3 Laskin Energy Center

The following LEC facilities are assumed to be demolished:

1. Power block, including boilers, turbines and turbine hall, fan room, diesel-fired generator set, coal bunkers, fly and bottom ash silos, administrative building will be demolished.
2. Particulate scrubber building containing particulate scrubbers, FD fans and motor drives, ID fans and motor drives will be demolished.
3. Concrete stack and liners and stack foundation will be removed to grade.
4. Coal handling equipment and conveyors, including coal thawing shed and bottom discharge coal car unloader with rapper will be removed.
5. Warehouse, garage, lime building, and wastewater building, including cake filter system, will be demolished.
6. Water intake pump house, including circulating water pumps, service water pumps, and newly installed vertical diesel-driven fire pump will be removed.
7. Under construction wastewater treatment facility building containing sand filters adjacent to the water intake pump house will be removed.
8. Concrete foundations and miscellaneous structures will be removed to grade. Foundations and structures below grade will be left in place.
9. Railroad spur and rail bridge are included in the decommissioning.

The following assumptions were made specific to the LEC, as the basis for the cost estimate.

10. The 115 kV/138 kV substation and transmission lines and associated appurtenances will remain in place.
11. The sheet piling along the Colby lake shore will remain in place.
12. Ash Pond Cell C and Cell D will not require any closure, therefore costs have not be included
13. Ash Pond Cell A, B, and E will be closed with the following cap design:
    a. Geomembrane Foundation Layer/Interim Cover (flyash, bottom ash, or sand)
    b. 40 mil Low Density Polyethylene Geomembrane (or 24 inch clay as alternative)
    c. 12 inch Granular Drainage Layer
    d. 12 inch Rooting Soil Layer
    e. 6 inch Vegetated Topsoil Layer

4.2.4 Taconite Harbor Energy Center

The following THEC facilities are assumed to be demolished:

1. Estimate for solid waste landfill closure at THEC was provided by Barr Engineering Company. This excludes the demolition of the landfill maintenance building, sedimentation pond, and leachate holding pond. For assumptions stated by BARR Engineering Company see Appendix C. These estimates were not independently verified by BMcD.
2. Power block, including boilers, turbines and turbine hall, fan room, diesel-fired generator set, coal bunkers, fly and bottom ash silos, precipitators, administrative building, and stacks will be demolished.
3. Storage buildings, water treatment building, and pollution control equipment storage will be demolished.
4. Transportation oil and fuel oil storage tanks will be removed.
5. Coal handling equipment and conveyors will be removed.
6. Cooling water pump and screen house will be removed.
7. Concrete foundations and miscellaneous structures will be removed to grade. Foundations and structures below grade will be left in place.

The following assumptions were made for the THEC as the basis for the cost estimate:

8. The holding pond will have two (2) feet of sludge and an additional five (5) feet of soil removed before filling with inert debris, 1.5 feet of proper soil cover, and will be seeded.

4.3 General and Site Specific Assumptions for Wind Farm

In addition to the general decommissioning assumptions stated in Section 4.1, the following general decommissioning assumptions were made for all wind turbine based Plants:

1. No hazardous construction material abatement is required.
2. The wind turbine blades will be removed from the turbine nacelle rotors using a crane, cut into manageable sized sections, loaded onto a trailer, and hauled to a local landfill for disposal.
3. The turbine nacelles will be removed from the towers with a crane and loaded onto a trailer.
4. Substation and O&M facility fencing will be removed, loaded into a dump truck or trailer, and hauled to a local landfill for disposal.
5. The underground cabling for the power collection system within the wind farm is assumed to be buried at a depth of greater than four (4) feet, and is assumed to be abandoned in place.
6. Structures and foundations will be decommissioned to a depth of four (4) feet below grade. All structures below four (4) feet below grade will be abandoned in-place unless deemed hazardous by MP or otherwise stated in the assumptions as being demolished.
7. Demolition waste, including concrete, will be disposed of at an offsite landfill.
8. Private turbine access roads will be removed as part of the decommissioning of the facility. Crushed rock surfacing will be removed and disposed of at an offsite landfill.
9. No environmental costs have been included to address site clean-up of contaminated soils, hazardous materials, or other conditions present on-site having a negative environmental impact.
10. Because no topsoil or subsoil is ever removed from the site, the existing topsoil and subsoil will be re-graded in areas where crushed rock surfacing and foundations have been removed to achieve suitable site drainage to natural drainage patterns.
11. Disturbed site areas will be graded in all areas where the ground has been disturbed as part of decommissioning activities and the ground will be seeded to prevent erosion.
12. Decommissioning of overhead transmission cables and structures are excluded.
13. At the end of its useful life, crushed rock from access roads are assumed to be removed and ownership transferred to the demolition contractor, resulting in zero hauling or disposal costs to the project.

The following assumptions were made as the basis of the cost estimates:

14. Landfill is assumed to be approximately 80 miles from the site location (roundtrip).
15. Disposal cost for clean waste is estimated to be $27 per ton.

16. Scrap yard is assumed to be approximately 45 miles from the site location (roundtrip).
17. Scrap value of steel and copper are include $235 per ton and $2.35 per pound, respectively.

4.3.1 Bison Wind Energy Center

The following BWEC facilities are assumed to be demolished:

2. Project includes four (4) phases:
    a. Phase I – consisting of 16 Siemens SWT 2.3-101 and 15 Siemens SWT 3.0-101 Direct Drive wind turbine generators with a hub height of 80 meters.
    b. Phase II – consisting of 35 SWT 3.0-101 Direct Drive wind turbine generators with a hub height of 80 meters.
    c. Phase III – consisting of 35 SWT 3.0-101 Direct Drive wind turbine generators with a hub height of 80 meters.
    d. Phase IV – consisting of 64 Siemens SWT 3.2-113 Direct Drive wind turbine generators with a hub height of 80 meters.
3. Two substations are located at the BWEC:
    a. Bison Substation built for Phase I, II, and III which includes three (3) main transformers (one per Project phase)
    b. Proposed substation for Phase IV which includes one (1) main transformer.
4. Major components, such as wind turbine nacelles, wind turbine towers, and transformers, are included in decommissioning.
5. Three (3) meteorological towers located onsite assumed to be 80 meter self-supporting towers. One (1) tower is included for Phase I, II, and III each.
6. One (1) laydown yard shared for all Project phases included in Phase I estimate.
7. Project buildings, such as O&M buildings and storage facilities, are included in Phase I estimate.
8. Costs are based on a city cost index for Bismark, North Dakota.

5.0 RESULTS

Table 5-1 presents a summary of the decommissioning costs and the available scrap values for the four (4) coal plants. Because coal plants have additional complexities than that of modern day wind farms, Table A-1 in Appendix A provides a breakdown of the major cost components of the four (4) coal plants evaluated. This breakdown is unique to the coal plants and includes cost for subjects such as asbestos disposal, galbestos disposal, and pond closure.

Table 5-1: Decommissioning Costs for Coal Plants (2015$)

	Costs (2015$)			
Category	**Boswell**	**Hibbard**	**Laskin**	**Taconite**
Mobilization	$150,000	$150,000	$150,000	$150,000
Demolition & Disposal	$27,467,000	$4,900,000	$3,203,000	$4,344,000
Asbestos Abatement Allowance	$2,048,000	$248,000	$928,000	$3,249,000
Galbestos Removal & Disposal	$691,000	$0	$0	$1,964,000
Other Hazardous Material Disposal	$198,000	$86,000	$222,000	$167,000
Site Grading & Fill	$1,815,000	$533,000	$1,065,000	$831,000
Site Restoration	$102,000	$31,000	$63,000	$100,000
Landfill and Pond Closure[1]	$77,190,000	$0	$8,195,000	$1,070,000
Project Indirects	Included Above	Included Above	Included Above	Included Above
Project Contingency (10%)	$10,966,000	$595,000	$1,382,000	$1,187,000
Total Project Costs	**$120,627,000**	**$6,543,000**	**$15,208,000**	**$13,062,000**
Scrap Value	**($9,347,000)**	**($3,263,000)**	**($2,969,000)**	**($3,998,000)**
Net Project Costs	**$111,280,000**	**$3,280,000**	**$12,239,000**	**$9,064,000**

[1]Landfill and Pond Closure costs for BEC and THEC were provided by BARR Engineering Company (see Appendix C)

The cost estimates for all coal plants assume the steam turbine generators ("STGs") are demolished and scrapped. Should MP decide to salvage the STGs and sell them to a third party, the overall net project costs may decrease by $1 to $2 million per plant depending on the market conditions for used STGs. The demolition costs would increase due to additional cost to remove the STGs properly for reuse; however the additional revenue from selling the STGs would more than offset the additional demolition costs.

Table 5-2: Site Decommissioning Costs for Wind Farm (2015$)

	BWEC	***BWEC*** *Phase I*	***BWEC*** *Phase II*	***BWEC*** *Phase III*	***BWEC*** *Phase IV*
Estimated Cost	$21,270,000	$4,795,000	$4,110,000	$4,205,000	$8,160,000
10% Contingency	$2,127,000	$480,000	$411,000	$420,000	$816,000
Scrap Value	($20,936,000)	($3,863,000)	($3,993,000)	($3,993,000)	($9,087,000)
Total Cost	**$2,461,000**	**$1,412,000**	**$528,000**	**$632,000**	**($111,000)**

Table 5-2 presents a summary of the decommissioning costs and available scrap values for the BWEC wind farm. Details of the decommissioning costs per component (i.e., turbine, BOP) are provided in the tables within Appendix B. Since majority of the land used for modern day wind farms is leased, property is typically required to be returned to its original condition prior to development. For this reason, these estimates include the cost to return the site to its state prior to development.

These estimates are based on current market values for labor rates, local fees and scrap recovery at the time the Study was conducted. Based on conversations with local scrap yards, the scrap value for the materials considered (i.e., steel, copper, and aluminum) have experienced a significant decrease in value due to the drop in oil prices. This illustrates the direct relationship between current market prices and the estimated cost for decommissioning the Plants. Further, it is possible that the cost for decommissioning the Plants may differ based on changes in market values. BMcD recommends maintaining updated decommissioning estimates for these facilities in order to keep estimates current with fluctuations in the market.

APPENDIX A -
PER UNIT BREAKDOWN OF DECOMMISSIONING COST (2015$)

Table A-1: Per Unit Breakdown of Decommissioning Costs (2015$)

	Demolition Costs	Scrap Value	Net Project Costs
Boswell			
Unit 1	$2,374,500	($742,000)	$1,632,500
Unit 2	$2,374,500	($742,000)	$1,632,500
Unit 3	$8,541,000	($3,024,000)	$5,517,000
Unit 4	$9,501,000	($2,969,000)	$6,532,000
Common Area	$9,680,000	($1,870,000)	$7,810,000
Landfill and Pond Closure	$77,190,000	N/A	$77,190,000
Project Contingency	$10,966,000	N/A	$10,966,000
Hibbard			
Unit 1	$1,345,000	($907,000)	$438,000
Unit 2	$836,000	($563,000)	$273,000
Unit 3	$1,019,000	($687,000)	$332,000
Unit 4	$673,000	($453,000)	$220,000
Common Area	$2,075,000	($653,000)	$1,422,000
Landfill and Pond Closure	$0	N/A	$0
Project Contingency	$595,000	N/A	$595,000
Laskin			
Unit 1	$1,263,000	($965,000)	$298,000
Unit 2	$1,263,000	($965,000)	$298,000
Common Area	$3,105,000	($1,039,000)	$2,066,000
Landfill and Pond Closure	$8,195,000	N/A	$8,195,000
Project Contingency	$1,382,000	N/A	$1,382,000
Taconite Harbor			
Unit 1	$1,564,000	($700,000)	$864,000
Unit 2	$2,346,000	($1,049,000)	$1,297,000
Unit 3	$2,346,000	($1,049,000)	$1,297,000
Common Area	$4,549,000	($1,200,000)	$3,349,000
Landfill and Pond Closure	$1,070,000	N/A	$1,070,000
Project Contingency	$1,187,000	N/A	$1,187,000

APPENDIX B -
COST BREAKDOWN FOR WIND FARM DECOMMISSIONING (2015$)

Table B-1: Estimated Cost for Wind Turbine Decommissioning (2015$)

Bison Wind Energy Center
Decommissioning Obligation Cost Evaluation

	BWEC Phase 1	*BWEC Phase 2*	*BWEC Phase 3*	*BWEC Phase 4*	Total BWEC	
Wind Turbine Nacelle & Tower Removal Cost						
Nacelle & Tower Removal	$ 940,000	$ 1,062,000	$ 1,062,000	$ 1,941,000	$ 5,005,000	
Hauling	$ 1,118,000	$ 1,263,000	$ 1,263,000	$ 2,310,000	$ 5,954,000	
Total	**$ 2,058,000**	**$ 2,325,000**	**$ 2,325,000**	**$ 4,251,000**	**$ 10,959,000**	
Nacelle & Tower Scrap Value	**$ (3,556,000)**	**$ (3,991,000)**	**$ (3,991,000)**	**$ (8,970,000)**	**$ (20,508,000)**	[1]
Wind Turbine Blade & Foundation Removal Cost						
Blade & Foundation Removal	$ 519,000	$ 585,000	$ 585,000	$ 1,070,000	$ 2,759,000	
Hauling	$ 35,000	$ 39,000	$ 39,000	$ 74,000	$ 187,000	
Disposal	$ 67,000	$ 76,000	$ 76,000	$ 143,000	$ 362,000	
Total	**$ 621,000**	**$ 700,000**	**$ 700,000**	**$ 1,287,000**	**$ 3,308,000**	
Blade & Foundation Scrap Value	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	[1]
Met Tower and Foundation Removal Cost						
Met Tower & Foundation Removal	$ 15,000	$ 15,000	$ 15,000	$ -	$ 45,000	
Hauling	$ 1,000	$ 1,000	$ 1,000	$ -	$ 3,000	
Disposal	$ 2,000	$ 2,000	$ 2,000	$ -	$ 6,000	
Total	**$ 18,000**	**$ 18,000**	**$ 18,000**	**$ -**	**$ 54,000**	
Met Tower & Foundation Scrap Value	**$ (2,000)**	**$ (2,000)**	**$ (2,000)**	**$ -**	**$ (6,000)**	[1]
Total Estimated Cost	**$ 2,697,000**	**$ 3,043,000**	**$ 3,043,000**	**$ 5,538,000**	**$ 14,321,000**	
Contingency (10%)	**$ 270,000**	**$ 304,000**	**$ 304,000**	**$ 554,000**	**$ 1,432,000**	
Total Turbine Scrap Value	**$ (3,558,000)**	**$ (3,993,000)**	**$ (3,993,000)**	**$ (8,970,000)**	**$ (20,514,000)**	[1]
Net Total Cost with Contingency	**$ (591,000)**	**$ (646,000)**	**$ (646,000)**	**$ (2,878,000)**	**$ (4,761,000)**	

[1] Salvage values based on steel value of $235 per ton and copper value of $2.35 per pound.

Table B-2: Estimated Cost for Estimated Cost for Balance of Plant Decommissioning (2015$)

Bison Wind Energy Center
Decommissioning Obligation Cost Evaluation

	BWEC Phase 1	*BWEC Phase 2*	*BWEC Phase 3*	*BWEC Phase 4*	**Total BWEC**	
Substation Removal Cost						
Above Ground Equipment Removal	$ 2,500	$ 2,500	$ 2,500	$ 2,500	$ 10,000	
Above Ground Equipment Hauling	$ 4,000	$ 4,000	$ 4,000	$ 4,000	$ 16,000	
Demolition (Foundations, Fencing, Crushed Rock Removal)	$ 124,500	$ 124,500	$ 124,500	$ 124,500	$ 498,000	
Demolition Hauling	$ 16,500	$ 16,500	$ 16,500	$ 16,500	$ 66,000	
Disposal	$ 30,000	$ 30,000	$ 30,000	$ 30,000	$ 120,000	
Total	**$ 177,500**	**$ 177,500**	**$ 177,500**	**$ 177,500**	**$ 710,000**	
Transformer Copper Scrap Value	**$ (105,500)**	**$ (105,500)**	**$ (105,500)**	**$ (105,500)**	**$ (422,000)**	[1]
O&M Facility Building Removal Cost						
Building & Foundation Demolition	$ 25,000	$ 25,000	$ 25,000	$ 25,000	$ 100,000	
Hauling	$ 25,000	$ 25,000	$ 25,000	$ 25,000	$ 100,000	
Disposal	$ 250	$ 250	$ 250	$ 250	$ 1,000	
Total	**$ 50,250**	**$ 50,250**	**$ 50,250**	**$ 50,250**	**$ 201,000**	
Building Scrap Value	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	[1]
Transmission Line Removal Cost						
Conductor and Tower Removal	$ -	$ -	$ -	$ -	$ -	
Foundation Demolition	$ -	$ -	$ -	$ -	$ -	
Hauling	$ -	$ -	$ -	$ -	$ -	
Disposal	$ -	$ -	$ -	$ -	$ -	
Total	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	
Steel & Conductor Scrap Value	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	[1]
Crushed Rock Road Surface Removal Cost						
Surfacing Removal	$ 1,411,000	$ 1,002,000	$ 1,087,000	$ 2,124,000	$ 5,624,000	
Hauling	$ -	$ -	$ -	$ -	$ -	[2]
Disposal	$ -	$ -	$ -	$ -	$ -	[2]
Total	**$ 1,411,000**	**$ 1,002,000**	**$ 1,087,000**	**$ 2,124,000**	**$ 5,624,000**	
Crushed Rock Scrap Value	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	
Seeding Cost	**$ 131,000**	**$ 65,000**	**$ 75,000**	**$ 143,000**	**$ 414,000**	
Total Estimated Cost	**$ 1,769,750**	**$ 1,294,750**	**$ 1,389,750**	**$ 2,494,750**	**$ 6,949,000**	
Contingency (10%)	**$ 177,000**	**$ 129,000**	**$ 139,000**	**$ 249,000**	**$ 695,000**	
Total BOP Scrap Value	**$ (105,500)**	**$ (105,500)**	**$ (105,500)**	**$ (105,500)**	**$ (422,000)**	[1]
Total with Contingency	**$ 1,841,250**	**$ 1,318,250**	**$ 1,423,250**	**$ 2,638,250**	**$ 7,222,000**	

[1] Salvage values based on steel value of $235 per ton and copper value of $2.35 per pound.
[2] At the end of its useful life, crushed rock from access roads are assumed to be removed and ownership transferred to the demolition contractor, resulting in zero hauling or disposal costs to the Projects.

APPENDIX C -
SUPPLEMENT TO SITE DECOMMISSIONING STUDY
BY BARR ENGINEERING COMPANY

Attachment D

Supplement to Site Decommissioning Study

Impoundment and Landfill Infrastructure

Prepared for
Minnesota Power

March 12, 2015

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Supplement to Site Decommissioning Study

March 12, 2015

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1.0 Plant Infrastructure Descriptions

Minnesota Power (MP) asked Barr Engineering Company (Barr) to prepare estimates of closure costs for certain MP ash and water management infrastructure. This report is intended to supplement a site-wide demolition report by Burns & McDonnell and only considers the costs of the areas described in this report. The following provides a description of the infrastructure considered at each facility.

1.1 Boswell Energy Center

The ash management areas subject to this evaluation include the Old Unit 3 Bottom Ash Pond, the current Units 1-4 Bottom Ash Pond, Unit 3 Fly Ash Pond including the dry disposal area, and Units 1,2,4 Fly Ash and SO2 Sludge Pond. Closure costs were developed for the Old Unit 3 Bottom Ash Pond, the current Units 1-4 Bottom Ash Pond, Unit 3 Fly Ash Pond, and the Units 1,2,4 Fly Ash and SO2 Sludge Pond. Demolition costs for the onsite pond maintenance building and other miscellaneous pond infrastructure were not considered in this evaluation.

1.2 Taconite Harbor Energy Center

Closure costs were developed for the industrial solid waste landfill at THEC. Demolition costs for the onsite landfill maintenance building, leachate holding pond, sedimentation basin, and other miscellaneous landfill infrastructure were not considered in this evaluation.

2.0 Closure Design Assumptions

The design assumptions for closure at the Boswell Energy Center and the Taconite Harbor Energy center are described in this Section.

2.1 General Closure Assumptions

All Coal Combustion Residual (CCR) units evaluated in this analysis will be closed and/or reclaimed to meet the requirements of state rules and the Environmental Protection Agency (EPA) CCR rule pre-publication draft dated December 19, 2014. Additional closure (final cover) and reclamation detail is included in the following sections.

2.1.1 Final Cover

For purposes of this study and cost estimate, Barr assumed that a MPCA – Industrial Solid Waste Landfill Final Cover design would be used in closing the site surface impoundments and existing landfills. Below are the key design assumptions used in this study:

- MPCA – Industrial Solid Waste Landfill Final Cover Design
    - 40-mil LLDPE geomembrane for cover system hydraulic barrier layer
    - 12-inch-thick drainage layer
    - 12-inch-thick rooting soil layer
    - 6-inch-thick topsoil layer

2.1.2 Reclamation

Reclamation refers to the process of closing cell areas by removing CCR material and reestablishing turf according to applicable Minnesota reclamation requirements. Reclamation is typically cost effective for areas where CCR material depth is minimal and where the CCR material can be relocated onto deeper CCR deposits that will be covered. This consolidation minimizes the area of CCR material requiring final cover. The specific assumptions used in this evaluation are provided below:

- For purposes of this study and cost estimate, all areas where existing CCR deposits are removed will be reclaimed with the following construction activities and typical reclamation section:
    - General site grading
    - 12-inch-thick cover soil layer
    - 6-inch-thick topsoil layer
    - Turf establishment

2.2 Site Specific Closure Assumptions

The following sections describe the site specific closure assumptions for each facility.

2.2.1 Boswell Energy Center

There are four ash management areas that will require closure. These areas include Units 1,2,4 Fly Ash and SO2 Sludge Pond, Unit 3 Fly Ash Pond, the Old Unit 3 Bottom Ash Pond and the Units 1-4 Bottom Ash Pond. Dewatering of the ponds is not considered in this closure study. Each ash management area total acreage, closed acreage, and reclaimed acreage assumption is presented below:

- **Units 1,2,4 Fly Ash and SO2 Sludge Pond:** Total = 292 acres; Closed = 195 acres; Reclaimed = 97 acres
- **Unit 3 Fly Ash Pond:** Total = 197 acres; Closed = 103 acres; Reclaimed = 94 acres
- **Old Unit 3 Bottom Ash Pond:** Total = 74 acres; Closed = 33 acres; Reclaimed = 41 acres
- **Units 1-4 Bottom Ash Pond:** Total = 55 acres; Closed = 0 acres; Reclaimed = 55 acres

The key assumptions that apply to the closure design for this study and cost estimates are provided below:

- The existing impoundment delta slopes for the Unit 3 Fly Ash Pond and Units 1,2,4 Fly Ash and SO2 Sludge Pond cannot be altered significantly by grading. Additional fill placement, assumed to be reclaimed bottom ash, will be required to achieve a final cover slope.
- Approximately 490,000 cubic yards of existing Units 1,2,4 Fly Ash and SO2 Sludge Pond CCR could be consolidated (assumes that ash less than 5 feet deep along the leading edge of the ash delta can be excavated and moved to the top of the ash delta). For purposes of this study, the 2014 Bathymetric Study data was used to estimate ash thickness.
- Approximately 590,000 cubic yards of existing Unit 3 Fly Ash Pond FGD can be consolidated (assumes that FGD solids less than 5 feet deep along the leading edge of the FGD delta can be excavated and moved to the top of the ash delta). For purposes of this study, 2014 bathymetric survey data was used to estimate FGD solids thickness.
- All bottom ash is removed from the Units 1-4 Bottom Ash Pond and used as closure fill in Units 1,2,4 Fly Ash and SO2 Sludge Pond and Unit 3 Fly Ash Pond.
- Approximately 41 acres of the Old Unit 3 Bottom Ash Pond can be reclaimed with bottom ash being used as fill in other pond closure activities.
- No additional geotechnical corrections (e.g., beyond geogrid reinforcing included in Units 1,2,4 Fly Ash and SO2 Sludge Pond closure estimate) are required to the existing ash delta surfaces.

Pond closure items that are not included in this analysis are as follows:

- Demolition costs for the onsite pond maintenance building.
- Demolition costs for other miscellaneous pond infrastructure.

2.2.2 Taconite Harbor Energy Center

The industrial solid waste landfill is the only ash management area considered in this analysis for Taconite Harbor Energy Center. Cells 1, 2, and 3 have been constructed at the landfill and Cells 4 and 5 have been permitted but not constructed. The total permitted area of the landfill liner is 15.6 acres and the total liner area constructed to-date is 9.0 acres. Currently 3.4 acres of the landfill have been closed, leaving an active open area of 5.6 acres. Only closure of the active area was considered in this analysis and the landfill acreages are summarized below:

- **Landfill:** Total Constructed = 9.0 acres; Previously Closed = 3.4 acres; Closure Required = 5.6 acres

The key assumptions that apply to the closure design for this study and cost estimates are provided below:

- Significant ash grading and relocation is not required to close the existing landfill footprint.

Landfill closure items that are not included in this analysis are as follows:

- Demolition costs for the onsite landfill maintenance building.
- Closure costs for the leachate holding pond and sedimentation basin.
- Demolition costs for other miscellaneous landfill infrastructure.

3.0 Estimates of Closure Costs

This Section provides the basis for the cost estimates and summarizes the estimated costs for closure of each of the facilities described above.

3.1 Scope of Estimates

The opinion of probable cost for each facility was developed using information from similar projects and the consulting team's experience and qualifications. The opinion of cost represents the team's best judgment as experienced and qualified professionals familiar with the project, based on project-related information available at this time, available cost information from other projects, and a screening-level design for each alternative. The opinion of probable cost could change as more information becomes available and the level of design detail is advanced. In addition, since the team has no control over the cost of labor, materials, equipment, or services furnished by others, over contractor's methods of determining prices, or over competitive bidding or market conditions, it can be expected that proposals, bids, or actual construction costs will vary from this opinion of probable cost. If a more accurate opinion of probable cost is desired, a more detailed study including a more detailed definition of the closure would be necessary.

Barr's estimates and projections of costs do not include allowances for unforeseen environmental liabilities associated with unexpected environmental contamination due to events not considered part of normal closure activities, such as fuel tank ruptures, oil spills, etc.

3.2 Range of Uncertainty

The anticipated construction cost for closure is based on screening-level design. The opinion of cost should be considered a screening-level, order-of-magnitude estimate that generally corresponds to a Class 5 estimate based on standards established by the Association for the Advancement of Cost Engineering (AACE) and American Society for Testing and Materials (ASTM). A Class 5 cost estimate is characterized by limited project definition (less than 5%), wide-scale use of parametric models (e.g., making extensive use of order-of-magnitude costs from similar projects or proposals) to calculate estimated costs, and high uncertainty. The estimated closure cost is a point estimate within a range of possible costs. The selected accuracy range for these point estimates for closure is -25% to +50%.

3.3 Closure Unit Pricing

Unit pricing for closure costs varied for each energy center. Overall closure costs for Boswell Energy Center were calculated using assumed 2014 dollars unit prices. Overall closure costs for Taconite Harbor Energy Center were calculated using 2014 dollars unit prices information provided in the facility Permit Application.

3.4 Site Cost Estimates

This section includes the site closure cost estimates for each of the facilities. Table 3-1 presents the results of the estimated closure costs for each facility included in this evaluation. Additional cost details are included in Attachment A.

Table 3-1 Summary of Estimated Closure Costs for Ash Management Infrastructure

	Costs (2014 $)	
Category	**Boswell**	**Taconite Harbor**
Units 1,2,4 Fly Ash and SO2 Sludge Pond	$41.62M	N/A
Unit 3 Fly Ash Pond	$29.76M	N/A
Old Unit 3 Bottom Ash Pond	$4.42M	N/A
Units 1-4 Bottom Ash Pond	$1.39M	N/A
Landfill	N/A	$1.07M
Total	**$77.19M**	**$1.07M**

Attachment A

Detailed Cost Estimates

PREPARED BY: BARR ENGINEERING COMPANY

BY:	SWH	DATE:	3/11/2015
CHECKED BY:	NBN	DATE:	3/12/2015
APPROVED BY:	TJR	DATE:	3/12/2015
ISSUED:	DRAFT	DATE:	
ISSUED:	FINAL	DATE:	3/12/2015

Minnesota Power
PROJECT: Supplemental Closure Cost Report
LOCATION: Boswell Energy Center
PROJECT: 23/31-1144.02

Table A-1 BEC Closure Cost Estimate

Boswell Energy Center

Material Item No.	Item Description	Unit	2014 Cost	Units 1,2,4 Fly Ash and SO2 Sludge Pond Closure		Unit 3 Fly Ash Pond Closure		Old Unit 3 Bottom Ash Pond Closure		Units 1-4 Bottom Ash Pond Closure	
				Total Quantity	Extended Cost	Total Quantity	Extended Cost	Total Quantity	Extended Cost	Total Quantity	Extended Cost
1	FGD Solids Excavation and Relocation	CY	$20	0	$0	590,000	$11,800,000	0	$0	0	$0
2	Fly Ash Excavation and Relocation	CY	$20	490,000	$9,800,000	0	$0	0	$0	0	$0
3	Bottom Ash Excavation and Relocation	CY	$3.50	1,610,000	$5,635,000	960,000	$3,360,000	0	$0	0	$0
4	Geogrid Reinforcing	AC	$11,132	195	$2,171,000	0	$0	0	$0	0	$0
5	General Site Grading	AC	$2,000	292	$584,000	197	$394,000	74	$148,000	55	$110,000
6	Geomembrane Cover - 40mil	AC	$30,492	195	$5,946,000	103	$3,141,000	33	$1,006,000	0	$0
7	Granular Drainage Layer	AC	$32,267	195	$6,292,000	103	$3,323,000	33	$1,065,000	0	$0
8	Rooting Soil Layer	AC	$11,293	292	$3,298,000	197	$2,225,000	74	$836,000	55	$621,000
9	Topsoil Layer	AC	$8,470	292	$2,473,000	197	$1,669,000	74	$627,000	55	$466,000
10	Surface Water Runoff Controls	AC	$5,000	195	$975,000	103	$515,000	33	$165,000	0	$0
11	Turf Establishment	AC	$1,400	292	$409,000	197	$276,000	74	$104,000	55	$77,000
12	Environmental Monitoring System	LS	$100,000	1	$100,000	1	$100,000	1	$100,000	0	$0
13	Stormwater Pond	LS	$500,000	1	$500,000	1	$500,000	0	$0	0	$0
14	Engineering - Facility Final Design	%	4%	-	$1,527,000	-	$1,092,000	-	$162,000	-	$51,000
15	Engineering, CQA and Project Management	%	5%	-	$1,909,000	-	$1,365,000	-	$203,000	-	$64,000
					Total **$41,620,000**		**Total** **$29,760,000**		**Total** **$4,420,000**		**Total** **$1,390,000**

Note: Extended costs are rounded to nearest $1,000.

BEC Overall Closure Cost Total **$77,190,000**

PREPARED BY: BARR ENGINEERING COMPANY

BY:	SWH	DATE:	3/11/2015
CHECKED BY:	NBN	DATE:	3/12/2015
APPROVED BY:	TJR	DATE:	3/12/2015
ISSUED:	DRAFT	DATE:	
ISSUED:	FINAL	DATE:	3/12/2015

Minnesota Power
PROJECT: Supplemental Closure Cost Report
LOCATION: Taconite Harbor Energy Center
PROJECT: 23/31-1144.02

Table A-2 THEC Closure Cost Estimate

Taconite Harbor Energy Center					
Material Item No.	**Item Description**	**Unit**	**2014 Cost**	**Ash Landfill**	
				Total Quantity	Extended Cost
1	General Site Grading	AC	$8,500	5.6	$48,000
2	Geomembrane Cover - 40mil	AC	$56,628	5.6	$317,000
3	Granular Drainage Layer	AC	$35,655	5.6	$200,000
4	Rooting Soil Layer	AC	$30,492	5.6	$171,000
5	Topsoil Layer	AC	$18,231	5.6	$102,000
6	Surface Water Runoff Controls	AC	$14,200	5.6	$80,000
7	Turf Establishment	AC	$2,300	5.6	$13,000
8	Engineering - Facility Final Design	%	5%	-	$47,000
9	Engineering, CQA and Project Management	%	10%	-	$93,000
Note: Extended costs are rounded to nearest $1,000.				**Total**	**$1,070,000**

THEC Overall Closure Cost Total $1,070,000

PREPARED BY: BARR ENGINEERING COMPANY

BY:	SWH	DATE:	3/11/2015
CHECKED BY:	NBN	DATE:	3/12/2015
APPROVED BY:	TJR	DATE:	3/12/2015
ISSUED:	DRAFT	DATE:	
ISSUED:	FINAL	DATE:	3/12/2015

Minnesota Power
PROJECT: Supplemental Closure Cost Report
LOCATION: Boswell Energy Center, Taconite Harbor Energy Center
PROJECT: 23/31-1144.02

Table A-3 Construction Materials Cost Data

Material Item No.	Item Description	Unit	Unit Cost	(ft)	Qty / Acre	Cost / Acre	Cost Data Reference
BEC							
1	FGD Solids Excavation and Relocation	CY	$20	N/A	N/A	N/A	Approximated from 2014 Laskin Energy Center Ash Relocation Bids
2	Fly Ash Excavation and Relocation	CY	$20	N/A	N/A	N/A	Approximated from 2014 Laskin Energy Center Ash Relocation Bids
3	Bottom Ash Excavation and Relocation	CY	$3.50	N/A	N/A	N/A	2011 MP Quotes to Move Bottom Ash, Adjusted for Inflation and Reduced for Large Quantity
4	Geogrid Reinforcing	SY	$2.30	N/A	4840	$11,132	Local 2013 Mining Project Bid - Inflated by 20% for 1-Year Inflation and Project Size Reduction
5	General Site Grading	AC	$2,000	N/A	1	$2,000	Placeholder Value for General Site Grading
6	Geomembrane Cover - 40mil	SF	$0.70	N/A	43560	$30,492	Local 2013 Mining Project Bid - Inflated by 20% for 1-Year Inflation and Project Size Reduction
7	Granular Drainage Layer	CY	$20	1	1613	$32,267	Local 2013 Mining Project Bid - Reduced by 20% to account for Local Availability
8	Rooting Soil Layer	CY	$7.00	1	1613	$11,293	Average of Import and Place Topsoil and Embankment Construction
9	Topsoil Layer	CY	$10.50	0.5	807	$8,470	Local 2013 Mining Project Bid - Inflated by 50% for 1-Year Inflation, Project Size Reduction and Unknown Source
10	Surface Water Runoff Controls	AC	$5,000	N/A	1	$5,000	Placeholder Value for Surface Water Runoff Controls
11	Turf Establishment	AC	$1,400	N/A	1	$1,400	Local 2013 Mining Project Bid - Inflated by 20% for 1-Year Inflation and Project Size Reduction
12	Environmental Monitoring System	LS	$100,000	N/A	N/A	N/A	Placeholder for Installation/Redevelopment/Repair of Some Wells
13	Stormwater Pond	LS	$500,000	N/A	N/A	N/A	Placeholder for Multi-Acre Stormwater Pond
14	Engineering - Facility Final Design	%	4%	N/A	N/A	N/A	Percentage of Total Construction Costs
15	Engineering, CQA and Project Management	%	5%	N/A	N/A	N/A	Percentage of Total Construction Costs
THEC							
1	General Site Grading	AC	$8,500	N/A	1	$8,500	2012 THEC Landfill Re-permit Closure Cost Estimate plus 5% Inflation
2	Geomembrane Cover - 40mil	SF	$1.30	N/A	43560	$56,628	2012 THEC Landfill Re-permit Closure Cost Estimate plus 5% Inflation
3	Granular Drainage Layer	CY	$22.10	1	1613	$35,655	2012 THEC Landfill Re-permit Closure Cost Estimate plus 5% Inflation
4	Rooting Soil Layer	CY	$18.90	1	1613	$30,492	2012 THEC Landfill Re-permit Closure Cost Estimate plus 5% Inflation
5	Topsoil Layer	CY	$22.60	0.5	807	$18,231	2012 THEC Landfill Re-permit Closure Cost Estimate plus 5% Inflation
6	Surface Water Runoff Controls	AC	$14,200	N/A	1	$14,200	2012 THEC Landfill Re-permit Closure Cost Estimate plus 5% Inflation
7	Turf Establishment	AC	$2,300	N/A	1	$2,300	2012 THEC Landfill Re-permit Closure Cost Estimate plus 5% Inflation
8	Engineering - Facility Final Design	%	5%	N/A	N/A	N/A	Percentage of Total Construction Costs
9	Engineering, CQA and Project Management	%	10%	N/A	N/A	N/A	Percentage of Total Construction Costs

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