2302 Gr. N. Drive
Fargo, ND 58102

August 21, 2020

—Via Email and U.S. Mail—

Steven M. Kahl, Executive Director
North Dakota Public Service Commission
State Capitol Building, Dept. 408
600 East Boulevard
Bismarck, ND 58505-0480

RE: XCEL ENERGY 2020 ANNUAL REVIEW OF REMAINING LIVES

Dear Mr. Kahl:

Pursuant to the approved Settlement Agreement in Case No. PU-07-776, Northern States Power Company (Xcel Energy, or the Company) submits this letter to inform the North Dakota Public Service Commission that on August 18, 2020 Xcel Energy filed its *2020 Review of Remaining Lives & Five-Year Depreciation Study* with the Minnesota Public Utilities Commission (MPUC), Docket No. E,G002/D-19-723.

Our *2020 Review of Remaining Lives* provides recommendations stemming from the annual review of electric and natural gas production and natural gas storage asset lives and net salvage rates. The filing is available on the MPUC website[1] at:

Part one:
https://www.edockets.state.mn.us/EFiling/edockets/searchDocuments.do?method=showPoup&documentId={E0A30374-0000-C411-B3EB-2099ED5A82B5}&documentTitle=20208-165992-01

Part two:
https://www.edockets.state.mn.us/EFiling/edockets/searchDocuments.do?method=showPoup&documentId={E0A30374-0000-CD37-9DFB-16EF92D840C3}&documentTitle=20208-165992-02

[1] Due to size, the Company filed the Petition in two parts. Part one includes the full filing, minus Attachment J. Part two is Attachment J.

With the filing, we requested approval from the MPUC for the following:

- Passage of time adjustments for all electric and natural gas production and natural gas storage facilities, except as discussed below;
- Modification to the remaining lives for the Wescott Gas Storage facility and the Luverne Wind2Battery System;
- Initial remaining life and net salvage rate for Blazing Star II, Crowned Ridge, Freeborn, and Dakota Range wind projects;
- Initial remaining life and net salvage rate for the approved acquisitions of the Community Wind North and Jeffers Wind projects (Docket No. E002/M-18-777) and the Mower Wind project (Docket No. E002/M-19-553);
- Reserve reallocations to certain Steam and Other Production accounts; and
- Updates to the net salvage rates for electric and natural gas production and natural gas storage facilities based on the 5-year Dismantling Study.

Please contact Amber Hedlund at amber.r.hedlund@xcelenergy.com or (612) 337-2268 or me at dave.sederquist@xcelenergy.com or (701) 241-8632 if you have any questions regarding this filing.

Sincerely,

DAVID H. SEDERQUIST
SR. REGULATORY/FINANCIAL CONSULTANT

414 Nicollet Mall
Minneapolis, MN 55401

August 18, 2020

—Via Electronic Filing—

Will Seuffert
Executive Secretary
Minnesota Public Utilities Commission
121 7th Place East, Suite 350
St. Paul, MN 55101

RE: PETITION
2020 ANNUAL REVIEW OF REMAINING LIVES & FIVE-YEAR DEPRECIATION STUDY
DOCKET NO. E,G002/D-19-723

Dear Mr. Seuffert:

Northern States Power Company, doing business as Xcel Energy, submits the enclosed 2020 Review of Remaining Lives and Five-Year Depreciation Study Petition. This filing is submitted to satisfy the review of depreciation rates for electric and natural gas production facilities in accordance with the Commission's September 8, 1978 Order in Docket No. E002/D-77-1086A, November 13, 2015 Order in Docket No. E,G002/D-15-46, September 4, 2018 Order in Docket No. E,G002/D-18-162, October 22, 2019 order in Docket No. E,G002/D-19-161, Minn. Stat. § 216B.11, and Minnesota Rules 7825.0500 through 7825.0900.

We have electronically filed this document with the Minnesota Public Utilities Commission, and copies have been served on the parties on the attached service list. Please contact me at laurie.j.wold@xcelenergy.com or (612) 330-5510 if you have any questions regarding this filing.

Sincerely,

/s/

LAURIE J. WOLD
SENIOR MANAGER, CAPITAL ASSET ACCOUNTING

Enclosures
c: Service List

STATE OF MINNESOTA
BEFORE THE
MINNESOTA PUBLIC UTILITIES COMMISSION

Katie J. Sieben	Chair
Valerie Means	Commissioner
Matthew Schuerger	Commissioner
Joseph K. Sullivan	Commissioner
John A. Tuma	Commissioner

IN THE MATTER OF THE PETITION OF NORTHERN STATES POWER COMPANY FOR APPROVAL OF THE 2020 REVIEW OF REMAINING LIVES AND FIVE-YEAR DEPRECIATION STUDY	DOCKET NO. E,G002/D-19-723 **PETITION**

OVERVIEW

Northern States Power Company, doing business as Xcel Energy, submits to the Minnesota Public Utilities Commission this Petition for approval of our 2020 Review of Remaining Lives. After performing our annual review of electric and gas production and gas storage asset lives and net salvage rates, we respectfully request approval of the following:

- Passage of time adjustments for all electric and natural gas production and gas storage facilities, except as discussed below;
- Modification to the remaining lives for the Wescott Gas Storage facility and the Luverne Wind2Battery System;
- Initial remaining life and net salvage rate for Blazing Star II, Crowned Ridge, Freeborn, and Dakota Range wind projects;
- Initial remaining life and net salvage rate for the approved acquisitions of the Community Wind North and Jeffers Wind projects (Docket No. E002/M-18-777) and the Mower Wind project (Docket No. E002/M-19-553);
- Reserve reallocations to certain Steam and Other Production accounts; and
- Updates to the net salvage rates for electric and natural gas production and gas storage facilities based on the 5-year Dismantling Study.

Attachment A is a summary of the requested 2021 remaining lives and net salvage rates.

Additionally, in compliance with past practice and the Commission's Order in our 2019 remaining life filing[1], we provide a discussion of the following items for the Commission's information:

- An explanation and schedule of the differences between depreciation remaining lives and the Integrated Resource Plan[2] (IRP) lives of electric production plants.
- An update on removal costs for Black Dog Units 3 and 4, Minnesota Valley, Key City, and Granite City.
- A supplemental schedule showing the total (in addition to the remaining) depreciable lives of the Company's electric production facilities.

Overall, this Petition reflects an increase in total Company depreciation and amortization expense of $2.5 million for existing assets and includes initial lives and net salvage for several new wind projects. Consistent with our 2015 Remaining Life Petition which included the last 5-year dismantling study (Docket No. E,G002/D-15-46), we respectfully request Commission approval of the changes proposed by the Company to be effective January 1, 2021 unless noted.

While this Petition is an annual filing, the Company recognizes this Docket may not be ordered upon before the next typically scheduled filing date of mid-February 2021. Therefore, we have also provided detail of wind projects and other assets being in-serviced during 2021 for your consideration if the Commission were to delay or cancel the 2021 filing date. In the Company's 2015 Petition (Docket No. E,G002/D-15-46), the timing of the Petition and the Company's upcoming rate case were similar to the current situation. The 2015 Docket was ordered upon on November 13, 2015 with an effective date of January 1, 2016, and the Commission Ordered the next filing be made in February of 2017, waiving the subsequent 2016 filing requirement.

In response to the inquiry into the financial effect of COVID-19 (Docket No. E,G999/CI-20-425), we have proposed the use of rate mitigation tools to address the additional costs related to our proposed relief and recovery projects. While these tools are still being evaluated, they may include potential adjustments to plant remaining lives. To the extent the Company proposes and the Commission approves the uses of any rate mitigation tools that impact this docket, the Company will supplement this filing to reflect this guidance.

[1] Docket No. E,G002/D-19-161, October 22, 2019 Order.
[2] Docket No. E002/RP-19-368

I. SUMMARY OF FILING

A one-paragraph summary of the filing accompanies this Petition pursuant to Minn. R. 7829.1300, subp. 1.

II. SERVICE ON OTHER PARTIES

Pursuant to Minn. Stat. § 216B.17, subd.3, we have electronically filed this Petition. A Summary of the filing has been provided to all persons on the attached service list.

III. GENERAL FILING INFORMATION

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

A. Name, Address, and Telephone Number of Utility

Northern States Power Company doing business as:
Xcel Energy
414 Nicollet Mall
Minneapolis, MN 55401
(612) 330-5500

B. Name, Address, and Telephone Number of Utility Attorney

Matt B. Harris
Lead Assistant General Counsel
Xcel Energy
414 Nicollet Mall, 401 – 8th Floor
Minneapolis, MN 55401
(612) 330-7641

C. Date of Filing and Date Proposed Rates Will Take Effect

The date of the filing is August 18, 2020. The Company requests that the Commission approve our proposed remaining lives and net salvage rates effective January 1, 2021. The Company requests that effective dates for the lives of the various new or purchased wind farms coincide with the month the investment is placed in service or acquired as noted later in this petition.

D. Statute Controlling Schedule for Processing the Filing

Under Minn. R. 7829.0100, subp. 11, this request for approval of remaining lives is a "miscellaneous" filing because no determination of Xcel Energy's general revenue requirements is necessary. Comments on a miscellaneous filing are due within 30 days of filing, with replies due 10 days thereafter.

E. Utility Employee Responsible for the Filing

Laurie J. Wold
Senior Manager, Capital Asset Accounting
Xcel Energy
414 Nicollet Mall, 401 – 3rd Floor
Minneapolis, MN 55401
(612) 330-5510

IV. MISCELLANEOUS INFORMATION

Pursuant to Minn. R. 7829.0700, subp. 2, the Company requests that the following persons be placed on the Commission's official service list for this matter:

Matt B. Harris
Lead Assistant General Counsel
Xcel Energy
414 Nicollet Mall, 401 – 8th Floor
Minneapolis, Minnesota 55401
Matt.B.Harris@xcelenergy.com

Lynnette Sweet
Regulatory Administrator
Xcel Energy
414 Nicollet Mall, 401 – 7th Floor
Minneapolis, Minnesota 55401
regulatory.records@xcelenergy.com

Any information requests in this proceeding should be submitted to Regulatory Records.

V. REVIEW OF REMAINING LIVES AND NET SALVAGE RATES

A. Background

The Commission approved our current remaining lives and net salvage rates effective January 1, 2019, in their October 22, 2019 Order in Docket No. E,G002/D-19-161. This 2020 review uses the previously approved remaining lives and net salvage rates—assuming a two-year passage of time adjustment—as the starting point for this filing. Thus, we have reviewed the remaining lives of our electric and natural gas production and gas storage facilities as of January 1, 2021, considering system demand, availability

of fuel supplies, operating and maintenance costs, and future technological advancements that influence the decision about retiring electric and natural gas facilities.

In this filing we request approval of the following changes effective January 1, 2021:

- Passage of time adjustments for all electric and natural gas production and gas storage facilities, except as discussed below;
- Modification to the remaining lives for the Wescott Gas Storage facility and the Luverne Wind2Battery System;
- Initial remaining life and net salvage rate for Blazing Star II, Crowned Ridge, Freeborn, and Dakota Range wind farms;
- Initial remaining life and net salvage rate for the approved acquisitions of the Community Wind North and Jeffers Wind projects (Docket No. E002/M-18-777) and the Mower Wind project (Docket No. E002/M-19-568);
- Reserve reallocations to certain Steam and Other Production accounts; and
- Updates to the net salvage rates for electric and natural gas production and gas storage facilities based on the 5-year Dismantling Study.

B. Passage of Time Adjustment

As mentioned above, to begin our analysis of remaining lives, we incorporated a two-year passage of time adjustment to the 2019 certified remaining lives of all facilities. Subtracting two years from the present certified remaining life results in the proposed remaining lives as of January 1, 2021. The passage of time adjustment does not change the annual depreciation accrual, but simply reflects that Xcel Energy production facilities will have aged two years since January 1, 2019.

Attachment B shows our Comparison of Present and Proposed Lives, as it relates to 2021 estimated depreciation expense.

Pursuant to Minn. R. 7825.0700, subp. 1, we provide with this filing, the following three attachments for our electric and gas assets:

- Attachment C – 2019 Plant In-service;
- Attachment D – 2019 Analysis of Depreciation Reserve; and
- Attachment E – 2019 Summary of Annual Depreciation Accruals.

C. Recommended Changes to Remaining Lives for Production Facilities

As discussed below, we are requesting approval of changes to the remaining lives of two facilities and changes to the net salvage rate of all facilities which results in an increase in total Company depreciation and amortization expense of approximately $2.5 million for existing assets. In addition, we request a new remaining life for our wind facilities anticipated to be in-serviced during 2020 and 2021.

1. Electric Utility – Other Production – Luverne Wind2Battery System

The Company installed a one megawatt (MW) wind energy battery-storage system in December 2009 with an initial life of 15 years. This project was a pilot to demonstrate the system's ability to store wind energy, move it to the electricity grid when needed, and to validate energy storage in supporting greater wind penetration on the Xcel Energy system. Located in Luverne, Minnesota (about 30 miles east of Sioux Falls, South Dakota), the battery was connected to a nearby 11 MW wind farm formerly owned by Minwind Energy, LLC.

The battery consists of twenty 50-kilowatt battery modules that are roughly the size, in total, of two semi-truck trailers and weigh approximately 80 tons. The battery has an approximate storage capacity of 7.2 MW-hours of electricity, with a charge/discharge capacity of one MW.

The original cost of the asset is $4.1 million. As of December 31, 2020, the estimated accumulated depreciation for this asset will be $3.2 million, leaving a remaining undepreciated net book value of $0.9 million.

In 2019, the plant that the battery was connected to was sold to another party and this party severed the connection from the wind farm to Xcel Energy's battery. The loss of this interconnection has caused us to revisit the future use of the asset.

Xcel Energy explored the option to try to independently tie the asset back into the grid or to work with the new plant owner to establish a connection. However, due to rapidly changing battery and storage technology both the battery and its support equipment have reached an age where vendor assistance and repair hardware are unavailable or scarce. Additionally, costly infrastructure upgrades and installations would be required for continued operations as the original tie to the electrical grid was through a neighboring wind farm that is ceasing operation. This means if we were able to find a company who could make and service the parts necessary to reconnect, estimated capital costs of nearly $2 million would be required along with estimated operating and maintenance (O&M) expenses of approximately $0.2 million per year.

Thus, even in the unlikely event the Company were able to find a supplier, the cost to continue operation would be prohibitively expensive and would not provide enough benefit to customers to warrant the additional capital and O&M.

Due to the materials used in this pilot, finding a channel to dispose of the battery has proven difficult and costly not only for Xcel Energy but for other utility companies in the United States. The Company is exploring options with three vendors (the battery manufacturer, the manufacturer of the controls system, and a battery recycling company) to determine the best route to safely remove and dispose of the battery. The battery uses sodium-sulfur technology which must be specially sealed as the compound will spontaneously burn when in contact with air and moisture. Therefore, there is a need to provide on-going monitoring of the asset's condition to ensure against a potential fire or other catastrophic event. Because of the limited disposal options and the safety concerns, removal costs are estimated at $5.6 million.

This experimental battery storage pilot project was the first use of direct wind energy storage technology in the United States. The Company and many direct and indirect partners learned a great deal from this small-scale pilot, including:

- Abilities of large-scale battery storage technology to effectively firm wind energy, enabling a shift of wind-generated energy from off-peak to on-peak availability;
- Testing of ancillary service support to the grid;
- Assess value of storage in the Midwest Independent System Operator market for current wind penetration scenarios; and
- Assess the overall operating characteristics of the system, including impacts on system performance as a function of operational mode and external weather conditions.

While fruitful, wind generation, battery equipment, and energy storage technology have all changed dramatically over the past decade since this pilot was installed. As with any investigational initiative, it is difficult to project the lifespan or costs with absolute accuracy from the inception.

Therefore in this petition, we are requesting the Commission approve a remaining life of zero years as of January 1, 2021, which would accelerate the retirement date by three years and approve a reserve reallocation from other plants within the Other Production function to this asset in the amount of $6.5 million ($0.9 million for estimated remaining net book value and $5.6 million for removal costs) in order to fully depreciate and retire the battery and then safely remove and dispose of it.

The impacts resulting from the adjustments to the Wind2Battery System are shown in Attachment B, Comparison of Present and Proposed Lives.

2. Electric Utility – Other Production: Blazing Star II, Crowned Ridge, Freeborn, and Dakota Range

During 2020 and 2021, the Company plans to in-service four new wind projects – Blazing Star II, Crowned Ridge, Freeborn, and Dakota Range. Below are details on each plant:

- The Blazing Star II wind farm is a 200 MW wind project located in southwest Minnesota's Lincoln County. The estimated in-service date is December 2020.
- Crowned Ridge wind farm, located in Codington County in northeastern South Dakota, is a 200 MW project estimated to be in-serviced in November 2020.
- Freeborn wind farm will have turbines located in both southern Minnesota and northern Iowa. The 200 MW project is anticipated to be in-serviced in March 2021.
- Dakota Range is a 300 MW wind project, located in South Dakota's Codington and Grant counties. The estimated in-service date is December 2021.

The Company is continually monitoring the COVID-19 pandemic and the effect it could have on these, and all, projects. We will continue to update the Commission on any COVID-19 pandemic effects as conditions warrant.

Consistent with our actions in the IRP and the Renewable Energy Standard Rider[3], the Company proposes the initial life for these four wind farms be set to 25 years from their in-service dates as estimated above. A 25-year life is consistent with the treatment of the Company's Grand Meadow, Nobles, Border Winds, Pleasant Valley, Courtenay, Blazing Star I, Lake Benton, and Foxtail wind facilities. A 25-year life is also consistent with remaining life expectations stated by the manufacturer of the turbines being used at these facilities.

Based on the remaining life of 25 years as of the estimated in-service dates, along with the net salvage rate of negative 10.5 percent as discussed in Section D below, the Company has calculated 2020 depreciation for these projects of approximately $2.4 million. This represents a partial year of depreciation as these plants will be in-serviced during the year. 2021's depreciation expense will be approximately $40.2 million which represents a full year of depreciation on 2020 in-serviced wind farms and a partial year on those in-serviced during 2021.

[3] Docket No. E002/M-17-818

Table 1: Summary of 2020-2021 Depreciation Expense on New Wind Facilities

Plant	Estimated in-service date	2020 depreciation expense	2021 depreciation expense
Crowned Ridge	November 2020	$1.8 million	$14.1 million
Blazing Star II	December 2020	$0.6 million	$13.9 million
Freeborn	March 2021	-	$11.5 million
Dakota Range	December 2021	-	$0.7 million
Total		**$2.4 million**	**$40.2 million**

3. Electric Utility – Other Production: Approved Wind Project Acquisitions

The Community Wind North (CWN) and Jeffers Wind project acquisitions were approved in Docket No. E002/M-18-777. The CWN Facilities and Jeffers Wind Facility are currently owned by Longroad Energy and the Company proposed to acquire, own, and operate two 13.2 MW refurbished wind facilities (the CWN Facilities) and the 44 MW refurbished Jeffers Wind Facility. CWN is located in Lincoln County, Minnesota, and achieved commercial operation in May 2012. Jeffers is located in Cottonwood County, Minnesota, and achieved commercial operation on October 10, 2008. Under the acquisition scenario, the repowered wind resources are assumed to operate for 25 years.

On August 13, 2020 in Docket No. E002/M-19-568, the Commission approved the purchase of the Mower Wind farm. Mower is currently under a purchase power agreement. Mower Wind is a 98.9 MW facility located in Mower County in southern Minnesota.

We are also proposing a negative 10.5 percent net salvage rate for these acquisitions to align with the average net salvage rate on new wind farms as discussed in further detail in Table 3 below.

4. Gas Utility – Gas Storage: Wescott

The Wescott Liquified Natural Gas (LNG) Plant was placed in-service in 1972. The plant cools then stores the LNG in large storage tanks. Vaporizing equipment is used later to warm and convert the liquefied methane back to a gas for use in the distribution system.

The cold box, which is a critical piece of equipment in the liquefaction process, failed in 2019 and was replaced in 2020. With the addition of new equipment at the facility, we believed it was important to evaluate the rest of the lives for the Wescott Gas Storage facility. The LNG facilities at the Wescott plant remain an important part of gas operations for the Company, especially during extreme cold weather incidents.

At this time, Company personnel believe we would be able to operate the LNG facilities at minimum another 10 years. While there are no major capital additions planned for the next year, the Company plans to maintain the facility and complete capital upgrades when needed, such as the replacement of the cold box in 2020. The LNG storage tanks at Wescott were in-serviced in 1972 and 1975.

Designers/suppliers of LNG storage vessels typically offer a "design life" of anywhere from 25 to 40 years from in-service date. After this date, however, it does not mean they are no longer useful. When properly maintained, LNG tanks may last years, even decades, beyond their original design life as evidenced by the number of in-service LNG tanks in the United States to date. Very few have been decommissioned since their original construction in the 1960s and 1970s, and very few have been found to have deficiencies significant enough to adversely impact their longevity.

The Wescott LNG facility is an important part of the Xcel Energy system. In order to meet our capacity demands on the coldest day of the year, Wescott provides about 17% of necessary supply. Without this source, Xcel Energy would have to utilize more expensive options such as a pipeline.

For these reasons, we are recommending that the remaining lives of the Wescott accounts be extended as shown in Table 2 below. This would make the retirement date for all Wescott plant accounts be December 2032 to align with the life of Account 363.3 Compressor Equipment. This change in remaining lives results in a decrease in annual depreciation of approximately $1.3 million.

Table 2: Wescott Plant Account Lives

Account	Account Name	Approved Remaining Life as of 1/1/2021	Proposed Remaining Life as of 1/1/2021	Change
G361	Structures & Improvements	3	12	+9 years
G362	Gas Holders	3	12	+9 years
G363	Purification Equipment	3	12	+9 years
G363.1	Liquefaction Equipment	3	12	+9 years
G363.2	Vaporizing Equipment	7	12	+5 years
G363.3	Compressor Equipment	12	12	0
G363.4	Measuring & Regulating Equipment	3	12	+9 years
G363.5	Other Equipment	3	12	+9 years

D. Change in Net Salvage Rates

The Commission's November 13, 2015 order in Docket No. E,G002/D-15-46 requires the Company to submit, "its next five-year depreciation study and net salvage rate study for electric and gas production and gas storage facilities on February 17, 2020."[4] To meet this requirement, we have completed an analysis of the cost of removal and net salvage for all of our current electric and gas facilities and present as a part of this filing several recommended changes to our net salvage rates.

We provide our Comparison of Present and Proposed Lives as Attachment B to this filing, summarizing the depreciation expense impact of our proposed change to net salvage rates in combination with the proposed changes to remaining lives. Further, we are providing Attachment I, which is a comparison of Present and Proposed Net Salvage Rates. This attachment shows the calculation of proposed net salvage rates and compares them to the previously approved net salvage rates.

1. Completion of the study and net salvage calculations

In 2019, the Company contracted with TLG Services, Inc. (TLG) to perform a comprehensive dismantling study on all steam, hydro, and other production electric generating plants as well as gas production and storage facilities. We provide as Attachment J to this filing, the 2020 TLG Dismantling Study (Dismantling Study).

[4] The Commission's Orders dated January 22, 2020 and July 13, 2020 in this Docket granted our requests for three-month extensions to submit this petition, extending the filing date to May 18, 2020, then to August 18, 2020, respectively.

The main purpose of the Dismantling Study was to estimate the present-day costs for retiring and demolishing the facilities, also known as final removals of existing facilities. We provide with the Dismantling Study a complete list of the assumptions used in the cost estimates.

To arrive at the proposed net salvage rates, we started with the Dismantling Study cost estimates for final removals. We used the cost estimate divided by the original cost for the facility as the starting point for the net salvage analysis. By taking the calculated net salvage rates from the Dismantling Study and applying the logic described below, we recommend the use of modified net salvage rates for most generating facilities or units, which we believe accounts for the possibility of interim retirements and additions that may lengthen the unit's life in the future.

Consistent with our last filing that used an updated dismantling study, we recommend adjustments to net salvage rates. We request that the proposed net salvage rates be applied to all FERC accounts for each unit or by plant where the units are not segregated. Applying a net salvage rate to all FERC accounts will better capture all costs which will ultimately be incurred for removal.

When comparing the 2015 Dismantling Study to the 2020 Dismantling Study, there are several notable differences, including:

- six new wind farms have been placed into service,
- one new natural gas plant has been completed (Black Dog 6),
- the Wescott Gas Production plant was sold,
- the sale of three large storage tanks from Inver Hills, and
- the Company has completed major site remediation activities at the Black Dog and Minnesota Valley sites.

Overall, costs to dismantle plants have increased since the prior study primarily due to a decrease in scrap prices, refining the wind estimation process, and general inflation of skilled labor costs. Scrap markets have been on the decline for over a decade. As salvage proceeds from the sale of scrap such as steel and copper are used to offset dismantling costs, a decline in these proceeds cause the net estimate to increase.

2. Wind farm dismantling

For the 2020 Dismantling Study, the Company requested TLG to provide two different removal scenarios. The scenarios are identical except for the depth as to which foundations are required to be removed. The first scenario is full removal of all equipment below grade. The second scenario was to remove only the equipment 48

inches below grade and above. As Xcel Energy operates in multiple states, each state has different removal requirements. North Dakota only requires removal of equipment to a depth of 48 inches. Therefore, to calculate the net salvage percent for wind facilities located in North Dakota, the Company used the 48 inches scenario. Xcel Energy's contracts with the land owners also states we will remove equipment to a depth of 48 inches.

In Minnesota, the Minnesota Pollution Control Agency (MPCA) regulates removal of below grade structures. Current MPCA rules require full removal of all foundations and equipment. Therefore, for facilities located in Minnesota, we are basing the net salvage percent based on the full removal scenario.

The wind farms which are anticipated to go in-service in 2020-2021 (Blazing Star II, Crowned Ridge, Freeborn, and Dakota Range) were not included in the Dismantling Study because the projects are still under construction. The Company used a simple average of the net salvage percentages from the eight farms included in the Dismantling Study.

Table 3: Average Net Salvage Percent Calculation

Plant	Location	Proposed net salvage percent
Blazing Star I Wind	Minnesota	-11.6%
Border Winds	North Dakota	-9.5%
Courtenay Wind	North Dakota	-10.4%
Foxtail Wind	North Dakota	-9.1%
Grand Meadow Wind	Minnesota	-12.5%
Lake Benton II Wind	Minnesota	-10.8%
Nobles Wind	Minnesota	-8.5%
Pleasant Valley	Minnesota	-11.7%
Average		**-10.5%**

The average of the net salvage rates for the wind facilities already placed in service will serve as a guideline until a site-specific study can be completed for these facilities. This is reasonable and keeps with prior practice as the six wind farms placed in-service between 2015 and 2020 used an average based on the two plants included in the 2015 Dismantling Study.

Thus, we are requesting that the initial net salvage rate for Blazing Star II, Crowned Ridge, Freeborn, Dakota Range, Jeffers, Community Wind North, and Mower be set at negative 10.5 percent, effective as of their respective in-service dates.

E. Removal Update

Order Point 10 of the Commission's October 22, 2019 Order for our 2019 remaining life filing, required the Company to continue to provide "updates on removal costs for the Minnesota Valley Plant, Key City Plant, Granite City Plant, and Black Dog Units 3 & 4, including the impact on depreciation reserves, and a final true-up when the retirement/removal is completed." We provide the requested information below.

Order Point 9 required, "In its next depreciation filing, the Company shall provide a supplemental schedule with the (1) actual costs to date, (2) projected future costs, and (3) percentage of completion to date for the Minnesota Valley Plant, Key City Plant, Granite City Plant, and Black Dog Units 3 & 4, as applicable." This information is provided for Black Dog and Minnesota Valley in Attachment H. As discussed in further detail below, the Company is not far enough along in the process of plant demolition to have detailed estimates for Key City or Granite City.

In preparing for this filing, the Company has reviewed its estimate of dismantling costs as shown in the TLG cost estimate and compared them to internal estimates. In general, the Company believes that estimates provided by TLG are reasonable. In total, the Company does not believe it has reason to expect a deficit during the dismantling of the plants. The dismantling and decommissioning management process the Company follows typically involves a combination of internal removal work as well as contract work with outside vendors. Various activities are submitted to contract firms for bid and the Company then works to supervise and cooperate with vendors as they perform the dismantling activities. The work performed by these vendors often includes more than one of the subcategories provided by TLG and is paid for in aggregate. For example, the cost quoted by a contractor may or may not include a credit for salvage, and typically does not break out fees involved in management and supervision, worker access, contingency, etc. The use of vendors external to Xcel Energy makes it impossible to assign actual costs back to TLG's estimate, but the Company has attempted to get as close as is feasible. The location specific details of the Companies analysis are discussed below.

1. Electric Utility –Steam Production: Black Dog Units 3 and 4

Black Dog Units 3 and 4 were officially retired from service in April 2015. These two units were coal-burning steam production units. Their removal from service ends the coal-fired production of electricity at Black Dog after more than 60 years.

As of January 1, 2020, the Unit 4 turbine, generator, and boiler have been removed. The ash ponds have been dredged, filled, and covered. The original coal stacks for Units 2 and 3 and the tall common stack have been removed. The coal yard remediation has been started and will be completed in 2020. The Unit 3 turbine, the boiler for Units 2 and 3, and related plant equipment are planned for removal in 2021-2025. There is also a portion of the facility that is necessary for the continued operation of Units 5 and 6. It is anticipated that these shared portions of the generating facility will not be removed until the cessation of all Black Dog location operations.

To the extent possible, the Company has provided its estimated removal dollars using the categories provided by TLG and has provided this analysis in Table 4. As indicated above, certain categories could not be identified as they are not broken out in separate, specific vendor contracts. While they are not specifically identified in the Company's estimate, they are included in the removal activities that have been specifically identified.

In order to arrive at the TLG amounts in the table below, Xcel Energy took TLG's estimate for the entire Black Dog site (both steam and other production units) and determined which costs would be anticipated to be incurred at the shutdown of the Other Production units and what would be incurred during the current removal project for the former steam units. Of the total $48.7 million TLG estimate for the entire Black Dog site, $19.6 million was allocated to current removal work and $29.1 million was allocated to the final site removal.

Table 4: Comparison of Steam Black Dog Removal Estimates

(Amounts in Millions)	Per Xcel Energy	Per TLG	Over/ (Under)
Identified Items			
Asbestos Remediation	1.0	3.9	(2.9)
Ash/Ponds/Coal Yard	4.2	3.2	1.0
Boilers	9.6	3.2	6.4
Contingency	9.5	3.4	6.1
Equipment Removal	5.2	3.4	1.8
Project/Constr Mgmt/Indirects	2.5	1.5	1.0
Total Identified	**32.0**	**18.6**	**13.4**
Unidentified Items	**-**	**4.6**	**(4.6)**
Total Removal Costs	**32.0**	**23.2**	**8.8**
Scrap Credit	**(0.5)**	**(3.6)**	**3.1**
Total (including Scrap)	**31.5**	**19.6**	**11.9**

The boiler deficit is due to the additional effort required to retain the associated structures during the boiler removal since they will continue to support the remaining Other Production function. The Company has a higher contingency buffer as the unused contingency from prior years has been rolled forward until the project is complete.

The Company believes the Black Dog removal process continues to be progressing as expected as the majority of the net deficit between removal and salvage is explained in the higher contingency and lower salvage values used by Xcel Energy and not a net cost over-run on activities. This would indicate that variances remain within the planned for allowance.

2. Electric Utility –Steam Production: Minnesota Valley

The Minnesota Valley Plant is a former steam production facility located in Granite Falls, Minnesota along the Minnesota River. Minnesota Valley last burned coal in 2004, and the air permit was formally retired in 2009. The plant is no longer in operation.

The removal and remediation of the coal yard was completed in 2019. Asbestos abatement will occur in 2021, with the full site demolition date to be completed in 2022. As costs of removal are incurred at the Minnesota Valley Plant, the costs are treated as a debit to the depreciation reserve and the reserve balance are reduced. At final removal of the plant assets, if there is reserve in excess of the plant balance, we plan to transfer this reserve to other steam production accounts.

In sum, while the dam removal efforts have been completed much of the remediation process still needs to be completed. Table 5 below compares the Company's removal estimates to the TLG study's 5.2 table using the same categories as the Black Dog estimate. At present, the Company does not believe any of the line items are unrealistic. Any decommissioning process will present unique and unexpected challenges. Additionally, the scrap and contract labor markets, which are impacted by macro-economic events, can be difficult to predict and will swing cost estimates.

Table 5: Comparison of Steam Minnesota Valley Removal Estimates

(Amounts in Millions)	Per Xcel Energy	Per TLG	Over/ (Under)
Identified Items			
Asbestos Remediation	1.1	3.6	(2.5)
Ash/Ponds/Coal Yard	-	-	-
Boilers	1.1	1.2	(0.1)
Contingency	6.0	3.9	2.1
Equipment Removal	0.9	2.9	(2.0)
Pre-Demolition Cleaning	0.2	0.5	(0.3)
Project/Constr Mgmt/Indirects	1.2	5.2	(4.0)
Structures Demolition	1.1	5.3	(4.2)
Utilities Allowance	0.2	-	0.2
Total Identified	**11.8**	**22.6**	**(10.8)**
Unidentified Items	**-**	**5.2**	**(5.2)**
Total Identified and Unidentified	**11.8**	**27.8**	**(16.0)**
Scrap Credit	**-**	**(5.3)**	**5.3**
Total (including Scrap)	**11.8**	**22.5**	**(10.7)**

As the estimates between Black Dog and Minnesota Valley are nearly offsetting, the Company is proposing a reserve reallocation as noted on Attachment B in order to align the balances with the removal budgets. The Company notes the Dismantling Study is a methodical, routine process to determine a reasonable level of overall cost of removal to be collected from customers over the life of the plant. Actual detailed budgets and vendor quotes to complete the work will undeniably vary from this routine process based on granular conditions of the location, condition, and requirements of the facility at the time of removal. The current removal reserve for Minnesota Valley is $22.1 million and the Company's estimate to remove is $11.8 million. By reallocating $10.3 million of reserve from Minnesota Valley to Black Dog, this will provide transparency for parties going forward to see how the Company is managing to the individual site budgets and ensure more accurate reporting of cost savings or overruns. This reallocation does not change expense charged to or revenues collected from customers. It simply moves the reserve from one project to the other in order to best align with the work to be performed. The remaining $0.8 million reallocation will bring the total Black Dog removal reserve (including the remaining coal yard costs to amortize) to align with the $31.5 million budgeted removal.

3. Electric Utility – Other Production: Key City and Granite City

The Key City Peaking Plant is located in Mankato, Minnesota, adjacent to Xcel Energy's Wilmarth Power Plant. The Key City plant had four units that generated a total of 64 MW of electricity using natural gas and oil as fuel. The plant became operational in 1970 and reached its end of life at the end of 2012.

The Granite City Peaking Plant is located in St. Cloud, Minnesota, and was built in 1969 and operationally retired in mid-2019. The plant consisted of four units that generated a total of 61 MW of electricity using natural gas and oil.

The Key City units were similar enough to the units at Granite City to allow them to be used as a source of spare parts. Thus, the Company maintained the Key City facility in a dormant state to support continued operations of the Granite City facility until it was shut down in 2019. Now that both facilities are shut down, a small amount of work was performed in 2019 in order to disconnect the plants from the grid. Certain bus interconnections and interfaces were removed and retired as well as breaker panels and some transformers.

As costs of removal are incurred at these plants, the costs will be treated as a debit to the depreciation reserve, and the reserve balance will be reduced. At final removal of

the plant assets, if there is reserve in excess of the plant balance, we plan to transfer this reserve to the remaining production accounts.

The Company is not far enough along in the process of plant demolition to have detailed estimates available for comparison. Instead, the Company has had its engineers review the line item detail from the Dismantling Study's Table 5.1. At present, the Company does not believe any of the line items are unrealistic. Any decommissioning process will present unique and unexpected challenges. Additionally, the scrap and contract labor markets, which are impacted by macro-economic events no company or consultant can perfectly predict, will swing cost estimates. With those considerations in mind, the Company believes the Key City and Granite City cost estimates presented by TLG in the Dismantling Study are reasonable, and the Company has no variances to address at this time.

F. Resource Plan Comparison

Consistent with past practice, we provide an IRP Comparison for our electric production plant facilities that identifies, and provides a rationale for, differences between our proposed depreciation lives and the planning lives used in the IRP Reference Plan as Attachment F.

The IRP is currently pending before the Commission. After that docket is settled, any agreed upon changes to plant lives will then be reflected in the annual remaining life docket following IRP acceptance.

VI. MINNESOTA JURISDICTIONAL DEPRECIATION

For *regulatory* purposes, the depreciation expense and the accumulated provision for depreciation are based solely on the remaining lives and net salvage rates approved by the respective Public Utility Commissions. For *financial* purposes, we must account for the impact of those differences in our approved rates in Company retail jurisdictions. We do this by calculating a depreciation expense for each jurisdiction based on its remaining lives, then apply a jurisdictional allocator to each resulting amount and add the amounts together to get a total Company financial view. The Attachments to this filing show the reserve amounts applicable to the Minnesota jurisdiction, shown at a total Company level. This method has been in use for the Minnesota assets since 2009 and has been filed in the last four electric rate case proceedings.

However, the depreciation reserve using Minnesota-approved lives and net salvage rates in this filing cannot be compared directly with total Company financial results reported in Securities and Exchange Commission or other financial filings. This stems

from the fact that the North Dakota Public Service Commission and the South Dakota Public Utilities Commission have applied remaining lives for some production plants that are materially different from what the Minnesota Commission has approved in previous remaining life filings.[5]

VII. EFFECT OF THE CHANGE IN RATES

This Petition will not impact customer rates, the price of Xcel Energy natural gas and electric service, or the terms and conditions of service. Rather, the changes will reflect the way the Company recognizes depreciation expenses for relevant assets in the current year.

CONCLUSION

Xcel Energy respectfully requests the Commission approve a total increase in depreciation and amortization expense of $2.5 million for existing assets as proposed in this filing based on the proposed remaining lives and net salvage rates for the electric and gas utilities, with an effective date of January 1, 2021 for assets included in base rates, and effective with the in-service date for assets included in Riders. We also request initial remaining lives and net salvage for our wind facilities anticipated to be in-serviced during 2020 and 2021 along with reserve reallocations to certain Steam and Other Production accounts.

In addition, should the Commission approve the pending asset purchase filing before the Commission determines the outcome in the instant docket, we request that the remaining life and net salvage rate be incorporated into this docket and included in the Commission's order.

Dated: August 18, 2020

Northern States Power Company

[5] 2012 North Dakota Electric Rate Case, Case No. PU-12-813; 2014 South Dakota Electric Rate Case, Docket No. EL14-058.

2020 REVIEW OF REMAINING LIVES
Supporting Attachments

STATE OF MINNESOTA
BEFORE THE
MINNESOTA PUBLIC UTILITIES COMMISSION

Katie J. Sieben	Chair
Valerie Means	Commissioner
Matthew Schuerger	Commissioner
Joseph K. Sullivan	Commissioner
John A. Tuma	Commissioner

IN THE MATTER OF THE PETITION OF NORTHERN STATES POWER COMPANY FOR APPROVAL OF THE 2020 REVIEW OF REMAINING LIVES	DOCKET NO. E,G002/D-19-723 **PETITION**

SUMMARY OF FILING

Please take notice that on August 18, 2020, Northern States Power Company, doing business as Xcel Energy, filed with the Minnesota Public Utilities Commission a Petition for approval of its 2020 Review of Remaining Lives. The Company requests an increase of approximately $2.5 million in 2021 total Company annual depreciation and amortization expense for existing assets increase for electric utility generating facilities and gas utility generation and storage facilities based on beginning of year balances for assets not presently included in rate riders. In addition, we request initial remaining lives and net salvage for our wind facilities anticipated to be in-serviced during 2020 and 2021 along with reserve reallocations to certain Steam and Other Production accounts. The Company requests that upon Commission approval, the new remaining lives become effective January 1, 2021 for assets included in base rates, and effective with the in-service date for assets included in Riders.

Electric Utility
Steam Production

Account	Description	Net Salvage (%)	Remaining Life 01/01/2021		Retirement date
Allen S. King					
E311	Structures & Improvements	-9.2	16.5	years	Jun-37
E312	Boiler Plant Equipment	-9.2	16.5	years	Jun-37
E314	Turbogenerator Units	-9.2	16.5	years	Jun-37
E315	Accessory Electric Equipment	-9.2	16.5	years	Jun-37
E316	Miscellaneous Power Plant Equipment	-9.2	16.5	years	Jun-37
Red Wing					
E311	Structures & Improvements	-23.5	7.0	years	Dec-27
E312	Boiler Plant Equipment	-23.5	7.0	years	Dec-27
E314	Turbogenerator Units	-23.5	7.0	years	Dec-27
E315	Accessory Electric Equipment	-23.5	7.0	years	Dec-27
E316	Miscellaneous Power Plant Equipment	-23.5	7.0	years	Dec-27
Sherco Unit 1					
E311	Structures & Improvements	-15.1	5.0	years	Dec-25
E312	Boiler Plant Equipment	-15.1	5.0	years	Dec-25
E314	Turbogenerator Units	-15.1	5.0	years	Dec-25
E315	Accessory Electric Equipment	-15.1	5.0	years	Dec-25
E316	Miscellaneous Power Plant Equipment	-15.1	5.0	years	Dec-25
Sherco Unit 2					
E311	Structures & Improvements	-15.1	5.0	years	Dec-25
E312	Boiler Plant Equipment	-15.1	2.0	years	Dec-22
E314	Turbogenerator Units	-15.1	2.0	years	Dec-22
E315	Accessory Electric Equipment	-15.1	2.0	years	Dec-22
E316	Miscellaneous Power Plant Equipment	-15.1	2.0	years	Dec-22
Sherco Unit 3					
E311	Structures & Improvements	-7.9	14.0	years	Dec-34
E312	Boiler Plant Equipment	-7.9	14.0	years	Dec-34
E314	Turbogenerator Units	-7.9	14.0	years	Dec-34
E315	Accessory Electric Equipment	-7.9	14.0	years	Dec-34
E316	Miscellaneous Power Plant Equipment	-7.9	14.0	years	Dec-34
Wilmarth					
E311	Structures & Improvements	-25.8	7.0	years	Dec-27
E312	Boiler Plant Equipment	-25.8	7.0	years	Dec-27
E314	Turbogenerator Units	-25.8	7.0	years	Dec-27
E315	Accessory Electric Equipment	-25.8	7.0	years	Dec-27
E316	Miscellaneous Power Plant Equipment	-25.8	7.0	years	Dec-27

Electric Utility
Nuclear Production

Account	Description	Net Salvage (%)	Remaining Life 01/01/2021		Retirement date
Monticello					
E302	Franchises & Consents	0.0	9.8	years	Sep-30
E321	Structures & Improvements	0.0	9.8	years	Sep-30
E322	Reactor Plant Equipment	0.0	9.8	years	Sep-30
E323	Turbogenerator Units	0.0	9.8	years	Sep-30
E324	Accessory Electric Equipment	0.0	9.8	years	Sep-30
E325	Miscellaneous Power Plant Equipment	0.0	9.8	years	Sep-30
Monticello - Interim Storage Facility					
E321	Structures & Improvements	0.0	9.8	years	Sep-30
E322	Reactor Plant Equipment	0.0	9.8	years	Sep-30
Prairie Island Unit 1 & 2					
E302	Franchises & Consents	0.0	13.3	years	Apr-34
E321	Structures & Improvements	0.0	13.3	years	Apr-34
E322	Reactor Plant Equipment	0.0	13.3	years	Apr-34
E323	Turbogenerator Units	0.0	13.3	years	Apr-34
E324	Accessory Electric Equipment	0.0	13.3	years	Apr-34
E325	Miscellaneous Power Plant Equipment	0.0	13.3	years	Apr-34
Prairie Island - Interim Storage Facility					
E321	Structures & Improvements	0.0	13.3	years	Apr-34
E322	Reactor Plant Equipment	0.0	13.3	years	Apr-34

Note: Net salvage for nuclear production is set via the nuclear triennial filings rather than this docket so we show as zero net salvage throughout this filing.

Electric Utility
Hydro Production

Account	Description	Net Salvage (%)	Remaining Life 01/01/2021		Retirement date
Hennepin Island					
E302	Franchises & Consents	0.0	13.2	years	Feb-34
E331	Structures & Improvements	-26.7	13.2	years	Feb-34
E332	Reservoirs, Dams & Waterways	-26.7	13.2	years	Feb-34
E333	Water Wheels, Turbines & Generators	-26.7	13.2	years	Feb-34
E334	Accessory Electric Equipment	-26.7	13.2	years	Feb-34
E335	Miscellaneous Power Plant Equipment	-26.7	13.2	years	Feb-34
St. Croix Falls					
E331	Structures & Improvements	-15.0	7.0	years	Dec-27
E332	Reservoirs, Dams & Waterways	-15.0	7.0	years	Dec-27
Upper Dam					
E332	Reservoirs, Dams & Waterways	-26.7	13.2	years	Feb-34
E335	Miscellaneous Power Plant Equipment	-26.7	13.2	years	Feb-34

Electric Utility
Other Production

Account	Description	Net Salvage (%)	Remaining Life 01/01/2021		Retirement date
Angus C. Anson Unit 2 & 3					
E341	Structures & Improvements	-6.5	24.4	years	May-45
E342	Fuel Holders, Producers & Accessories	-11.2	20.0	years	Dec-40
E343	Prime Movers	-11.2	20.0	years	Dec-40
E344	Generators	-11.2	20.0	years	Dec-40
E345	Accessory Electric Equipment	-11.2	20.0	years	Dec-40
E346	Miscellaneous Power Plant Equipment	-11.2	20.0	years	Dec-40
Angus C. Anson Unit 4					
E341	Structures & Improvements	-6.5	24.4	years	May-45
E342	Fuel Holders, Producers & Accessories	-6.5	24.4	years	May-45
E343	Prime Movers	-6.5	24.4	years	May-45
E344	Generators	-6.5	24.4	years	May-45
E345	Accessory Electric Equipment	-6.5	24.4	years	May-45
E346	Miscellaneous Power Plant Equipment	-6.5	24.4	years	May-45
Black Dog Unit 5					
E341	Structures & Improvements	-10.3	37.3	years	Mar-58
E342	Fuel Holders, Producers & Accessories	-7.2	11.0	years	Dec-31
E343	Prime Movers	-7.2	11.0	years	Dec-31
E344	Generators	-7.2	11.0	years	Dec-31
E345	Accessory Electric Equipment	-7.2	11.0	years	Dec-31
E346	Miscellaneous Power Plant Equipment	-7.2	11.0	years	Dec-31
Black Dog Unit 6					
E341	Structures & Improvements	-10.3	37.3	years	Mar-58
E342	Fuel Holders, Producers & Accessories	-10.3	37.3	years	Mar-58
E343	Prime Movers	-10.3	37.3	years	Mar-58
E344	Generators	-10.3	37.3	years	Mar-58
E345	Accessory Electric Equipment	-10.3	37.3	years	Mar-58
E346	Miscellaneous Power Plant Equipment	-10.3	37.3	years	Mar-58
Blazing Star I Wind					
E340.1	Wind Rights	0.0	25.0	years*	Apr-45
E341	Structures & Improvements	-11.6	25.0	years*	Apr-45
E342	Fuel Holders, Producers & Accessories	-11.6	25.0	years*	Apr-45
E343	Prime Movers	-11.6	25.0	years*	Apr-45
E344	Generators	-11.6	25.0	years*	Apr-45
E345	Accessory Electric Equipment	-11.6	25.0	years*	Apr-45
E346	Miscellaneous Power Plant Equipment	-11.6	25.0	years*	Apr-45
Blazing Star II Wind					
E340.1	Wind Rights	0.0	25.0	years*	*
E341	Structures & Improvements	-10.5	25.0	years*	*
E342	Fuel Holders, Producers & Accessories	-10.5	25.0	years*	*
E343	Prime Movers	-10.5	25.0	years*	*
E344	Generators	-10.5	25.0	years*	*
E345	Accessory Electric Equipment	-10.5	25.0	years*	*
E346	Miscellaneous Power Plant Equipment	-10.5	25.0	years*	*

Electric Utility
Other Production

Account	Description	Net Salvage (%)	Remaining Life 01/01/2021		Retirement date
Blue Lake Units 1 thru 4					
E341	Structures & Improvements	-12.7	24.4	years	May-45
E342	Fuel Holders, Producers & Accessories	-30.6	2.5	years	Jun-23
E343	Prime Movers	-30.6	2.5	years	Jun-23
E344	Generators	-30.6	2.5	years	Jun-23
E345	Accessory Electric Equipment	-30.6	2.5	years	Jun-23
E346	Miscellaneous Power Plant Equipment	-30.6	2.5	years	Jun-23
Blue Lake Units 7 & 8					
E341	Structures & Improvements	-12.7	24.4	years	May-45
E342	Fuel Holders, Producers & Accessories	-12.7	24.4	years	May-45
E343	Prime Movers	-12.7	24.4	years	May-45
E344	Generators	-12.7	24.4	years	May-45
E345	Accessory Electric Equipment	-12.7	24.4	years	May-45
E346	Miscellaneous Power Plant Equipment	-12.7	24.4	years	May-45
Border Winds					
E340.1	Wind Rights	0.0	20.0	years	Dec-40
E341	Structures & Improvements	-9.5	20.0	years	Dec-40
E342	Fuel Holders, Producers & Accessories	-9.5	20.0	years	Dec-40
E343	Prime Movers	-9.5	20.0	years	Dec-40
E344	Generators	-9.5	20.0	years	Dec-40
E345	Accessory Electric Equipment	-9.5	20.0	years	Dec-40
E346	Miscellaneous Power Plant Equipment	-9.5	20.0	years	Dec-40
Courtenay Wind					
E340.1	Wind Rights	0.0	20.9	years	Nov-41
E341	Structures & Improvements	-10.4	20.9	years	Nov-41
E342	Fuel Holders, Producers & Accessories	-10.4	20.9	years	Nov-41
E343	Prime Movers	-10.4	20.9	years	Nov-41
E344	Generators	-10.4	20.9	years	Nov-41
E345	Accessory Electric Equipment	-10.4	20.9	years	Nov-41
E346	Miscellaneous Power Plant Equipment	-10.4	20.9	years	Nov-41
Crowned Ridge Wind					
E340.1	Wind Rights	0.0	25.0	years*	*
E341	Structures & Improvements	-10.5	25.0	years*	*
E342	Fuel Holders, Producers & Accessories	-10.5	25.0	years*	*
E343	Prime Movers	-10.5	25.0	years*	*
E344	Generators	-10.5	25.0	years*	*
E345	Accessory Electric Equipment	-10.5	25.0	years*	*
E346	Miscellaneous Power Plant Equipment	-10.5	25.0	years*	*

Electric Utility
Other Production

Account	Description	Net Salvage (%)	Remaining Life 01/01/2021		Retirement date
Dakota Range Wind					
E340.1	Wind Rights	0.0	25.0	years*	*
E341	Structures & Improvements	-10.5	25.0	years*	*
E342	Fuel Holders, Producers & Accessories	-10.5	25.0	years*	*
E343	Prime Movers	-10.5	25.0	years*	*
E344	Generators	-10.5	25.0	years*	*
E345	Accessory Electric Equipment	-10.5	25.0	years*	*
E346	Miscellaneous Power Plant Equipment	-10.5	25.0	years*	*
Foxtail Wind					
E340.1	Wind Rights	0.0	24.0	years	Dec-44
E341	Structures & Improvements	-9.1	24.0	years	Dec-44
E342	Fuel Holders, Producers & Accessories	-9.1	24.0	years	Dec-44
E343	Prime Movers	-9.1	24.0	years	Dec-44
E344	Generators	-9.1	24.0	years	Dec-44
E345	Accessory Electric Equipment	-9.1	24.0	years	Dec-44
E346	Miscellaneous Power Plant Equipment	-9.1	24.0	years	Dec-44
Freeborn Wind					
E340.1	Wind Rights	0.0	25.0	years*	*
E341	Structures & Improvements	-10.5	25.0	years*	*
E342	Fuel Holders, Producers & Accessories	-10.5	25.0	years*	*
E343	Prime Movers	-10.5	25.0	years*	*
E344	Generators	-10.5	25.0	years*	*
E345	Accessory Electric Equipment	-10.5	25.0	years*	*
E346	Miscellaneous Power Plant Equipment	-10.5	25.0	years*	*
Grand Meadow Wind					
E340.1	Wind Rights	0.0	12.9	years	Nov-33
E341	Structures & Improvements	-12.5	12.9	years	Nov-33
E342	Fuel Holders, Producers & Accessories	-12.5	12.9	years	Nov-33
E343	Prime Movers	-12.5	12.9	years	Nov-33
E344	Generators	-12.5	12.9	years	Nov-33
E345	Accessory Electric Equipment	-12.5	12.9	years	Nov-33
E346	Miscellaneous Power Plant Equipment	-12.5	12.9	years	Nov-33
High Bridge					
E341	Structures & Improvements	-4.3	27.4	years	May-48
E342	Fuel Holders, Producers & Accessories	-4.3	27.4	years	May-48
E343	Prime Movers	-4.3	27.4	years	May-48
E344	Generators	-4.3	27.4	years	May-48
E345	Accessory Electric Equipment	-4.3	27.4	years	May-48
E346	Miscellaneous Power Plant Equipment	-4.3	27.4	years	May-48

Electric Utility
Other Production

Account	Description	Net Salvage (%)	Remaining Life 01/01/2021		Retirement date
Inver Hills					
E341	Structures & Improvements	-19.4	6.0	years	Dec-26
E342	Fuel Holders, Producers & Accessories	-19.4	6.0	years	Dec-26
E343	Prime Movers	-19.4	6.0	years	Dec-26
E344	Generators	-19.4	6.0	years	Dec-26
E345	Accessory Electric Equipment	-19.4	6.0	years	Dec-26
E346	Miscellaneous Power Plant Equipment	-19.4	6.0	years	Dec-26
Lake Benton II Wind					
E340.1	Wind Rights	0.0	23.9	years	Nov-44
E341	Structures & Improvements	-10.8	23.9	years	Nov-44
E342	Fuel Holders, Producers & Accessories	-10.8	23.9	years	Nov-44
E343	Prime Movers	-10.8	23.9	years	Nov-44
E344	Generators	-10.8	23.9	years	Nov-44
E345	Accessory Electric Equipment	-10.8	23.9	years	Nov-44
E346	Miscellaneous Power Plant Equipment	-10.8	23.9	years	Nov-44
Nobles Wind					
E340.1	Wind Rights	0.0	14.9	years	Nov-35
E341	Structures & Improvements	-8.5	14.9	years	Nov-35
E342	Fuel Holders, Producers & Accessories	-8.5	14.9	years	Nov-35
E343	Prime Movers	-8.5	14.9	years	Nov-35
E344	Generators	-8.5	14.9	years	Nov-35
E345	Accessory Electric Equipment	-8.5	14.9	years	Nov-35
E346	Miscellaneous Power Plant Equipment	-8.5	14.9	years	Nov-35
Pleasant Valley Wind					
E340.1	Wind Rights	0.0	20.0	years	Dec-40
E341	Structures & Improvements	-11.7	20.0	years	Dec-40
E342	Fuel Holders, Producers & Accessories	-11.7	20.0	years	Dec-40
E343	Prime Movers	-11.7	20.0	years	Dec-40
E344	Generators	-11.7	20.0	years	Dec-40
E345	Accessory Electric Equipment	-11.7	20.0	years	Dec-40
E346	Miscellaneous Power Plant Equipment	-11.7	20.0	years	Dec-40
Riverside					
E341	Structures & Improvements	-13.2	28.2	years	Mar-49
E342	Fuel Holders, Producers & Accessories	-13.2	28.2	years	Mar-49
E343	Prime Movers	-13.2	28.2	years	Mar-49
E344	Generators	-13.2	28.2	years	Mar-49
E345	Accessory Electric Equipment	-13.2	28.2	years	Mar-49
E346	Miscellaneous Power Plant Equipment	-13.2	28.2	years	Mar-49
Wind-to-Battery System					
E348.1	Energy Storage Equipment	-135.6	0.0	years	Jan-21

*Note: Remaining Lives shown for Blazing Star I and II, Crowned Ridge, Freeborn, and Dakota Range are as of the facilities' in-service dates, expected in 2020 and 2021.

Electric Utility
Other Production (on acquisition dockets as approved by the Commission)

Account	Description	Proposed Net Salvage (%)	Proposed Remaining Life as of Estimated Acquisition Date		Retirement date
Community Wind North					
E340.1	Wind Rights	0.0	25.0	years**	**
E341	Structures & Improvements	-10.5	25.0	years**	**
E342	Fuel Holders, Producers & Accessories	-10.5	25.0	years**	**
E343	Prime Movers	-10.5	25.0	years**	**
E344	Generators	-10.5	25.0	years**	**
E345	Accessory Electric Equipment	-10.5	25.0	years**	**
E346	Miscellaneous Power Plant Equipment	-10.5	25.0	years**	**
Jeffers Wind					
E340.1	Wind Rights	0.0	25.0	years**	**
E341	Structures & Improvements	-10.5	25.0	years**	**
E342	Fuel Holders, Producers & Accessories	-10.5	25.0	years**	**
E343	Prime Movers	-10.5	25.0	years**	**
E344	Generators	-10.5	25.0	years**	**
E345	Accessory Electric Equipment	-10.5	25.0	years**	**
E346	Miscellaneous Power Plant Equipment	-10.5	25.0	years**	**
Mower Wind					
E340.1	Wind Rights	0.0	25.0	years**	**
E341	Structures & Improvements	-10.5	25.0	years**	**
E342	Fuel Holders, Producers & Accessories	-10.5	25.0	years**	**
E343	Prime Movers	-10.5	25.0	years**	**
E344	Generators	-10.5	25.0	years**	**
E345	Accessory Electric Equipment	-10.5	25.0	years**	**
E346	Miscellaneous Power Plant Equipment	-10.5	25.0	years**	**

**Estimated acquisition dates are October 2020 for Community Wind North, August 2020 for Jeffers Wind, and December 2020 for Mower Wind.

Gas Utility
Gas Production

Account	Description	Net Salvage (%)	Remaining Life 01/01/2021		Retirement date
Maplewood					
G305	Structures & Improvements	-87.7	9.0	years	Dec-29
G311	LP Gas Equipment	-87.7	9.0	years	Dec-29
G320	Other Equipment	-87.7	9.0	years	Dec-29
Sibley					
G305	Structures & Improvements	-41.1	9.0	years	Dec-29
G311	LP Gas Equipment	-41.1	9.0	years	Dec-29
G320	Other Equipment	-41.1	9.0	years	Dec-29

Gas Utility
Gas Storage

Account	Description	Net Salvage (%)	Remaining Life 01/01/2021		Retirement date
Wescott					
G361	Structures & Improvements	-19.6	12.0	years	Dec-32
G362	Gas Holders	-19.6	12.0	years	Dec-32
G363	Purification Equipment	-19.6	12.0	years	Dec-32
G363.1	Liquefaction Equipment	-19.6	12.0	years	Dec-32
G363.2	Vaporizing Equipment	-19.6	12.0	years	Dec-32
G363.3	Compressor Equipment	-19.6	12.0	years	Dec-32
G363.4	Measuring & Regulating Equipment	-19.6	12.0	years	Dec-32
G363.5	Other Equipment	-19.6	12.0	years	Dec-32

	Plant Balance 1/1/2020	Reallocated Reserve Balance 1/1/2021 (est.)	Present Approved Rem Life (Yrs)	Present Rem. Life (Yrs)	Present Net Salv %	Present Depreciation Expense	Proposed Rem. Life (Yrs)	Proposed Net Salv %	Proposed Depreciation Expense	Proposed Less Present Expense
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Total Steam Production (after reserve reallocation)	$ 2,317,595,273	$ 1,682,683,326	10.0	9.0	-10.5	$ 97,282,461	9.2	-11.5	$ 98,367,538	$ 1,085,077
Total Nuclear Production	4,135,326,218	2,197,287,476	12.6	11.6	0.0	167,658,014	11.6	0.0	167,658,014	-
Total Hydro Production	28,864,079	16,410,907	13.7	12.7	-24.8	1,539,499	12.7	-25.7	1,568,617	29,118
Total Other Production (after reserve reallocation)	3,671,555,796	1,138,327,827	21.3	20.3	-8.6	140,154,087	20.3	-10.2	143,378,806	3,224,719
Total Gas Production	16,985,424	15,431,706	10.0	9.0	-84.4	1,765,053	9.0	-57.1	1,250,678	(514,375)
Total Gas Storage	57,472,081	45,855,614	8.0	7.0	-19.2	3,230,249	12.0	-19.6	1,904,907	(1,325,342)
Total Company	$ 10,227,798,870	$ 5,095,996,856				$ 411,629,362			$ 414,128,559	$ 2,499,198

Total Change to Depreciation Expense **$ 2,499,198**

	Beginning Regulatory Balance 1/1/2020	Accumulated Amortization 1/1/2021 (est.)	Present Approved Amortization Period (Yrs)	Present Remaining Amortization Period (Yrs)	Present Amortization Expense	Proposed Remaining Amortization Period (Yrs)	Proposed Amortization Expense	Proposed Less Present Expense
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Total Steam Production - Regulatory Liability Amortization	$ 47,308,519	$ 24,794,703	9.3	8.3	$ 2,713,130	8.3	$ 2,713,130	$ -

Total Change to Amortization Expense **$ -**

Total Change to Depreciation and Amortization Expense **$ 2,499,198**

Note: All amounts shown in this schedule are represented as Northern States Power Company-Minnesota total company

	Plant Balance 1/1/2020	Reallocated Reserve Balance 1/1/2021 (est.)	Present Approved Rem Life (Yrs)	Present Rem. Life (Yrs) *	Present Net Salv %	Present Depreciation Expense	Proposed Rem. Life (Yrs)	Proposed Net Salv %	Proposed Depreciation Expense	Proposed Less Present Expense
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
E311 Structures & Improvements										
Black Dog	$ -	$ 3,502,438	-	-	N/A	$ -	-	N/A	$ -	$ -
Allen S. King	39,623,999	27,018,877	17.5	16.5	-8.2	960,866	16.5	-9.2	985,426	24,560
Minnesota Valley	-	3,535,579	-	-	N/A	-	-	N/A	-	-
Red Wing	12,459,336	12,992,107	8.0	7.0	-27.8	418,703	7.0	-23.5	342,005	(76,699)
Sherco Unit 1 & 2	95,870,631	91,983,089	6.0	5.0	-15.2	3,691,976	5.0	-15.1	3,674,735	(17,240)
Sherco Unit 3	132,758,983	112,958,477	15.0	14.0	-5.4	1,926,392	14.0	-7.9	2,159,913	233,520
Wilmarth	11,196,195	10,180,625	8.0	7.0	-26.8	573,736	7.0	-25.8	557,698	(16,038)
Total/Composite	$ 291,909,144	$ 262,171,191	9.1	8.1	-10.8	$ 7,571,673	8.3	-11.8	$ 7,719,776	$ 148,103
E312 Boiler Plant Equipment										
Black Dog	$ -	$ 4,232,235	-	-	N/A	$ -	-	N/A	$ -	$ -
Allen S. King	524,338,681	237,395,452	17.5	16.5	-8.2	19,996,303	16.5	-9.2	20,321,301	324,998
Minnesota Valley	-	5,566,886	-	-	N/A	-	-	N/A	-	-
Red Wing	47,058,942	44,599,007	8.0	7.0	-27.8	2,220,332	7.0	-23.5	1,930,640	(289,692)
Sherco Unit 1	270,883,955	227,288,161	6.0	5.0	-15.2	16,954,031	5.0	-15.1	16,905,318	(48,713)
Sherco Unit 2	161,373,264	160,266,133	3.0	2.0	-15.2	12,817,933	2.0	-15.1	12,745,384	(72,549)
Sherco Unit 3	419,348,026	301,337,465	15.0	14.0	-5.4	10,046,811	14.0	-7.9	10,784,436	737,625
Wilmarth	41,907,289	43,194,943	8.0	7.0	-26.8	1,420,500	7.0	-25.8	1,360,470	(60,030)
Total/Composite	$ 1,464,910,157	$ 1,023,880,281	10.4	9.4	-10.6	$ 63,455,910	9.5	-11.5	$ 64,047,549	$ 591,639
E314 Turbogenerator Units										
Black Dog	$ -	$ 2,978,621	-	-	N/A	$ -	-	N/A	$ -	$ -
Allen S. King	94,114,439	46,512,118	17.5	16.5	-8.2	3,352,709	16.5	-9.2	3,411,044	58,334
Minnesota Valley	-	1,881,280	-	-	N/A	-	-	N/A	-	-
Red Wing	3,298,153	3,411,269	8.0	7.0	-27.8	114,824	7.0	-23.5	94,521	(20,303)
Sherco Unit 1	68,165,351	53,784,941	6.0	5.0	-15.2	4,948,309	5.0	-15.1	4,936,051	(12,258)
Sherco Unit 2	58,557,751	56,472,852	3.0	2.0	-15.2	5,492,839	2.0	-15.1	5,466,513	(26,326)
Sherco Unit 3	88,618,830	53,564,655	15.0	14.0	-5.4	2,845,685	14.0	-7.9	3,001,564	155,879
Wilmarth	6,214,894	4,714,259	8.0	7.0	-26.8	452,318	7.0	-25.8	443,416	(8,903)
Total/Composite	$ 318,969,418	$ 223,319,995	8.6	7.6	-10.8	$ 17,206,685	7.7	-11.7	$ 17,353,108	$ 146,423

	Plant Balance 1/1/2020	Reallocated Reserve Balance 1/1/2021 (est.)	Present Approved Rem Life (Yrs)	Present Rem. Life (Yrs) *	Present Net Salv %	Present Depreciation Expense	Proposed Rem. Life (Yrs)	Proposed Net Salv %	Proposed Depreciation Expense	Proposed Less Present Expense
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
E315 Accessory Electric Equipment										
Black Dog	$ -	$ 1,126,512	-	-	N/A	$ -	-	N/A	$ -	$ -
Allen S. King	46,992,609	20,265,870	17.5	16.5	-8.2	1,853,341	16.5	-9.2	1,882,469	29,127
Minnesota Valley	-	521,324	-	-	N/A	-	-	N/A	-	-
Red Wing	1,905,550	2,069,389	8.0	7.0	-27.8	52,272	7.0	-23.5	40,542	(11,730)
Sherco Unit 1	46,972,885	41,787,005	6.0	5.0	-15.2	2,465,152	5.0	-15.1	2,456,705	(8,447)
Sherco Unit 2	6,761,209	6,184,609	3.0	2.0	-15.2	802,152	2.0	-15.1	799,112	(3,040)
Sherco Unit 3	83,566,721	55,887,358	15.0	14.0	-5.4	2,299,426	14.0	-7.9	2,446,418	146,992
Wilmarth	1,541,817	1,584,687	8.0	7.0	-26.8	52,905	7.0	-25.8	50,697	(2,209)
Total/Composite	$ 187,740,791	$ 129,426,754	11.1	10.1	-9.3	$ 7,525,249	10.2	-10.6	$ 7,675,942	$ 150,694
E316 Miscellaneous Power Plant Equipment										
Black Dog	$ -	$ 360,512	-	-	N/A	$ -	-	N/A	$ -	$ -
Allen S. King	7,894,024	6,278,513	17.5	16.5	-8.2	137,141	16.5	-9.2	142,034	4,893
Minnesota Valley	-	266,137	-	-	N/A	-	-	N/A	-	-
Red Wing	1,470,455	1,373,789	8.0	7.0	-27.8	72,207	7.0	-23.5	63,155	(9,052)
Sherco Unit 1	12,195,600	11,107,757	6.0	5.0	-15.2	588,315	5.0	-15.1	586,122	(2,193)
Sherco Unit 2	42,219	24,561	3.0	2.0	-15.2	12,037	2.0	-15.1	12,019	(19)
Sherco Unit 3	31,675,940	23,549,479	15.0	14.0	-5.4	702,640	14.0	-7.9	758,357	55,717
Wilmarth	787,526	924,357	8.0	7.0	-26.8	10,604	7.0	-25.8	9,475	(1,128)
Total/Composite	$ 54,065,763	$ 43,885,105	10.9	9.9	-8.9	$ 1,522,944	10.1	-10.4	$ 1,571,162	$ 48,218
Total Steam Production - Depreciation	$ 2,317,595,273	$ 1,682,683,326	10.0	9.0	-10.5	$ 97,282,461	9.2	-11.5	$ 98,367,538	$ 1,085,077

	Beginning Regulatory Balance 1/1/2020	Accumulated Amortization 1/1/2021 (est.)	Approved Amortization Period (Yrs)**	Remaining Amortization Period (Yrs) *	Present Amortization Expense	Remaining Amortization Period (Yrs)	Proposed Amortization Expense	Proposed Less Present Expense
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Regulatory Liability Amortizations								
Black Dog Remediation	$ 33,150,000	$ 17,680,000	15.0	7.0	$ 2,210,000	7.0	$ 2,210,000	$ -
Sherco Unit 3 Deferral	14,158,519	7,114,703	21.0	14.0	503,130	14.0	503,130	-
Total Steam Production - Amortization	$ 47,308,519	$ 24,794,703	9.3	8.3	$ 2,713,130	8.3	$ 2,713,130	$ -
Total Steam Production	$ 2,364,903,792	$ 1,707,478,029	10.1	9.1	-10.5	$ 99,995,591	9.2	-11.5	$ 101,080,668	$ 1,085,077

*Remaining life as of 1/1/2021 due to passage of time.

**The Black Dog Remediation amortization period was set at 15 years beginning in 2013 per Docket No. E002/GR-12-961. The Sherco Unit 3 Deferral amortization period was set at 21 years beginning in 2014 per Docket No. E,G-002/D-14-181.

	Plant Balance 1/1/2020	Reserve Balance 1/1/2021 (est.)	Present Approved Rem Life (Yrs)	Present Rem. Life (Yrs) *	Present Net Salv %	Present Depreciation Expense	Proposed Rem. Life (Yrs)	Proposed Net Salv %	Proposed Depreciation Expense	Proposed Less Present Expense
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
E302 Franchises & Consents										
Monticello	$ 126,131,581	$ 58,402,746	10.8	9.8	0.0	$ 6,911,106	9.8	0.0	$ 6,911,106	$ -
Prairie Island Unit 1 & 2	125,101,238	45,126,822	14.3	13.3	0.0	6,013,114	13.3	0.0	6,013,114	-
Total/Composite	$ 251,232,819	$ 103,529,568	12.4	11.4	0.0	$ 12,924,220	11.4	0.0	$ 12,924,220	$ -
E321 Structures & Improvements										
Monticello	$ 233,941,435	$ 145,720,929	10.8	9.8	0.0	$ 9,002,092	9.8	0.0	$ 9,002,092	$ -
Monticello Interim Storage	31,313,964	16,641,498	10.8	9.8	0.0	1,497,190	9.8	0.0	1,497,190	-
Prairie Island Unit 1 & 2	302,588,977	195,198,883	14.3	13.3	0.0	8,074,443	13.3	0.0	8,074,443	-
PI Interim Storage	12,214,473	11,434,621	14.3	13.3	0.0	58,636	13.3	0.0	58,636	-
Total/Composite	$ 580,058,850	$ 368,995,931	12.3	11.3	0.0	$ 18,632,362	11.3	0.0	$ 18,632,362	$ -
E322 Reactor Plant Equipment										
Monticello	$ 669,117,932	$ 386,794,745	10.8	9.8	0.0	$ 28,808,489	9.8	0.0	$ 28,808,489	$ -
Monticello Interim Storage	91,295,351	26,274,717	10.8	9.8	0.0	6,634,759	9.8	0.0	6,634,759	-
Prairie Island Unit 1 & 2	962,633,955	482,295,107	14.3	13.3	0.0	36,115,703	13.3	0.0	36,115,703	-
PI Interim Storage	185,608,265	79,807,265	14.3	13.3	0.0	7,954,962	13.3	0.0	7,954,962	-
Total/Composite	$ 1,908,655,504	$ 975,171,834	12.7	11.7	0.0	$ 79,513,912	11.7	0.0	$ 79,513,912	$ -
E323 Turbogenerator Units										
Monticello	$ 258,318,636	$ 128,872,589	10.8	9.8	0.0	$ 13,208,780	9.8	0.0	$ 13,208,780	$ -
Prairie Island Unit 1 & 2	375,496,854	178,540,175	14.3	13.3	0.0	14,808,773	13.3	0.0	14,808,773	-
Total/Composite	$ 633,815,490	$ 307,412,764	12.6	11.6	0.0	$ 28,017,553	11.6	0.0	$ 28,017,553	$ -

	Plant Balance 1/1/2020	Reserve Balance 1/1/2021 (est.)	Present Approved Rem Life (Yrs)	Present Rem. Life (Yrs) *	Present Net Salv %	Present Depreciation Expense	Proposed Rem. Life (Yrs)	Proposed Net Salv %	Proposed Depreciation Expense	Proposed Less Present Expense
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
E324 Accessory Electric Equipment										
Monticello	$ 257,323,276	$ 118,052,500	10.8	9.8	0.0	$ 14,211,304	9.8	0.0	$ 14,211,304	$ -
Prairie Island Unit 1 & 2	296,606,398	190,659,858	14.3	13.3	0.0	7,965,905	13.3	0.0	7,965,905	-
Total/Composite	$ 553,929,673	$ 308,712,358	12.1	11.1	0.0	$ 22,177,209	11.1	0.0	$ 22,177,209	$ -
E325 Miscellaneous Power Plant Equipment										
Monticello	$ 89,482,568	$ 59,089,064	10.8	9.8	0.0	$ 3,101,378	9.8	0.0	$ 3,101,378	$ -
Prairie Island Unit 1 & 2	118,151,314	74,375,958	14.3	13.3	0.0	3,291,380	13.3	0.0	3,291,380	-
Total/Composite	$ 207,633,882	$ 133,465,022	12.6	11.6	0.0	$ 6,392,758	11.6	0.0	$ 6,392,758	$ -
Total Nuclear Production	$ 4,135,326,218	$ 2,197,287,476	12.6	11.6	0.0	$ 167,658,014	11.6	0.0	$ 167,658,014	$ -

*Remaining life as of 1/1/2021 due to passage of time.

	Plant Balance 1/1/2020	Reserve Balance 1/1/2021 (est.)	Present Approved Rem Life (Yrs)	Present Rem. Life (Yrs) *	Present Net Salv %	Present Depreciation Expense	Proposed Rem. Life (Yrs)	Proposed Net Salv %	Proposed Depreciation Expense	Proposed Less Present Expense
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
E302 Franchises & Consents										
Hennepin Island	$ 2,857,039	$ 1,450,225	14.2	13.2	0.0	$ 106,577	13.2	0.0	$ 106,577	$ -
Total/Composite	$ 2,857,039	$ 1,450,225	14.2	13.2	0.0	$ 106,577	13.2	0.0	$ 106,577	$ -
E331 Structures & Improvements										
Hennepin Island	$ 1,407,680	$ 855,119	14.2	13.2	-26.4	$ 70,014	13.2	-26.7	$ 70,333	$ 319
St Croix Falls	37,924	41,307	8.0	7.0	-7.5	(77)	7.0	-15.0	329	406
Total/Composite	$ 1,445,604	$ 896,425	14.2	13.2	-25.9	$ 69,937	13.2	-26.4	$ 70,663	$ 725
E332 Reservoirs, Dams & Waterways										
Hennepin Island	$ 4,398,484	$ 2,301,472	14.2	13.2	-26.4	$ 246,834	13.2	-26.7	$ 247,831	$ 997
St Croix Falls	2,176,614	735,079	8.0	7.0	-7.5	229,254	7.0	-15.0	252,575	23,321
Upper Dam	4,491,476	4,272,263	14.2	13.2	-26.4	106,437	13.2	-26.7	107,454	1,018
Total/Composite	$ 11,066,573	$ 7,308,813	11.8	10.8	-22.7	$ 582,525	10.6	-24.4	$ 607,860	$ 25,335
E333 Water Wheels, Turbines & Generators										
Hennepin Island	$ 10,177,067	$ 4,990,221	14.2	13.2	-26.4	$ 596,484	13.2	-26.7	$ 598,790	$ 2,306
Total/Composite	$ 10,177,067	$ 4,990,221	14.2	13.2	-26.4	$ 596,484	13.2	-26.7	$ 598,790	$ 2,306
E334 Accessory Electric Equipment										
Hennepin Island	$ 3,256,972	$ 1,696,607	14.2	13.2	-26.4	$ 183,349	13.2	-26.7	$ 184,087	$ 738
Total/Composite	$ 3,256,972	$ 1,696,607	14.2	13.2	-26.4	$ 183,349	13.2	-26.7	$ 184,087	$ 738
E335 Miscellaneous Power Plant Equipment										
Hennepin Island	$ 37,779	$ 42,527	14.2	13.2	-26.4	$ 396	13.2	-26.7	$ 404	$ 9
Upper Dam	23,046	26,089	14.2	13.2	-26.4	230	13.2	-26.7	236	5
Total/Composite	$ 60,824	$ 68,616	14.2	13.2	-26.4	$ 626	13.2	-26.7	$ 640	$ 14
Total Hydro Production	$ 28,864,079	$ 16,410,907	13.7	12.7	-24.8	$ 1,539,499	12.7	-25.7	$ 1,568,617	$ 29,118

*Remaining life as of 1/1/2021 due to passage of time.

	Plant Balance 1/1/2020	Reallocated Reserve Balance 1/1/2021 (est.)	Present Approved Rem Life (Yrs)	Present Rem. Life (Yrs) *	Present Net Salv %	Present Depreciation Expense	Proposed Rem. Life (Yrs)	Proposed Net Salv %	Proposed Depreciation Expense	Proposed Less Present Expense
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
E340.1 Wind Rights										
Border Winds	$ -	$ -	21.0	20.0	0.0	$ -	20.0	0.0	$ -	$ -
Courtenay Wind	2,085,661	343,678	21.9	20.9	0.0	83,348	20.9	0.0	83,348	-
Grand Meadow Wind	10,672,452	4,492,343	13.9	12.9	0.0	479,078	12.9	0.0	479,078	-
Nobles Wind	3,884,834	1,550,618	15.9	14.9	0.0	156,659	14.9	0.0	156,659	-
Pleasant Valley Wind	-	-	21.0	20.0	0.0	-	20.0	0.0	-	-
Foxtail Wind**	-	-	25.0	24.0	0.0	-	24.0	0.0	-	-
Lake Benton II Wind**	146,853	6,601	24.9	23.9	0.0	5,868	23.9	0.0	5,868	-
Total/Composite	$ 16,789,800	$ 6,393,240	15.3	14.3	0.0	$ 724,954	14.3	0.0	$ 724,954	$ -
E341 Structures & Improvements										
Angus C. Anson Units 2 thru 4	$ 7,721,804	$ 5,632,856	25.4	24.4	-6.5	$ 106,183	24.4	-6.5	$ 106,197	$ 15
Black Dog Unit 5	42,792,538	27,913,729	38.3	37.3	-11.4	529,683	37.3	-10.3	517,339	(12,344)
Black Dog Unit 6	13,806,954	5,120,875	38.3	37.3	-5.0	251,379	37.3	-10.3	271,086	19,707
Blue Lake Units 1 thru 4, 7 & 8	1,703,454	1,371,930	25.4	24.4	-11.7	21,755	24.4	-12.7	22,460	705
Border Winds	22,226,432	4,842,044	21.0	20.0	-8.5	963,682	20.0	-9.5	974,391	10,709
Courtenay Wind	7,621,664	1,339,623	21.9	20.9	-8.5	331,573	20.9	-10.4	338,524	6,950
Grand Meadow Wind	5,589,546	2,809,281	13.9	12.9	-11.1	263,621	12.9	-12.5	269,646	6,026
Granite City	1,241,718	1,867,544	-	-	-50.4	-	-	-50.4	-	-
High Bridge	71,113,002	20,213,421	28.4	27.4	-3.5	1,948,487	27.4	-4.3	1,968,575	20,089
Inver Hills	1,618,514	1,184,525	7.0	6.0	-18.3	121,696	6.0	-19.4	124,751	3,055
Key City	1,002,265	1,479,342	-	-	N/A	-	-	N/A	-	-
Nobles Wind	13,536,911	6,063,374	15.9	14.9	-6.0	556,091	14.9	-8.5	578,439	22,348
Pleasant Valley Wind	25,806,960	5,734,463	21.0	20.0	-8.5	1,113,304	20.0	-11.7	1,154,071	40,766
Riverside	52,441,362	28,204,982	29.2	28.2	-11.3	1,069,583	28.2	-13.2	1,104,948	35,364
Foxtail Wind**	33,969,734	1,533,062	25.0	24.0	-8.5	1,471,837	24.0	-9.1	1,479,866	8,028
Lake Benton II Wind**	32,138,690	1,569,582	24.9	23.9	-8.5	1,393,343	23.9	-10.8	1,423,820	30,477
Total/Composite	$ 334,331,548	$ 116,880,634	25.1	24.1	-8.2	$ 10,142,217	24.1	-9.5	$ 10,334,113	$ 191,896
E342 Fuel Holders, Producers & Accessories										
Angus C. Anson Unit 2 & 3	$ 1,105,599	$ 966,998	21.0	20.0	-9.6	$ 12,237	20.0	-11.2	$ 13,105	$ 868
Angus C. Anson Unit 4	13,506	423	25.4	24.4	-6.5	572	24.4	-6.5	572	0
Black Dog Unit 5	12,546,877	9,965,010	12.0	11.0	-11.4	364,746	11.0	-7.2	316,666	(48,081)
Black Dog Unit 6	9,512,175	697,114	38.3	37.3	-5.0	249,080	37.3	-10.3	262,657	13,577
Blue Lake Units 1 thru 4	1,343,354	1,618,329	3.5	2.5	-22.9	13,061	2.5	-30.6	54,400	41,339
Blue Lake Units 7 & 8	47,986	(18,295)	25.4	24.4	-11.7	2,947	24.4	-12.7	2,966	20
Granite City	416,373	626,225	-	-	-50.4	-	-	-50.4	-	-
High Bridge	232,410	26,928	28.4	27.4	-3.5	7,796	27.4	-4.3	7,862	66
Inver Hills	614,949	556,144	7.0	6.0	-18.3	28,557	6.0	-19.4	29,717	1,161
Key City	242,384	357,759	-	-	N/A	-	-	N/A	-	-
Riverside	1,033,460	160,711	29.2	28.2	-11.3	35,090	28.2	-13.2	35,787	697
Total/Composite	$ 27,109,072	$ 14,957,347	21.9	20.9	-10.2	$ 714,085	20.8	-10.7	$ 723,732	$ 9,646

	Plant Balance 1/1/2020	Reallocated Reserve Balance 1/1/2021 (est.)	Present Approved Rem Life (Yrs)	Present Rem. Life (Yrs) *	Present Net Salv %	Present Depreciation Expense	Proposed Rem. Life (Yrs)	Proposed Net Salv %	Proposed Depreciation Expense	Proposed Less Present Expense
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
E343 Prime Movers										
Black Dog Unit 5	$ 23,430,244	$ 14,121,273	12.0	11.0	-11.4	$ 1,089,093	11.0	-7.2	$ 999,306	$ (89,786)
High Bridge	66,361,540	19,394,701	28.4	27.4	-3.5	1,798,887	27.4	-4.3	1,817,633	18,746
Riverside	50,662,922	14,292,677	29.2	28.2	-11.3	1,492,736	28.2	-13.2	1,526,901	34,165
Total/Composite	$ 140,454,706	$ 47,808,651	24.6	23.6	-7.6	$ 4,380,715	23.9	-8.0	$ 4,343,840	$ (36,875)
E344 Generators										
Angus C. Anson Unit 2 & 3	$ 79,691,780	$ 64,863,982	21.0	20.0	-9.6	$ 1,123,910	20.0	-11.2	$ 1,186,478	$ 62,567
Angus C. Anson Unit 4	33,545,732	15,964,280	25.4	24.4	-6.5	809,915	24.4	-6.5	809,978	63
Black Dog Unit 5	127,512,984	59,451,972	12.0	11.0	-11.4	7,508,863	11.0	-7.2	7,020,224	(488,639)
Black Dog Unit 6	62,269,695	5,301,741	38.3	37.3	-5.0	1,610,762	37.3	-10.3	1,699,644	88,881
Blue Lake Units 1 thru 4	21,207,661	25,773,700	3.5	2.5	-22.9	116,206	2.5	-30.6	768,822	652,616
Blue Lake Units 7 & 8	62,361,317	31,007,389	25.4	24.4	-11.7	1,584,025	24.4	-12.7	1,609,824	25,800
Border Winds	207,402,451	44,665,442	21.0	20.0	-8.5	9,018,311	20.0	-9.5	9,118,239	99,928
Courtenay Wind	262,278,975	46,178,515	21.9	20.9	-8.5	11,406,420	20.9	-10.4	11,645,593	239,173
Grand Meadow Wind	182,577,054	93,417,279	13.9	12.9	-11.1	8,482,622	12.9	-12.5	8,679,451	196,828
Granite City	6,465,968	9,724,816	-	-	-50.4	-	-	-50.4	-	-
High Bridge	200,486,360	50,051,923	28.4	27.4	-3.5	5,746,404	27.4	-4.3	5,803,039	56,635
Inver Hills	53,436,050	53,353,609	7.0	6.0	-18.3	1,643,540	6.0	-19.4	1,744,399	100,859
Key City	5,374,748	7,933,129	-	-	N/A	-	-	N/A	-	-
Nobles Wind	471,140,614	195,363,725	15.9	14.9	-6.0	20,405,727	14.9	-8.5	21,183,523	777,796
Pleasant Valley Wind	263,644,922	57,703,070	21.0	20.0	-8.5	11,417,584	20.0	-11.7	11,834,055	416,471
Riverside	154,911,011	40,995,559	29.2	28.2	-11.3	4,660,298	28.2	-13.2	4,764,764	104,466
Foxtail Wind**	211,841,413	9,012,507	25.0	24.0	-8.5	9,201,476	24.0	-9.1	9,251,543	50,067
Lake Benton II Wind**	113,291,566	5,239,869	24.9	23.9	-8.5	4,923,911	23.9	-10.8	5,031,347	107,435
Total/Composite	$ 2,519,440,301	$ 816,002,506	20.3	19.3	-8.6	$ 99,659,973	19.2	-10.1	$ 102,150,921	$ 2,490,948
E345 Accessory Electric Equipment										
Angus C. Anson Unit 2 & 3	$ 3,571,653	$ 3,074,801	21.0	20.0	-9.6	$ 41,987	20.0	-11.2	$ 44,791	$ 2,804
Angus C. Anson Unit 4	4,955,471	1,864,072	25.4	24.4	-6.5	139,898	24.4	-6.5	139,907	9
Black Dog Unit 5	27,865,573	19,761,890	12.0	11.0	-11.4	1,025,487	11.0	-7.2	918,704	(106,783)
Black Dog Unit 6	10,978,424	872,166	38.3	37.3	-5.0	285,662	37.3	-10.3	301,332	15,670
Blue Lake Units 1 thru 4	1,508,868	1,771,277	3.5	2.5	-22.9	33,249	2.5	-30.6	79,680	46,432
Blue Lake Units 7 & 8	7,907,322	4,164,381	25.4	24.4	-11.7	191,315	24.4	-12.7	194,587	3,271
Border Winds	34,794,649	7,457,301	21.0	20.0	-8.5	1,514,745	20.0	-9.5	1,531,509	16,764
Courtenay Wind	9,591,089	1,691,224	21.9	20.9	-8.5	416,991	20.9	-10.4	425,737	8,746
Grand Meadow Wind	12,064,305	6,445,709	13.9	12.9	-11.1	539,359	12.9	-12.5	552,365	13,006
Granite City	646,486	952,352	-	-	-50.4	-	-	-50.4	-	-
High Bridge	52,024,030	14,812,600	28.4	27.4	-3.5	1,424,535	27.4	-4.3	1,439,232	14,696
Inver Hills	4,314,473	3,341,698	7.0	6.0	-18.3	293,721	6.0	-19.4	301,864	8,143
Key City	1,702,722	2,513,217	-	-	N/A	-	-	N/A	-	-
Nobles Wind	29,938,414	12,795,882	15.9	14.9	-6.0	1,271,063	14.9	-8.5	1,320,488	49,425
Pleasant Valley Wind	42,507,679	9,305,474	21.0	20.0	-8.5	1,840,768	20.0	-11.7	1,907,916	67,148
Riverside	40,361,888	12,755,766	29.2	28.2	-11.3	1,140,674	28.2	-13.2	1,167,893	27,218
Foxtail Wind**	-	-	25.0	24.0	-8.5	-	24.0	-9.1	-	-
Lake Benton II Wind**	10,883,094	531,506	24.9	23.9	-8.5	471,826	23.9	-10.8	482,147	10,321
Total/Composite	$ 295,616,140	$ 104,111,317	21.3	20.3	-8.3	$ 10,631,279	20.4	-9.6	$ 10,808,151	$ 176,872

	Plant Balance 1/1/2020	Reallocated Reserve Balance 1/1/2021 (est.)	Present Approved Rem Life (Yrs)	Present Rem. Life (Yrs) *	Present Net Salv %	Present Depreciation Expense	Proposed Rem. Life (Yrs)	Proposed Net Salv %	Proposed Depreciation Expense	Proposed Less Present Expense
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
E346 Miscellaneous Power Plant Equipment										
Angus C. Anson Unit 2 & 3	$ 2,629,376	$ 2,166,702	21.0	20.0	-9.6	$ 35,755	20.0	-11.2	$ 37,819	$ 2,064
Angus C. Anson Unit 4	20,727	2,737	25.4	24.4	-6.5	793	24.4	-6.5	793	0
Black Dog Unit 5	5,536,330	5,619,039	12.0	11.0	-11.4	49,858	11.0	-7.2	28,642	(21,216)
Black Dog Unit 6	5,662,089	3,835,951	38.3	37.3	-5.0	56,548	37.3	-10.3	64,630	8,082
Blue Lake Units 1 thru 4	498,898	592,907	3.5	2.5	-22.9	8,096	2.5	-30.6	23,448	15,352
Blue Lake Units 7 & 8	32,958	14,290	25.4	24.4	-11.7	923	24.4	-12.7	937	14
Border Winds	228,153	49,999	21.0	20.0	-8.5	9,877	20.0	-9.5	9,987	110
Courtenay Wind	36,482	6,583	21.9	20.9	-8.5	1,579	20.9	-10.4	1,612	33
Grand Meadow Wind	207,761	111,028	13.9	12.9	-11.1	9,286	12.9	-12.5	9,510	224
Granite City	13,279	19,972	-	-	-50.4	-	-	-50.4	-	-
High Bridge	7,144,763	2,396,283	28.4	27.4	-3.5	182,429	27.4	-4.3	184,447	2,018
Inver Hills	618,880	710,616	7.0	6.0	-18.3	3,587	6.0	-19.4	4,755	1,168
Key City	277,794	410,024	-	-	N/A	-	-	N/A	-	-
Nobles Wind	627,971	241,895	15.9	14.9	-6.0	28,440	14.9	-8.5	29,477	1,037
Pleasant Valley Wind	292,092	64,827	21.0	20.0	-8.5	12,605	20.0	-11.7	13,066	461
Riverside	9,075,926	5,660,270	29.2	28.2	-11.3	157,491	28.2	-13.2	163,611	6,120
Foxtail Wind**	-	-	25.0	24.0	-8.5	-	24.0	-9.1	-	-
Lake Benton II Wind**	-	-	24.9	23.9	-8.5	-	23.9	-10.8	-	-
Total/Composite	$ 32,903,480	$ 21,903,123	25.7	24.7	-8.5	$ 557,264	24.8	-9.7	$ 572,733	$ 15,469
E348.1 Energy Storage Equipment										
Wind-to-Battery System****	$ 4,128,902	$ 9,728,902	4.0	3.0	-135.6	$ -	-	-135.6	-	$ -
Total/Composite	$ 4,128,902	$ 9,728,902	4.0	3.0	-135.6	$ -	0.0	-135.6	$ -	$ -

	Plant Balance 4/30/2020	Reserve Balance 4/30/2020	Present Approved Rem Life (Yrs)	Present Rem. Life (Yrs) *	Present Net Salv %	Present Depreciation Expense	Proposed Rem. Life (Yrs)	Proposed Net Salv %	Proposed Depreciation Expense	Proposed Less Present Expense
Facilities in-serviced during 2020										
Blazing Star I***										
E340.1 Wind Rights	$ -	$ -	25.0	24.4	0.0	$ -	24.4	0.0	$ -	$ -
E341 Structures & Improvements	22,224,648	40,056	25.0	24.4	-8.5	985,953	24.4	-11.6	1,013,792	27,839
E344 Generators	268,420,378	483,781	25.0	24.4	-8.5	11,907,945	24.4	-11.6	12,244,172	336,227
E345 Accessory Electric Equipment	10,136,822	18,270	25.0	24.4	-8.5	449,700	24.4	-11.6	462,398	12,698
E346 Miscellaneous Power Plant Equipment	-	-	25.0	24.4	-8.5	-	24.4	-11.6	-	-
Total Plant to be Retired	$ 300,781,847	$ 542,107	25.0	24.4	-8.5	$ 13,343,599	24.4	-11.6	$ 13,720,362	$ 376,763
Total Other Production	$ 3,671,555,796	$ 1,138,327,827	21.3	20.3	-8.6	$ 140,154,087	20.3	-10.2	$ 143,378,806	$ 3,224,719

*Remaining life as of 1/1/2021 due to passage of time.

**Approved remaining life of 25 years and remaining lives of 24.9 years for Lake Benton II and 25.0 years for Foxtail Wind are based on in-service dates of November and December 2019, respectively.

***Blazing Star I went in-service in April 2020. In the 2019 Remaining Life Docket, this plant was initially planned to go in-service in late 2019 and therefore a 25 year life and -8.5% net salvage rate were approved in that docket. The facility was included in the TLG 2020 Dismantling Study so in order to capture the expense change from the approved to the proposed net salvage, the plant was added to this schedule.

****The present net salvage percent for this category is zero but the proposed rate was used in order to properly compare the change in expense with the reserve reallocation as proposed.

Note: This schedule does not include any impacts of the purchase of the Community Wind North and Jeffers Wind projects (Docket No. E002/M-18-777) or the Mower wind farm (Docket No. E002/M-19-568).

	Plant Balance 1/1/2020	Reserve Balance 1/1/2021 (est.)	Present Approved Rem Life (Yrs)	Present Rem. Life (Yrs) *	Present Net Salv %	Present Depreciation Expense	Proposed Rem. Life (Yrs)	Proposed Net Salv %	Proposed Depreciation Expense	Proposed Less Present Expense
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
G305 Structures & Improvements										
Maplewood	$ 1,611,046	$ 1,699,308	10.0	9.0	-93.7	$ 157,921	9.0	-87.7	$ 147,104	$ (10,817)
Sibley	1,166,477	827,623	10.0	9.0	-79.5	140,689	9.0	-41.1	90,984	(49,706)
Total/Composite	$ 2,777,523	$ 2,526,931	10.0	9.0	-87.7	$ 298,610	9.0	-68.1	$ 238,087	$ (60,523)
G311 LP Gas Equipment										
Maplewood	$ 3,766,755	$ 4,542,011	10.0	9.0	-93.7	$ 306,021	9.0	-87.7	$ 280,730	$ (25,291)
Sibley	9,488,978	7,412,800	10.0	9.0	-79.5	1,068,880	9.0	-41.1	664,536	(404,343)
Total/Composite	$ 13,255,733	$ 11,954,811	10.0	9.0	-83.5	$ 1,374,901	9.0	-54.4	$ 945,266	$ (429,635)
G320 Other Equipment										
Maplewood	$ 455,629	$ 386,230	10.0	9.0	-93.7	$ 55,147	9.0	-87.7	$ 52,088	$ (3,059)
Sibley	496,538	563,735	10.0	9.0	-79.5	36,395	9.0	-41.1	15,236	(21,158)
Total/Composite	$ 952,168	$ 949,965	10.0	9.0	-86.3	$ 91,542	9.0	-63.4	$ 67,324	$ (24,218)
Total Gas Production	$ 16,985,424	$ 15,431,706	10.0	9.0	-84.4	$ 1,765,053	9.0	-57.1	$ 1,250,678	$ (514,375)

*Remaining life as of 1/1/2021 due to passage of time.

		Plant Balance 1/1/2020	Reserve Balance 1/1/2021 (est.)	Present Approved Rem Life (Yrs)	Present Rem. Life (Yrs) *	Present Net Salv %	Present Depreciation Expense	Proposed Rem. Life (Yrs)	Proposed Net Salv %	Proposed Depreciation Expense	Proposed Less Present Expense
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
G361	Structures & Improvements										
Wescott		$ 6,735,066	$ 6,566,324	4.0	3.0	-19.2	$ 487,291	12.0	-19.6	$ 123,852	$ (363,440)
G362	Gas Holders										
Wescott		$ 8,199,422	$ 8,922,270	4.0	3.0	-19.2	$ 283,814	12.0	-19.6	$ 73,424	$ (210,390)
G363	Purification Equipment										
Wescott		$ 985,962	$ 1,099,517	4.0	3.0	-19.2	$ 25,250	12.0	-19.6	$ 6,610	$ (18,640)
G363.1	Liquefaction Equipment										
Wescott		$ 3,564,676	$ 3,310,479	4.0	3.0	-19.2	$ 312,872	12.0	-19.6	$ 79,292	$ (233,580)
G363.2	Vaporizing Equipment										
Wescott		$ 9,336,198	$ 7,864,129	8.0	7.0	-19.2	$ 466,374	12.0	-19.6	$ 274,864	$ (191,510)
G363.3	Compressor Equipment										
Wescott		$ 23,733,503	$ 13,497,184	13.0	12.0	-19.2	$ 1,232,763	12.0	-19.6	$ 1,239,913	$ 7,150
G363.4	Measuring & Regulating Equipment										
Wescott		$ 73,634	$ 75,192	4.0	3.0	-19.2	$ 4,193	12.0	-19.6	$ 1,070	$ (3,123)
G363.5	Other Equipment										
Wescott		$ 4,843,620	$ 4,520,519	4.0	3.0	-19.2	$ 417,692	12.0	-19.6	$ 105,882	$ (311,810)
Total Gas Storage		$ 57,472,081	$ 45,855,614	8.0	7.0	-19.2	$ 3,230,249	12.0	-19.6	$ 1,904,907	$ (1,325,342)

*Remaining life as of 1/1/2021 due to passage of time.

	Reserve Balance 1/1/2020	2020 estimated Annual Depreciation Expense (1)	Reserve Balance 1/1/2021 (est.)	Reserve Reallocation	Reallocated Reserve Balance 1/1/2021 (est.)
	(1)	(2)	(3)	(4)	(5)
STEAM PRODUCTION					
E311 Structures & Improvements					
Black Dog	$ 984,055	$ -	$ 984,055	$ 2,518,383	$ 3,502,438
Allen S. King	25,975,185	965,599	26,940,784	78,093	27,018,877
Minnesota Valley	6,629,269	-	6,629,269	(3,093,690)	3,535,579
Red Wing	12,545,341	422,211	12,967,552	24,555	12,992,107
Sherco Unit 1 & 2	88,064,378	3,729,765	91,794,143	188,946	91,983,089
Sherco Unit 3	110,751,748	1,945,081	112,696,830	261,647	112,958,477
Wilmarth	9,581,671	576,888	10,158,559	22,066	10,180,625
Total/Composite	$ 254,531,646	$ 7,639,545	$ 262,171,191	$ (0)	$ 262,171,191
E312 Boiler Plant Equipment					
Black Dog	$ (24,887)	$ -	$ (24,887)	$ 4,257,122	$ 4,232,235
Allen S. King	217,166,060	20,009,622	237,175,683	219,769	237,395,452
Minnesota Valley	10,438,004	-	10,438,004	(4,871,118)	5,566,886
Red Wing	42,356,134	2,223,149	44,579,283	19,724	44,599,007
Sherco Unit 1	210,197,885	16,976,739	227,174,624	113,537	227,288,161
Sherco Unit 2	147,346,744	12,851,752	160,198,496	67,637	160,266,133
Sherco Unit 3	291,102,335	10,059,366	301,161,701	175,764	301,337,465
Wilmarth	41,754,368	1,423,009	43,177,378	17,565	43,194,943
Total/Composite	$ 960,336,644	$ 63,543,637	$ 1,023,880,281	$ 0	$ 1,023,880,281
E314 Turbogenerator Units					
Black Dog	$ -	$ -	$ -	$ 2,978,621	$ 2,978,621
Allen S. King	43,576,392	3,328,882	46,905,274	(393,156)	46,512,118
Minnesota Valley	3,527,431	-	3,527,431	(1,646,151)	1,881,280
Red Wing	3,312,190	112,856	3,425,047	(13,778)	3,411,269
Sherco Unit 1	49,178,338	4,891,358	54,069,696	(284,755)	53,784,941
Sherco Unit 2	51,346,943	5,370,529	56,717,472	(244,620)	56,472,852
Sherco Unit 3	51,115,611	2,819,242	53,934,854	(370,198)	53,564,655
Wilmarth	4,291,612	448,609	4,740,221	(25,962)	4,714,259
Total/Composite	$ 206,348,519	$ 16,971,476	$ 223,319,995	$ 0	$ 223,319,995
E315 Accessory Electric Equipment					
Black Dog	$ -	$ -	$ -	$ 1,126,512	$ 1,126,512
Allen S. King	18,590,489	1,843,172	20,433,661	(167,791)	20,265,870
Minnesota Valley	977,491	-	977,491	(456,167)	521,324
Red Wing	2,024,892	51,300	2,076,193	(6,804)	2,069,389
Sherco Unit 1	39,523,118	2,431,608	41,954,726	(167,721)	41,787,005
Sherco Unit 2	5,418,669	790,081	6,208,750	(24,141)	6,184,609
Sherco Unit 3	53,907,628	2,278,113	56,185,741	(298,382)	55,887,358
Wilmarth	1,538,073	52,119	1,590,192	(5,505)	1,584,687
Total/Composite	$ 121,980,361	$ 7,446,393	$ 129,426,754	$ (0)	$ 129,426,754
E316 Miscellaneous Power Plant Equipment					
Black Dog	$ 121,150	$ -	$ 121,150	$ 239,362	$ 360,512
Allen S. King	6,142,377	137,083	6,279,461	(947)	6,278,513
Minnesota Valley	499,011	-	499,011	(232,874)	266,137
Red Wing	1,301,783	72,182	1,373,966	(176)	1,373,789
Sherco Unit 1	10,521,198	588,022	11,109,220	(1,463)	11,107,757
Sherco Unit 2	12,531	12,035	24,566	(5)	24,561
Sherco Unit 3	22,850,911	702,369	23,553,280	(3,801)	23,549,479
Wilmarth	913,862	10,590	924,452	(95)	924,357
Total/Composite	$ 42,362,824	$ 1,522,281	$ 43,885,105	$ (0)	$ 43,885,105
Total Steam Production	**$ 1,585,559,994**	**$ 97,123,332**	**$ 1,682,683,326**	**$ 0**	**$ 1,682,683,326**

	Reserve Balance 1/1/2020	2020 estimated Annual Depreciation Expense (1)	Reserve Balance 1/1/2021 (est.)	Reserve Reallocation	Reallocated Reserve Balance 1/1/2021 (est.)
	(1)	(2)	(3)	(4)	(5)
HYDRO PRODUCTION					
E302 Franchises & Consents					
Monticello	$ 51,491,640	$ 6,911,106	$ 58,402,746	$ -	$ 58,402,746
Prairie Island Unit 1 & 2	39,113,709	6,013,114	45,126,822	-	45,126,822
Total/Composite	$ 90,605,349	$ 12,924,220	$ 103,529,568	$ -	$ 103,529,568
E321 Structures & Improvements					
Monticello	$ 136,718,836	$ 9,002,092	$ 145,720,929	$ -	$ 145,720,929
Monticello Interim Storage	15,144,308	1,497,190	16,641,498	-	16,641,498
Prairie Island Unit 1 & 2	187,124,440	8,074,443	195,198,883	-	195,198,883
PI Interim Storage	11,375,985	58,636	11,434,621	-	11,434,621
Total/Composite	$ 350,363,569	$ 18,632,362	$ 368,995,931	$ -	$ 368,995,931
E322 Reactor Plant Equipment					
Monticello	$ 357,986,256	$ 28,808,489	$ 386,794,745	$ -	$ 386,794,745
Monticello Interim Storage	19,639,958	6,634,759	26,274,717	-	26,274,717
Prairie Island Unit 1 & 2	446,179,404	36,115,703	482,295,107	-	482,295,107
PI Interim Storage	71,852,302	7,954,962	79,807,265	-	79,807,265
Total/Composite	$ 895,657,921	$ 79,513,912	$ 975,171,834	$ -	$ 975,171,834
E323 Turbogenerator Units					
Monticello	$ 115,663,809	$ 13,208,780	$ 128,872,589	$ -	$ 128,872,589
Prairie Island Unit 1 & 2	163,731,402	14,808,773	178,540,175	-	178,540,175
Total/Composite	$ 279,395,210	$ 28,017,553	$ 307,412,764	$ -	$ 307,412,764
E324 Accessory Electric Equipment					
Monticello	$ 103,841,197	$ 14,211,304	$ 118,052,500	$ -	$ 118,052,500
Prairie Island Unit 1 & 2	182,693,952	7,965,905	190,659,858	-	190,659,858
Total/Composite	$ 286,535,149	$ 22,177,209	$ 308,712,358	$ -	$ 308,712,358
E325 Miscellaneous Power Plant Equipment					
Monticello	$ 55,987,686	$ 3,101,378	$ 59,089,064	$ -	$ 59,089,064
Prairie Island Unit 1 & 2	71,084,578	3,291,380	74,375,958	-	74,375,958
Total/Composite	$ 127,072,264	$ 6,392,758	$ 133,465,022	$ -	$ 133,465,022
Total Nuclear Production	**$ 2,029,629,462**	**$ 167,658,014**	**$ 2,197,287,476**	**$ -**	**$ 2,197,287,476**

	Reserve Balance 1/1/2020	2020 estimated Annual Depreciation Expense (1)	Reserve Balance 1/1/2021 (est.)	Reserve Reallocation	Reallocated Reserve Balance 1/1/2021 (est.)
	(1)	(2)	(3)	(4)	(5)
NUCLEAR PRODUCTION					
E302 Franchises & Consents					
Hennepin Island	$ 1,343,648	$ 106,577	$ 1,450,225	$ -	$ 1,450,225
Total/Composite	$ 1,343,648	$ 106,577	$ 1,450,225	$ -	$ 1,450,225
E331 Structures & Improvements					
Hennepin Island	$ 785,104	$ 70,014	$ 855,119	$ -	$ 855,119
St Croix Falls	41,383	(77)	41,307	-	41,307
Total/Composite	$ 826,488	$ 69,937	$ 896,425	$ -	$ 896,425
E332 Reservoirs, Dams & Waterways					
Hennepin Island	$ 2,054,637	$ 246,834	$ 2,301,472	$ -	$ 2,301,472
St Croix Falls	505,824	229,254	735,079	-	735,079
Upper Dam	4,165,826	106,437	4,272,263	-	4,272,263
Total/Composite	$ 6,726,288	$ 582,525	$ 7,308,813	$ -	$ 7,308,813
E333 Water Wheels, Turbines & Generators					
Hennepin Island	$ 4,393,736	$ 596,484	$ 4,990,221	$ -	$ 4,990,221
Total/Composite	$ 4,393,736	$ 596,484	$ 4,990,221	$ -	$ 4,990,221
E334 Accessory Electric Equipment					
Hennepin Island	$ 1,513,258	$ 183,349	$ 1,696,607	$ -	$ 1,696,607
Total/Composite	$ 1,513,258	$ 183,349	$ 1,696,607	$ -	$ 1,696,607
E335 Miscellaneous Power Plant Equipment					
Hennepin Island	$ 42,131	$ 396	$ 42,527	$ -	$ 42,527
Upper Dam	25,859	230	26,089	-	26,089
Total/Composite	$ 67,990	$ 626	$ 68,616	$ -	$ 68,616
Total Hydro Production	**$ 14,871,408**	**$ 1,539,499**	**$ 16,410,907**	**$ -**	**$ 16,410,907**

	Reserve Balance 1/1/2020	2020 estimated Annual Depreciation Expense (1)	Reserve Balance 1/1/2021 (est.)	Reserve Reallocation	Reallocated Reserve Balance 1/1/2021 (est.)
	(1)	(2)	(3)	(4)	(5)
OTHER PRODUCTION					
E340.1 Wind Rights					
Border Winds	$ -	$ -	$ -	$ -	$ -
Courtenay Wind	260,329	83,348	343,678	-	343,678
Grand Meadow Wind	4,013,265	479,078	4,492,343	-	4,492,343
Nobles Wind	1,393,959	156,659	1,550,618	-	1,550,618
Pleasant Valley Wind	-	-	-	-	-
Foxtail Wind**	-	-	-	-	-
Lake Benton II Wind**	733	5,868	6,601	-	6,601
Total/Composite	$ 5,668,286	$ 724,954	$ 6,393,240	$ -	$ 6,393,240
E341 Structures & Improvements					
Angus C. Anson Units 2 thru 4	$ 5,526,673	$ 106,183	$ 5,632,856	$ -	$ 5,632,856
Black Dog Unit 5	27,384,046	529,683	27,913,729	-	27,913,729
Black Dog Unit 6	4,869,496	251,379	5,120,875	-	5,120,875
Blue Lake Units 1 thru 4, 7 & 8	1,350,174	21,755	1,371,930	-	1,371,930
Border Winds	3,878,363	963,682	4,842,044	-	4,842,044
Courtenay Wind	1,008,049	331,573	1,339,623	-	1,339,623
Grand Meadow Wind	2,545,661	263,621	2,809,281	-	2,809,281
Granite City	1,867,544	-	1,867,544	-	1,867,544
High Bridge	18,264,935	1,948,487	20,213,421	-	20,213,421
Inver Hills	1,062,829	121,696	1,184,525	-	1,184,525
Key City	1,479,342	-	1,479,342	-	1,479,342
Nobles Wind	5,507,284	556,091	6,063,374	-	6,063,374
Pleasant Valley Wind	4,621,159	1,113,304	5,734,463	-	5,734,463
Riverside	27,135,398	1,069,583	28,204,982	-	28,204,982
Foxtail Wind**	61,225	1,471,837	1,533,062	-	1,533,062
Lake Benton II Wind**	176,239	1,393,343	1,569,582	-	1,569,582
Total/Composite	$ 106,738,417	$ 10,142,217	$ 116,880,634	$ -	$ 116,880,634
E342 Fuel Holders, Producers & Accessories					
Angus C. Anson Unit 2 & 3	$ 954,761	$ 12,237	$ 966,998	$ -	$ 966,998
Angus C. Anson Unit 4	(149)	572	423	-	423
Black Dog Unit 5	9,600,264	364,746	9,965,010	-	9,965,010
Black Dog Unit 6	448,034	249,080	697,114	-	697,114
Blue Lake Units 1 thru 4	1,605,268	13,061	1,618,329	-	1,618,329
Blue Lake Units 7 & 8	(21,242)	2,947	(18,295)	-	(18,295)
Granite City	626,225	-	626,225	-	626,225
High Bridge	19,132	7,796	26,928	-	26,928
Inver Hills	527,587	28,557	556,144	-	556,144
Key City	357,759	-	357,759	-	357,759
Riverside	125,621	35,090	160,711	-	160,711
Total/Composite	$ 14,243,261	$ 714,085	$ 14,957,347	$ -	$ 14,957,347
E343 Prime Movers					
Black Dog Unit 5	$ 13,032,181	$ 1,089,093	$ 14,121,273	$ -	$ 14,121,273
High Bridge	17,595,815	1,798,887	19,394,701	-	19,394,701
Riverside	12,799,941	1,492,736	14,292,677	-	14,292,677
Total/Composite	$ 43,427,936	$ 4,380,715	$ 47,808,651	$ -	$ 47,808,651
E344 Generators					
Angus C. Anson Unit 2 & 3	$ 63,956,507	$ 1,113,604	$ 65,070,111	$ (206,129)	$ 64,863,982
Angus C. Anson Unit 4	15,244,690	806,359	16,051,049	(86,769)	15,964,280
Black Dog Unit 5	52,302,915	7,478,879	59,781,794	(329,823)	59,451,972
Black Dog Unit 6	3,856,362	1,606,444	5,462,807	(161,066)	5,301,741
Blue Lake Units 1 thru 4	25,734,291	94,264	25,828,556	(54,855)	25,773,700
Blue Lake Units 7 & 8	29,591,278	1,577,414	31,168,692	(161,303)	31,007,389
Border Winds	36,210,418	8,991,488	45,201,905	(536,463)	44,665,442
Courtenay Wind	35,482,960	11,373,960	46,856,920	(678,406)	46,178,515
Grand Meadow Wind	85,443,515	8,446,014	93,889,529	(472,250)	93,417,279
Granite City	9,724,816	-	9,724,816	-	9,724,816
High Bridge	44,843,019	5,727,478	50,570,497	(518,574)	50,051,923
Inver Hills	51,871,322	1,620,504	53,491,826	(138,217)	53,353,609
Key City	7,933,129	-	7,933,129	-	7,933,129
Nobles Wind	176,258,429	20,323,938	196,582,367	(1,218,643)	195,363,725
Pleasant Valley Wind	47,001,522	11,383,487	58,385,009	(681,939)	57,703,070
Riverside	36,750,160	4,646,089	41,396,248	(400,690)	40,995,559
Foxtail Wind**	381,807	9,178,645	9,560,452	(547,945)	9,012,507
Lake Benton II Wind**	621,257	4,911,650	5,532,907	(293,038)	5,239,869
Total/Composite	$ 723,208,396	$ 99,280,216	$ 822,488,612	$ (6,486,106)	$ 816,002,506

	Reserve Balance 1/1/2020 (1)	2020 estimated Annual Depreciation Expense (1) (2)	Reserve Balance 1/1/2021 (est.) (3)	Reserve Reallocation (4)	Reallocated Reserve Balance 1/1/2021 (est.) (5)
OTHER PRODUCTION					
E345 Accessory Electric Equipment					
Angus C. Anson Unit 2 & 3	$ 3,032,815	$ 41,987	$ 3,074,801	$ -	$ 3,074,801
Angus C. Anson Unit 4	1,724,174	139,898	1,864,072	-	1,864,072
Black Dog Unit 5	18,736,403	1,025,487	19,761,890	-	19,761,890
Black Dog Unit 6	586,504	285,662	872,166	-	872,166
Blue Lake Units 1 thru 4	1,738,029	33,249	1,771,277	-	1,771,277
Blue Lake Units 7 & 8	3,973,066	191,315	4,164,381	-	4,164,381
Border Winds	5,942,556	1,514,745	7,457,301	-	7,457,301
Courtenay Wind	1,274,233	416,991	1,691,224	-	1,691,224
Grand Meadow Wind	5,906,350	539,359	6,445,709	-	6,445,709
Granite City	952,352	-	952,352	-	952,352
High Bridge	13,388,065	1,424,535	14,812,600	-	14,812,600
Inver Hills	3,047,977	293,721	3,341,698	-	3,341,698
Key City	2,513,217	-	2,513,217	-	2,513,217
Nobles Wind	11,524,819	1,271,063	12,795,882	-	12,795,882
Pleasant Valley Wind	7,464,706	1,840,768	9,305,474	-	9,305,474
Riverside	11,615,092	1,140,674	12,755,766	-	12,755,766
Foxtail Wind**	-	-	-	-	-
Lake Benton II Wind**	59,680	471,826	531,506	-	531,506
Total/Composite	$ 93,480,037	$ 10,631,279	$ 104,111,317	$ -	$ 104,111,317
E346 Miscellaneous Power Plant Equipment					
Angus C. Anson Unit 2 & 3	$ 2,130,947	$ 35,755	$ 2,166,702	$ -	$ 2,166,702
Angus C. Anson Unit 4	1,945	793	2,737	-	2,737
Black Dog Unit 5	5,569,182	49,858	5,619,039	-	5,619,039
Black Dog Unit 6	3,779,403	56,548	3,835,951	-	3,835,951
Blue Lake Units 1 thru 4	584,811	8,096	592,907	-	592,907
Blue Lake Units 7 & 8	13,367	923	14,290	-	14,290
Border Winds	40,122	9,877	49,999	-	49,999
Courtenay Wind	5,004	1,579	6,583	-	6,583
Grand Meadow Wind	101,742	9,286	111,028	-	111,028
Granite City	19,972	-	19,972	-	19,972
High Bridge	2,213,854	182,429	2,396,283	-	2,396,283
Inver Hills	707,029	3,587	710,616	-	710,616
Key City	410,024	-	410,024	-	410,024
Nobles Wind	213,455	28,440	241,895	-	241,895
Pleasant Valley Wind	52,223	12,605	64,827	-	64,827
Riverside	5,502,780	157,491	5,660,270	-	5,660,270
Foxtail Wind**	-	-	-	-	-
Lake Benton II Wind**	-	-	-	-	-
Total/Composite	$ 21,345,859	$ 557,264	$ 21,903,123	$ -	$ 21,903,123
E348.1 Energy Storage Equipment					
Wind-to-Battery System	$ 2,947,427	$ 295,369	$ 3,242,796	$ 6,486,106	$ 9,728,902
Total/Composite	$ 2,947,427	$ 295,369	$ 3,242,796	$ 6,486,106	$ 9,728,902
Total Other Production	**$ 1,011,059,620**	**$ 126,726,100**	**$ 1,137,785,720**	**$ (0)**	**$ 1,137,785,720**

	Reserve Balance 1/1/2020	2020 estimated Annual Depreciation Expense (1)	Reserve Balance 1/1/2021 (est.)	Reserve Reallocation	Reallocated Reserve Balance 1/1/2021 (est.)
	(1)	(2)	(3)	(4)	(5)
GAS PRODUCTION					
G305 Structures & Improvements					
Maplewood	$ 1,541,387	$ 157,921	$ 1,699,308	$ -	$ 1,699,308
Sibley	686,934	140,689	827,623	-	827,623
Total/Composite	$ 2,228,320	$ 298,610	$ 2,526,931	$ -	$ 2,526,931
G311 LP Gas Equipment					
Maplewood	$ 4,235,990	$ 306,021	$ 4,542,011	$ -	$ 4,542,011
Sibley	6,343,920	1,068,880	7,412,800	-	7,412,800
Total/Composite	$ 10,579,910	$ 1,374,901	$ 11,954,811	$ -	$ 11,954,811
G320 Other Equipment					
Maplewood	$ 331,083	$ 55,147	$ 386,230	$ -	$ 386,230
Sibley	527,340	36,395	563,735	-	563,735
Total/Composite	$ 858,423	$ 91,542	$ 949,965	$ -	$ 949,965
Total Gas Production	**$ 13,666,653**	**$ 1,765,053**	**$ 15,431,706**	**$ -**	**$ 15,431,706**
GAS STORAGE - Wescott Plant					
G361 Structures & Improvements	$ 6,079,032	$ 487,291	$ 6,566,324	$ -	$ 6,566,324
G362 Gas Holders	8,638,456	283,814	8,922,270	-	8,922,270
G363 Purification Equipment	1,074,267	25,250	1,099,517	-	1,099,517
G363.1 Liquefaction Equipment	2,997,607	312,872	3,310,479	-	3,310,479
G363.2 Vaporizing Equipment	7,397,755	466,374	7,864,129	-	7,864,129
G363.3 Compressor Equipment	12,264,421	1,232,763	13,497,184	-	13,497,184
G363.4 Measuring & Regulating Equipment	70,999	4,193	75,192	-	75,192
G363.5 Other Equipment	4,102,827	417,692	4,520,519	-	4,520,519
Total Gas Storage	**$ 42,625,365**	**$ 3,230,249**	**$ 45,855,614**	**$ -**	**$ 45,855,614**

(1) Depreciation Expense was calculated using the remaining life and net salvage currently approved and plant and reserve balances as of 1/1/2020.

Electric Utility

FERC Account	Account Description	Beginning Balance 1/1/2019	Additions	Retirements	Transfers	Adjustments	Ending Balance 12/31/2019
Steam							
310	Land & Land Rights - Fee	$ 8,554,373	$ -	$ (35,179)	$ -	$ -	$ 8,519,194
310	Land & Land Rights - Other	8,024	-	-	-	-	8,024
311	Structures & Improvements	291,941,494	1,317,811	(566,545)	(783,616)	-	291,909,144
312	Boiler Plant Equipment	1,460,729,294	14,496,630	(10,197,440)	(118,327)	-	1,464,910,157
314	Turbogenerator Units	324,461,502	(3,951,899)	(1,472,027)	(68,159)	-	318,969,418
315	Accessory Electric Equipment	187,064,696	1,588,314	(912,219)	-	-	187,740,791
316	Miscellaneous Power Plant Equipment	53,887,695	186,592	(8,525)	-	-	54,065,763
		$ 2,326,647,079	**$ 13,637,448**	**$ (13,191,935)**	**$ (970,101)**	**$ -**	**$ 2,326,122,491**
Nuclear							
302	Franchises & Consents	$ 247,161,045	$ 4,071,774	$ -	$ -	$ -	$ 251,232,819
320	Land & Land Rights - Fee	1,760,634	-	-	-	-	1,760,634
320	Land and Land Rights - Other	1,729	-	-	-	-	1,729
321	Structures & Improvements	588,287,575	3,289,706	(11,876,346)	357,914	-	580,058,850
322	Reactor Plant Equipment	1,863,174,292	50,576,606	(5,095,394)	-	-	1,908,655,504
323	Turbogenerator Units	621,418,893	13,709,657	(1,313,060)	-	-	633,815,490
324	Accessory Electric Equipment	539,132,640	15,928,597	(1,131,564)	-	-	553,929,673
325	Miscellaneous Power Plant Equipment	206,624,850	2,446,280	(1,584,192)	146,945	-	207,633,882
		$ 4,067,561,658	**$ 90,022,621**	**$ (21,000,557)**	**$ 504,859**	**$ -**	**$ 4,137,088,581**
Hydro							
302	Franchises & Consents	$ 2,857,039	$ -	$ -	$ -	$ -	$ 2,857,039
330	Land & Land Rights - Fee	292,863	-	-	-	-	292,863
330	Land & Land Rights - Other	1,400,213	-	-	-	-	1,400,213
331	Structures & Improvements	1,388,480	-	-	57,124	-	1,445,604
332	Reservoirs, Dams & Waterways	11,066,280	293	-	-	-	11,066,573
333	Water Wheels, Turbines & Generators	10,155,741	21,326	-	-	-	10,177,067
334	Accessory Electric Equipment	3,256,972	-	-	-	-	3,256,972
335	Miscellaneous Power Plant Equipment	60,824	-	-	-	-	60,824
		$ 30,478,412	**$ 21,619**	**$ -**	**$ 57,124**	**$ -**	**$ 30,557,156**
Other							
340	Land & Land Rights - Fee	$ 3,510,677	$ 1,105,334	$ -	$ -	$ -	$ 4,616,011
340	Land & Land Rights - Other	10,367,652	-	-	-	-	10,367,652
340	Wind Rights	16,642,947	146,853	-	-	-	16,789,800
341	Structures & Improvements	266,641,117	66,938,771	(65,969)	817,630	-	334,331,548
342	Fuel Holders, Producers & Accessories	27,432,076	361,734	(684,738)	-	-	27,109,072
343	Prime Movers	139,802,454	652,252	-	-	-	140,454,706
344	Generators	2,184,525,708	346,157,659	(11,429,551)	186,485	-	2,519,440,301
345	Accessory Electric Equipment	286,326,327	11,916,587	(2,626,774)	-	-	295,616,140
346	Miscellaneous Power Plant Equipment	32,879,561	23,919	-	-	-	32,903,480
348.1	Energy Storage Equipment	4,128,902	-	-	-	-	4,128,902
		$ 2,972,257,420	**$ 427,303,109**	**$ (14,807,032)**	**$ 1,004,115**	**$ -**	**$ 3,385,757,612**
Electric Utility Total		**$ 9,396,944,569**	**$ 530,984,797**	**$ (48,999,524)**	**$ 595,997**	**$ -**	**$ 9,879,525,840**

Gas Utility

FERC Account	Account Description	Beginning Balance 1/1/2019	Additions	Retirements	Transfers	Adjustments	Ending Balance 12/31/2019
Production							
304	Land & Land Rights - Fee	$ 755,528	$ -	$ (49,939)	$ (349,574)	$ -	$ 356,015
304	Land & Land Rights - Other	34,536	-	-	-	-	34,536
305	Structures & Improvements	3,250,033	-	(964,878)	492,367	-	2,777,523
311	LP Gas Equipment	19,384,538	34,182	(4,629,110)	(1,533,877)	-	13,255,733
320	Other Equipment	1,394,775	51,765	(350,472)	(143,900)	-	952,168
		$ 24,819,411	**$ 85,947**	**$ (5,994,399)**	**$ (1,534,984)**	**$ -**	**$ 17,375,975**
Storage							
360	Land & Land Rights - Fee	$ -	$ -	$ -	$ 349,574	$ -	$ 349,574
360	Land & Land Rights - Other	11,264	-	-	-	-	11,264
361	Structures & Improvements	5,072,297	289,623	(3,258)	1,376,404	-	6,735,066
362	Gas Holders	8,232,610	117,242	(4,586)	(145,844)	-	8,199,422
363	Purification Equipment	1,020,951	-	(34,989)	-	-	985,962
363.1	Liquefaction Equipment	2,852,841	14	-	711,821	-	3,564,676
363.2	Vaporizing Equipment	9,363,381	(27,183)	-	-	-	9,336,198
363.3	Compressor Equipment	23,514,851	72,694	(9,177)	155,135	-	23,733,503
363.4	Measuring & Regulating Equipment	44,503	-	-	29,131	-	73,634
363.5	Other Equipment	4,530,516	216,603	(2,823)	99,323	-	4,843,620
		$ 54,643,215	**$ 668,993**	**$ (54,834)**	**$ 2,575,544**	**$ -**	**$ 57,832,919**
Gas Utility Total		**$ 79,462,626**	**$ 754,940**	**$ (6,049,232)**	**$ 1,040,561**	**$ -**	**$ 75,208,894**

Electric Utility

FERC Account	Account Description	Beginning Balance 1/1/2019	Credits: Accruals	Credits: Gross Salvage	Debits: Retirements*	Debits: Cost of Removal	Transfers, Adjustments, and Other Credits (Debits)	Ending Balance 12/31/2019
Steam								
311	Structures & Improvements	$ 247,661,479	$ 7,605,223	$ -	$ 566,545	$ 172,790	$ 4,279	$ 254,531,646
312	Boiler Plant Equipment	910,037,134	62,771,219	440,488	10,197,440	2,714,756	-	960,336,644
314	Turbogenerator Units	191,161,033	16,966,019	-	1,472,027	306,507	-	206,348,519
315	Accessory Electric Equipment	115,716,338	7,237,164	4,686	912,219	65,608	-	121,980,361
316	Miscellaneous Power Plant Equipment	40,868,620	1,502,729	-	8,525	-	-	42,362,824
		$ 1,505,444,604	**$ 96,082,354**	**$ 445,174**	**$ 13,156,756**	**$ 3,259,661**	**$ 4,279**	**$ 1,585,559,994**
Nuclear								
302	Franchises & Consents	$ 77,854,760	$ 12,750,589	$ -	$ -	$ -	$ -	$ 90,605,349
321	Structures & Improvements	343,786,777	18,522,236	-	11,876,346	131,940	62,841	350,363,569
322	Reactor Plant Equipment	824,669,858	76,890,713	(216)	5,095,394	807,038	-	895,657,921
323	Turbogenerator Units	256,013,228	27,578,135	3,654	1,313,060	2,886,747	-	279,395,210
324	Accessory Electric Equipment	265,976,472	21,800,496	-	1,131,564	110,255	-	286,535,149
325	Miscellaneous Power Plant Equipment	122,276,737	6,368,086	-	1,584,192	14,713	26,345	127,072,264
		$ 1,890,577,832	**$ 163,910,255**	**$ 3,438**	**$ 21,000,557**	**$ 3,950,693**	**$ 89,187**	**$ 2,029,629,462**
Hydro								
302	Franchises & Consents	$ 1,236,821	$ 106,828	$ -	$ -	$ -	$ -	$ 1,343,648
331	Structures & Improvements	742,628	68,175	-	-	-	15,684	826,488
332	Reservoirs, Dams & Waterways	6,142,071	583,391	-	-	(826)	-	6,726,288
333	Water Wheels, Turbines & Generators	3,796,003	597,734	-	-	-	-	4,393,736
334	Accessory Electric Equipment	1,329,477	183,780	-	-	-	-	1,513,258
335	Miscellaneous Power Plant Equipment	67,362	628	-	-	-	-	67,990
		$ 13,314,362	**$ 1,540,536**	**$ -**	**$ -**	**$ (826)**	**$ 15,684**	**$ 14,871,408**
Other								
340	Wind Rights	$ 4,949,269	$ 719,017	$ -	$ -	$ -	$ -	$ 5,668,286
341	Structures & Improvements	99,254,457	7,506,855	-	65,969	10,673	53,747	106,738,417
342	Fuel Holders, Producers & Accessories	15,979,087	671,742	-	684,738	29,851	(1,692,979)	14,243,261
343	Prime Movers	39,097,944	4,329,992	-	-	-	-	43,427,936
344	Generators	649,505,381	85,706,588	39,071	11,429,551	2,122,127	1,509,033	723,208,396
345	Accessory Electric Equipment	86,281,401	10,190,780	4,534	2,626,774	487,631	117,727	93,480,037
346	Miscellaneous Power Plant Equipment	20,771,047	556,478	-	-	-	18,334	21,345,859
348.1	Energy Storage Equipment	2,652,058	295,369	-	-	-	-	2,947,427
		$ 918,490,646	**$ 109,976,821**	**$ 43,605**	**$ 14,807,032**	**$ 2,650,281**	**$ 5,862**	**$ 1,011,059,620**
Electric Utility Total		**$ 4,327,827,444**	**$ 371,509,966**	**$ 492,218**	**$ 48,964,345**	**$ 9,859,809**	**$ 115,011**	**$ 4,641,120,484**

Gas Utility

FERC Account	Account Description	Beginning Balance 1/1/2019	Credits: Accruals	Credits: Gross Salvage	Debits: Retirements*	Debits: Cost of Removal	Transfers, Adjustments, and Other Credits (Debits)	Ending Balance 12/31/2019
Production								
305	Structures & Improvements	$ 2,764,151	$ 382,709	$ -	$ 964,878	$ -	$ 46,339	$ 2,228,320
311	LP Gas Equipment	13,695,813	1,284,629	1,967,214	4,629,110	1,495,229	(243,409)	10,579,910
320	Other Equipment	913,819	193,472	-	350,472	12,424	114,028	858,423
		$ 17,373,783	**$ 1,860,810**	**$ 1,967,214**	**$ 5,944,460**	**$ 1,507,653**	**$ (83,042)**	**$ 13,666,653**
Storage								
361	Structures & Improvements	$ 5,419,550	$ 408,378	$ -	$ 3,258	$ 500	$ 254,863	$ 6,079,032
362	Gas Holders	8,401,168	281,470	-	4,586	3,288	(36,308)	8,638,456
363	Purification Equipment	1,092,458	25,004	-	34,989	8,206	-	1,074,267
363.1	Liquefaction Equipment	2,507,622	313,886	-	-	-	176,099	2,997,607
363.2	Vaporizing Equipment	6,927,890	469,865	-	-	-	-	7,397,755
363.3	Compressor Equipment	10,999,728	1,231,514	-	9,177	2,190	44,546	12,264,421
363.4	Measuring & Regulating Equipment	45,702	4,193	-	-	-	21,105	70,999
363.5	Other Equipment	3,744,417	411,697	-	2,823	14,185	(36,279)	4,102,827
		$ 39,138,536	**$ 3,146,007**	**$ -**	**$ 54,834**	**$ 28,370**	**$ 424,026**	**$ 42,625,365**
Gas Utility Total		**$ 56,512,319**	**$ 5,006,817**	**$ 1,967,214**	**$ 5,999,293**	**$ 1,536,023**	**$ 340,984**	**$ 56,292,018**

Note: All amounts shown in this schedule are represented as Northern States Power Company-Minnesota total company

* Retirement Reconciliation:

Retirements in E311 are primarily related to King ($0.3 million) and Sherco Units 1&2 ($0.2 million)
Retirements in E312 are primarily related to King ($2.8 million), Red Wing ($2.5 million), Sherco Unit 1 ($2.0 million) and Sherco Unit 3 ($1.6 million)
Retirements in E314 are related to Sherco Unit 1 ($1.5 million)
Retirements in E315 are primarily related to King ($0.7 million)
Retirements in E321 are related to Prairie Island ($11.5 million) and Monticello ($0.4 million)
Retirements in E322 are related to Prairie Island ($4.1 million) and Monticello ($1.0 million)
Retirements in E323 are primarily related to Prairie Island ($1.0 million)
Retirements in E324 are related to Prairie Island ($0.9 million) and Monicello ($0.3 million)
Retirements in E325 are primarily related to Prairie Island ($1.5 million)
Retirements in E342 are primarily due to Black Dog Unit 5 ($0.6 million)
Retirements in E344 are primarily related to Black Dog Unit 5 ($5.0 million), High Bridge ($3.0 million), United Hospital ($2.0 million), and Nobles ($1.2 million)
Retirements in E345 are primarily related to High Bridge ($1.2 million), Black Dog Unit 5 ($0.7 million), Riverside ($0.3 million) and Black Dog Unit 6 ($0.2 million)
Retirement in G305 is related to Wescott ($1.0 million)
Retirement in G311 is related to Wescott ($4.6 million)
Retirement in G320 is related to Wescott ($0.4 million)

Northern States Power Company
2019 Summary of Annual Depreciation Accruals
Electric and Gas Utilities Summary

Electric Utility

FERC Account	Account Description	1/1/2019 Beginning Plant Balance	Est. Future Net Salvage %	Est. Future Net Salvage Amount	1/1/2019 Beginning Depreciation Reserve	Net Balance	Depr Life (Yrs)	Annual Accrual	Reserve Ratio
Steam									
311	Structures & Improvements	$ 291,941,494	-10.8%	$ (31,458,250)	$ 247,661,479	$ 75,738,265	10.0	$ 7,566,264	76.58%
312	Boiler Plant Equipment	1,460,729,294	-10.6%	(155,212,955)	910,037,134	705,905,116	11.4	61,974,811	56.32%
314	Turbogenerator Units	324,461,502	-10.8%	(34,938,588)	191,161,033	168,239,056	9.7	17,416,571	53.19%
315	Accessory Electric Equipment	187,064,696	-9.3%	(17,413,592)	115,716,338	88,761,951	12.2	7,288,619	56.59%
316	Miscellaneous Power Plant Equipment	53,887,695	-8.9%	(4,821,869)	40,868,620	17,840,944	11.9	1,503,565	69.61%
								$ 95,749,829	
Nuclear									
302	Franchises & Consents	$ 247,161,045	0.0%	$ -	$ 77,854,760	$ 169,306,285	13.4	$ 12,608,069	31.50%
321	Structures & Improvements	588,287,575	0.0%	-	343,786,777	244,500,798	13.3	18,345,228	58.44%
322	Reactor Plant Equipment	1,863,174,292	0.0%	-	824,669,858	1,038,504,435	13.7	75,583,233	44.26%
323	Turbogenerator Units	621,418,893	0.0%	-	256,013,228	365,405,665	13.6	26,769,770	41.20%
324	Accessory Electric Equipment	539,132,640	0.0%	-	265,976,472	273,156,168	13.1	20,920,003	49.33%
325	Miscellaneous Power Plant Equipment	206,624,850	0.0%	-	122,276,737	84,348,112	13.6	6,201,149	59.18%
								$ 160,427,451	
Hydro									
302	Franchises & Consents	$ 2,857,039	0.0%	$ -	$ 1,236,821	$ 1,620,218	15.2	$ 106,593	43.29%
331	Structures & Improvements	1,388,480	-25.9%	(359,674)	742,628	1,005,526	15.2	66,123	42.48%
332	Reservoirs, Dams & Waterways	11,066,280	-22.7%	(2,510,129)	6,142,071	7,434,339	12.8	582,630	45.24%
333	Water Wheels, Turbines & Generators	10,155,741	-26.4%	(2,681,116)	3,796,003	9,040,854	15.2	594,793	29.57%
334	Accessory Electric Equipment	3,256,972	-26.4%	(859,841)	1,329,477	2,787,336	15.2	183,377	32.29%
335	Miscellaneous Power Plant Equipment	60,824	-26.4%	(16,058)	67,362	9,520	15.2	626	87.62%
								$ 1,534,143	
Other									
340	Wind Rights	$ 16,642,947	0.0%	$ -	$ 4,949,269	$ 11,693,678	16.3	$ 715,604	29.74%
341	Structures & Improvements	266,641,117	-8.2%	(21,843,935)	99,254,457	189,230,594	26.1	7,238,926	34.41%
342	Fuel Holders, Producers & Accessories	27,432,076	-10.2%	(2,806,560)	15,979,087	14,259,548	22.9	622,655	52.84%
343	Prime Movers	139,802,454	-7.6%	(10,668,836)	39,097,944	111,373,346	25.6	4,351,306	25.98%
344	Generators	2,184,525,708	-8.6%	(187,023,781)	649,505,381	1,722,044,107	21.3	80,979,626	27.39%
345	Accessory Electric Equipment	286,326,327	-8.3%	(23,831,614)	86,281,401	223,876,540	22.3	10,026,844	27.82%
346	Miscellaneous Power Plant Equipment	32,879,561	-8.5%	(2,787,745)	20,771,047	14,896,258	26.7	556,950	58.24%
348.1	Energy Storage Equipment	4,128,902	0.0%	-	2,652,058	1,476,844	5.0	295,369	64.23%
								$ 104,787,280	
Electric Utility Total								$ 362,498,703	

Gas Utility

FERC Account	Account Description	1/1/2019 Beginning Plant Balance	Est. Future Net Salvage %	Est. Future Net Salvage Amount	1/1/2019 Beginning Depreciation Reserve	Net Balance	Depr Life (Yrs)	Annual Accrual	Reserve Ratio
Production									
305	Structures & Improvements	$ 3,250,033	-87.7%	$ (2,851,463)	$ 2,764,151	$ 3,337,346	11.0	$ 303,395	45.30%
311	LP Gas Equipment	19,384,538	-83.5%	(16,192,889)	13,695,813	21,881,614	11.0	1,989,238	38.50%
320	Other Equipment	1,394,775	-86.3%	(1,203,620)	913,819	1,684,576	11.0	153,143	35.17%
								$ 2,445,776	
Storage									
361	Structures & Improvements	$ 5,072,297	-19.2%	$ (973,881)	$ 5,419,550	$ 626,628	5.0	$ 125,326	89.64%
362	Gas Holders	8,232,610	-19.2%	(1,580,661)	8,401,168	1,412,103	5.0	282,421	85.61%
363	Purification Equipment	1,020,951	-19.2%	(196,023)	1,092,458	124,516	5.0	24,903	89.77%
363	Liquefaction Equipment	2,852,841	-19.2%	(547,745)	2,507,622	892,964	5.0	178,593	73.74%
363	Vaporizing Equipment	9,363,381	-19.2%	(1,797,769)	6,927,890	4,233,260	9.0	470,362	62.07%
363	Compressor Equipment	23,514,851	-19.2%	(4,514,851)	10,999,728	17,029,974	14.0	1,216,427	39.24%
363	Measuring & Regulating Equipment	44,503	-19.2%	(8,545)	45,702	7,346	5.0	1,469	86.15%
363	Other Equipment	4,530,516	-19.2%	(869,859)	3,744,417	1,655,958	5.0	331,192	69.34%
								$ 2,630,692	
Gas Utility Total								$ 5,076,468	

Electric Production Plant Facility	Proposed Retirement Date per Remaining Life Petition	Resource Planning/Modeling End of Life Docket No. E002/RP-19-368 Reference Plan	Rationale for Difference Between Depreciation Life and Resource Planning Period
St. Croix Falls	2027	Through the end of the resource planning period (2034)	The depreciation period is tied to the FERC operating license. The resource plan life looks at capacity needs and can assume things like license extensions when doing so, but because the general paractice for other Hydro facilities has been to keep them in line with their FERC licenses the Company believes the depreciable end of life should be maintained at 2027 until the FERC extension has been obtained.
Inver Hills	2026	Through the end of the resource planning period (2034)	These units are part of the restoration plan. Until replacement restoration units are in service, these units are modeled for capacity.
Wind-To-Battery (FERC 348.1)	2021	N/A	The Wind-to-Battery asset is not part of the Resource Planning scope.

Note: Unlisted plants either run beyond the resource planning period or are aligned with the resource planning end of life. Additionally, the accounting life of the plant often coincides with the calendar year end whereas the Resource Plan models typically use the MISO year which ends on May 31. Therefore, plants with less than a year difference were also not included.

Account	Description	Current Approved Remaining Life 01/01/19 (Yrs)	Proposed Remaining Life 01/01/21 (Yrs)	Current Approved Net Salvage 01/01/19 (%)	Proposed Net Salvage 01/01/21 (%)	Latest Life Change (Docket #)	Life Change (Yrs)	Latest Net Salvage Change (Docket #)	Net Salvage Change (%)	Number of Life Changes in the Last Five Years	Number of Net Salvage Changes in the Last Five Years
Angus C. Anson Unit 2 & 3											
E341	Structures & Improvements	26.4	24.4	-6.5	-6.5	EG002-D-19-161	15.0	EG002-D-15-46	-2.0	1	1
E342	Fuel Holders, Producers & Accessories	22.0	20.0	-9.6	-11.2	EG002-D-19-161	15.0	EG002-D-15-46	-5.2	2	1
E343	Prime Movers	22.0	20.0	-9.6	-11.2	EG002-D-19-161	15.0	EG002-D-18-162	-9.6	2	1
E344	Generators	22.0	20.0	-9.6	-11.2	EG002-D-19-161	15.0	EG002-D-15-46	-5.2	2	1
E345	Accessory Electric Equipment	22.0	20.0	-9.6	-11.2	EG002-D-19-161	15.0	EG002-D-15-46	-5.2	2	1
E346	Miscellaneous Power Plant Equipment	22.0	20.0	-9.6	-11.2	EG002-D-19-161	15.0	EG002-D-15-46	-5.2	2	1
Angus C. Anson Unit 4											
E341	Structures & Improvements	26.4	24.4	-6.5	-6.5	EG002-D-19-161	10.0	EG002-D-15-46	-2.0	1	1
E342	Fuel Holders, Producers & Accessories	26.4	24.4	-6.5	-6.5	EG002-D-19-161	10.0	EG002-D-15-46	-2.0	1	1
E343	Prime Movers	26.4	24.4	-6.5	-6.5	EG002-D-19-161	10.0	EG002-D-18-162	-6.5	2	1
E344	Generators	26.4	24.4	-6.5	-6.5	EG002-D-19-161	10.0	EG002-D-15-46	-2.0	1	1
E345	Accessory Electric Equipment	26.4	24.4	-6.5	-6.5	EG002-D-19-161	10.0	EG002-D-15-46	-2.0	1	1
E346	Miscellaneous Power Plant Equipment	26.4	24.4	-6.5	-6.5	EG002-D-19-161	10.0	EG002-D-15-46	-2.0	1	1
Black Dog Unit 5											
E341	Structures & Improvements	39.3	37.3	-11.4	-10.3	EG002-D-19-161	26.3	EG002-D-15-46	-9.7	1	1
E342	Fuel Holders, Producers & Accessories	13.0	11.0	-11.4	-7.2	EG002-D-02-214	30.0	EG002-D-15-46	-9.7	0	1
E343	Prime Movers	13.0	11.0	-11.4	-7.2	EG002-D-18-162	14.0	EG002-D-18-162	-11.4	1	1
E344	Generators	13.0	11.0	-11.4	-7.2	EG002-D-02-214	30.0	EG002-D-15-46	-9.7	0	1
E345	Accessory Electric Equipment	13.0	11.0	-11.4	-7.2	EG002-D-02-214	30.0	EG002-D-15-46	-9.7	0	1
E346	Miscellaneous Power Plant Equipment	13.0	11.0	-11.4	-7.2	EG002-D-02-214	30.0	EG002-D-15-46	-9.7	0	1
Black Dog Unit 6											
E341	Structures & Improvements	39.3	37.3	-5.0	-10.3	EG002-D-18-162	40.0	EG002-D-18-162	-5.0	1	1
E342	Fuel Holders, Producers & Accessories	39.3	37.3	-5.0	-10.3	EG002-D-18-162	40.0	EG002-D-18-162	-5.0	1	1
E343	Prime Movers	39.3	37.3	-5.0	-10.3	EG002-D-18-162	40.0	EG002-D-18-162	-5.0	1	1
E344	Generators	39.3	37.3	-5.0	-10.3	EG002-D-18-162	40.0	EG002-D-18-162	-5.0	1	1
E345	Accessory Electric Equipment	39.3	37.3	-5.0	-10.3	EG002-D-18-162	40.0	EG002-D-18-162	-5.0	1	1
E346	Miscellaneous Power Plant Equipment	39.3	37.3	-5.0	-10.3	EG002-D-18-162	40.0	EG002-D-18-162	-5.0	1	1
Blazing Star I Wind (1)											
E340.1	Wind Rights	25.0	25.0	0.0	0.0	EG002-D-19-161	25.0	EG002-D-19-161	0.0	1	1
E341	Structures & Improvements	25.0	25.0	-8.5	-11.6	EG002-D-19-161	25.0	EG002-D-19-161	-8.5	1	1
E342	Fuel Holders, Producers & Accessories	25.0	25.0	-8.5	-11.6	EG002-D-19-161	25.0	EG002-D-19-161	-8.5	1	1
E343	Prime Movers	25.0	25.0	-8.5	-11.6	EG002-D-19-161	25.0	EG002-D-19-161	-8.5	1	1
E344	Generators	25.0	25.0	-8.5	-11.6	EG002-D-19-161	25.0	EG002-D-19-161	-8.5	1	1
E345	Accessory Electric Equipment	25.0	25.0	-8.5	-11.6	EG002-D-19-161	25.0	EG002-D-19-161	-8.5	1	1
E346	Miscellaneous Power Plant Equipment	25.0	25.0	-8.5	-11.6	EG002-D-19-161	25.0	EG002-D-19-161	-8.5	1	1

Account	Description	Current Approved Remaining Life 01/01/19 (Yrs)	Proposed Remaining Life 01/01/21 (Yrs)	Current Approved Net Salvage 01/01/19 (%)	Proposed Net Salvage 01/01/21 (%)	Latest Life Change (Docket #)	Life Change (Yrs)	Latest Net Salvage Change (Docket #)	Net Salvage Change (%)	Number of Life Changes in the Last Five Years	Number of Net Salvage Changes in the Last Five Years
Blazing Star II Wind (2)											
E340.1	Wind Rights	N/A	25.0	N/A	0.0	N/A	N/A	N/A	N/A	0	0
E341	Structures & Improvements	N/A	25.0	N/A	-10.5	N/A	N/A	N/A	N/A	0	0
E342	Fuel Holders, Producers & Accessories	N/A	25.0	N/A	-10.5	N/A	N/A	N/A	N/A	0	0
E343	Prime Movers	N/A	25.0	N/A	-10.5	N/A	N/A	N/A	N/A	0	0
E344	Generators	N/A	25.0	N/A	-10.5	N/A	N/A	N/A	N/A	0	0
E345	Accessory Electric Equipment	N/A	25.0	N/A	-10.5	N/A	N/A	N/A	N/A	0	0
E346	Miscellaneous Power Plant Equipment	N/A	25.0	N/A	-10.5	N/A	N/A	N/A	N/A	0	0
Blue Lake Units 1 thru 4											
E341	Structures & Improvements	26.4	24.4	-11.7	-12.7	EG002-D-19-161	4.0	EG002-D-15-46	-6.5	1	1
E342	Fuel Holders, Producers & Accessories	4.5	2.5	-22.9	-30.6	EG002-D-19-161	4.0	EG002-D-15-46	-11.0	2	1
E343	Prime Movers	4.5	2.5	-22.9	-30.6	EG002-D-19-161	4.0	EG002-D-18-162	-22.9	2	1
E344	Generators	4.5	2.5	-22.9	-30.6	EG002-D-19-161	4.0	EG002-D-15-46	-11.0	2	1
E345	Accessory Electric Equipment	4.5	2.5	-22.9	-30.6	EG002-D-19-161	4.0	EG002-D-15-46	-11.0	2	1
E346	Miscellaneous Power Plant Equipment	4.5	2.5	-22.9	-30.6	EG002-D-19-161	4.0	EG002-D-15-46	-11.0	2	1
Blue Lake Units 7 & 8											
E341	Structures & Improvements	26.4	24.4	-11.7	-12.7	EG002-D-19-161	10.0	EG002-D-15-46	-6.5	1	1
E342	Fuel Holders, Producers & Accessories	26.4	24.4	-11.7	-12.7	EG002-D-19-161	10.0	EG002-D-15-46	-6.5	1	1
E343	Prime Movers	26.4	24.4	-11.7	-12.7	EG002-D-19-161	10.0	EG002-D-18-162	-11.7	2	1
E344	Generators	26.4	24.4	-11.7	-12.7	EG002-D-19-161	10.0	EG002-D-15-46	-6.5	1	1
E345	Accessory Electric Equipment	26.4	24.4	-11.7	-12.7	EG002-D-19-161	10.0	EG002-D-15-46	-6.5	1	1
E346	Miscellaneous Power Plant Equipment	26.4	24.4	-11.7	-12.7	EG002-D-19-161	10.0	EG002-D-15-46	-6.5	1	1
Border Winds											
E340.1	Wind Rights	22.0	20.0	0.0	0.0	EG002-D-15-46	25.0	EG002-D-15-46	0.0	1	1
E341	Structures & Improvements	22.0	20.0	-8.5	-9.5	EG002-D-15-46	25.0	EG002-D-15-46	-8.5	1	1
E342	Fuel Holders, Producers & Accessories	22.0	20.0	-8.5	-9.5	EG002-D-15-46	25.0	EG002-D-15-46	-8.5	1	1
E343	Prime Movers	22.0	20.0	-8.5	-9.5	EG002-D-18-162	23.0	EG002-D-18-162	-8.5	1	1
E344	Generators	22.0	20.0	-8.5	-9.5	EG002-D-15-46	25.0	EG002-D-15-46	-8.5	1	1
E345	Accessory Electric Equipment	22.0	20.0	-8.5	-9.5	EG002-D-15-46	25.0	EG002-D-15-46	-8.5	1	1
E346	Miscellaneous Power Plant Equipment	22.0	20.0	-8.5	-9.5	EG002-D-15-46	25.0	EG002-D-15-46	-8.5	1	1
Community Wind North (2)											
E340.1	Wind Rights	N/A	25.0	N/A	0.0	N/A	N/A	N/A	N/A	0	0
E341	Structures & Improvements	N/A	25.0	N/A	-10.5	N/A	N/A	N/A	N/A	0	0
E342	Fuel Holders, Producers & Accessories	N/A	25.0	N/A	-10.5	N/A	N/A	N/A	N/A	0	0
E343	Prime Movers	N/A	25.0	N/A	-10.5	N/A	N/A	N/A	N/A	0	0
E344	Generators	N/A	25.0	N/A	-10.5	N/A	N/A	N/A	N/A	0	0
E345	Accessory Electric Equipment	N/A	25.0	N/A	-10.5	N/A	N/A	N/A	N/A	0	0
E346	Miscellaneous Power Plant Equipment	N/A	25.0	N/A	-10.5	N/A	N/A	N/A	N/A	0	0

Account	Description	Current Approved Remaining Life 01/01/19 (Yrs)	Proposed Remaining Life 01/01/21 (Yrs)	Current Approved Net Salvage 01/01/19 (%)	Proposed Net Salvage 01/01/21 (%)	Latest Life Change (Docket #)	Life Change (Yrs)	Latest Net Salvage Change (Docket #)	Net Salvage Change (%)	Number of Life Changes in the Last Five Years	Number of Net Salvage Changes in the Last Five Years
Courtenay Wind											
E340.1	Wind Rights	22.9	20.9	0.0	0.0	EG002-D-17-147	25.0	EG002-D-17-147	0.0	1	1
E341	Structures & Improvements	22.9	20.9	-8.5	-10.4	EG002-D-17-147	25.0	EG002-D-17-147	-8.5	1	1
E342	Fuel Holders, Producers & Accessories	22.9	20.9	-8.5	-10.4	EG002-D-17-147	25.0	EG002-D-17-147	-8.5	1	1
E343	Prime Movers	22.9	20.9	-8.5	-10.4	EG002-D-18-162	22.9	EG002-D-18-162	-8.5	1	1
E344	Generators	22.9	20.9	-8.5	-10.4	EG002-D-17-147	25.0	EG002-D-17-147	-8.5	1	1
E345	Accessory Electric Equipment	22.9	20.9	-8.5	-10.4	EG002-D-17-147	25.0	EG002-D-17-147	-8.5	1	1
E346	Miscellaneous Power Plant Equipment	22.9	20.9	-8.5	-10.4	EG002-D-17-147	25.0	EG002-D-17-147	-8.5	1	1
Crowned Ridge Wind (2)											
E340.1	Wind Rights	N/A	25.0	N/A	0.0	N/A	N/A	N/A	N/A	0	0
E341	Structures & Improvements	N/A	25.0	N/A	-10.5	N/A	N/A	N/A	N/A	0	0
E342	Fuel Holders, Producers & Accessories	N/A	25.0	N/A	-10.5	N/A	N/A	N/A	N/A	0	0
E343	Prime Movers	N/A	25.0	N/A	-10.5	N/A	N/A	N/A	N/A	0	0
E344	Generators	N/A	25.0	N/A	-10.5	N/A	N/A	N/A	N/A	0	0
E345	Accessory Electric Equipment	N/A	25.0	N/A	-10.5	N/A	N/A	N/A	N/A	0	0
E346	Miscellaneous Power Plant Equipment	N/A	25.0	N/A	-10.5	N/A	N/A	N/A	N/A	0	0
Dakota Range Wind (2)											
E340.1	Wind Rights	N/A	25.0	N/A	0.0	N/A	N/A	N/A	N/A	0	0
E341	Structures & Improvements	N/A	25.0	N/A	-10.5	N/A	N/A	N/A	N/A	0	0
E342	Fuel Holders, Producers & Accessories	N/A	25.0	N/A	-10.5	N/A	N/A	N/A	N/A	0	0
E343	Prime Movers	N/A	25.0	N/A	-10.5	N/A	N/A	N/A	N/A	0	0
E344	Generators	N/A	25.0	N/A	-10.5	N/A	N/A	N/A	N/A	0	0
E345	Accessory Electric Equipment	N/A	25.0	N/A	-10.5	N/A	N/A	N/A	N/A	0	0
E346	Miscellaneous Power Plant Equipment	N/A	25.0	N/A	-10.5	N/A	N/A	N/A	N/A	0	0
Foxtail Wind (3)											
E340.1	Wind Rights	25.0	24.0	0.0	0.0	EG002-D-19-161	25.0	EG002-D-19-161	0.0	1	1
E341	Structures & Improvements	25.0	24.0	-8.5	-9.1	EG002-D-19-161	25.0	EG002-D-19-161	-8.5	1	1
E342	Fuel Holders, Producers & Accessories	25.0	24.0	-8.5	-9.1	EG002-D-19-161	25.0	EG002-D-19-161	-8.5	1	1
E343	Prime Movers	25.0	24.0	-8.5	-9.1	EG002-D-19-161	25.0	EG002-D-19-161	-8.5	1	1
E344	Generators	25.0	24.0	-8.5	-9.1	EG002-D-19-161	25.0	EG002-D-19-161	-8.5	1	1
E345	Accessory Electric Equipment	25.0	24.0	-8.5	-9.1	EG002-D-19-161	25.0	EG002-D-19-161	-8.5	1	1
E346	Miscellaneous Power Plant Equipment	25.0	24.0	-8.5	-9.1	EG002-D-19-161	25.0	EG002-D-19-161	-8.5	1	1
Freeborn Wind (2)											
E340.1	Wind Rights	N/A	25.0	N/A	0.0	N/A	N/A	N/A	N/A	0	0
E341	Structures & Improvements	N/A	25.0	N/A	-10.5	N/A	N/A	N/A	N/A	0	0
E342	Fuel Holders, Producers & Accessories	N/A	25.0	N/A	-10.5	N/A	N/A	N/A	N/A	0	0
E343	Prime Movers	N/A	25.0	N/A	-10.5	N/A	N/A	N/A	N/A	0	0
E344	Generators	N/A	25.0	N/A	-10.5	N/A	N/A	N/A	N/A	0	0
E345	Accessory Electric Equipment	N/A	25.0	N/A	-10.5	N/A	N/A	N/A	N/A	0	0
E346	Miscellaneous Power Plant Equipment	N/A	25.0	N/A	-10.5	N/A	N/A	N/A	N/A	0	0

Account	Description	Current Approved Remaining Life 01/01/19 (Yrs)	Proposed Remaining Life 01/01/21 (Yrs)	Current Approved Net Salvage 01/01/19 (%)	Proposed Net Salvage 01/01/21 (%)	Latest Life Change (Docket #)	Life Change (Yrs)	Latest Net Salvage Change (Docket #)	Net Salvage Change (%)	Number of Life Changes in the Last Five Years	Number of Net Salvage Changes in the Last Five Years
Grand Meadow Wind											
E340.1	Wind Rights	14.9	12.9	0.0	0.0	EG002-D-08-189	25.0	EG002-D-09-160	0.0	0	0
E341	Structures & Improvements	14.9	12.9	-11.1	-12.5	EG002-D-08-189	25.0	EG002-D-15-46	-2.4	0	1
E342	Fuel Holders, Producers & Accessories	14.9	12.9	-11.1	-12.5	EG002-D-08-189	25.0	EG002-D-15-46	-2.4	0	1
E343	Prime Movers	14.9	12.9	-11.1	-12.5	EG002-D-18-162	15.9	EG002-D-18-162	-11.1	1	1
E344	Generators	14.9	12.9	-11.1	-12.5	EG002-D-08-189	25.0	EG002-D-15-46	-2.4	0	1
E345	Accessory Electric Equipment	14.9	12.9	-11.1	-12.5	EG002-D-08-189	25.0	EG002-D-15-46	-2.4	0	1
E346	Miscellaneous Power Plant Equipment	14.9	12.9	-11.1	-12.5	EG002-D-08-189	25.0	EG002-D-15-46	-2.4	0	1
High Bridge											
E341	Structures & Improvements	29.4	27.4	-3.5	-4.3	E002-GR-10-971	10.0	EG002-D-15-46	-0.4	0	1
E342	Fuel Holders, Producers & Accessories	29.4	27.4	-3.5	-4.3	E002-GR-10-971	10.0	EG002-D-15-46	-0.4	0	1
E343	Prime Movers	29.4	27.4	-3.5	-4.3	EG002-D-18-162	30.4	EG002-D-18-162	-3.5	1	1
E344	Generators	29.4	27.4	-3.5	-4.3	E002-GR-10-971	10.0	EG002-D-15-46	-0.4	0	1
E345	Accessory Electric Equipment	29.4	27.4	-3.5	-4.3	E002-GR-10-971	10.0	EG002-D-15-46	-0.4	0	1
E346	Miscellaneous Power Plant Equipment	29.4	27.4	-3.5	-4.3	E002-GR-10-971	10.0	EG002-D-15-46	-0.4	0	1
Inver Hills											
E341	Structures & Improvements	8.0	6.0	-18.3	-19.4	EG002-D-10-173	10.0	EG002-D-15-46	-7.3	0	1
E342	Fuel Holders, Producers & Accessories	8.0	6.0	-18.3	-19.4	EG002-D-10-173	10.0	EG002-D-15-46	-7.3	0	1
E343	Prime Movers	8.0	6.0	-18.3	-19.4	EG002-D-18-162	9.0	EG002-D-18-162	-18.3	1	1
E344	Generators	8.0	6.0	-18.3	-19.4	EG002-D-10-173	10.0	EG002-D-15-46	-7.3	0	1
E345	Accessory Electric Equipment	8.0	6.0	-18.3	-19.4	EG002-D-10-173	10.0	EG002-D-15-46	-7.3	0	1
E346	Miscellaneous Power Plant Equipment	8.0	6.0	-18.3	-19.4	EG002-D-10-173	10.0	EG002-D-15-46	-7.3	0	1
Jeffers Wind (2)											
E340.1	Wind Rights	N/A	25.0	N/A	0.0	N/A	N/A	N/A	N/A	0	0
E341	Structures & Improvements	N/A	25.0	N/A	-10.5	N/A	N/A	N/A	N/A	0	0
E342	Fuel Holders, Producers & Accessories	N/A	25.0	N/A	-10.5	N/A	N/A	N/A	N/A	0	0
E343	Prime Movers	N/A	25.0	N/A	-10.5	N/A	N/A	N/A	N/A	0	0
E344	Generators	N/A	25.0	N/A	-10.5	N/A	N/A	N/A	N/A	0	0
E345	Accessory Electric Equipment	N/A	25.0	N/A	-10.5	N/A	N/A	N/A	N/A	0	0
E346	Miscellaneous Power Plant Equipment	N/A	25.0	N/A	-10.5	N/A	N/A	N/A	N/A	0	0
Lake Benton II Wind (3)											
E340.1	Wind Rights	25.0	23.9	0.0	0.0	EG002-D-19-161	25.0	EG002-D-19-161	0.0	1	1
E341	Structures & Improvements	25.0	23.9	-8.5	-10.8	EG002-D-19-161	25.0	EG002-D-19-161	-8.5	1	1
E342	Fuel Holders, Producers & Accessories	25.0	23.9	-8.5	-10.8	EG002-D-19-161	25.0	EG002-D-19-161	-8.5	1	1
E343	Prime Movers	25.0	23.9	-8.5	-10.8	EG002-D-19-161	25.0	EG002-D-19-161	-8.5	1	1
E344	Generators	25.0	23.9	-8.5	-10.8	EG002-D-19-161	25.0	EG002-D-19-161	-8.5	1	1
E345	Accessory Electric Equipment	25.0	23.9	-8.5	-10.8	EG002-D-19-161	25.0	EG002-D-19-161	-8.5	1	1
E346	Miscellaneous Power Plant Equipment	25.0	23.9	-8.5	-10.8	EG002-D-19-161	25.0	EG002-D-19-161	-8.5	1	1

Account	Description	Current Approved Remaining Life 01/01/19 (Yrs)	Proposed Remaining Life 01/01/21 (Yrs)	Current Approved Net Salvage 01/01/19 (%)	Proposed Net Salvage 01/01/21 (%)	Latest Life Change (Docket #)	Life Change (Yrs)	Latest Net Salvage Change (Docket #)	Net Salvage Change (%)	Number of Life Changes in the Last Five Years	Number of Net Salvage Changes in the Last Five Years
Mower Wind (2)											
E340.1	Wind Rights	N/A	25.0	N/A	0.0	N/A	N/A	N/A	N/A	0	0
E341	Structures & Improvements	N/A	25.0	N/A	-10.5	N/A	N/A	N/A	N/A	0	0
E342	Fuel Holders, Producers & Accessories	N/A	25.0	N/A	-10.5	N/A	N/A	N/A	N/A	0	0
E343	Prime Movers	N/A	25.0	N/A	-10.5	N/A	N/A	N/A	N/A	0	0
E344	Generators	N/A	25.0	N/A	-10.5	N/A	N/A	N/A	N/A	0	0
E345	Accessory Electric Equipment	N/A	25.0	N/A	-10.5	N/A	N/A	N/A	N/A	0	0
E346	Miscellaneous Power Plant Equipment	N/A	25.0	N/A	-10.5	N/A	N/A	N/A	N/A	0	0
Nobles Wind											
E340.1	Wind Rights	16.9	14.9	0.0	0.0	EG002-D-10-173	25.0	EG002-D-11-144	0.0	0	0
E341	Structures & Improvements	16.9	14.9	-6.0	-8.5	EG002-D-10-173	25.0	EG002-D-15-46	2.7	0	1
E342	Fuel Holders, Producers & Accessories	16.9	14.9	-6.0	-8.5	EG002-D-10-173	25.0	EG002-D-15-46	2.7	0	1
E343	Prime Movers	16.9	14.9	-6.0	-8.5	EG002-D-18-162	17.9	EG002-D-18-162	-6.0	1	1
E344	Generators	16.9	14.9	-6.0	-8.5	EG002-D-10-173	25.0	EG002-D-15-46	2.7	0	1
E345	Accessory Electric Equipment	16.9	14.9	-6.0	-8.5	EG002-D-10-173	25.0	EG002-D-15-46	2.7	0	1
E346	Miscellaneous Power Plant Equipment	16.9	14.9	-6.0	-8.5	EG002-D-10-173	25.0	EG002-D-15-46	2.7	0	1
Pleasant Valley Wind											
E340.1	Wind Rights	22.0	20.0	0.0	0.0	EG002-D-15-46	25.0	EG002-D-15-46	0.0	1	1
E341	Structures & Improvements	22.0	20.0	-8.5	-11.7	EG002-D-15-46	25.0	EG002-D-15-46	-8.5	1	1
E342	Fuel Holders, Producers & Accessories	22.0	20.0	-8.5	-11.7	EG002-D-15-46	25.0	EG002-D-15-46	-8.5	1	1
E343	Prime Movers	22.0	20.0	-8.5	-11.7	EG002-D-18-162	23.0	EG002-D-18-162	-8.5	1	1
E344	Generators	22.0	20.0	-8.5	-11.7	EG002-D-15-46	25.0	EG002-D-15-46	-8.5	1	1
E345	Accessory Electric Equipment	22.0	20.0	-8.5	-11.7	EG002-D-15-46	25.0	EG002-D-15-46	-8.5	1	1
E346	Miscellaneous Power Plant Equipment	22.0	20.0	-8.5	-11.7	EG002-D-15-46	25.0	EG002-D-15-46	-8.5	1	1
Riverside											
E341	Structures & Improvements	30.2	28.2	-11.3	-13.2	E002-GR-10-971	10.0	EG002-D-15-46	-6.3	0	1
E342	Fuel Holders, Producers & Accessories	30.2	28.2	-11.3	-13.2	E002-GR-10-971	10.0	EG002-D-15-46	-6.3	0	1
E343	Prime Movers	30.2	28.2	-11.3	-13.2	EG002-D-18-162	31.2	EG002-D-18-162	-11.3	1	1
E344	Generators	30.2	28.2	-11.3	-13.2	E002-GR-10-971	10.0	EG002-D-15-46	-6.3	0	1
E345	Accessory Electric Equipment	30.2	28.2	-11.3	-13.2	E002-GR-10-971	10.0	EG002-D-15-46	-6.3	0	1
E346	Miscellaneous Power Plant Equipment	30.2	28.2	-11.3	-13.2	E002-GR-10-971	10.0	EG002-D-15-46	-6.3	0	1
Wind-to-Battery System											
E348.1	Fuel Holders, Producers & Accessories	5.0	0.0	0.0	-135.6	EG002-D-09-160	15.0	EG002-D-09-160	0.0	0	0

(1) Blazing Star I went in-service in April 2020. In the 2019 Remaining Life Docket, this plant was initially planned to go in-service in late 2019 and therefore a 25 year life and -8.5% net salvage rate were approved in that docket. Thus, the 25 year life is as of the in-service date of April 2020.

(2) Blazing Star II, Community Wind North, Crowned Ridge, Jeffers, and Mower are all anticipated to go into service or be acquired in 2020. Freeborn and Dakota Range are anticipated in 2021. The 2021 Proposed Remaining Life is based on actual in-service/acquisition date.

(3) Approved remaining life of 25 years and remaining lives of 24.0 years for Foxtail Wind and 23.9 years for Lake Benton II are based on in-service dates of December and November 2019, respectively.

Account	Description	Current Approved Remaining Life 01/01/19 (Yrs)	Proposed Remaining Life 01/01/21 (Yrs)	Current Approved Net Salvage 01/01/19 (%)	Proposed Net Salvage 01/01/21 (%)	Latest Life Change (Docket #)	Life Change (Yrs)	Latest Net Salvage Change (Docket #)	Net Salvage Change (%)	Number of Life Changes in the Last Five Years	Number of Net Salvage Changes in the Last Five Years
Allen S. King											
E311	Structures & Improvements	18.5	16.5	-8.2	-9.2	EG002-D-07-251	23.5	EG002-D-15-46	-2.7	0	1
E312	Boiler Plant Equipment	18.5	16.5	-8.2	-9.2	EG002-D-07-251	23.5	EG002-D-15-46	-2.7	0	1
E314	Turbogenerator Units	18.5	16.5	-8.2	-9.2	EG002-D-07-251	23.5	EG002-D-15-46	-2.7	0	1
E315	Accessory Electric Equipment	18.5	16.5	-8.2	-9.2	EG002-D-07-251	23.5	EG002-D-15-46	-2.7	0	1
E316	Miscellaneous Power Plant Equipment	18.5	16.5	-8.2	-9.2	EG002-D-07-251	23.5	EG002-D-15-46	-2.7	0	1
Red Wing											
E311	Structures & Improvements	9.0	7.0	-27.8	-23.5	EG002-D-15-46	10.0	EG002-D-15-46	-4.5	1	1
E312	Boiler Plant Equipment	9.0	7.0	-27.8	-23.5	EG002-D-15-46	10.0	EG002-D-15-46	-4.5	1	1
E314	Turbogenerator Units	9.0	7.0	-27.8	-23.5	EG002-D-15-46	10.0	EG002-D-15-46	-4.5	1	1
E315	Accessory Electric Equipment	9.0	7.0	-27.8	-23.5	EG002-D-15-46	10.0	EG002-D-15-46	-4.5	1	1
E316	Miscellaneous Power Plant Equipment	9.0	7.0	-27.8	-23.5	EG002-D-15-46	10.0	EG002-D-15-46	-4.5	1	1
Sherco Unit 1											
E311	Structures & Improvements	7.0	5.0	-15.2	-15.1	EG002-D-15-46	3.0	EG002-D-15-46	-10.1	1	1
E312	Boiler Plant Equipment	7.0	5.0	-15.2	-15.1	EG002-D-15-46	3.0	EG002-D-15-46	-10.1	1	1
E314	Turbogenerator Units	7.0	5.0	-15.2	-15.1	EG002-D-15-46	3.0	EG002-D-15-46	-10.1	1	1
E315	Accessory Electric Equipment	7.0	5.0	-15.2	-15.1	EG002-D-15-46	3.0	EG002-D-15-46	-10.1	1	1
E316	Miscellaneous Power Plant Equipment	7.0	5.0	-15.2	-15.1	EG002-D-15-46	3.0	EG002-D-15-46	-10.1	1	1
Sherco Unit 2											
E311	Structures & Improvements	7.0	5.0	-15.2	-15.1	EG002-D-15-46	3.0	EG002-D-15-46	-10.1	1	1
E312	Boiler Plant Equipment	4.0	2.0	-15.2	-15.1	EG002-D-08-189	3.0	EG002-D-15-46	-10.1	0	1
E314	Turbogenerator Units	4.0	2.0	-15.2	-15.1	EG002-D-08-189	3.0	EG002-D-15-46	-10.1	0	1
E315	Accessory Electric Equipment	4.0	2.0	-15.2	-15.1	EG002-D-08-189	3.0	EG002-D-15-46	-10.1	0	1
E316	Miscellaneous Power Plant Equipment	4.0	2.0	-15.2	-15.1	EG002-D-08-189	3.0	EG002-D-15-46	-10.1	0	1
Sherco Unit 3											
E311	Structures & Improvements	16.0	14.0	-5.4	-7.9	EG002-D-14-181	2.0	EG002-D-15-46	-1.1	0	1
E312	Boiler Plant Equipment	16.0	14.0	-5.4	-7.9	EG002-D-14-181	2.0	EG002-D-15-46	-1.1	0	1
E314	Turbogenerator Units	16.0	14.0	-5.4	-7.9	EG002-D-14-181	2.0	EG002-D-15-46	-1.1	0	1
E315	Accessory Electric Equipment	16.0	14.0	-5.4	-7.9	EG002-D-14-181	2.0	EG002-D-15-46	-1.1	0	1
E316	Miscellaneous Power Plant Equipment	16.0	14.0	-5.4	-7.9	EG002-D-14-181	2.0	EG002-D-15-46	-1.1	0	1
Wilmarth											
E311	Structures & Improvements	9.0	7.0	-26.8	-25.8	EG002-D-15-46	10.0	EG002-D-15-46	-3.8	1	1
E312	Boiler Plant Equipment	9.0	7.0	-26.8	-25.8	EG002-D-15-46	10.0	EG002-D-15-46	-3.8	1	1
E314	Turbogenerator Units	9.0	7.0	-26.8	-25.8	EG002-D-15-46	10.0	EG002-D-15-46	-3.8	1	1
E315	Accessory Electric Equipment	9.0	7.0	-26.8	-25.8	EG002-D-15-46	10.0	EG002-D-15-46	-3.8	1	1
E316	Miscellaneous Power Plant Equipment	9.0	7.0	-26.8	-25.8	EG002-D-15-46	10.0	EG002-D-15-46	-3.8	1	1

Account	Description	Current Approved Remaining Life 01/01/19 (Yrs)	Proposed Remaining Life 01/01/21 (Yrs)	Current Approved Net Salvage 01/01/19 (%)	Proposed Net Salvage 01/01/21 (%)	Latest Life Change (Docket #)	Life Change (Yrs)	Latest Net Salvage Change (Docket #)	Net Salvage Change (%)	Number of Life Changes in the Last Five Years	Number of Net Salvage Changes in the Last Five Years
Monticello											
E302	Franchises & Consents	11.8	9.8	0.0	0.0	EG002-D-07-251	20.0	N/A	N/A	0	N/A
E321	Structures & Improvements	11.8	9.8	0.0	0.0	EG002-D-07-251	20.0	N/A	N/A	0	N/A
E322	Reactor Plant Equipment	11.8	9.8	0.0	0.0	EG002-D-07-251	20.0	N/A	N/A	0	N/A
E323	Turbogenerator Units	11.8	9.8	0.0	0.0	EG002-D-07-251	20.0	N/A	N/A	0	N/A
E324	Accessory Electric Equipment	11.8	9.8	0.0	0.0	EG002-D-07-251	20.0	N/A	N/A	0	N/A
E325	Miscellaneous Power Plant Equipment	11.8	9.8	0.0	0.0	EG002-D-07-251	20.0	N/A	N/A	0	N/A
Monticello - Interim Storage Facility											
E321	Structures and Improvements	11.8	9.8	0.0	0.0	EG002-D-07-251	20.0	N/A	N/A	0	N/A
E322	Reactor Plant Equipment	11.8	9.8	0.0	0.0	EG002-D-07-251	20.0	N/A	N/A	0	N/A
Prairie Island											
E302	Franchises & Consents	15.3	13.3	0.0	0.0	EG002-D-11-144	10.0	N/A	N/A	0	N/A
E321	Structures & Improvements	15.3	13.3	0.0	0.0	EG002-D-11-144	10.0	N/A	N/A	0	N/A
E322	Reactor Plant Equipment	15.3	13.3	0.0	0.0	EG002-D-11-144	10.0	N/A	N/A	0	N/A
E323	Turbogenerator Units	15.3	13.3	0.0	0.0	EG002-D-11-144	10.0	N/A	N/A	0	N/A
E324	Accessory Electric Equipment	15.3	13.3	0.0	0.0	EG002-D-11-144	10.0	N/A	N/A	0	N/A
E325	Miscellaneous Power Plant Equipment	15.3	13.3	0.0	0.0	EG002-D-11-144	10.0	N/A	N/A	0	N/A
Prairie Island - Interim Storage Facility											
E321	Structures and Improvements	15.3	13.3	0.0	0.0	EG002-D-11-144	10.0	N/A	N/A	0	N/A
E322	Reactor Plant Equipment	15.3	13.3	0.0	0.0	EG002-D-11-144	10.0	N/A	N/A	0	N/A

Account	Description	Current Approved Remaining Life 01/01/19 (Yrs)	Proposed Remaining Life 01/01/21 (Yrs)	Current Approved Net Salvage 01/01/19 (%)	Proposed Net Salvage 01/01/21 (%)	Latest Life Change (Docket #)	Life Change (Yrs)	Latest Net Salvage Change (Docket #)	Net Salvage Change (%)	Number of Life Changes in the Last Five Years	Number of Net Salvage Changes in the Last Five Years
Hennepin Island											
E302	Franchises & Consents	15.2	13.2	0.0	0.0	EG002-D-05-288	2.2	EG002-D-05-288	N/A	0	0
E331	Structures & Improvements	15.2	13.2	-26.4	-26.7	EG002-D-05-288	2.2	EG002-D-15-46	3.6	0	1
E332	Reservoirs, Dams & Waterways	15.2	13.2	-26.4	-26.7	EG002-D-05-288	2.2	EG002-D-15-46	3.6	0	1
E333	Water Wheels, Turbines & Generators	15.2	13.2	-26.4	-26.7	EG002-D-05-288	2.2	EG002-D-15-46	3.6	0	1
E334	Accessory Electric Equipment	15.2	13.2	-26.4	-26.7	EG002-D-05-288	2.2	EG002-D-15-46	3.6	0	1
E335	Miscellaneous Power Plant Equipment	15.2	13.2	-26.4	-26.7	EG002-D-05-288	2.2	EG002-D-15-46	3.6	0	1
St. Croix Falls											
E331	Structures & Improvements	9.0	7.0	-7.5	-15.0	E002/GR-15-826	12.0	E002/GR-15-826	7.5	1	1
E332	Reservoirs, Dams & Waterways	9.0	7.0	-7.5	-15.0	E002/GR-15-826	12.0	E002/GR-15-826	7.5	1	1
Upper Dam											
E332	Reservoirs, Dams & Waterways	15.2	13.2	-26.4	-26.7	EG002-D-05-288	2.2	EG002-D-15-46	3.6	0	1
E335	Miscellaneous Power Plant Equipment	15.2	13.2	-26.4	-26.7	EG002-D-05-288	2.2	EG002-D-15-46	3.6	0	1

Account	Description	Current Approved Remaining Life 01/01/19 (Yrs)	Proposed Remaining Life 01/01/21 (Yrs)	Current Approved Net Salvage 01/01/19 (%)	Proposed Net Salvage 01/01/21 (%)	Latest Life Change (Docket #)	Life Change (Yrs)	Latest Net Salvage Change (Docket #)	Net Salvage Change (%)	Number of Life Changes in the Last Five Years	Number of Net Salvage Changes in the Last Five Years
Maplewood											
G305	Structures & Improvements	11.0	9.0	-93.7	-87.7	EG002-D-15-46	10.0	EG002-D-15-46	-76.7	1	1
G311	LP Gas Equipment	11.0	9.0	-93.7	-87.7	EG002-D-15-46	10.0	EG002-D-15-46	-101.7	1	1
G320	Other Equipment	11.0	9.0	-93.7	-87.7	EG002-D-15-46	10.0	EG002-D-15-46	-93.7	1	1
Sibley											
G305	Structures & Improvements	11.0	9.0	-79.5	-41.1	EG002-D-15-46	10.0	EG002-D-15-46	-78.5	1	1
G311	LP Gas Equipment	11.0	9.0	-79.5	-41.1	EG002-D-15-46	10.0	EG002-D-15-46	-87.5	1	1
G320	Other Equipment	11.0	9.0	-79.5	-41.1	EG002-D-15-46	10.0	EG002-D-15-46	-78.5	1	1

Account	Description	Current Approved Remaining Life 01/01/19 (Yrs)	Proposed Remaining Life 01/01/21 (Yrs)	Current Approved Net Salvage 01/01/19 (%)	Proposed Net Salvage 01/01/21 (%)	Latest Life Change (Docket #)	Life Change (Yrs)	Latest Net Salvage Change (Docket #)	Net Salvage Change (%)	Number of Life Changes in the Last Five Years	Number of Net Salvage Changes in the Last Five Years
Wescott											
G361	Structures & Improvements	5.0	3.0	-19.2	-19.6	EG002-D-14-181	6.0	EG002-D-15-46	-9.2	0	1
G362	Gas Holders	5.0	3.0	-19.2	-19.6	EG002-D-14-181	6.0	EG002-D-15-46	-24.2	0	1
G363	Purification Equipment	5.0	3.0	-19.2	-19.6	EG002-D-14-181	6.0	EG002-D-15-46	-20.2	0	1
G363.1	Liquefaction Equipment	5.0	3.0	-19.2	-19.6	EG002-D-14-181	6.0	EG002-D-15-46	-21.2	0	1
G363.2	Vaporizing Equipment	9.0	7.0	-19.2	-19.6	EG002-D-98-221	30.0	EG002-D-15-46	-21.2	0	1
G363.3	Compressor Equipment	14.0	12.0	-19.2	-19.6	EG002-D-13-1158	15.0	EG002-D-15-46	-21.2	0	1
G363.4	Measuring & Regulating Equipment	5.0	3.0	-19.2	-19.6	EG002-D-14-181	6.0	EG002-D-15-46	-25.2	0	1
G363.5	Other Equipment	5.0	3.0	-19.2	-19.6	EG002-D-14-181	6.0	EG002-D-15-46	-19.2	0	1

Black Dog Steam Removal Estimates by Year

	Actuals					Forecasted							
(Amounts in Millions)	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	Total	% Complete as of 1/1/2020
Identified Items													
Asbestos Remediation	0.8	0.2	-	-	-	-	1.0	-	-	-	-	2.0	50%
Ash/Ponds/Coal Yard	5.1	5.6	1.9	5.1	3.2	3.3	0.2	0.3	0.2	0.1	0.1	25.1	83%
Boilers	1.0	2.1	1.3	0.2	-	-	1.0	2.5	2.5	2.0	1.6	14.2	32%
Contingency	-	-	-	-	-	0.7	1.1	2.3	1.0	1.6	2.8	9.5	0%
Equipment Removal	2.0	1.3	0.5	-	-	-	3.2	0.5	0.5	0.5	0.5	9.0	42%
Pre-Demolition Cleaning	-	-	0.3	-	-	-	-	-	-	-	-	0.3	100%
Project/Constr Mgmt/Indirects	1.5	1.0	0.4	0.6	1.0	0.5	0.4	0.4	0.4	0.4	0.4	7.0	64%
Structures Demolition	-	-	0.6	1.2	2.5	-	-	-	-	-	-	4.3	100%
Utilities Allowance	-	-	-	0.1	-	-	-	-	-	-	-	0.1	100%
Total Identified	**10.4**	**10.2**	**5.0**	**7.2**	**6.7**	**4.5**	**6.9**	**6.0**	**4.6**	**4.6**	**5.4**	**71.5**	55%
Unidentified Items	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	
Total Identified and Unidentified	**10.4**	**10.2**	**5.0**	**7.2**	**6.7**	**4.5**	**6.9**	**6.0**	**4.6**	**4.6**	**5.4**	**71.5**	55%
Scrap Credit	**(0.2)**	**(0.1)**	**(0.1)**	**(0.1)**	**-**	**-**	**(0.1)**	**(0.1)**	**(0.1)**	**(0.1)**	**(0.1)**	**(1.0)**	50%
Total (including Scrap)	**10.2**	**10.1**	**4.9**	**7.1**	**6.7**	**4.5**	**6.8**	**5.9**	**4.5**	**4.5**	**5.3**	**70.5**	55%

Minnesota Valley Removal Estimates by Year

	Actuals		Forecasted				
(Amounts in Millions)	2018	2019	2020	2021	2022	Total	% Complete as of 1/1/2020
Identified Items							
Asbestos Remediation	-	-	-	0.2	0.9	1.1	0%
Ash/Ponds/Coal Yard	2.5	2.1	-	-	-	4.6	100%
Boilers	-	-	-	-	1.1	1.1	0%
Contingency	-	-	-	-	6.0	6.0	0%
Equipment Removal	-	-	-	-	0.9	0.9	0%
Pre-Demolition Cleaning	-	-	-	-	0.2	0.2	0%
Project/Constr Mgmt/Indirects	-	-	0.1	0.2	0.9	1.2	0%
Structures Demolition	-	-	-	-	1.1	1.1	0%
Utilities Allowance	-	-	-	-	0.2	0.2	0%
Total Identified	**2.5**	**2.1**	**0.1**	**0.4**	**11.3**	**16.4**	28%
Unidentified Items	**-**	**-**	**-**	**-**	**-**	**-**	
Total Identified and Unidentified	**2.5**	**2.1**	**0.1**	**0.4**	**11.3**	**16.4**	28%
Scrap Credit	**-**	**-**	**-**	**-**	**-**	**-**	
Total (including Scrap)	**2.5**	**2.1**	**0.1**	**0.4**	**11.3**	**16.4**	28%

Electric Steam Production

	FERC Account	Plant Balance 1/1/2020	Present Net Salv %	Present Estimated Net Salvage in Reserve at End of Life	Proposed Net Salv %	Proposed Estimated Net Salvage in Reserve at End of Life	Proposed Less Present
		(1)	(2)	(3)	(4)	(5)	(6)
Allen S. King							
	E311	$ 39,623,999	-8.2	$ 3,249,168	-9.2	$ 3,654,407	$ 405,239
	E312	$ 524,338,681	-8.2	$ 42,995,772	-9.2	$ 48,358,238	$ 5,362,466
	E314	$ 94,114,439	-8.2	$ 7,717,384	-9.2	$ 8,679,902	$ 962,518
	E315	$ 46,992,609	-8.2	$ 3,853,394	-9.2	$ 4,333,992	$ 480,598
	E316	$ 7,894,024	-8.2	$ 647,310	-9.2	$ 728,043	$ 80,733
		$ 712,963,751		$ 58,463,028		$ 65,754,582	$ 7,291,554
			From 2019 Dismantling Study for King		-9.2%	$ 65,754,582	
Red Wing							
	E311	$ 12,459,336	-27.8	$ 3,463,695	-23.5	$ 2,926,804	$ (536,892)
	E312	$ 47,058,942	-27.8	$ 13,082,386	-23.5	$ 11,054,545	$ (2,027,841)
	E314	$ 3,298,153	-27.8	$ 916,887	-23.5	$ 774,764	$ (142,122)
	E315	$ 1,905,550	-27.8	$ 529,743	-23.5	$ 447,630	$ (82,113)
	E316	$ 1,470,455	-27.8	$ 408,787	-23.5	$ 345,422	$ (63,364)
		$ 66,192,436		$ 18,401,497		$ 15,549,165	$ (2,852,332)
			From 2019 Dismantling Study for Red Wing		-23.5%	$ 15,549,165	
Sherco Units 1 & 2							
	E311	$ 95,870,631	-15.2	$ 14,572,336	-15.1	$ 14,486,134	$ (86,202)
	E312	$ 432,257,219	-15.2	$ 65,703,097	-15.1	$ 65,314,435	$ (388,663)
	E314	$ 126,723,103	-15.2	$ 19,261,912	-15.1	$ 19,147,969	$ (113,943)
	E315	$ 53,734,094	-15.2	$ 8,167,582	-15.1	$ 8,119,267	$ (48,315)
	E316	$ 12,237,819	-15.2	$ 1,860,148	-15.1	$ 1,849,145	$ (11,004)
		$ 720,822,866		$ 109,565,076		$ 108,916,950	$ (648,125)
			From 2019 Dismantling Study for Sherco 1 & 2		-15.1%	$ 108,916,950	
Sherco Unit 3 (*)							
	E311	$ 132,758,983	-5.4	$ 7,168,985	-7.9	$ 10,438,271	$ 3,269,285
	E312	$ 419,348,026	-5.4	$ 22,644,793	-7.9	$ 32,971,540	$ 10,326,747
	E314	$ 88,618,830	-5.4	$ 4,785,417	-7.9	$ 6,967,719	$ 2,182,302
	E315	$ 83,566,721	-5.4	$ 4,512,603	-7.9	$ 6,570,494	$ 2,057,891
	E316	$ 31,675,940	-5.4	$ 1,710,501	-7.9	$ 2,490,544	$ 780,043
		$ 755,968,499		$ 40,822,299		$ 59,438,567	$ 18,616,268
			From 2019 Dismantling Study for Sherco 3		-7.9%	$ 59,438,567	
Wilmarth							
	E311	$ 11,196,195	-26.8	$ 3,000,580	-25.8	$ 2,888,315	$ (112,266)
	E312	$ 41,907,289	-26.8	$ 11,231,154	-25.8	$ 10,810,944	$ (420,210)
	E314	$ 6,214,894	-26.8	$ 1,665,592	-25.8	$ 1,603,274	$ (62,318)
	E315	$ 1,541,817	-26.8	$ 413,207	-25.8	$ 397,747	$ (15,460)
	E316	$ 787,526	-26.8	$ 211,057	-25.8	$ 203,160	$ (7,897)
		$ 61,647,720		$ 16,521,589		$ 15,903,439	$ (618,150)
			From 2019 Dismantling Study for Wilmarth		-25.8%	$ 15,903,439	
Total Steam Production		$ 2,317,595,273		$ 243,773,488		$ 265,562,703	$ 21,789,215

* Amounts reported in this section are for the entire unit, not just Xcel Energy's share.

Electric Hydro Production

	FERC Account	Plant Balance 1/1/2020	Present Net Salv %	Present Estimated Net Salvage in Reserve at End of Life	Proposed Net Salv %	Proposed Estimated Net Salvage in Reserve at End of Life	Proposed Less Present
		(1)	(2)	(3)	(4)	(5)	(6)
Hennepin Island							
	E302	$ 2,857,039	0.0	$ -	0.0	$ -	$ -
	E331	$ 1,407,680	-26.4	$ 371,628	-26.7	$ 375,837	$ 4,210
	E332	$ 4,398,484	-26.4	$ 1,161,200	-26.7	$ 1,174,354	$ 13,154
	E333	$ 10,177,067	-26.4	$ 2,686,746	-26.7	$ 2,717,182	$ 30,436
	E334	$ 3,256,972	-26.4	$ 859,841	-26.7	$ 869,581	$ 9,741
	E335	$ 37,779	-26.4	$ 9,974	-26.7	$ 10,087	$ 113
		$ 22,135,020	-26.4	$ 5,089,387		$ 5,147,041	$ 57,654
		From 2019 Dismantling Study for Hennepin Island			-26.7% Note 1	$ 5,147,041 Note 2	
St. Croix Falls							
	E331	$ 37,924	-7.5	$ 2,844	-15.0	$ 5,689	$ 2,844
	E332	$ 2,176,614	-7.5	$ 163,246	-15.0	$ 326,492	$ 163,246
		$ 2,214,538	-7.5	$ 166,090		$ 332,181	$ 166,090
				St. Croix Falls Note 3	-15.0%	$ 332,181	
Upper Dam							
	E332	$ 4,491,476	-26.4	$ 1,185,750	-26.7	$ 1,199,182	$ 13,433
	E335	$ 23,046	-26.4	$ 6,084	-26.7	$ 6,153	$ 69
		$ 4,514,522	-26.4	$ 1,191,834		$ 1,205,335	$ 13,502
		From 2019 Dismantling Study for Upper Dam			-26.7%	$ 1,205,335 Note 2	
Total Hydro Production		$ 28,864,079		$ 6,447,311		$ 6,684,557	$ 237,246

Note 1: To calculate the proposed net salvage percent, FERC 302 Licenses was excluded from the plant balance as removal costs do not apply to this account.
Note 2: The dismantling costs for the Upper Dam are not separately stated in the TLG Dismantling Report. Therefore, the $6.4M TLG estimate is allocated based on plant balance to each portion in order to calculate the net salvage percent.
Note 3: St. Croix Falls is mainly located in Wisconsin but a portion of the facility is in Minnesota. The balances above represent the Minnesota assets included on NSP-Minnesota's records. This facility was not included in the TLG Dismantling Study. Therefore, we are using the net salvage rate for FERC 332 approved by the Public Service Commission of Wisconsin.

Electric Other Production

	FERC Account	Plant Balance 1/1/2020	Present Net Salv %	Present Estimated Net Salvage in Reserve at End of Life	Proposed Net Salv %	Proposed Estimated Net Salvage in Reserve at End of Life	Proposed Less Present
		(1)	(2)	(3)	(4)	(5)	(6)
Angus C. Anson Units 2 & 3							
	E341	$ -	-9.6	$ -	-11.2	$ -	$ -
	E342	$ 1,105,599	-9.6	$ 106,138	-11.2	$ 123,498	$ 17,361
	E344	$ 79,691,780	-9.6	$ 7,650,411	-11.2	$ 8,901,759	$ 1,251,348
	E345	$ 3,571,653	-9.6	$ 342,879	-11.2	$ 398,962	$ 56,083
	E346	$ 2,629,376	-9.6	$ 252,420	-11.2	$ 293,708	$ 41,287
		$ 86,998,409		$ 8,351,847		$ 9,717,926	$ 1,366,079
		From 2019 Dismantling Study for Angus Anson Units 2 & 3			-11.2%	$ 9,717,926	
Angus C. Anson Unit 4							
	E341	$ 7,721,804	-6.5	$ 501,917	-6.5	$ 502,271	$ 354
	E342	$ 13,506	-6.5	$ 878	-6.5	$ 879	$ 1
	E344	$ 33,545,732	-6.5	$ 2,180,473	-6.5	$ 2,182,011	$ 1,538
	E345	$ 4,955,471	-6.5	$ 322,106	-6.5	$ 322,333	$ 227
	E346	$ 20,727	-6.5	$ 1,347	-6.5	$ 1,348	$ 1
		$ 46,257,240		$ 3,006,721		$ 3,008,842	$ 2,121
		From 2019 Dismantling Study for Angus Anson 4			-6.5%	$ 3,008,842	
Black Dog Unit 5							
	E342	$ 12,546,877	-11.4	$ 1,430,344	-7.2	$ 901,458	$ (528,886)
	E343	$ 23,430,244	-11.4	$ 2,671,048	-7.2	$ 1,683,397	$ (987,650)
	E344	$ 127,512,984	-11.4	$ 14,536,480	-7.2	$ 9,161,451	$ (5,375,030)
	E345	$ 27,865,573	-11.4	$ 3,176,675	-7.2	$ 2,002,063	$ (1,174,612)
	E346	$ 5,536,330	-11.4	$ 631,142	-7.2	$ 397,770	$ (233,372)
		$ 196,892,009		$ 22,445,689		$ 14,146,139	$ (8,299,550)
		From 2019 Dismantling Study for Black Dog Unit 5			-7.2%	$ 14,146,139 Note 1	
Black Dog Unit 6							
	E341	$ 42,792,538	-11.4	$ 4,878,349	-10.3	$ 4,417,922	$ (460,427)
	E341	$ 13,806,954	-5.0	$ 690,348	-10.3	$ 1,425,437	$ 735,089
	E342	$ 9,512,175	-5.0	$ 475,609	-10.3	$ 982,042	$ 506,433
	E344	$ 62,269,695	-5.0	$ 3,113,485	-10.3	$ 6,428,753	$ 3,315,269
	E345	$ 10,978,424	-5.0	$ 548,921	-10.3	$ 1,133,418	$ 584,497
	E346	$ 5,662,089	-5.0	$ 283,104	-10.3	$ 584,557	$ 301,452
		$ 145,021,874		$ 9,989,816		$ 14,972,128	$ 4,982,312
		From 2019 Dismantling Study for Black Dog Unit 6			-10.3%	$ 14,972,128 Note 1	
Blazing Star I							
	E340	$ -	0.0	$ -	0.0	$ -	$ -
	E341	$ 22,224,648	-8.5	$ 1,889,095	-11.6	$ 2,568,828	$ 679,733
	E342	$ -	-8.5	$ -	-11.6	$ -	$ -
	E344	$ 268,420,378	-8.5	$ 22,815,732	-11.6	$ 31,025,271	$ 8,209,539
	E345	$ 10,136,822	-8.5	$ 861,630	-11.6	$ 1,171,661	$ 310,031
	E346	$ -	-8.5	$ -	-11.6	$ -	$ -
		$ 300,781,847		$ 25,566,457		$ 34,765,760	$ 9,199,303
		From 2019 Dismantling Study for Blazing Star I			-11.6% Notes 2 & 3	$ 34,765,760	
Blue Lake Units 1 thru 4							
	E341	$ -	-22.9	$ -	-30.6	$ -	$ -
	E342	$ 1,343,354	-22.9	$ 307,628	-30.6	$ 410,974	$ 103,346
	E344	$ 21,207,661	-22.9	$ 4,856,554	-30.6	$ 6,488,094	$ 1,631,540
	E345	$ 1,508,868	-22.9	$ 345,531	-30.6	$ 461,610	$ 116,080
	E346	$ 498,898	-22.9	$ 114,248	-30.6	$ 152,629	$ 38,381
		$ 24,558,781		$ 5,623,961		$ 7,513,308	$ 1,889,347
		From 2019 Dismantling Study for Blue Lake Units 1 thru 4			-30.6%	$ 7,513,308	

Electric Other Production

			Present		Proposed		
	FERC Account	Plant Balance 1/1/2020	Net Salv %	Estimated Net Salvage in Reserve at End of Life	Net Salv %	Estimated Net Salvage in Reserve at End of Life	Proposed Less Present
		(1)	(2)	(3)	(4)	(5)	(6)
Blue Lake Units 7 & 8							
	E341	$ 1,703,454	-11.7	$ 199,304	-12.7	$ 216,500	$ 17,196
	E342	$ 47,986	-11.7	$ 5,614	-12.7	$ 6,099	$ 484
	E344	$ 62,361,317	-11.7	$ 7,296,274	-12.7	$ 7,925,783	$ 629,509
	E345	$ 7,907,322	-11.7	$ 925,157	-12.7	$ 1,004,978	$ 79,821
	E346	$ 32,958	-11.7	$ 3,856	-12.7	$ 4,189	$ 333
		$ 72,053,037		$ 8,430,205		$ 9,157,548	$ 727,342
		From 2019 Dismantling Study for Blue Lake 7 & 8			-12.7%	$ 9,157,548	
Border Winds							
	E340	$ -	0.0	$ -	0.0	$ -	$ -
	E341	$ 22,226,432	-8.5	$ 1,889,247	-9.5	$ 2,103,424	$ 214,177
	E342	$ -	-8.5	$ -	-9.5	$ -	$ -
	E344	$ 207,402,451	-8.5	$ 17,629,208	-9.5	$ 19,627,769	$ 1,998,561
	E345	$ 34,794,649	-8.5	$ 2,957,545	-9.5	$ 3,292,832	$ 335,286
	E346	$ 228,153	-8.5	$ 19,393	-9.5	$ 21,592	$ 2,199
		$ 264,651,685		$ 22,495,393		$ 25,045,616	$ 2,550,223
		From 2019 Dismantling Study for Border Winds			-9.5%	$ 25,045,616	
					Notes 2 & 4		
Courtaney Wind							
	E340	$ 2,085,661	0.0	$ -	0.0	$ -	$ -
	E341	$ 7,621,664	-8.5	$ 647,841	-10.4	$ 793,101	$ 145,260
	E342	$ -	-8.5	$ -	-10.4	$ -	$ -
	E344	$ 262,278,975	-8.5	$ 22,293,713	-10.4	$ 27,292,436	$ 4,998,723
	E345	$ 9,591,089	-8.5	$ 815,243	-10.4	$ 998,037	$ 182,795
	E346	$ 36,482	-8.5	$ 3,101	-10.4	$ 3,796	$ 695
		$ 281,613,870		$ 23,759,898		$ 29,087,370	$ 5,327,472
		From 2019 Dismantling Study for Courtaney			-10.4%	$ 29,087,370	
					Notes 2 & 4		
Foxtail Wind							
	E341	$ 33,969,734	-8.5	$ 2,887,427	-9.1	$ 3,080,110	$ 192,682
	E344	$ 211,841,413	-8.5	$ 18,006,520	-9.1	$ 19,208,123	$ 1,201,603
		$ 245,811,147		$ 20,893,947		$ 22,288,232	$ 1,394,285
		From 2019 Dismantling Study for Foxtail			-9.1%	$ 22,288,232	
					Note 4		
Grand Meadow Wind							
	E340	$ 10,672,452	0.0	$ -	0.0	$ -	$ -
	E341	$ 5,589,546	-11.1	$ 620,440	-12.5	$ 698,173	$ 77,733
	E342	$ -	-11.1	$ -	-12.5	$ -	$ -
	E344	$ 182,577,054	-11.1	$ 20,266,053	-12.5	$ 22,805,137	$ 2,539,084
	E345	$ 12,064,305	-11.1	$ 1,339,138	-12.5	$ 1,506,915	$ 167,777
	E346	$ 207,761	-11.1	$ 23,062	-12.5	$ 25,951	$ 2,889
		$ 211,111,119		$ 22,248,692		$ 25,036,176	$ 2,787,484
		From 2019 Dismantling Study for Grand Meadow			-12.5%	$ 25,036,176	
					Note 2		
High Bridge							
	E341	$ 71,113,002	-3.5	$ 2,488,955	-4.3	$ 3,039,386	$ 550,431
	E342	$ 232,410	-3.5	$ 8,134	-4.3	$ 9,933	$ 1,799
	E343	$ 66,361,540	-3.5	$ 2,322,654	-4.3	$ 2,836,308	$ 513,654
	E344	$ 200,486,360	-3.5	$ 7,017,023	-4.3	$ 8,568,833	$ 1,551,811
	E345	$ 52,024,030	-3.5	$ 1,820,841	-4.3	$ 2,223,519	$ 402,678
	E346	$ 7,144,763	-3.5	$ 250,067	-4.3	$ 305,369	$ 55,302
		$ 397,362,104		$ 13,907,674		$ 16,983,348	$ 3,075,675
		From 2019 Dismantling Study for High Bridge			-4.3%	$ 16,983,348	

Electric Other Production

	FERC Account	Plant Balance 1/1/2020 (1)	Present Net Salv % (2)	Present Estimated Net Salvage in Reserve at End of Life (3)	Proposed Net Salv % (4)	Proposed Estimated Net Salvage in Reserve at End of Life (5)	Proposed Less Present (6)
Inver Hills							
	E341	$ 1,618,514	-18.3	$ 296,188	-19.4	$ 314,518	$ 18,329
	E342	$ 614,949	-18.3	$ 112,536	-19.4	$ 119,500	$ 6,964
	E344	$ 53,436,050	-18.3	$ 9,778,797	-19.4	$ 10,383,953	$ 605,156
	E345	$ 4,314,473	-18.3	$ 789,549	-19.4	$ 838,409	$ 48,861
	E346	$ 618,880	-18.3	$ 113,255	-19.4	$ 120,264	$ 7,009
		$ 60,602,865		$ 11,090,324		$ 11,776,644	$ 686,319
		From 2019 Dismantling Study for Inver Hills			-19.4%	$ 11,776,644	
Lake Benton II Wind							
	E340	$ 146,853	0.0	$ -	0.0	$ -	$ -
	E341	$ 32,138,690	-8.5	$ 2,731,789	-10.8	$ 3,460,198	$ 728,410
	E344	$ 113,291,566	-8.5	$ 9,629,783	-10.8	$ 12,197,488	$ 2,567,705
	E345	$ 10,883,094	-8.5	$ 925,063	-10.8	$ 1,171,724	$ 246,661
		$ 156,460,203		$ 13,286,635		$ 16,829,410	$ 3,542,775
		From 2019 Dismantling Study for Lake Benton II			-10.8% Note 2	$ 16,829,410	
Nobles Wind							
	E340	$ 3,884,834	0.0	$ -	0.0	$ -	$ -
	E341	$ 13,536,911	-6.0	$ 812,215	-8.5	$ 1,145,197	$ 332,982
	E344	$ 471,140,614	-6.0	$ 28,268,437	-8.5	$ 39,857,601	$ 11,589,164
	E345	$ 29,938,414	-6.0	$ 1,796,305	-8.5	$ 2,532,733	$ 736,428
	E346	$ 627,971	-6.0	$ 37,678	-8.5	$ 53,125	$ 15,447
		$ 519,128,745		$ 30,914,635		$ 43,588,656	$ 12,674,021
		From 2019 Dismantling Study for Nobles			-8.5% Note 2	$ 43,588,656	
Pleasant Valley Wind							
	E341	$ 25,806,960	-8.5	$ 2,193,592	-11.7	$ 3,008,920	$ 815,329
	E344	$ 263,644,922	-8.5	$ 22,409,818	-11.7	$ 30,739,246	$ 8,329,428
	E345	$ 42,507,679	-8.5	$ 3,613,153	-11.7	$ 4,956,113	$ 1,342,960
	E346	$ 292,092	-8.5	$ 24,828	-11.7	$ 34,056	$ 9,228
		$ 332,251,652		$ 28,241,390		$ 38,738,336	$ 10,496,945
		From 2019 Dismantling Study for Pleasant Valley			-11.7%	$ 38,738,336	
Riverside							
	E341	$ 52,441,362	-11.3	$ 5,925,874	-13.2	$ 6,923,149	$ 997,275
	E342	$ 1,033,460	-11.3	$ 116,781	-13.2	$ 136,434	$ 19,653
	E343	$ 50,662,922	-11.3	$ 5,724,910	-13.2	$ 6,688,365	$ 963,455
	E344	$ 154,911,011	-11.3	$ 17,504,944	-13.2	$ 20,450,881	$ 2,945,936
	E345	$ 40,361,888	-11.3	$ 4,560,893	-13.2	$ 5,328,454	$ 767,560
	E346	$ 9,075,926	-11.3	$ 1,025,580	-13.2	$ 1,198,176	$ 172,597
		$ 308,486,568		$ 34,858,982		$ 40,725,459	$ 5,866,477
		From 2019 Dismantling Study for Riverside			-13.2%	$ 40,725,459	
Total Other Production		$ 3,650,043,156		$ 305,112,267		$ 363,380,897	$ 58,268,631

Note 1: As TLG's estimate was for the entire Black Dog site including the former steam units, the Company performed analysis and calculations to determine the portions attributable to the steam demolition versus the future removal for the other production units and common/shared facilities.

Note 2: To calculate the proposed net salvage percent, FERC 340 Wind Rights was excluded from the plant balance as removal costs do not apply to this account.

Note 3: Blazing Star I's plant balance is as of the in-service date in April 2020.

Note 4: Border, Courtenay, and Foxtail wind farms are located in North Dakota which only requires removal to a depth of 48". Thus, the 48" removal scenario was used to calculate the net salvage rate.

Gas Production and Storage

			Present		Proposed		
	FERC Account	Plant Balance 1/1/2020	Net Salv %	Estimated Net Salvage in Reserve at End of Life	Net Salv %	Estimated Net Salvage in Reserve at End of Life	Proposed Less Present
		(1)	(2)	(3)	(4)	(5)	(6)
Maplewood							
	G305	$ 1,611,046	-93.7	$ 1,509,550	-87.7	$ 1,412,195	$ (97,354)
	G311	$ 3,766,755	-93.7	$ 3,529,449	-87.7	$ 3,301,827	$ (227,622)
	G320	$ 455,629	-93.7	$ 426,925	-87.7	$ 399,391	$ (27,533)
		$ 5,833,430	-93.7	$ 5,465,923		$ 5,113,414	$ (352,510)
			From 2019 Dismantling Study for Maplewood		-87.7%	$ 5,113,414	
Sibley							
	G305	$ 1,166,477	-79.5	$ 927,349	-41.1	$ 479,997	$ (447,352)
	G311	$ 9,488,978	-79.5	$ 7,543,738	-41.1	$ 3,904,649	$ (3,639,089)
	G320	$ 496,538	-79.5	$ 394,748	-41.1	$ 204,322	$ (190,426)
		$ 11,151,994	-79.5	$ 8,865,835		$ 4,588,968	$ (4,276,867)
			From 2019 Dismantling Study for Sibley		-41.1%	$ 4,588,968	
Wescott							
	G361	$ 6,735,066	-19.2	$ 1,293,133	-19.6	$ 1,317,482	$ 24,349
	G362	$ 8,199,422	-19.2	$ 1,574,289	-19.6	$ 1,603,932	$ 29,643
	G363	$ 985,962	-19.2	$ 189,305	-19.6	$ 192,869	$ 3,565
	G363.1	$ 3,564,676	-19.2	$ 684,418	-19.6	$ 697,305	$ 12,887
	G363.2	$ 9,336,198	-19.2	$ 1,792,550	-19.6	$ 1,826,303	$ 33,753
	G363.3	$ 23,733,503	-19.2	$ 4,556,833	-19.6	$ 4,642,636	$ 85,803
	G363.4	$ 73,634	-19.2	$ 14,138	-19.6	$ 14,404	$ 266
	G363.5	$ 4,843,620	-19.2	$ 929,975	-19.6	$ 947,486	$ 17,511
		$ 57,472,081	-19.2	$ 11,034,640		$ 11,242,417	$ 207,778
			From 2019 Dismantling Study for Wescott		-19.6%	$ 11,242,417	
Total Gas Production and Storage		$ 74,457,504		$ 25,366,398		$ 20,944,799	$ (4,421,599)

Document X01-1776-001, Rev. 0

DISMANTLING COST STUDY

for

Allen S. King Unit 1
Angus Anson Units 1-4
Black Dog Units 2, 3, 5 and 6
Blue Lake Units 1-4, 7 and 8
Granite City Units 1-4
Hennepin Island
High Bridge Units 1-3
Inver Hills Units 1- 6
Key City Units 1-4
Maplewood Gas Plant
Minnesota Valley Units 1-3
Red Wing Units 1 & 2
Riverside Units 7, 8, 9 and 10
Sherburne County Units 1-3
Sibley Gas Plant
Wescott Gas Plant
Wilmarth Units 1 & 2
Stations

Blazing Star I Wind Farm
Border Winds Project
Courtenay Wind Farm
Foxtail Wind Farm
Grand Meadow Wind Farm
Lake Benton II Wind Farm
Nobles Wind Farm
Pleasant Valley Wind Farm

prepared for

Xcel Energy

prepared by

TLG Services, Inc.
An Entergy Company

148 New Milford Road East
Bridgewater, CT

April 2020

APPROVALS

Project Engineer	Benjamin J. Stochmal	4/1/20 Date
Project Engineer	Timothy A. Arnold	4/1/2020 Date
Project Manager	Roderick Knight	4/1/2020 Date
Technical Manager	Francis. W. Seymore	4/1/2020 Date

TABLE OF CONTENTS

TABLE OF CONTENTS
(continued)

SECTION **PAGE**

TABLE OF CONTENTS
(continued)

SECTION **PAGE**

TABLES

TABLE OF CONTENTS
(continued)

SECTION **PAGE**

TABLES
(continued)

FIGURES

APPENDICES

REVISION LOG

Rev. No.	CRA No.	Date	Item Revised	Reason for Revision
0		04/01/2020		Final Issue

ACRONYMS / DEFINITIONS

- AIF Atomic Industrial Forum
- CT Combustion Turbine
- CCGT Combined Cycle Gas Turbine
- DOC Decommissioning Operations Contractor
- DOE Department of Energy
- HRSG Heat Recovery Steam Generator
- LS Lump Sum
- Mtr Motor
- MV Medium Voltage
- Mw Megawatt
- MWe Megawatt (electric) – 2020 Net Max. Capacity (NMC) Rating
- NESP National Environmental Studies Project
- NG Natural Gas
- OSHA Occupational Safety & Health Administration
- PCB Polychlorinated Biphenyl
- RDF Refuse Derived Fuel
- TLG TLG Services, Inc.
- WTG Wind Turbine Generator

EXECUTIVE SUMMARY

This report, prepared by TLG Services, Inc. (TLG), provides estimated costs for the complete dismantling, unless otherwise specified, of the following electric generating stations, wind farms, gas storage and production plants operated by Xcel Energy (Xcel), which either owns or has a share in ownership in each of these facilities:

Generating Stations Located in Minnesota:
- Allen S. King
- Black Dog
- Blue Lake
- Granite City
- Hennepin Island
- High Bridge
- Inver Hills
- Key City
- Minnesota Valley
- Red Wing
- Riverside
- Sherburne County
- Wilmarth

Generating Station Located in South Dakota:
- Angus Anson

Gas production and storage plants (all located in Minnesota):
- Maplewood
- Sibley
- Wescott

Wind Farms Located in Minnesota:
- Blazing Star I Wind Farm
- Grand Meadow Wind Farm
- Lake Benton II Wind Farm
- Nobles Wind Farm
- Pleasant Valley Wind Farm

Wind Farms Located in North Dakota:
- Border Winds Project
- Courtenay Wind Farm
- Foxtail Wind Farm

The dismantling estimate includes the cost of removing the equipment and structures for each of the above-referenced facilities and limited restoration of the sites. The electrical switchyards are assumed to remain in place and are not included in the estimate.

The scope of the dismantling estimate includes the following significant work activities and labor, equipment, material, and waste disposal cost elements:

- Preparation of the units for safe dismantling
- Abatement of asbestos containing materials prior to dismantling (where applicable)
- Removal and disposition of all installed equipment (except where noted)
- Demolition and disposition of subsurface utilities and buildings and foundations (except where noted)
- Removal of below grade foundations (except where noted)
- Coal yard and ash pond remediation (Sherburne County, King, and Minnesota Valley)
- Limited site restoration (grading and seeding for drainage and erosion control)
- Demolition contractor's on-site management, engineering, safety, and administrative staff
- Demolition contractor's expenses, including profit, insurance, permits, and fees
- Xcel's on-site management, oversight, and security staff
- A cost credit associated with the disposition of scrap metals
- Cost contingency

The general approach in assembling the estimate was to develop an inventory of equipment and structures designated to be removed for each facility. This inventory was established using site walk-downs (including discussions with the Operations & Maintenance staff), station-provided equipment databases, and plant drawings. This inventory accounted for similarities between facilities.

The abatement, removal, demolition and restoration activity costs are estimated by applying unit cost factors (developed for each inventory item) against the inventory. Costs for project management, shared equipment and consumables, and similar types of costs are estimated on a period-dependent basis (i.e., the magnitude of the expense depends, in part, on the duration of the project and the types of activities taking place). The potential value of scrap from materials generated in dismantling the plant components and building structural steel is included as a credit in the dismantling cost

estimate. Contingency is provided within this estimate to account for unpredictable project events.

OSHA states that demolition involves additional hazards due to unknown factors which make demolition work particularly dangerous. OSHA further states that the hazards of demolition work can be controlled and eliminated with the proper planning, the right personal protective equipment, necessary training, and compliance with OSHA standards. This cost estimate is intended to provide sufficient monies to allow Xcel management to perform the project using these principles and standards.

The dismantling costs, expressed in thousands of 2019 dollars, are provided in the following table.

SUMMARY OF DISMANTLING COSTS

(All costs are in thousands of 2019 dollars)

Station	Unit	MWe rating	Type	Fuel	In Service	Station Cost
Electric Generation Facilities –Fossil and Hydro						
Allen S. King	1	511	Steam	Coal	1968	65,755
Angus Anson	1		Steam	N/A	1966	12,727
	2	109	CT	NG/Oil	1994	
	3	109	CT	NG/Oil	1994	
	4	168	CT	NG/Oil	2005	
Black Dog	2	117	Steam	(note 1)	1952	48,729
(Unit 3 Retired)	3	108	Steam	Coal/NG	1955	
	5	181	CCGT	NG	2002	
	6	228	CT	NG	2018	
Blue Lake	1	50	CT	NG/Oil	1974	16,670
	2	50	CT	NG/Oil	1974	
	3	46	CT	NG/Oil	1974	
	4	48	CT	NG/Oil	1974	
	7	174	CT	NG/Oil	2005	
	8	177	CT	NG/Oil	2005	
Granite City	1	18	CT	NG/Oil	1969	4,885
(All Units Retired)	2	18	CT	NG/Oil	1969	
	3	18	CT	NG/Oil	1969	
	4	18	CT	NG/Oil	1969	
Hennepin Island	1-5	13.9	Hydro	Water	1882	6,352
High Bridge	1	185	CCGT	NG/Oil	2008	16,983
	2	185	CCGT	NG/Oil	2008	
	3	236	Steam	(note 2)	2008	
Inver Hills	1	62	CT	NG/Oil	1972	11,777
	2	62	CT	NG/Oil	1972	
	3	62	CT	NG/Oil	1972	
	4	62	CT	NG/Oil	1972	
	5	61	CT	NG/Oil	1972	
	6	62	CT	NG/Oil	1972	

SUMMARY OF DISMANTLING COSTS
(continued)
(All costs are in thousands of 2019 dollars)

Station	Unit	MWe rating	Type	Fuel	In Service	Station Cost
Electric Generation Facilities -Fossil						
Key City	1	18	CT	NG/Oil	1970	4,530
(All Units Retired)	2	18	CT	NG/Oil	1970	
	3	18	CT	NG/Oil	1970	
	4	18	CT	NG/Oil	1970	
Minnesota Valley	1	10	Steam	Coal	1949	22,508
(All Units Retired)	2	10	Steam	Coal	1949	
	3	44	Steam	Coal	1953	
Red Wing	1	9	Steam	RDF	1949	15,549
	2	9	Steam	RDF	1949	
Riverside	7	160	Steam	(note 3)	1964	40,725
(Unit 8 Retired)	8	231	Steam	Coal	2009	
	9	171	CT	NG/Oil	2009	
	10	171	CT	NG/Oil	2009	
Sherburne County	1	680	Steam	Coal	1976	168,356
	2	682	Steam	Coal	1977	
	3	876	Steam	Coal	1987	
Wilmarth	1	9	Steam	RDF	1948	15,903
	2	9	Steam	RDF	1951	
Gas Production/Storage Facilities						
Maplewood					1957	5,113
Sibley					1953	4,589
Wescott					1972	11,242
Fleet Totals		**6,439**				**$472,396**

NOTES:
1 Unit 2 receives steam from Units 5 HRSG
2 Unit 3 receives steam from Units 1 and 2 HRSGs
3 Unit 7 receives steam from Units 9 and 10 HRSGs

SUMMARY OF DISMANTLING COSTS
Wind Farms (Complete Removal)
(All costs are in thousands of 2019 dollars)

Station	Units	MWe rating	Type	Wind Farm Cost
Electric Generation Facilities -WTG				
Blazing Star I	100	200	Wind Turbine Generator	34,766
Border Winds	75	148	Wind Turbine Generator	30,974
Courtenay	100	190	Wind Turbine Generator	36,313
Foxtail	75	150	Wind Turbine Generator	27,558
Grand Meadow	67	99	Wind Turbine Generator	25,036
Lake Benton II	44	99	Wind Turbine Generator	16,829
Nobles	134	197	Wind Turbine Generator	43,589
Pleasant Valley	100	196	Wind Turbine Generator	38,738
Fleet Totals		**1,279**		**$253,804**

SUMMARY OF DISMANTLING COSTS
Wind Farms (Removal to 48 inches below grade)
(All costs are in thousands of 2019 dollars)

Station	Units	MWe rating	Type	Wind Farm Cost
Electric Generation Facilities -WTG				
Blazing Star I	100	200	Wind Turbine Generator	28,362
Border Winds	75	148	Wind Turbine Generator	25,046
Courtenay	100	190	Wind Turbine Generator	29,087
Foxtail	75	150	Wind Turbine Generator	22,288
Grand Meadow	67	99	Wind Turbine Generator	21,697
Lake Benton II	44	99	Wind Turbine Generator	14,197
Nobles	134	197	Wind Turbine Generator	35,955
Pleasant Valley	100	196	Wind Turbine Generator	31,505
Fleet Totals		**1,279**		**$208,138**

1. INTRODUCTION

1.1 OBJECTIVE OF STUDY

The objective of this dismantling cost study prepared by TLG Services is to present an estimate of the costs to dismantle Xcel Energy's fossil-fueled and wind farm generating electrical generating facilities, plus their gas production and storage facilities, in Minnesota, South Dakota, and North Dakota. This study is not intended to be a dismantling plan for each of the stations, but a cost estimate prepared to support current financial planning for future dismantling.

1.2 FACILITY DESCRIPTIONS

Electric Generation Facilities

Allen S. King is a single unit coal fired generating facility with a cyclone-fired boiler. It has a generating capacity of 511 MWe while burning low sulfur Wyoming coal. The plant is located in Oak Park Heights, Minnesota, on the St. Croix River. The unit was installed in 1968. From 2004 to 2007 the unit was completely refurbished as part of an emissions reduction project.

Angus Anson is a three-unit simple cycle combustion gas turbine peaking facility, capable of firing on oil or natural gas. Units 1 and 2 were placed in service in 1994. Unit 3 was placed in service in 2005. The station generating capacity is 386 megawatts. Unit 1, 2, and 3 are rated at 109, 109, and 168 MWe, respectively. The station is located in Sioux Falls, South Dakota adjacent to the decommissioned Pathfinder nuclear facility. The remaining Pathfinder facility features holds the non-nuclear remnants of the test nuclear power plant (minus the reactor) built in 1965.

Black Dog generating station is located on the Minnesota River just south of the Twin Cities. Unit 5, which is a natural gas fired combined cycle combustion gas turbine, replaced the original Unit 1 boiler and steam turbine. The exhaust heat from Unit 5 gas turbine generates steam in the HRSG and powers the original Unit 2 steam turbine that was installed in the 1950's. The Unit 2 boiler has been abandoned in place. The boiler chimney has been removed. Units 3 is abandoned in place and Unit 4 was mostly removed to make room for a new simple cycle combustion gas turbine, Unit 6. The Unit 4 primary precipitator, air heater, forced draft, induced draft and gas recirculation fans, deaerator and storage tank, and one feed-water heater remain in place. The coal yard facilities have been removed as well as the boiler chimneys.

Blue Lake is a six-unit simple cycle combustion gas turbine peaking facility, capable of firing on oil or natural gas. The station generating capacity is 545 megawatts. Units 1-4 are rated at 50 MWe, 50 MWe, 46 MWe, 48 MWe, respectively. Units 7 and 8 are rated at 174 MWe and 177 MWe. The station is located in Shakopee, Minnesota along the Minnesota River. Units 1-4 were placed in service in 1974. Units 7 and 8 were placed in service in 2005.

Granite City is a four-unit simple cycle combustion gas turbine peaking facility, capable of firing on oil or natural gas. The station generating capacity was 72 megawatts with each of the four units rated at 18 MWe. The station is located in St. Cloud, Minnesota. The units were installed in 1970. The station was retired from service in June 2019.

Hennepin Island is a hydroelectric power plant located on the Mississippi River in Minneapolis, MN, on the west side of Hennepin Island. The station consists of five turbine-generator sets, and has a combined generating capacity is 13.9 Mw. The plant was installed in 1882; it was last refurbished in 2010.

High Bridge is a three-unit facility consisting of two combined cycle combustion gas turbines and one steam turbine. The combustion turbines are each direct coupled to a 185 MWe electric generator. The exhaust gas of each combustion turbine is ducted through its own HRSG. The steam from the HRSG is piped to a 236 MWe steam turbine. The station has a net dependable capacity of 606 MWe. The station was placed in service in 2008. It is located in downtown St. Paul, Minnesota, on the Mississippi River.

Inver Hills is a six-unit simple cycle combustion gas turbine peaking facility, capable of firing on oil or natural gas. The station generating capacity is 371 megawatts. Units 1-4 and 6 are rated at 62 MWe each. Unit 5 is rated at 61 MWe. The station is located in Inver Grove Heights, Minnesota. The units were placed in service in 1972.

Key City was a four-unit simple cycle combustion gas turbine peaking facility, capable of firing on oil or natural gas. The station generating capacity was 72 megawatts with Units 1-4 at 18 MWe each. The station is located in Mankato, Minnesota. The units were installed in 1970, and retired in March of 2015.

Minnesota Valley is a three-unit facility abandoned in place. The station consists of two 10 MWe and one 44 MWe coal fired units. The station is located in Chippewa County, Granite Falls, Minnesota. The two 10 MWe units were installed in the late 1940's. The third unit was installed in 1953. The station was retired from service in 2013. All coal yard facilities have been removed.

Red Wing is a two-unit generating facility that burns processed municipal solid waste, referred to as refuse-derived fuel (RDF). The station employs a combination duct scrubber with a baghouse to effectively cut emissions from burning RDF. The scrubber treats flue gas with a water spray and dry lime. The baghouse traps particulate by forcing gas streams through large filter bags. The generating capacity of each unit is 9 MWe. The station is located in Red Wing, Minnesota. The units were installed in the early 1950's (coal fired units) and later modified to burn RDF.

Riverside is a three-unit facility consisting of two combined cycle combustion gas turbine generators (Units 9 and 10) and one steam turbine (refurbished Unit 7 steam turbine). The combustion turbines are each direct coupled to a 171 MWe electric generator. The exhaust gas of each combustion turbine is ducted through its own HRSG. The steam from the HRSG is piped to the Unit 7 160 MWe steam turbine. Abandoned in place, and included in this estimate, are the retired Units 6, 7 and 8 boilers, and the Unit 8 steam turbine with all its associated piping and system components. The three operational units went into service in 2009. The station is located northeast of Minneapolis on the Mississippi River.

Sherburne County is a three-unit 2,238 MWe coal-fired facility. The station is located in Becker, Minnesota, 45 miles northwest of the Twin Cities, on the Mississippi River. Units 1, 2 and 3 have a net dependable capacity of 680, 682, and 876 MWe each, respectively. The units were installed in 1976, 1977, and 1987.

Wilmarth is an electric generating facility that burns RDF. The station employs a combination duct scrubber with a baghouse to effectively cut emissions from burning RDF. The scrubber treats flue gas with a water spray and dry lime. The baghouse traps particulate by forcing gas streams through large filter bags. The generating capacity of Unit 1 and 2 is 9 MWe each. The station is located in Mankato, Minnesota. The units were installed in the early 1950's and modified in 1987 to burn RDF.

Gas Production/Storage Facilities

Maplewood is a propane storage facility with an effective propane storage capacity of 1.355 million gallons. The plant, located in Maplewood, Minnesota, was placed in-service in 1957.

Sibley is a propane storage facility used to supplement natural gas supplies during peak demand periods, with an effective propane storage capacity of 1.2

million gallons. The plant, located in Mendota Heights, Minnesota, was placed in service in 1953.

Wescott is a liquefied natural gas peak-shaving plant. The facility collects and stores natural gas for future supply to the local natural gas distribution systems during cold winter periods when regional natural gas supplies may not meet the increased demand. The facility is located in Inver Grove Heights, Minnesota, and was completed in 1972.

Wind Farms

Blazing Star I is a 100-unit wind turbine complex located on privately owned farmland in Lincoln County in southwestern Minnesota. The wind farm is composed of 10, 2.0 MWe V-110 and 90, 2.0 MWe V-120 Vestas wind turbines for a complex total of 200 MWe. The units are expected to be placed into full service in 2020.

Border Winds Project is a 75-unit wind turbine complex located on privately owned farmland in Rolla, North Dakota. The wind farm is composed of 75, 2.0 Mwe (nominal) V-100-2.0 Vestas wind turbines for a complex total of 148 MWe. The units were placed into service in 2015.

Courtenay is a 100-unit wind turbine complex located on privately owned farmland in Jamestown, North Dakota. The wind farm is composed of 100, 2.0 MWe (nominal) V-100-2.0 Vestas wind turbines for a complex total of 190 MWe. The units were placed into service in 2016.

Foxtail is a 75-unit wind turbine complex located on privately owned farmland in Kulm, North Dakota. The wind farm is composed of 7, 2.0 MWe V-110 and 68, 2.0 MWe V-120 Vestas wind turbines for a complex total of 150 MWe. The units were placed into service in 2019.

Grand Meadow is a 67-unit wind turbine complex located in a stretch of farm fields six miles long and four miles wide. The farm is spread out over roughly 10,000 acres southeast of Interstate 90 in Grand Meadow, Clayton, and Dexter Townships in Mower County, Minnesota. Each GE 1.5-77 wind turbine / generator set has a rated capacity of 1.5 Mwe (nominal) for a complex total of 99 MWe. The units were placed in service in 2008.

Lake Benton II is a 44-unit wind turbine complex located on privately owned farmland in Ruthton, Minnesota. The wind farm is composed of 5, 2.1 Mwe (nominal) GE 2.1-116 and 39, 2.3 Mwe (nominal) GE 2.3-116 General Electric

wind turbines for a complex total of 99 MWe. The units were placed into service in 2019.

Nobles is a 134-unit wind turbine complex located in the Buffalo Ridge area of Minnesota. The wind farm is spread out over roughly 42 square miles in Nobles County, Minnesota, in Olney, Dewald, Larkin, and Summit Lake townships. Each GE 1.5-77 wind turbine / generator set has a rated capacity of 1.5 Mwe (nominal) for a complex total of 197 MWe. The units were placed in service in 2011.

Pleasant Valley is a 100-unit wind turbine complex located on privately owned farmland in Dexter, Minnesota. The wind farm is composed of 100, 2.0 (nominal) MWe V-100-2.0 Vestas wind turbines for a complex total of 196 MWe. The units were placed into service in 2015.

1.3 SCOPE

The scope of the dismantling estimate includes the following significant cost elements:

- Preparation for safe dismantling;
    - Hazardous materials characterization for such items as ACM (asbestos-containing materials), lead, mercury, PCBs, hydrocarbons in soil, etc.
    - Isolation of the units in preparation for safe dismantling (e.g. ensuring systems are de-energized, fuel and chemical storage tanks are drained and cleaned, etc. (where applicable)
- Abatement of ACM prior to dismantling (where applicable)
- Labor, equipment, and material costs associated with the removal and disposition of all installed equipment
- Labor, equipment, and material costs associated with the demolition and disposition of buildings and foundations
- Demolition contractor's on-site management, engineering, safety, and administrative staff
- Demolition contractor's expenses, including insurance, permits, and fees.
- Xcel's on-site management, oversight, and security staff
- A cost credit associated with the disposition of scrap metals
- Cost contingency

Costs are provided for each generating station or facility, identified by significant cost element. The cost per station includes the costs for dismantling the generating unit and the common station facilities. Costs are provided in 2019 dollars.

1.4 GENERAL APPROACH

The general approach in assembling the estimate was to develop an inventory of equipment and structures designated to be removed for each facility. This inventory was established using site walk-downs (including discussions with the Operations & Maintenance staff), station-provided equipment databases, and plant drawings. This inventory accounted for similarities between facilities.

The abatement, removal, demolition and restoration activity costs are estimated by applying unit cost factors (developed for each inventory item) against the inventory. Costs for project management, shared equipment and consumables, and similar types of costs are estimated on a period-dependent basis (i.e., the magnitude of the expense depends, in part, on the duration of the project and the types of activities taking place). The potential value of scrap from materials generated in dismantling the plant components and building structural steel is included as a credit in the dismantling cost estimate. Contingency is provided within this estimate to account for unpredictable project events.

OSHA states that demolition involves additional hazards due to unknown factors which make demolition work particularly dangerous. OSHA further states that the hazards of demolition work can be controlled and eliminated with the proper planning, the right personal protective equipment, necessary training, and compliance with OSHA standards. The cost estimate is intended to provide sufficient monies to allow Xcel management to perform the project using these principles and standards.

Limited site landscaping is included, which covers grading and seeding for drainage and erosion control.

Section 2 of this report identifies the activities and sequence of activities necessary to dismantle a generating station. Section 3 provides the specific bases for the estimate. Section 4 discusses scrap metal and associated credits to the dismantling costs. Section 5 provides the results. Appendices, noted throughout this report, provide additional information important to understanding this estimate.

2. DISMANTLING OPERATIONS

The estimate for dismantling the stations is based on the complete removal of the units and common station facilities (except where noted). The following sections describe the project organization, basic activities, and special equipment necessary for accomplishing the dismantling project.

The actual dismantling program begins once the station owner has decided to dismantle the site, either immediately following final shutdown, or after a period of storage following final shutdown. The dismantling program has been organized into three distinct periods: Period 1 - Engineering/Planning and Asbestos and Other Hazardous Material Abatement (if necessary); Period 2 - Dismantling Operations; and Period 3 - Site Restoration. This section summarizes the activities performed under each Period of the program.

For the purposes of this estimate it is assumed that once the decision to dismantle has been made and a project start date established, the work in each of these periods will be completed successively (no delay between periods). This report does not attempt to describe all of the activities necessary to dismantle a station, but identifies representative activities appropriate to this type of project.

2.1 PRE-SHUTDOWN ACTIVITIES

The estimates include a planning staff for a year prior to final shutdown to plan for the dismantling program. A staff of seven full-time equivalent personnel is included in this estimate; smaller stations will have a reduced staffing amount.

2.2 POST-SHUTDOWN PLANT STAFF TRANSITION ACTIVITIES

The estimate is based on each station being shut down and placed into a post-shutdown configuration by the plant staff. The length of time that the facility is in this configuration is indeterminate and the costs for maintaining the facility in this configuration is not included within the scope of this dismantling effort. The activities to be completed post-shutdown, but prior to station dismantling, include:

- Removal of consumables and supplies not needed in the post-shutdown configuration
- Removal of residual fuels (including oil/coal)
- Removal of acids and caustics; flushing and cleaning of storage tanks

- Disposition of surplus bulk chemicals and gas storage containers
- Removal of miscellaneous hazardous wastes and combustible materials
- Installation of any appropriate physical barriers (sealing circulating water system) and/or security barriers

The estimate does not account for an extended period of time between final shutdown of the unit(s) and onset of the dismantling program. As such, the plant operations and maintenance staff would be expected to perform the following activities in the interval of time between final plant shutdown, and the onset of the dismantling program.

- If the unit is to be maintained in a condition where lighting, electricity, heating, water, sanitary, and similar services are to remain active, reconfigure these systems to minimize maintenance requirements
- Maintenance of the facility (maintaining roofs and windows, drain systems, and electrical systems to preclude creating hazardous working conditions in the future)

2.3 DISMANTLING ENGINEERING / PLANNING AND ASBESTOS ABATEMENT

When the decision is made to begin physical dismantling of a station, Xcel Energy will begin field dismantling activities, beginning with engineering and planning, and removal of asbestos and other hazardous materials from the station.

2.3.1 Engineering and Planning

A preliminary planning phase of the program begins once it is has been determined that a station will be dismantled and the project has been authorized to proceed. During this phase, the owner assembles its dismantling management organization, makes appropriate decisions regarding the extent of dismantling and the approach to managing the activities, and accomplishes those site preparation activities necessary to transition from a plant shutdown configuration to site dismantling. For purposes of this estimate it is assumed that the intent is to dismantle the entire station as a single project. Costs incurred during this preliminary phase of the program are included in the dismantling costs presented in this study.

Xcel Energy prepares the stations for dismantling by performing the following activities:

- Prepare specifications that identify and describe the objectives and major work activities to be accomplished (establishing the final site configuration)
- Assemble plant documentation that may be relevant to dismantling (drawings, hazardous material reports, environmental studies, etc.)
- Select an asbestos abatement contractor (if required) and Dismantling Contractor
- Assemble and mobilize the management and oversight team responsible for the project
- Documenting hazardous materials location and inventory

2.3.2 Asbestos / Hazardous Material Abatement (as applicable)

The asbestos abatement contractor prepares for this work by thoroughly understanding the scope of the asbestos remediation work and obtaining the permits necessary to initiate the work. Abatement of asbestos is considered an important prerequisite to dismantling the station's systems and structures. The method by which asbestos is abated is strictly controlled by federal and/or state regulations and includes the following requirements:

- Work will be done inside enclosures designed to capture any asbestos-containing particles. With the exception of removal of small quantities of asbestos in local areas, it would be expected that most work will be done in large enclosures (containment tents). The enclosures will have a filtered exhaust and be maintained under negative air pressure (air will leak into the enclosure rather than leak out).
- The air outside of the enclosures will be monitored to ensure barriers are effective.
- Workers, while working inside enclosures, will wear respiratory protective equipment as well as protective clothing.
- All materials removed from the enclosure will be packaged in accordance with regulations (minimum double-bag), and will be removed via a materials handling access area.
- Workers will enter and exit the enclosures through a personnel decontamination chamber in a controlled manner (ensuring asbestos contamination does not spread beyond the containment).

- After the asbestos abatement is complete, the effectiveness of the process will be established via regulatory-specified processes (generally verifying that there is no asbestos containing material capable of becoming airborne).
- Asbestos containing materials will be disposed of at a properly licensed disposal facility.
- After ensuring that all asbestos has been removed, the enclosures will be taken down in accordance with regulatory requirements and disposed of at a licensed facility.
- Clean coal-fired boilers by washing down all surfaces interior to the boilers.
- Clean fly-ash handling equipment, e.g., filters and holding tanks.
- De-water ash settling ponds and/or basins.

2.3.3 Dismantling Preparations

The dismantling contractor prepares the station for dismantling by performing the following activities:

- Installing environmental barriers and monitoring equipment
- Reviewing plant drawings and specifications that may be useful for the dismantling project
- Identifying the processes to achieve the final desired station configuration
- Identifying the major work sequence
- Preparing dismantling activity specifications and work orders/forms
- Preparing detailed dismantling procedures
- Preparing a dismantling plan
- Preparing permit application(s) for plant demolition
- Mobilizing site staff
- Configuring temporary services/facilities to support dismantling operations
- Arranging for heavy lift and dismantling equipment, rigging, and tooling
- Hiring and training the labor force

2.4 DISMANTLING OPERATIONS

Dismantling activities are initiated after completing the engineering and planning process, and after asbestos abatement and removal of hazardous materials is complete. The sequence of activities will be determined at the time of dismantling, but typically a sequence would include the following items. Dismantling sequences are presented for each of the Xcel Energy facility types. In all types the station is electrically disconnected from all power sources; the Dismantling Contractor will provide temporary power as needed to support the removal activities.

2.4.1 Steam Plants

- Removing coal yard equipment (if required), including unloading structures, conveyors, transfer towers, and reclaim systems
- Removing above-ground storage tanks
- Removing large equipment from rooftops or at higher elevations
- Removing equipment that must be removed prior to start of boiler structure removal, including fly-ash handling, coal handling, burner fuel supply, scrubbers, air and flue gas ducts, etc.
- Removing electrostatic precipitator and bag houses by cutting casings and connecting gas ducts
- Removing the top of the boiler enclosure to allow access to the platens
- Removing the boiler waterwalls
- Removing steam drum and deaerator by severing all connections and lowering to grade
- Removing boiler structural steel
- Disassembling the turbine/generator and condenser
- Removing all other equipment and components required prior to structures demolition
- Removing the turbine building superstructure and interior floors
- Blasting/dismantling the concrete turbine-generator pedestal(s)
- Removing siding from buildings
- Dismantling steel framing
- Demolishing structural concrete

- Removing the stack(s)
- Removing cooling tower(s) and / or cooling water intake and discharge structures
- Removing all other site structures within the scope of the dismantling program
- Sorting and organizing materials for pickup by the scrap dealer(s)
- Size reducing concrete rubble to remove reinforcing steel
- Removing any temporary services used to support the dismantling effort (lighting / ventilation / electrical / groundwater management)

2.4.2 Combustion Turbines

- Removing above-ground storage tanks
- Removing large equipment from rooftops or at higher elevations
- Disassembling the turbine and generator
- Removing all other equipment and components required prior to building demolition
- Blasting/dismantling the concrete turbine-generator foundation(s)
- Demolishing remaining concrete
- Removing cooling tower(s) and / or cooling water intake and discharge structures (High Bridge only)
- Removing all other site structures within the scope of the dismantling program
- Sorting and organizing materials for pickup by the scrap dealer(s)
- Size reducing concrete rubble to remove reinforcing steel

2.4.3 Hydroelectric Plants

- Installing cofferdams at inlet to power channel and discharge channel
- Removing large equipment from rooftops or at higher elevations
- Disassembling and removing the generators
- Disassembling and removing the water turbines
- Removing all other equipment and components required prior to structures demolition

- Removing the powerhouse structure and interior floors
- Blasting/dismantling the concrete turbine-generator foundations
- Dismantling steel framing
- Demolishing brick walls and structural concrete
- Removing all other site structures within the scope of the dismantling program
- Sorting and organizing materials for pickup by the scrap dealer(s)
- Size reducing concrete rubble to remove reinforcing steel

2.4.4 Wind Turbines (complete removal)

- Removing turbine blades from turbine shaft
- Removing turbine-generator housings from towers
- Removing towers from foundations
- Removing all other equipment and components required prior to structures demolition
- Blasting/dismantling the concrete tower foundations
- Excavating and removing all buried electrical cables
- Removing all other site structures within the scope of the dismantling program
- Sorting and organizing materials for pickup by the scrap dealer(s)
- Size reducing concrete rubble to enhance its suitability for backfill

2.4.5 Wind Turbines (removal to 48" below grade)

- Removing turbine blades from turbine shaft
- Removing turbine-generator housings from towers
- Removing towers from foundations
- Removing all other equipment and components required prior to structures demolition
- Removing the concrete tower foundation pedestal to 48" below grade
- Buried electrical cables below 48" left in place
- Removing all other site structures within the scope of the dismantling program

- Sorting and organizing materials for pickup by the scrap dealer(s)
- Size reducing concrete rubble to enhance its suitability for backfill

2.5 SITE RESTORATION

Site restoration activities are initiated following completion of the dismantling operations. The objective of site restoration in this estimate is to restore the station grounds to a configuration that does not pose a safety hazard; and plant vegetation for erosion control. As such, landscaping will be limited to grading, placement of top soil, and seeding. Site restoration as used in this estimate is not intended to re-configure the station for redevelopment, e.g. use as a recreational or industrial facility.

A typical site restoration sequence would be:

- Crush all concrete rubble and remove reinforcing steel. Concrete debris will be shipped off site for disposal as construction debris. Reinforcing steel will be recycled
- Backfill below grade voids with clean compactible fill as necessary.
- General grading of the station
- Placement of top soil or other suitable surface material necessary to maintain erosion control
- Landscaping to the extent necessary to re-vegetate the station (grass or similar plant materials), and
- Demobilizing personnel and equipment

3. COST ESTIMATE

The basis, methodology, and assumptions for the site-specific cost estimate are described in the following paragraphs.

3.1 BASIS OF ESTIMATE

Inventory of Materials to be Removed

The inventory is an essential element of the estimate, since dismantling costs are determined by applying unit cost factors against the corresponding inventory quantities. For each of these estimates a site-specific inventory of materials to be removed was developed using a combination of methods. The inventory used in developing the estimate for each station is provided in Appendix A.

Comparable Boiler / Turbine Unit Information Available to TLG Where TLG had previously developed inventory information for a boiler and turbine of similar size, fuel type and vintage, referred to as "reference unit", this information was used to represent the boiler / turbine systems inventory for the comparable Xcel Energy unit. In the same manner, non-steam power facilities were also used as reference units for other, similar Xcel Energy facilities. The inventory was adjusted to reflect the difference between the rating of the Xcel Energy reference unit and the rating of the comparable unit.

There are expected differences in other facilities, even if the power generating equipment are similar between comparable units. These include systems and structures associated with cooling water intake and discharge, fuel handling, exhaust gas, maintenance buildings and shops, pollution-control, and the quantity and extent of asbestos containing material (if applicable). For these systems and structures TLG developed the inventory by conducting a walk-down of the station, and extracting information from station-specific drawings and photos.

Comparable Plant Information Not Available to TLG Where the Xcel Energy unit(s) had no comparable match in the TLG database, the site specific inventory was developed "from scratch", by completing a physical walk-down of each such unit, discussions with the stations' Operations & Maintenance staff, and extracting data from station-specific maintenance databases (lists of equipment), drawings, and photos.

Economic Cost Drivers (Reference in Section 6)

In developing an estimate, the cost of labor, equipment and material, credit for scrap, and similar costs will influence the results of the estimate. The basis for the significant cost drivers are:

1. Craft labor rates are based on existing contracts with craft labor contractors. These rates were provided by Xcel Energy (Ref. 1).
2. Utility labor rates are based on labor costs for positions likely to be employed during the dismantling project. The 2014 rates were escalated to 2019 values, per Xcel Energy approval, using U.S. Department of Labor's Bureau of Labor Statistics, Consumer Price Index Series ID:CUUR0000SAS (Ref. 2).
3. Material and equipment costs for conventional demolition and/or construction activities, Contractors Insurance, Small Tools Allowance, Permit / Fees, and Contractor's Fee are based on R.S. Means Construction Cost Data (Ref. 3).
4. Scrap metal prices are based on a five-year average of published indices (Ref. 4).
5. Contingency, contractor fee, contractor insurance, environmental sampling, and permits & fees are based upon R.S. Means Construction Cost Data.
6. Costs in this estimate are in 2019 dollars.
7. Property taxes (or payments in lieu of taxes) are not included within the estimate.
8. The estimate to dismantle the stations does not address credit associated with the residual value of the land.

Project Organization

For the purposes of this study, the dismantling project for each station is assumed to be managed by Xcel Energy's Project Director, who would have the primary responsibility for dismantling the station. A Dismantling Contractor, experienced in dismantling similar facilities, would be hired as the prime contractor for the removal of plant components and site facilities. The Dismantling Contractor's Project Manager would report to the Project Director. The Dismantling Contractor would manage and supervise the dismantling activities of the station and be responsible for completing the work in an expeditious and safe manner. Contractor personnel would manage and direct the labor force in accordance with approved procedures and in accordance with a health and safety program. The Xcel staff would maintain and/or provide the engineering, safety, and environmental compliance oversight, and the security

services necessary to support dismantling operations. Figures 3.1 and 3.2 identify typical organizations for the plant/utility staff and the associated contractor personnel during the dismantling phase of the project. The smaller facilities included within this estimate would have a commensurately smaller project organization e.g. Angus Anson, Blue Lake, and Grand Meadow.

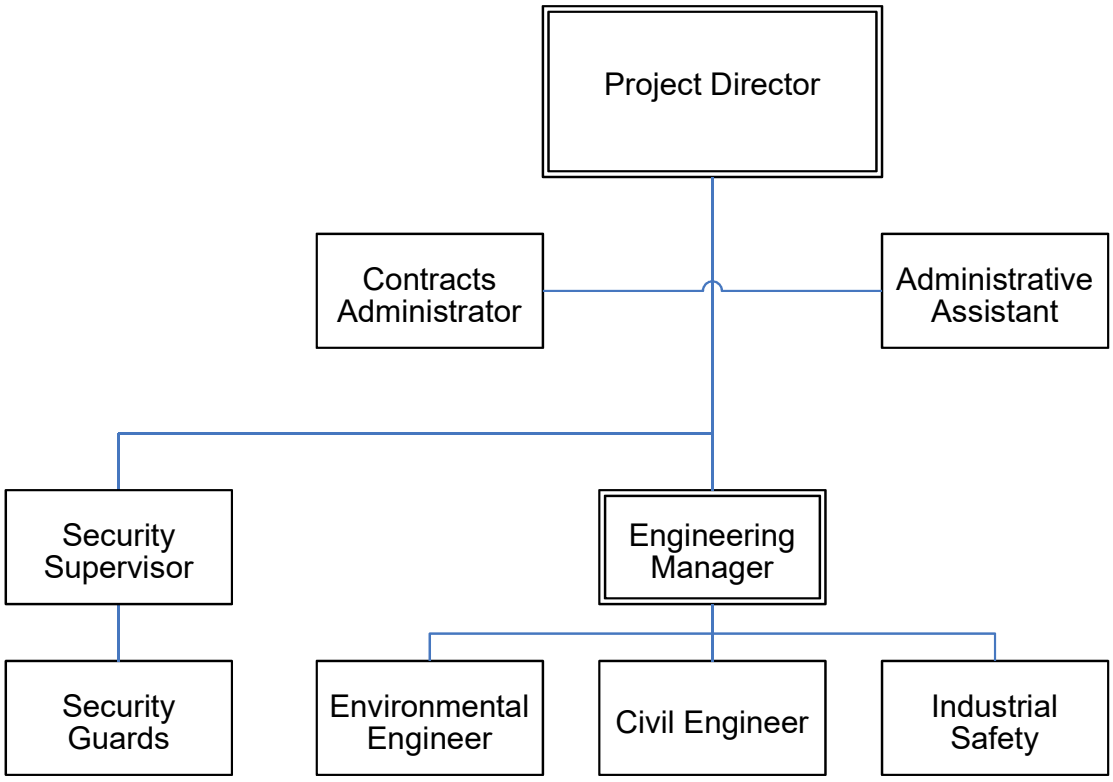
3.2 METHODOLOGY

The methodology used to develop the cost estimate follows the basic approach presented in the AIF/NESP-036, "Guidelines for Producing Commercial Nuclear Power Plant Decommissioning Cost Estimates" (Ref. 5) and the US DOE "Decommissioning Handbook" (Ref. 6). These publications utilize a unit cost factor method for estimating decommissioning activity costs to simplify the estimating calculations. Unit cost factors for concrete removal ($/cubic yard), steel removal ($/ton), and cutting costs ($/in) are developed from the labor cost information from R. S. Means. The activity-dependent costs are estimated using item quantities (cubic yards, tons, inches, etc.) developed from plant drawings and inventory documents. The unit factors used in this study reflect the latest available information on worker productivity in plant dismantling. A sample unit cost factor is provided in Appendix B. A list of unit cost factors is provided in Appendix C.

An activity duration critical path is developed to determine the total dismantling program schedule. This program schedule is then used to determine the period-dependent costs for program management, administration, field engineering, equipment rental, quality assurance, and security. TLG escalated 2014 Xcel Energy salary and hourly rates for personnel associated with period-dependent costs. The costs for conventional demolition of structures, materials, backfill, landscaping, and equipment rental are obtained from R.S. Means. Examples of such unit cost factor development are presented in AIF/NESP-036.

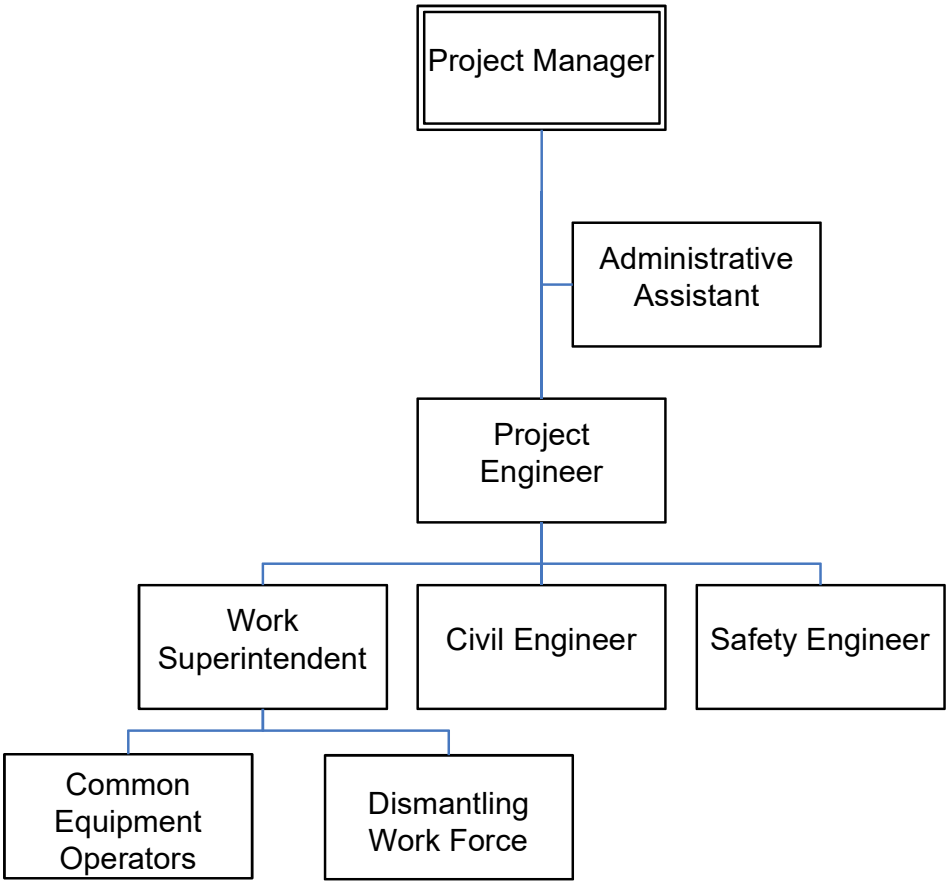
The unit cost factor method provides a demonstrable basis for establishing reliable cost estimates. The detail of activities for labor costs, equipment and consumables costs provide assurance that cost elements have not been omitted. Detailed unit cost factors, coupled with the site-specific inventory of piping, components and structures provide confidence in the cost estimates.

FIGURE 3.1
DISMANTLING PROJECT ORGANIZATION
UTILITY STAFF



For a large station such as Sherburne County, this represents a full-time equivalent staffing level of six personnel. This value is reduced for smaller stations.

FIGURE 3.2
DISMANTLING PROJECT ORGANIZATION
DECOMMISSIONING CONTRACTOR STAFF



For a large station such as Sherburne County, this represents a full-time equivalent staffing level of 11.5 personnel. This value is reduced for smaller stations.

The activity-dependent and period-dependent costs are combined with applicable collateral costs to yield the direct decommissioning cost. A contingency is then applied. "Contingencies" are defined in the American Association of Cost Engineers "Project and Cost Engineers' Handbook" (Ref. 7) as "specific provision for unforeseeable elements of cost within the defined project scope; particularly important where previous experience relating estimates and actual costs has shown that unforeseeable events which will increase costs are likely to occur." The cost elements in this estimate are based on ideal conditions; therefore, a contingency factor has been applied.

Examples of items that could occur but have not otherwise been accounted for in this estimate include: labor work stoppages, bad weather delays, equipment/tool breakage, changes in the anticipated plant shutdown conditions, etc. These types of unforeseeable events are discussed in the AIF/NESP-036 study. Guidelines are also provided for applying contingency.

3.3 ASSUMPTIONS

The following assumptions were used in developing the dismantling estimate.

Pre-requisite Activities

1. Dismantling of the station will not commence until all units are retired (cost estimate is not based on independent dismantling of units while adjacent units are operating).
2. The arrangements of the unit facilities as they exist in 2019 based upon walk-downs conducted by TLG, and databases and drawings provided by owner.
3. The dismantling process will be an engineered process with substantial consideration for occupational (worker) safety.
4. The demolition will be performed by a Dismantling Contractor who is responsible to provide adequate staff and equipment to complete the dismantling in a safe manner.
5. Site security costs to restrict access to the demolition project by unauthorized personnel are included.
6. The estimates are based on industrial safety and environmental regulations effective in 2019.
7. All power to the structures will be disconnected prior to beginning removal activities ("Cold and Dark"). The Decommissioning Contractor will provide for temporary power as needed to support dismantling activities.

8. End of life water inventory management in regulated ponds will be addressed in accordance with federal and state rules and closed in place after shutdown.
9. On-site fuel inventories will be used and/or removed prior to start of dismantling.
10. Silos, precipitators, hoppers, tanks, etc., will be emptied by operations and maintenance staff after shutdown.
11. Acids, caustics, and similar hazardous materials will be removed by operations and maintenance staff after shutdown.
12. Consumables, such as ion exchange materials and filters, will also be removed by operations and maintenance staff after shutdown.
13. Stores, spare parts, gas storage containers, laboratory equipment, office furniture, etc., will be removed by the owner after shutdown.
14. Oils used in station transformers may contain PCBs. Lubricating and transformer oils are drained and removed by operations and maintenance staff after shutdown. If any PCB contaminated oil is encountered, it will be removed and disposed of properly.
15. Asbestos (if present) will be removed prior to the start of dismantling. Asbestos insulation and PACM (presumed asbestos containing materials) will be disposed of at licensed facilities. Quantities of asbestos are based on owner-provided information where available. Where such information was not available, the quantities of asbestos were estimated.
16. Prior to initiating dismantling, essentially all live circuits will have been de-energized (to preclude creating an industrial hazard). If required, temporary services systems (air, water, electrical, fire water, etc.) will be used to support dismantling operations and will remain in service throughout the project until no longer required.

Economic Assumptions

17. Post-shutdown "dormancy" costs (i.e., security and maintenance on any of the units retired prematurely) are not included in the study.
18. Escalation/inflation of the costs over the remaining operating life is not included.
19. An allowance of 2% of craft labor costs is used for small tools.
20. A 12.5% fee is added to the Demolition Contractor's cost to account for its overhead and profit.
21. A 25% contingency is applied to asbestos remediation activities.

22. A 15% contingency is applied to all remaining dismantling-related costs.
23. A credit for scrap metal cost recovery is included in the estimates. Retired plant equipment is assumed to have no value as salvage (sold for re-use).

Physical Work Assumptions

24. The costs for disposition (if required) of contaminated soil (e.g., PCBs, hydrocarbons, lead, asbestos, mercury, acids or caustics) are outside the scope of this estimate.
25. Large equipment and components will be removed prior to structures demolition.
26. An environmental hazards crew will be maintained throughout the demolition period to address such items as lead paint and asbestos that was inaccessible during the asbestos remediation period (where applicable).
27. Turbine pedestals and powerhouse building foundations will be removed by demolition equipment and back-filled to grade.
28. Structures and foundations will be removed with any resulting voids back-filled to grade level. An additional scenario is provided for the wind farms where the equipment and structures are removed only to a depth of 48 inches.
29. Chimney stacks will be blasted to the ground and broken into rubble, the steel liners cut and removed, and the foundations removed.
30. The dismantling of the electrical equipment terminates at the switch yard boundary. The switch yard is left intact.
31. Concrete rubble generated during dismantling will be crushed, reinforcing steel removed, and the concrete disposed of offsite as construction debris.
32. The site will be graded; however, no effort was included in this estimate to restore the original contour of the land. Ground cover will be established for erosion control.
33. Roads, parking lots, etc., are removed after the facility is dismantled (with the exception of the immediate area around the switchyard).

Scheduling Assumptions

34. All work is performed during an eight-hour workday, five days per week, with no overtime.
35. Multiple crews work parallel activities to the maximum extent possible, consistent with efficiency (adequate access for cutting, removal, and

laydown space) and with industrial safety appropriate for demolition of heavy components and structures.

36. Scheduling was calculated without constraints on availability of labor, equipment, or materials.

3.4 STATION-SPECIFIC NOTES

3.4.1 Allen S. King

- All currently operational coal handling equipment and the abandoned-in-place coal barge unloader facility with the twenty-two dolphin-type barge piers are included in the estimate.
- A cofferdam will be installed to allow removal of the condenser cooling water discharge structure and the discharge structure from the cooling tower.
- The boiler and precipitator will be cleaned prior to dismantling.
- Lead paint on concrete surfaces will be removed prior to demolition of the concrete structures.
- Rockbestos-insulated electrical cabling and other ACM in cable trays will be removed (all cable trays & cabling disposed of as ACM).
- The soil beneath the area of the coal pile will be removed to a depth of five feet; the soil will be disposed of offsite as solid waste.
- The ash pond will be backfilled with clean fill prior to placement of the closure cap.

3.4.2 Angus Anson

- The Pathfinder Unit 1 building has been included in this estimate.
- There is a reduced decommissioning management and contractor staff due to the smaller size of this facility.
- Lead paint on concrete surfaces will be removed prior to demolition of the concrete structures.
- Concrete will only be removed to three feet below grade.
- Two large oil storage tanks are included in the estimate. One tank is currently in service. The other tank has been cleaned and remains on stand-by.

3.4.3 Black Dog

- The abandoned-in-place Unit 2 boiler is included in the estimate.
- All chimneys from the coal burning operation have been removed.
- All operational coal handling equipment external to the building e.g. conveyors, rail car unloader, transfer towers, stacker conveyor etc. have been removed. Coal conveyors inside the plant have been abandoned in place but not yet removed.
- A cofferdam will be installed to remove the intake condenser cooling water structure.

3.4.4 Blue Lake

- There is a reduced decommissioning management and contractor staff due to the smaller size of this facility.
- Two large oil storage tanks are included in the estimate. One tank is currently in service. The other tank has been cleaned and remains on stand-by.

3.4.5 Granite City

- There is a reduced decommissioning management and contractor staff due to the smaller size of this facility.
- Two large oil storage tanks are included in the estimate. The tanks have been cleaned.

3.4.6 Hennepin Island

- There is a reduced decommissioning management and contractor staff due to the smaller size of this facility.
- The estimate does not include dam or earthworks removal, or ongoing maintenance.
- Inlet channel to turbines will be backfilled.
- Lead paint on concrete surfaces will be removed prior to demolition of the concrete structures.

3.4.7 High Bridge

- There is a reduced decommissioning management and contractor staff due to the smaller size of this facility.

- A cofferdam will be installed to remove the river intake and discharge structure.

3.4.8 Inver Hills

- Gas supply lines will be cut and capped at the source.
- There is a reduced decommissioning management and contractor staff due to the smaller size of this facility.

3.4.9 Key City

- There is a reduced decommissioning management and contractor staff due to the smaller size of this facility.
- Two large oil storage tanks are included in the estimate. The tanks have been cleaned.

3.4.10 Maplewood Gas Plant

- Facility includes multiple liquefied natural gas storage tanks.
- There is a reduced decommissioning management and contractor staff due to the smaller size of this facility.

3.4.11 Minnesota Valley

- All three of the abandoned in-place units are included in the estimate.
- The asbestos quantities were calculated considering Unit 3 to be all asbestos and Units 1 and 2 to only have small amounts on the partially dismantled boilers.
- A cofferdam will be installed to remove the river intake and discharge structure.
- There is a reduced decommissioning management and contractor staff due to the smaller size of this facility.
- The boiler and precipitator will be cleaned prior to dismantling.
- Lead paint on concrete surfaces will be removed prior to demolition of the concrete structures.
- Rockbestos-insulated electrical cabling and other ACM in cable trays will be removed (all cable trays & cabling disposed of as ACM).
- All coal yard facilities have been removed and the ash ponds have been closed.

3.4.12 Red Wing

- The RDF unloading facility and the conveyor transport system are included in the estimate.
- A cofferdam will be installed to remove the cooling water intake and discharge structure.
- The barge unloading facility in not included in the estimate.
- The boiler and precipitator will be cleaned prior to dismantling.
- Lead paint on concrete surfaces will be removed prior to demolition of the concrete structures.
- Rockbestos-insulated electrical cabling and other ACM in cable trays will be removed (all cable trays & cabling disposed of as ACM).
- The ash landfills will be closed in place by capping with a synthetic liner, placing cover over the cap, and seeding.

3.4.13 Riverside

- Included in this estimate are the following abandoned-in-place facilities and equipment:
    - Unit 6, 7 and 8 building structure
    - Unit 6 and 7 boilers
    - Unit 8 boiler, turbine and associated equipment
- Cofferdams will be installed to remove the four cooling water intake and discharge structures.
- Includes barge unloading dock and concrete piles.
- Rockbestos-insulated electrical cabling and other ACM in cable trays will be removed (all cable trays & cabling disposed of as ACM).

3.4.14 Sherburne County

- All coal handling facilities e.g. coal barn, rail car dumper building, coal yard control and maintenance facility, earthen storage berms, conveyor systems, transfer towers etc. are included in this estimate.
- All warehouse/storage type buildings on the site are included in the estimate.
- A cofferdam will be installed to remove the cooling water intake and discharge structure.

- The boiler and precipitator/baghouse will be cleaned prior to dismantling.
- Rockbestos-insulated electrical cabling and other ACM in cable trays will be removed (all cable trays & cabling disposed of as ACM) – Units 1 and 2 only.
- The soil beneath the area of the coal pile will be removed to a depth of five feet; the soil will be disposed of on site in the ash pond.
- The ash pond will be backfilled with coal yard soil prior to placement of the closure cap.
- The Unit 3 dry ash landfill will be closed and capped in accordance with Minnesota's solid waste permit requirements and applicable federal coal combustion residual rules.
- Some of the planning for Sherburne County includes a unit shutdown with the other units remaining in operation for a number of years. In this event, the costs in Table 5.1n, for the shutdown unit only, should be increased by some fraction to allow for constraints on demolition activities on the shutdown with the other units operational. Based upon discussions with Xcel Energy personnel, an increase of 20% can be used for planning purposes.
- The ash landfills will be closed in place by capping with a synthetic liner, placing cover over the cap, and seeding.
- Two large settling tanks are included in the estimate.

3.4.15 Sibley Gas Plant

- Facility includes multiple liquefied natural gas storage tanks.
- There is a reduced decommissioning management and contractor staff due to the smaller size of this facility.

3.4.16 Wescott Gas Plant

- Facility includes two large insulated liquefied natural gas storage tanks.
- There is a reduced decommissioning management and contractor staff due to the smaller size of this facility.

3.4.17 Wilmarth

- The RDF bulk storage facility is not included in the estimate. Only the transport section of the facility with conveyor systems and transfer towers is included.
- There is a reduced decommissioning management and contractor staff due to the smaller size of this facility.
- The boiler and precipitator will be cleaned prior to dismantling.
- Lead paint on concrete surfaces will be removed prior to demolition of the concrete structures.
- Rockbestos-insulated electrical cabling and other ACM in cable trays will be removed (all cable trays & cabling disposed of as ACM).
- The ash landfills will be closed in place by capping with a synthetic liner, placing cover over the cap, and seeding.

3.4.18 Wind Farms – Blazing Star I, Border Winds, Courtenay, Foxtail, Grand Meadow, Lake Benton II, Nobles, Pleasant Valley

- All underground power and control cables will be excavated and removed.
- Tower foundations are completely removed.
- All access roads surfaces will be excavated and removed. The excavated areas will be back-filled with soil.
- There is a reduced decommissioning management and contractor staff due to the smaller size of this facility.

3.4.19 Wind Farms (Removal to 48-inch depth) – Blazing Star I, Border Winds, Courtenay, Foxtail, Grand Meadow, Lake Benton II, Nobles, Pleasant Valley

- All underground power and control cables will be excavated and removed to a depth of 48 inches below grade.
- Tower foundations pedestals will be removed to 48 inches below grade.
- All access roads surfaces will be excavated and removed. The excavated areas will be back-filled with soil.
- There is a reduced decommissioning management and contractor staff due to the smaller size of this facility.

4. SCRAP METAL CREDITS

The dismantling of a typical fossil plant occurs after a lengthy plant operating life. The existing plant equipment is considered obsolete and suitable for scrap as deadweight quantities only. Xcel Energy will make economically reasonable efforts to salvage equipment following final plant shutdown. However, dismantling techniques assumed by TLG for equipment in this analysis are not consistent with removal techniques required for salvage (resale) of equipment. Experience has indicated that buyers prefer equipment stripped down to very specific requirements before they would consider purchase. This can require expensive work to remove the equipment from its installed location, which is inconsistent with the rapid dismantling approach assumed in this estimate. Since placing a salvage value on this machinery and equipment would be speculative, and the value would be small in comparison to the overall cost of dismantling, this analysis does not attempt to quantify the value that an owner may realize based upon those efforts.

Furniture, tools, mobile equipment such as forklifts, trucks, bulldozers, and other property is removed at no cost or credit to the decommissioning project. Disposition may include relocation to other facilities. Spare parts are made available for alternative use.

The materials used in the equipment and buildings are suitable for recycle as scrap metals. As such, an estimated value of the scrap metal credit has been developed and applied to each station's cost estimate. The value of scrap was estimated using a five-year average of market values extracted from published sources and applying this value to the estimated quantities of materials generated from the dismantling project. There were four basic types of metals used in the scrap estimates; carbon steel (the most common material used at the station), copper, stainless steel (high alloy steel) and aluminum. The scrap credit, in addition to considering the quantity and types of materials, also considered the cost of handling and transporting these materials to a major scrap processing location in the Twin Cities area where scrap is used or sold. The value of the scrap is reduced by the transportation costs.

The basis for scrap metal value is summarized in Table 4.1. A summary of the basis for the scrap credit is provided in Tables 4.2 which details the scrap quantities by material type from each unit, and Table 4.3 lists the dollar value of these quantities.

TABLE 4.1a
BASIS FOR SCRAP METAL VALUE
(2019 dollars)

Fossil Stations

Type of Material	Scrap Category [1]	Market Value [2]	Units	Transport Cost [3]	Scrap Metal Credit [4] (per ton)
Carbon Steel	Cast Iron	202.40	Per Ton	46.85	155.56
	No. 1	253.01	Per Ton	46.85	206.16
	Mixed Scrap	202.40	Per Ton	46.85	155.56
	Galvanized	55.66	Per Ton	46.85	8.81
Stainless Steel	SS-1	0.77	Per Pound	0.02	1,490.20
Copper	Insulated Cable	1.32	Per Pound	0.02	2,586.11
	No. 2 Copper	2.11	Per Pound	0.02	4,168.50
	Copper-Nickel	3.20	Per Pound	0.02	6,355.94
	Large Motor	0.32	Per Pound	0.02	585.41
Non-Ferrous	Aluminum	0.29	Per Pound	0.02	532.27

Note 1: Scrap categories are consistent with information provided in Recycler's World.

Note 2: The market value for scrap metal used in this estimate is based on Recycler's World U.S. Scrap Metal Index Spot Market Prices. Values shown represent the average over a 5-year period from January 1, 2015 to December 31, 2019 (See Section 6, reference 4).

Note 3: The estimated cost for handling and transporting the materials to a major scrap processing center in the Twin Cities area is $46.85 / ton or $0.023 / pound.

Note 4: The scrap metal credit reflects the market value of scrap adjusted for handling and transport cost to local scrap metal recycler.

TABLE 4.1b
BASIS FOR SCRAP METAL VALUE
(2019 dollars)

Wind Farms

Type of Material	Scrap Category [1]	Market Value [2]	Units	Scrap Metal Credit [3] (per ton)
Carbon Steel	Cast Iron	202.40	Per Ton	202.40
	No. 1	253.01	Per Ton	253.01
	Mixed Scrap	202.40	Per Ton	202.40
	Galvanized	55.66	Per Ton	55.66
Stainless Steel	SS-1	0.77	Per Pound	1,537.05
Copper	Insulated Cable	1.32	Per Pound	2,632.95
	No. 2 Copper	2.11	Per Pound	4,215.35
	Copper-Nickel	3.20	Per Pound	6,402.79
	Large Motor	0.32	Per Pound	632.26
Non-Ferrous	Aluminum	0.29	Per Pound	579.12

Note 1: Scrap categories are consistent with information provided in Recycler's World.

Note 2: The market value for scrap metal used in this estimate is based on Recycler's World U.S. Scrap Metal Index Spot Market Prices. Values shown represent the average over a 5-year period from January 1, 2015 to December 31, 2019 (See Section 6, Reference 4).

Note 3: The scrap metal credit reflects the market value of scrap cost to local scrap metal recycler. Scrap from the wind farms does not include transportation costs; the transport of the scrap from wind farms is separately accounted for in the cost tables *within "Item 1b. Haul Off of Materials (Trucking / Rail).".*

TABLE 4.2a
QUANTITY OF SCRAP METALS BY STATION
(pounds)

Fossil Stations

	Carbon Steel			Stainless Steel	Galvanized	Copper			Copper		
Station Name	**Cast Iron**	**No. 1**	**Mixed Scrap**	**SS-1**	**Steel**	**Insul Cbl**	**No. 2 Cu**	**Large Mtr**	**Nickel**	**Aluminum**	**Total**
Allen S . King	2,976,846	41,253,822	53,751,220	231,075	1,010,675	157,197	590,394	1,816,821	515,763	-	102,303,814
Angus Anson	944,532	7,869,287	10,367,485	366,129	262,382	62,845	555,614	235,889	90,000	-	20,754,163
Black Dog	1,643,294	27,421,437	35,094,140	770,520	691,748	203,840	500,072	1,777,520	221,615	-	68,324,186
Blue Lake	562,895	7,151,454	16,794,779	471,749	151,311	66,137	534,704	167,052	-	-	25,900,081
Granite City	415,622	1,347,785	3,827,752	14,999	123,454	19,672	117,956	37,557	-	-	5,904,796
Hennepin Island	-	696,327	1,821,010	1,204	32,320	17,700	44,413	-	-	-	2,612,973
High Bridge	844,602	11,853,600	18,671,353	312,326	572,357	113,539	661,690	1,016,734	-	-	34,046,202
Inver Hills	203,824	4,050,420	12,115,948	911,580	66,005	-	537,241	6,408	-	-	17,891,426
Key City	415,622	1,000,333	3,795,209	14,999	123,454	19,672	107,108	37,557	-	-	5,513,953
Maplewood	55,689	2,277,558	514,983	109,319	31,504	6,904	16,564	374	-	-	3,012,895
Minnesota Valley	638,559	12,944,074	20,225,105	554,769	397,131	68,843	241,236	1,395,489	294,202	-	36,759,408
Red Wing	269,371	5,792,041	7,537,990	459,747	242,290	29,016	21,797	235,896	34,301	-	14,622,450
Riverside	717,166	26,334,947	48,412,618	275,384	437,669	61,010	596,359	1,432,370	-	-	78,267,523
Sherburne County	4,008,245	133,744,558	185,765,812	2,132,542	3,718,089	836,673	893,799	5,411,303	-	103	336,511,124
Sibley	53,710	1,828,422	373,174	103,107	43,503	6,703	13,829	7,250	-	-	2,429,699
Wescott	47,236	7,963,162	1,606,330	189,165	68,387	33,887	16,236	2,591	-	1,398,204	11,325,198
Wilmarth	303,646	5,170,263	7,265,649	153,131	168,520	29,016	21,797	235,896	80,000	-	13,427,919
Total	**14,100,859**	**298,699,489**	**427,940,558**	**7,071,745**	**8,140,800**	**1,732,655**	**5,470,810**	**13,816,706**	**1,235,881**	**1,398,307**	**779,607,809**

TABLE 4.2b
QUANTITY OF SCRAP METALS BY STATION
(pounds)

Wind Farms (Complete Removal)

	Carbon Steel		Copper			
Station Name	**No. 1**	**Mixed Scrap**	**No. 2 Cu**	**Large Mtr**	**Aluminum**	**Total**
Blazing Star I	5,913,057	43,858,999	534,453	6,015,842	2,085,396	58,407,747
Border Winds Project	4,404,257	23,658,643	400,839	3,819,509	1,564,047	33,847,295
Courtenay	5,906,025	35,509,601	534,453	5,092,678	2,085,396	49,128,153
Foxtail	5,655,813	32,880,310	400,839	4,514,897	1,564,047	45,015,907
Grand Meadow	3,862,624	33,764,540	358,083	5,302,782	1,397,215	44,685,245
Lake Benton II	3,244,453	22,905,242	261,714	3,326,828	1,026,369	30,764,606
Nobles	10,771,870	51,911,086	716,166	10,639,600	2,794,431	76,833,154
Pleasant Valley	6,238,545	37,955,390	534,453	5,092,678	2,085,396	51,906,462
Total (Complete Removal)	**45,996,644**	**282,443,812**	**3,741,000**	**43,804,815**	**14,602,298**	**390,588,569**

TABLE 4.2c
QUANTITY OF SCRAP METALS BY STATION
(pounds)

Wind Farms (Down to 48 inches below grade)

	Carbon Steel		Copper			
Station Name	**No. 1**	**Mixed Scrap**	**No. 2 Cu**	**Large Mtr**	**Aluminum**	**Total**
Blazing Star I (48 in.)	669,104	43,858,999	11,641	6,015,842	-	50,555,586
Border Winds Project (48 in.)	485,434	23,658,643	8,731	3,819,509	-	27,972,316
Courtenay (48 in.)	662,072	35,509,601	11,641	5,092,678	-	41,275,992
Foxtail (48 in.)	610,801	32,880,310	8,731	4,514,897	-	38,014,739
Grand Meadow (48 in.)	561,512	33,764,540	7,799	5,302,782	-	39,636,634
Lake Benton II (48 in.)	385,519	22,905,242	5,122	3,326,828	-	26,622,712
Nobles (48 in.)	1,306,946	51,911,086	15,599	10,639,600	-	63,873,231
Pleasant Valley (48 in.)	658,709	37,955,390	11,641	5,092,678	-	43,718,418
Total (Down 48 inch Removal)	**5,340,099**	**282,443,812**	**80,903**	**43,804,815**	**-**	**331,669,629**

TABLE 4.3a
SCRAP METAL CREDITS BY STATION
(thousands of 2019 dollars)

Fossil Stations

	Carbon Steel			Stainless Steel	Galvanized	Copper			Copper		
Station Name	**Cast Iron**	**No. 1**	**Mixed Scrap**	**SS-1**	**Steel**	**Insul Cbl**	**No. 2 Cu**	**Large Mtr**	**Nickel**	**Aluminum**	**Total**
Allen S . King	$ 232	$ 4,252	$ 4,181	$ 172	$ 4	$ 203	$ 1,231	$ 532	$ 1,639	$ -	$ 12,446
Angus Anson	$ 73	$ 811	$ 806	$ 273	$ 1	$ 81	$ 1,158	$ 69	$ 286	$ -	$ 3,559
Black Dog	$ 128	$ 2,827	$ 2,730	$ 574	$ 3	$ 264	$ 1,042	$ 520	$ 704	$ -	$ 8,792
Blue Lake	$ 44	$ 737	$ 1,306	$ 352	$ 1	$ 86	$ 1,114	$ 49	$ -	$ -	$ 3,688
Granite City	$ 32	$ 139	$ 298	$ 11	$ 1	$ 25	$ 246	$ 11	$ -	$ -	$ 763
Hennepin Island	$ -	$ 72	$ 142	$ 1	$ 0	$ 23	$ 93	$ -	$ -	$ -	$ 330
High Bridge	$ 66	$ 1,222	$ 1,452	$ 233	$ 3	$ 147	$ 1,379	$ 298	$ -	$ -	$ 4,799
Inver Hills	$ 16	$ 418	$ 942	$ 679	$ 0	$ -	$ 1,120	$ 2	$ -	$ -	$ 3,177
Key City	$ 32	$ 103	$ 295	$ 11	$ 1	$ 25	$ 223	$ 11	$ -	$ -	$ 702
Maplewood	$ 4	$ 235	$ 40	$ 81	$ 0	$ 9	$ 35	$ 0	$ -	$ -	$ 404
Minnesota Valley	$ 50	$ 1,334	$ 1,573	$ 413	$ 2	$ 89	$ 503	$ 408	$ 935	$ -	$ 5,307
Red Wing	$ 21	$ 597	$ 586	$ 343	$ 1	$ 38	$ 45	$ 69	$ 109	$ -	$ 1,809
Riverside	$ 56	$ 2,715	$ 3,766	$ 205	$ 2	$ 79	$ 1,243	$ 419	$ -	$ -	$ 8,484
Sherburne County	$ 312	$ 13,786	$ 14,449	$ 1,589	$ 16	$ 1,082	$ 1,863	$ 1,584	$ -	$ 0	$ 34,681
Sibley	$ 4	$ 188	$ 29	$ 77	$ 0	$ 9	$ 29	$ 2	$ -	$ -	$ 338
Wescott	$ 4	$ 821	$ 125	$ 141	$ 0	$ 44	$ 34	$ 1	$ -	$ 372	$ 1,541
Wilmarth	$ 24	$ 533	$ 565	$ 114	$ 1	$ 38	$ 45	$ 69	$ 254	$ -	$ 1,643
$											
Total	**$ 1,097**	**$ 30,790**	**$ 33,285**	**$ 5,269**	**$ 36**	**$ 2,240**	**$ 11,403**	**$ 4,044**	**$ 3,928**	**$ 372**	**$ 92,464**

TABLE 4.3b
SCRAP METAL CREDITS BY STATION
(thousands of 2019 dollars)

Wind Farms (Complete Removal)

	Carbon Steel		Copper			
Station Name	**No. 1**	**Mixed Scrap**	**No. 2 Cu**	**Large Mtr**	**Aluminum**	**Total**
Blazing Star I	$ 748	$ 4,439	$ 1,126	$ 1,902	$ 604	$ 8,819
Border Winds Project	$ 557	$ 2,394	$ 845	$ 1,207	$ 453	$ 5,457
Courtenay	$ 747	$ 3,594	$ 1,126	$ 1,610	$ 604	$ 7,681
Foxtail	$ 715	$ 3,327	$ 845	$ 1,427	$ 453	$ 6,768
Grand Meadow	$ 489	$ 3,417	$ 755	$ 1,676	$ 405	$ 6,741
Lake Benton II	$ 410	$ 2,318	$ 552	$ 1,052	$ 297	$ 4,629
Nobles	$ 1,363	$ 5,253	$ 1,509	$ 3,363	$ 809	$ 12,298
Pleasant Valley	$ 789	$ 3,841	$ 1,126	$ 1,610	$ 604	$ 7,971
Total (Complete Removal)	**$ 5,819**	**$ 28,583**	**$ 7,885**	**$ 13,848**	**$ 4,228**	**$ 60,363**

TABLE 4.3c
SCRAP METAL CREDITS BY STATION
(thousands of 2019 dollars)

Wind Farms (Down to 48 inches below grade)

	Carbon Steel		Copper			
Station Name	**No. 1**	**Mixed Scrap**	**No. 2 Cu**	**Large Mtr**	**Aluminum**	**Total**
Blazing Star I (48 in.)	$ 85	$ 4,439	$ 25	$ 1,902	$ -	$ 6,449
Border Winds Project (48 in.)	$ 61	$ 2,394	$ 18	$ 1,207	$ -	$ 3,682
Courtenay (48 in.)	$ 84	$ 3,594	$ 25	$ 1,610	$ -	$ 5,312
Foxtail (48 in.)	$ 77	$ 3,327	$ 18	$ 1,427	$ -	$ 4,850
Grand Meadow (48 in.)	$ 71	$ 3,417	$ 16	$ 1,676	$ -	$ 5,181
Lake Benton II (48 in.)	$ 49	$ 2,318	$ 11	$ 1,052	$ -	$ 3,429
Nobles (48 in.)	$ 165	$ 5,253	$ 33	$ 3,363	$ -	$ 8,815
Pleasant Valley (48 in.)	$ 83	$ 3,841	$ 25	$ 1,610	$ -	$ 5,559
Total (Down 48 inch Removal)	**$ 676**	**$ 28,583**	**$ 171**	**$ 13,848**	**$ -**	**$ 43,277**

5. RESULTS

An estimate for dismantling each of the Xcel Energy fossil-fuel and wind farm generating stations in Minnesota and South Dakota was developed by applying the system and structures inventories against the associated unit cost factors and accounting for program support costs. A summary of each station's major cost categories is presented in Table 5.1 for the fossil stations, and in Table 5.2 for the wind farms.

5.1 FOSSIL STATIONS

Breakdowns of the major cost categories by unit and common facilities are provided in Tables 5.1a through 5.1q. Note that columns may not total due to rounding.

The following is an explanation of the contents of each line item in these tables:

Station Unit Rating (MWe) – This is the nominal electrical rating of each unit at the station. In Table 5.1 this represents the sum of all units on site.

Characterization / Temporary Services – The cost associated with performing a hazardous materials survey of the site prior to beginning field activities. Includes costs associated with de-energizing systems and isolation of the electrical systems in the buildings scheduled for dismantling. Costs for installing temporary services to support the dismantling are also included.

Worker Access – The cost associated with providing safe access to areas of the station being dismantled.

Pre-Demolition Cleaning (Boiler / Precipitator / Tanks) – The cost associated with cleaning coal-fired boilers and precipitators / baghouses, and associated flue-gas emission control systems. This line item also includes costs to clean acid and caustic storage tanks.

Asbestos / Lead Paint Remediation– The cost associated with remediating asbestos from the station prior to initiating dismantling activities. It should be noted that dismantling can proceed much more efficiently if asbestos containing materials have been removed. This line item also includes lead paint abatement from concrete surfaces in the buildings.

Equipment Removal – The cost associated with removing all station equipment (piping, valves, heat exchangers, tanks, electrical equipment, etc.).

Boiler(s) – The cost associated with removing the boiler.

Structures Demolition – The cost associated with demolishing the buildings and concrete foundations.

Backfill / Grade / Landscaping / Well Closure – The cost associated with backfilling below grade voids, and grading and landscaping the grounds to preclude erosion of soils. This line item also includes costs to seal groundwater monitoring wells.

Coal Yard Closure – The cost associated with removal and disposal of soil waste beneath the footprint of the coal field to a depth of 5 feet, and backfilling the void.

Ash Landfills / Ash Ponds & Landfills Including Evaporation Ponds / Ash Pond Dewatering – The cost associated with closure of the ponds on site, including placement of a cap on the pond(s) after backfilling.

Utility Management / Oversight – The staff directly assigned to manage the dismantling project, including planning, execution, oversight, and restoration.

Demolition Contractor Mgmt. / Super. / Safety Staff – The contractor's staff assigned to manage, engineer, and supervise the dismantling project, including site safety personnel.

Security – Personnel assigned to control access to the dismantling site.

Property Taxes – Not included in this estimate.

The following six items, grouped as Project Expenses, are calculated on a station basis, but are apportioned among the generating units on site by a ratio of the craft labor hours for each generating unit.

> *Shared Heavy Equipment / Operating Engineers* – The cost for renting / operating equipment in general use throughout the dismantling project (cranes, trucks, forklifts, front-end loaders, etc.).
>
> *Small Tool Allowance* – The cost for procuring small tools; this is consistent with R.S. Means 2019 Item 01 54 39.70-0100.
>
> *Utilities Allowance (Office Equip & Supplies / Telephone, Electric etc.)* – The cost for procuring utility services and office supplies in support of the field office for the utility management and demolition contractor staffs.

Permits – The cost of obtaining permits; this is consistent with R.S. Means 2019 Item 01 41 26.50.

Demolition Contractors Insurance – The cost of the demolition contractors insurance; the value is consistent with the R.S. Means 2019 Item 01 31 13.30, lines 0020, 0200, and 0600.

Demolition Contractors Fee – A fee applied to contractor activities; this represents the Contractors overhead and profit payment for the project and is consistent with R.S. Means 2019 Item 01 31 13.80 lines 0350, 0400 and 0450.

Contingency – The cost to cover expenses for unforeseen events that are likely to occur. The estimate assumes 25% (consistent with TLG's experience for similarly highly regulated activities in the nuclear industry) for the asbestos remediation work, and 15% for all other project activities, consistent with the R.S. Means 2019 Item 01 21 16.50 lines 0050 and 0100.

Scrap Credit – A credit to the project for the recovery of scrap metals. This corresponds to value shown in Table 4.3a through 4.3c.

The following is an explanation of the contents of each column in the 5.1 Tables:

Unit – Costs directly attributed to the physical work associated with dismantling a generating unit.

Common – Costs directly attributed to the physical work associated with dismantling facilities shared by more than one unit.

Station – Costs associated with supporting the physical dismantling work for a station.

Station Total – The summation of all Unit columns, plus Common and Station columns.

This study provides an estimate for dismantling under current requirements, based on present-day costs and available technology. As inputs to the cost model change over time, such as labor rates, equipment costs, scrap metal value, etc., this cost estimate should be reviewed and updated to reflect these changes.

TABLE 5.1

SUMMARY OF ACTIVITY COSTS – FOSSIL STATIONS
(2019 Dollars)

Activities (Costs)	Allen S . King	Angus Anson	Black Dog	Blue Lake	Granite City	Hennepin Island	High Bridge	Inver Hills	Key City	Maplewood	Minnesota Valley	Red Wing	Riverside	Sherburne County	Sibley	Wescott	Wilmarth	Fleet Totals
Station Rating (MWe)	511	386	526	545	0	14	606	371	0	0	0	18	590	2238	0	0	18	5778
Characterization / Temporary Services	351,606	297,606	907,818	330,606	239,606	237,606	456,606	263,439	239,606	125,803	519,212	471,212	1,035,818	1,136,818	125,803	159,404	471,000	7,369,573
Worker Access	630,789	-	793,518	-	-	-	-	-	-	-	187,086	123,388	-	1,988,310	-	-	123,388	3,846,477
Pre-Demolition Cleaning (Boiler / Precipitator / Tanks)	1,080,300	240,000	-	-	-	-	-	342,500	-	-	500,900	515,600	526,800	3,243,150	-	-	515,600	6,964,850
Asbestos / Lead Paint Remediation	4,284,988	142,847	4,731,083	-	-	146,899	-	-	-	-	3,576,022	1,443,877	3,167,908	5,517,768	-	-	1,443,877	24,455,269
Equipment Removal	9,548,255	5,634,452	7,019,825	5,928,449	874,216	316,678	4,605,839	4,440,318	874,216	1,362,397	2,863,962	2,030,731	4,234,148	30,534,794	1,129,907	4,647,516	1,746,502	87,792,206
Boiler(s)	3,460,641	-	3,167,478	-	-	-	-	-	-	-	1,193,285	540,184	2,693,576	12,984,236	-	-	841,285	24,880,685
Structures Demolition	12,492,666	1,769,185	6,719,654	2,723,261	948,877	1,605,413	4,537,604	1,533,028	802,108	116,305	3,871,934	2,505,253	9,411,897	35,356,935	84,384	763,648	1,999,579	87,241,729
Backfill / Grade / Landscaping / Well Closure	3,697,788	1,133,560	2,767,357	1,529,390	383,922	790,474	1,742,979	1,343,018	243,348	161,005	1,432,771	1,079,539	2,498,203	9,987,445	164,731	756,289	780,770	30,492,588
Coal Yard Closure	10,718,358	-	-	-	-	-	-	-	-	-	-	-	-	8,264,365	-	-	-	18,982,723
Ash Landfills / Ash Ponds & Landfills Including Evaporation Ponds / Ash Pond Dewatering	950,000	-	3,215,960	-	-	-	-	-	-	-	-	457,152	-	23,923,905	-	-	1,400,239	29,947,256
Utility Management / Oversight	3,027,199	945,676	3,459,078	1,580,835	784,321	778,453	1,618,917	1,333,298	781,800	871,780	1,979,405	1,119,169	3,482,165	3,860,869	839,852	1,003,663	1,119,169	28,585,648
Demolition Contractor Mgmt / Super. / Safety Staff	3,699,644	886,053	4,873,798	1,562,983	488,361	401,322	1,654,047	971,065	482,147	550,634	2,196,028	1,130,906	4,775,533	6,129,664	499,554	1,028,973	1,130,906	32,461,621
Security	776,195	197,940	960,031	197,940	115,679	145,241	208,222	131,103	114,394	194,084	298,195	272,488	965,867	1,135,113	177,374	227,502	272,488	6,389,856
Property Taxes	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Project Expenses																		
Shared Heavy Equipment / Operating Engineers	3,194,695	882,518	4,301,582	1,441,364	476,691	622,535	1,526,730	886,484	470,350	863,495	2,010,686	1,209,872	4,169,727	5,525,323	781,061	1,028,362	1,209,872	30,601,346
Small Tool Allowance	683,023	173,521	508,038	206,202	44,900	57,909	220,828	147,564	39,153	33,294	262,821	153,819	406,870	1,936,030	28,080	123,849	138,068	5,163,971
Utilities Allowance	52,508	30,400	64,945	30,400	17,766	22,306	31,979	20,135	17,569	29,807	45,797	41,849	65,339	76,789	27,241	34,940	41,849	651,617
Permits	685,566	139,877	488,388	171,908	43,429	52,514	184,708	124,344	39,606	40,534	233,256	146,292	412,323	1,832,569	35,510	106,787	148,037	4,885,649
Demolition Contractors Insurance	1,613,171	329,137	1,149,202	404,509	102,191	123,569	434,626	292,589	93,195	95,379	548,864	344,233	970,216	4,312,127	83,556	251,276	348,338	11,496,176
Demolition Contractors Fee	6,680,544	1,346,638	4,479,356	1,595,761	391,450	496,988	1,717,737	1,174,177	352,394	353,503	2,155,825	1,382,875	3,699,103	18,327,570	307,534	984,009	1,401,050	46,846,515
Sub-Total	67,627,939	14,149,409	49,607,111	17,703,605	4,911,409	5,797,909	18,940,824	13,003,063	4,549,886	4,798,021	23,876,048	14,968,441	42,515,494	176,073,780	4,284,587	11,116,217	15,132,016	489,055,758
Contingency	10,572,690	2,136,696	7,914,175	2,655,541	736,711	884,376	2,841,124	1,950,459	682,483	719,703	3,939,009	2,389,654	6,694,115	26,962,844	642,688	1,667,433	2,414,190	75,803,891
Project Total (before scrap credit)	78,200,628	16,286,105	57,521,286	20,359,146	5,648,121	6,682,285	21,781,947	14,953,523	5,232,369	5,517,724	27,815,058	17,358,094	49,209,609	203,036,624	4,927,275	12,783,650	17,546,206	564,859,649
Scrap Credit	(12,446,046)	(3,559,337)	(8,791,629)	(3,688,291)	(762,978)	(329,908)	(4,798,599)	(3,176,879)	(702,022)	(404,310)	(5,307,403)	(1,808,929)	(8,484,150)	(34,681,107)	(338,307)	(1,541,232)	(1,642,767)	(92,463,894)
Project Total	65,754,582	12,726,768	48,729,657	16,670,855	4,885,143	6,352,377	16,983,348	11,776,644	4,530,347	5,113,414	22,507,655	15,549,165	40,725,459	168,355,517	4,588,968	11,242,417	15,903,439	472,395,755

TABLE 5.1a

ALLEN S. KING STATION
SUMMARY OF ACTIVITY COSTS
(2019 Dollars)

Activities	Unit 1	Common	Station	Station Total
Allen S . King Unit Rating (MWe)	511			511
Characterization / Temporary Services	150,000	-	201,606	351,606
Worker Access	630,789	-		630,789
Pre-Demolition Cleaning (Boiler / Precipitator / Tanks)	1,000,300	80,000		1,080,300
Asbestos / Lead Paint Remediation	4,284,988	-		4,284,988
Equipment Removal	7,865,365	1,682,890		9,548,255
Boiler(s)	3,460,641	-		3,460,641
Structures Demolition	10,016,294	2,476,372		12,492,666
Backfill / Grade / Landscaping / Well Closure	2,605,976	977,821	113,991	3,697,788
Coal Yard Closure		10,718,358		10,718,358
Ash Landfills / Ash Ponds & Landfills Including Evaporation Ponds		950,000		950,000
Utility Management / Oversight			3,027,199	3,027,199
Demolition Contractor Management / Supervisory / Safety Staff			3,699,644	3,699,644
Security			776,195	776,195
Property Taxes	-	-	-	0
Project Expenses				
Shared Heavy Equipment / Operating Engineers			3,194,695	3,194,695
Small Tool Allowance	580,281	102,742	n/a	683,023
Utilities Allowance (Office Equip & supplies / Telephone, Electric etc.)			52,508	52,508
Permits			685,566	685,566
Demolition Contractors Insurance			1,613,171	1,613,171
Demolition Contractors Fee			6,680,544	6,680,544
Sub-Total				67,627,939
Contingency				10,572,690
Project Total (before scrap credit)				78,200,628
Scrap Credit	(11,244,369)	(1,201,677)	-	(12,446,046)
Project Total				65,754,582

TABLE 5.1b

ANGUS ANSON STATION
SUMMARY OF ACTIVITY COSTS
(2019 Dollars)

Activities	Unit 1	Unit 2	Unit 3	Unit 4	Common	Station	Station Total
Angus Anson Unit Rating (MWe)	0	109	109	168			386
Characterization / Temporary Services	25,000	22,000	22,333	26,667	-	201,606	297,606
Pre-Demolition Cleaning (Tanks)	-	-	-	-	240,000		240,000
Lead Paint Remediation	142,847	-	-	-	-		142,847
Equipment Removal	2,642,304	589,684	592,643	1,471,114	338,707		5,634,452
Structures Demolition	1,044,734	158,683	161,649	343,728	60,391		1,769,185
Backfill / Grade / Landscaping / Well Closure	541,304	74,092	75,477	150,687	192,001	100,000	1,133,560
Utility Management / Oversight						945,676	945,676
Demolition Contractor Management / Supervisory / Safety Staff						886,053	886,053
Security						197,940	197,940
Property Taxes	-	-	-	-	-	-	0
Project Expenses							
Shared Heavy Equipment / Operating Engineers						882,518	882,518
Small Tool Allowance	87,924	16,889	17,042	39,844	11,822	n/a	173,521
Utilities Allowance (Office Equip & supplies / Telephone, Electric etc.)						30,400	30,400
Permits						139,877	139,877
Demolition Contractors Insurance						329,137	329,137
Demolition Contractors Fee						1,346,638	1,346,638
Sub-Total							14,149,409
Contingency							2,136,696
Project Total (before scrap credit)							16,286,105
Scrap Credit	(1,394,645)	(547,154)	(554,872)	(980,393)	(82,273)	-	(3,559,337)
Project Total							12,726,768

TABLE 5.1c

BLACK DOG STATION
SUMMARY OF ACTIVITY COSTS
(2019 Dollars)

Activities	Unit 2	Unit 3	Unit 5	Unit 6	Common	Station	Station Total
Black Dog Unit Rating (MWe)	117	0	181	228			526
Characterization / Temporary Services	64,000	67,000	79,000	93,000	-	604,818	907,818
Worker Access	387,123	406,395	-	-	-		793,518
Asbestos Remediation	1,956,422	1,969,760	-	800,000	4,902		4,731,083
Equipment Removal	2,289,715	2,297,438	1,366,958	981,902	83,813		7,019,825
Boiler(s)	1,750,299	1,417,179	-	-	-		3,167,478
Structures Demolition	823,953	1,315,352	1,535,212	2,081,747	963,391		6,719,654
Backfill / Grade / Landscaping / Well Closure	438,647	460,484	462,694	435,600	869,932	100,000	2,767,357
Ash Landfills / Ash Ponds & Landfills Including Evaporation Ponds					3,215,960		3,215,960
Utility Management / Oversight						3,459,078	3,459,078
Demolition Contractor Management / Supervisory / Safety Staff						4,873,798	4,873,798
Security						960,031	960,031
Property Taxes	-	-	-	-	-	-	0
Project Expenses							
Shared Heavy Equipment / Operating Engineers						4,301,582	4,301,582
Small Tool Allowance	154,203	158,672	68,877	87,845	38,441	n/a	508,038
Utilities Allowance (Office Equip & supplies / Telephone, Electric etc.)						64,945	64,945
Permits						488,388	488,388
Demolition Contractors Insurance						1,149,202	1,149,202
Demolition Contractors Fee						4,479,356	4,479,356
Sub-Total							49,607,111
Contingency							7,914,175
Project Total (before scrap credit)							57,521,286
Scrap Credit	(2,502,344)	(2,983,623)	(1,370,844)	(1,737,309)	(197,508)	-	(8,791,629)
Project Total							48,729,657

TABLE 5.1d

BLUE LAKE STATION
SUMMARY OF ACTIVITY COSTS
(2019 Dollars)

Activities	Unit 1	Unit 2	Unit 3	Unit 4	Unit 7	Unit 8	Common	Station	Station Total
Blue Lake Unit Rating (MWe)	50	50	46	48	174	177			545
Characterization / Temporary Services	12,250	12,250	12,250	12,250	40,000	40,000	-	201,606	330,606
Equipment Removal	566,731	566,731	566,731	566,731	1,472,140	1,472,140	717,247		5,928,449
Structures Demolition	234,043	203,009	203,009	203,009	461,241	461,241	957,708		2,723,261
Backfill / Grade / Landscaping	160,053	160,053	160,053	160,053	265,653	265,653	357,874	-	1,529,390
Utility Management / Oversight								1,580,835	1,580,835
Demolition Contractor Management / Supervisory / Safety Staff								1,562,983	1,562,983
Security								197,940	197,940
Property Taxes	-	-	-	-	-	-	-	-	0
Project Expenses									
Shared Heavy Equipment / Operating Engineers								1,441,364	1,441,364
Small Tool Allowance	19,462	18,841	18,841	18,841	44,781	44,781	40,657	n/a	206,202
Utilities Allowance (Office Equip & supplies / Telephone, Electric etc.)								30,400	30,400
Permits								171,908	171,908
Demolition Contractors Insurance								404,509	404,509
Demolition Contractors Fee								1,595,761	1,595,761
Sub-Total									17,703,605
Contingency (excluding activities currently under contract)									2,655,541
Project Total (before scrap credit)									20,359,146
Scrap Credit	(473,687)	(415,070)	(415,070)	(415,070)	(862,163)	(862,163)	(245,069)	-	(3,688,291)
Project Total									16,670,855

TABLE 5.1e

GRANITE CITY STATION
SUMMARY OF ACTIVITY COSTS
(2019 Dollars)

Activities	Unit 1	Unit 2	Unit 3	Unit 4	Common	Station	Station Total
Granite City Unit Rating (MWe)	0	0	0	0			0
Characterization / Temporary Services	9,500	9,500	9,500	9,500	-	201,606	239,606
Equipment Removal	218,554	218,554	218,554	218,554	-		874,216
Structures Demolition	142,423	142,423	142,423	142,423	379,183		948,877
Backfill / Grade / Landscaping	83,590	83,590	83,590	83,590	49,563	-	383,922
Utility Management / Oversight						784,321	784,321
Demolition Contractor Management / Supervisory / Safety Staff						488,361	488,361
Security						115,679	115,679
Property Taxes	-	-	-	-	-	-	0
Project Expenses							
Shared Heavy Equipment / Operating Engineers						476,691	476,691
Small Tool Allowance	9,081	9,081	9,081	9,081	8,575	n/a	44,900
Utilities Allowance (Office Equip & supplies / Telephone, Electric etc.)						17,766	17,766
Permits						43,429	43,429
Demolition Contractors Insurance						102,191	102,191
Demolition Contractors Fee						391,450	391,450
Sub-Total							4,911,409
Contingency							736,711
Project Total (before scrap credit)							5,648,121
Scrap Credit	(159,623)	(159,623)	(159,623)	(159,623)	(124,486)	-	(762,978)
Project Total							4,885,143

TABLE 5.1f

HENNEPIN ISLAND STATION
SUMMARY OF ACTIVITY COSTS
(2019 Dollars)

Activities	Unit 1-5	Station	Station Total
Hennepin Island Unit Rating (MWe)	14		14
Characterization / Temporary Services	36,000	201,606	237,606
Lead Paint Remediation	146,899		146,899
Equipment Removal	316,678		316,678
Structures Demolition	1,605,413		1,605,413
Grade / Landscaping	790,474	-	790,474
Utility Management / Oversight		778,453	778,453
Demolition Contractor Management / Supervisory / Safety Staff		401,322	401,322
Security		145,241	145,241
Property Taxes	-	-	0
Project Expenses			
Shared Heavy Equipment / Operating Engineers		622,535	622,535
Small Tool Allowance	57,909	n/a	57,909
Utilities Allowance (Office Equip & supplies / Telephone, Electric etc.)		22,306	22,306
Permits		52,514	52,514
Demolition Contractors Insurance		123,569	123,569
Demolition Contractors Fee		496,988	496,988
Sub-Total			5,797,909
Contingency			884,376
Project Total (before scrap credit)			6,682,285
Scrap Credit	(329,908)	-	(329,908)
Project Total			6,352,377

TABLE 5.1g

HIGH BRIDGE STATION
SUMMARY OF ACTIVITY COSTS
(2019 Dollars)

Activities	Unit 7	Unit 8	Unit 9	Common	Station	Station Total
High Bridge Unit Rating (MWe)	185	185	236			606
Characterization / Temporary Services	79,000	79,000	97,000	-	201,606	456,606
Equipment Removal	1,393,993	1,393,993	1,452,905	364,947		4,605,839
Boiler(s)	-	-	-	-		0
Structures Demolition	1,109,013	1,109,013	1,777,707	541,872		4,537,604
Backfill / Grade / Landscaping / Well Closure	327,086	327,086	801,030	187,777	100,000	1,742,979
Utility Management / Oversight					1,618,917	1,618,917
Demolition Contractor Management / Supervisory / Safety Staff					1,654,047	1,654,047
Security					208,222	208,222
Property Taxes	-	-	-	-	-	0
Project Expenses						
Shared Heavy Equipment / Operating Engineers					1,526,730	1,526,730
Small Tool Allowance	58,182	58,182	82,573	21,892	n/a	220,828
Utilities Allowance (Office Equip & supplies / Telephone, Electric etc.)					31,979	31,979
Permits					184,708	184,708
Demolition Contractors Insurance					434,626	434,626
Demolition Contractors Fee					1,717,737	1,717,737
Sub-Total						18,940,824
Contingency						2,841,124
Project Total (before scrap credit)						21,781,947
Scrap Credit	(1,418,437)	(1,418,437)	(1,846,014)	(115,711)	-	(4,798,599)
Project Total						16,983,348

TABLE 5.1h

INVER HILLS STATION
SUMMARY OF ACTIVITY COSTS
(2019 Dollars)

Activities	Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	Common	Station	Station Total
Inver Hills Unit Rating (MWe)	62	62	62	62	61	62			371
Characterization / Temporary Services	8,833	8,833	8,833	8,833	8,833	8,833	8,833	201,606	263,439
Pre-Demolition Cleaning (Tanks)	-	-	-	-	-	-	342,500		342,500
Equipment Removal	696,798	696,798	696,798	696,798	696,798	696,798	259,531		4,440,318
Boiler(s)	-	-	-	-	-	-	-		0
Structures Demolition	232,167	232,167	232,167	232,167	232,167	232,167	140,023		1,533,028
Backfill / Grade / Landscaping	192,205	192,205	192,205	192,205	192,205	192,205	189,786	-	1,343,018
Utility Management / Oversight								1,333,298	1,333,298
Demolition Contractor Management / Supervisory / Safety Staff								971,065	971,065
Security								131,103	131,103
Property Taxes	-	-	-	-	-	-	-	-	0
Project Expenses									
Shared Heavy Equipment / Operating Engineers								886,484	886,484
Small Tool Allowance	22,600	22,600	22,600	22,600	22,600	22,600	11,963	n/a	147,564
Utilities Allowance (Office Equip & supplies / Telephone, Electric etc.)								20,135	20,135
Permits								124,344	124,344
Demolition Contractors Insurance								292,589	292,589
Demolition Contractors Fee								1,174,177	1,174,177
Sub-Total									13,003,063
Contingency									1,950,459
Project Total (before scrap credit)									14,953,523
Scrap Credit	(517,223)	(517,223)	(517,223)	(517,223)	(517,223)	(517,223)	(73,541)	-	(3,176,879)
Project Total									11,776,644

TABLE 5.1i

KEY CITY STATION
SUMMARY OF ACTIVITY COSTS
(2019 Dollars)

Activities	Unit 1	Unit 2	Unit 3	Unit 4	Common	Station	Station Total
Key City Unit Rating (MWe)	0	0	0	0			0
Characterization / Temporary Services	9,500	9,500	9,500	9,500	-	201,606	239,606
Equipment Removal	218,554	218,554	218,554	218,554	-		874,216
Structures Demolition	107,785	107,785	107,785	107,785	370,968		802,108
Backfill / Grade / Landscaping	50,591	50,591	50,591	50,591	40,982	-	243,348
Utility Management / Oversight						781,800	781,800
Demolition Contractor Management / Supervisory / Safety Staff						482,147	482,147
Security						114,394	114,394
Property Taxes	-	-	-	-	-	-	0
Project Expenses							
Shared Heavy Equipment / Operating Engineers						470,350	470,350
Small Tool Allowance	7,729	7,729	7,729	7,729	8,239	n/a	39,153
Utilities Allowance (Office Equip & supplies / Telephone, Electric etc.)						17,569	17,569
Permits						39,606	39,606
Demolition Contractors Insurance						93,195	93,195
Demolition Contractors Fee						352,394	352,394
Sub-Total							4,549,886
Contingency							682,483
Project Total (before scrap credit)							5,232,369
Scrap Credit	(144,885)	(144,885)	(144,885)	(144,885)	(122,482)	-	(702,022)
Project Total							4,530,347

TABLE 5.1j

MAPLEWOOD GAS PLANT
SUMMARY OF ACTIVITY COSTS
(2019 Dollars)

Activities	Unit 1	Station	Station Total
Maplewood Unit Rating (MWe)	0		0
Characterization / Temporary Services	25,000	100,803	125,803
Equipment Removal	1,362,397		1,362,397
Structures Demolition	116,305		116,305
Grade / Landscaping	161,005	-	161,005
Utility Management / Oversight		871,780	871,780
Demolition Contractor Management / Supervisory / Safety Staff		550,634	550,634
Security		194,084	194,084
Property Taxes	-	-	0
Project Expenses			
Shared Heavy Equipment / Operating Engineers		863,495	863,495
Small Tool Allowance	33,294	n/a	33,294
Utilities Allowance (Office Equip & supplies / Telephone, Electric etc.)		29,807	29,807
Permits		40,534	40,534
Demolition Contractors Insurance		95,379	95,379
Demolition Contractors Fee		353,503	353,503
Sub-Total			4,798,021
Contingency			719,703
Project Total (before scrap credit)			5,517,724
Scrap Credit	(404,310)	-	(404,310)
Project Total			5,113,414

TABLE 5.1k

MINNESOTA VALLEY STATION
SUMMARY OF ACTIVITY COSTS
(2019 Dollars)

Activities	*Unit 1*	*Unit 2*	*Unit 3*	*Common*	*Station*	*Station Total*
Minnesota Valley Unit Rating (MWe)	0	0	0			0
Characterization / Temporary Services	34,000	34,000	48,000		403,212	519,212
Worker Access	-	-	187,086	-		187,086
Pre-Demolition Cleaning (Boiler / Precipitator / Tanks)	166,967	166,967	166,967	-		500,900
Asbestos / Lead Paint Remediation	124,640	124,640	3,326,742	-		3,576,022
Equipment Removal	353,302	353,302	2,157,358	-		2,863,962
Boiler(s)	255,835	255,835	681,615	-		1,193,285
Structures Demolition	756,380	756,380	2,059,095	300,078		3,871,934
Backfill / Grade / Landscaping / Well Closure	415,645	415,645	396,692	104,790	100,000	1,432,771
Utility Management / Oversight					1,979,405	1,979,405
Demolition Contractor Management / Supervisory / Safety Staff					2,196,028	2,196,028
Security					298,195	298,195
Property Taxes	-	-	-	-	-	0
Project Expenses						
Shared Heavy Equipment / Operating Engineers					2,010,686	2,010,686
Small Tool Allowance	38,796	38,796	177,132	8,097	n/a	262,821
Utilities Allowance (Office Equip & supplies / Telephone, Electric etc.)					45,797	45,797
Permits					233,256	233,256
Demolition Contractors Insurance					548,864	548,864
Demolition Contractors Fee					2,155,825	2,155,825
Sub-Total						23,876,048
Contingency						3,939,009
Project Total (before scrap credit)						27,815,058
Scrap Credit	(1,232,488)	(1,232,488)	(2,840,688)	(1,738)	-	(5,307,403)
Project Total						22,507,655

TABLE 5.11

RED WING STATION
SUMMARY OF ACTIVITY COSTS
(2019 Dollars)

Activities	Unit 1	Unit 2	Common	Station	Station Total
Red Wing Unit Rating (MWe)	9	9			18
Characterization / Temporary Services	34,000	34,000	-	403,212	471,212
Worker Access	61,694	61,694	-		123,388
Pre-Demolition Cleaning (Boiler / Precipitator / Tanks)	257,800	257,800	-		515,600
Asbestos / Lead Paint Remediation	721,939	721,939	-		1,443,877
Equipment Removal	780,906	780,906	468,918		2,030,731
Boiler(s)	270,092	270,092	-		540,184
Structures Demolition	731,187	731,187	1,042,878		2,505,253
Backfill / Grade / Landscaping / Well Closure	215,931	215,931	547,677	100,000	1,079,539
Ash Landfills / Ash Ponds & Landfills Inculding Evaporation Ponds			457,152		457,152
Utility Management / Oversight				1,119,169	1,119,169
Demolition Contractor Management / Supervisory / Safety Staff				1,130,906	1,130,906
Security				272,488	272,488
Property Taxes	-	-	-	-	0
Project Expenses					
Shared Heavy Equipment / Operating Engineers				1,209,872	1,209,872
Small Tool Allowance	56,315	56,315	41,189	n/a	153,819
Utilities Allowance (Office Equip & supplies / Telephone, Electric etc.)				41,849	41,849
Permits				146,292	146,292
Demolition Contractors Insurance				344,233	344,233
Demolition Contractors Fee				1,382,875	1,382,875
Sub-Total					14,968,441
Contingency					2,389,654
Project Total (before scrap credit)					17,358,094
Scrap Credit	(662,363)	(662,363)	(484,203)	-	(1,808,929)
Project Total					15,549,165

TABLE 5.1m

RIVERSIDE STATION
SUMMARY OF ACTIVITY COSTS
(2019 Dollars)

Activities	Unit 6 Boiler	Unit 7 Boiler	Unit 7 Turbine	Unit 8	Unit 9	Unit 10	Commom	Station	Station Total
Riverside Unit Rating (MWe)	44	44	160	0	171	171			590
Characterization / Temporary Services	48,000	48,000	80,000	93,000	81,000	81,000	-	604,818	1,035,818
Pre-Demolition Cleaning (Boiler / Precipitator / Tanks)	170,600	170,600	-	170,600	-	-	15,000		526,800
Asbestos Remediation	1,025,353	1,025,353	-	1,117,201	-	-	-		3,167,908
Equipment Removal	-	-	987,364	473,484	1,377,540	1,377,540	18,220		4,234,148
Boiler(s)	875,389	875,389	-	942,798	-	-	-		2,693,576
Structures Demolition	1,041,505	1,041,505	574,865	2,627,561	952,584	952,584	2,221,292		9,411,897
Backfill / Grade / Landscaping / Well Closure	197,838	197,838	364,420	590,917	246,508	246,508	554,174	100,000	2,498,203
Utility Management / Oversight								3,482,165	3,482,165
Demolition Contractor Management / Supervisory / Safety Staff								4,775,533	4,775,533
Security								965,867	965,867
Property Taxes			-		-		-	-	0
Project Expenses									
Shared Heavy Equipment / Operating Engineers								4,169,727	4,169,727
Small Tool Allowance	63,762	63,762	40,133	116,899	33,220	33,220	55,874	n/a	406,870
Utilities Allowance (Office Equip & supplies / Telephone, Electric etc.)								65,339	65,339
Permits								412,323	412,323
Demolition Contractors Insurance								970,216	970,216
Demolition Contractors Fee								3,699,103	3,699,103
Sub-Total									42,515,494
Contingency									6,694,115
Project Total (before scrap credit)									49,209,609
Scrap Credit	(1,202,298)	(1,202,298)	(1,141,914)	(2,432,111)	(1,179,549)	(1,179,549)	(146,430)	-	(8,484,150)
Project Total									40,725,459

TABLE 5.1n

SHERBURNE COUNTY STATION
SUMMARY OF ACTIVITY COSTS
(2019 Dollars)

Activities	Unit 1	Unit 2	Unit 3	Common	Station	Station Total
Sherburne County Unit Rating (MWe)	680	682	876			2238
Characterization / Temporary Services	171,000	171,000	190,000	-	604,818	1,136,818
Worker Access	642,334	642,334	703,642	-		1,988,310
Pre-Demolition Cleaning (Boiler / Precipitator / Tanks)	1,081,050	1,081,050	1,081,050	-		3,243,150
Asbestos Remediation	2,508,884	2,508,884	-	500,000		5,517,768
Equipment Removal	5,699,637	5,547,162	6,568,928	4,670,760		22,486,487
Boiler(s)	4,182,168	4,182,168	4,619,900	-		12,984,236
Turbine Generator & Condensor	609,899	609,899	686,634			1,906,432
Exhaust Gas Treatment Equipment and Structures	4,245,955	4,398,430	4,741,985			13,386,370
Structures Demolition	7,038,228	7,038,228	7,657,026	6,378,958		28,112,441
Backfill / Grade / Landscaping / Well Closure	1,656,105	1,656,105	1,814,172	4,761,063	100,000	9,987,445
Coal Yard Closure				8,264,365		8,264,365
Ash Landfills / Ash Ponds & Landfills Including Evaporation Ponds / Ash Pond Dewatering			3,169,905	20,754,000		23,923,905
Utility Management / Oversight	1,079,289	1,079,289	1,208,276	494,016		3,860,869
Demolition Contractor Management / Supervisory / Safety Staff	1,713,520	1,713,520	1,918,305	784,319		6,129,664
Security	317,316	317,316	355,239	145,243		1,135,113
Property Taxes	-	-	-	-	-	0
Project Expenses						
Shared Heavy Equipment / Operating Engineers	1,544,579	1,544,579	1,729,174	706,991		5,525,323
Small Tool Allowance	535,084	535,084	539,646	326,216	n/a	1,936,030
Utilities Allowance (Office Equip & supplies / Telephone, Electric etc.)					76,789	76,789
Permits					1,832,569	1,832,569
Demolition Contractors Insurance					4,312,127	4,312,127
Demolition Contractors Fee					18,327,570	18,327,570
Sub-Total						176,073,780
Contingency						26,962,844
Project Total (before scrap credit)						203,036,624
Scrap Credit	(9,982,485)	(9,982,485)	(12,096,244)	(2,619,893)	-	(34,681,107)
Project Total						168,355,517

TABLE 5.1o

SIBLEY GAS PLANT
SUMMARY OF ACTIVITY COSTS
(2019 Dollars)

Activities	Unit 1	Station	Station Total
Sibley Unit Rating (MWe)	0		0
Characterization / Temporary Services	25,000	100,803	125,803
Equipment Removal	1,129,907		1,129,907
Structures Demolition	84,384		84,384
Grade / Landscaping	164,731	-	164,731
Utility Management / Oversight		839,852	839,852
Demolition Contractor Management / Supervisory / Safety Staff		499,554	499,554
Security		177,374	177,374
Property Taxes	-	-	0
Project Expenses			
Shared Heavy Equipment / Operating Engineers		781,061	781,061
Small Tool Allowance	28,080	n/a	28,080
Utilities Allowance (Office Equip & supplies / Telephone, Electric etc.)		27,241	27,241
Permits		35,510	35,510
Demolition Contractors Insurance		83,556	83,556
Demolition Contractors Fee		307,534	307,534
Sub-Total			4,284,587
Contingency			642,688
Project Total (before scrap credit)			4,927,275
Scrap Credit	(338,307)	-	(338,307)
Project Total			4,588,968

TABLE 5.1p

WESCOTT GAS PLANT
SUMMARY OF ACTIVITY COSTS
(2019 Dollars)

Activities	Unit 1	Station	Station Total
Wescott Unit Rating (MWe)	0		0
Characterization / Temporary Services	25,000	134,404	159,404
Equipment Removal	4,647,516		4,647,516
Structures Demolition	763,648		763,648
Grade / Landscaping	756,289	-	756,289
Utility Management / Oversight		1,003,663	1,003,663
Demolition Contractor Management / Supervisory / Safety Staff		1,028,973	1,028,973
Security		227,502	227,502
Property Taxes	-	-	0
Project Expenses			
Shared Heavy Equipment / Operating Engineers		1,028,362	1,028,362
Small Tool Allowance	123,849	n/a	123,849
Utilities Allowance (Office Equip & supplies / Telephone, Electric etc.)		34,940	34,940
Permits		106,787	106,787
Demolition Contractors Insurance		251,276	251,276
Demolition Contractors Fee		984,009	984,009
Sub-Total			11,116,217
Contingency			1,667,433
Project Total (before scrap credit)			12,783,650
Scrap Credit	(1,541,232)	-	(1,541,232)
Project Total			11,242,417

TABLE 5.1q

WILMARTH STATION
SUMMARY OF ACTIVITY COSTS
(2019 Dollars)

Activities	Unit 1	Unit 2	Common	Station	Station Total
Wilmarth Unit Rating (MWe)	9	9			18
Characterization / Temporary Services	34,000	34,000	-	403,000	471,000
Worker Access	61,694	61,694	-		123,388
Pre-Demolition Cleaning (Boiler / Precipitator / Tanks)	257,800	257,800	-		515,600
Asbestos / Lead Paint Remediation	721,939	721,939	-		1,443,877
Equipment Removal	780,906	780,906	184,689		1,746,502
Boiler(s)	420,643	420,643	-		841,285
Structures Demolition	626,917	626,917	745,744		1,999,579
Backfill / Grade / Landscaping / Well Closure	217,690	217,690	245,389	100,000	780,770
Ash Landfills			1,400,239		1,400,239
Utility Management / Oversight				1,119,169	1,119,169
Demolition Contractor Management / Supervisory / Safety Staff				1,130,906	1,130,906
Security				272,488	272,488
Property Taxes	-	-	-	-	0
Project Expenses					
Shared Heavy Equipment / Operating Engineers				1,209,872	1,209,872
Small Tool Allowance	57,276	57,276	23,516	n/a	138,068
Utilities Allowance (Office Equip & supplies / Telephone, Electric etc.)				41,849	41,849
Permits				148,037	148,037
Demolition Contractors Insurance				348,338	348,338
Demolition Contractors Fee				1,401,050	1,401,050
Sub-Total					15,132,016
Contingency					2,414,190
Project Total (before scrap credit)					17,546,206
Scrap Credit	(737,645)	(737,645)	(167,478)	-	(1,642,767)
Project Total					15,903,439

5.2 WIND FARMS

An estimate for dismantling each of the Xcel Energy wind farm generating stations in Minnesota and North Dakota was developed by applying the system and structures inventories against the associated unit cost factors and accounting for program support costs. A summary of each wind farm's major cost categories is presented in Table 5.2. Breakdowns of the major cost categories by wind farm are provided in Tables 5.2a through 5.2p. Note that columns may not total due to rounding.

The following is an explanation of the contents of each line item in these tables:

TURBINE SITE REMOVAL

Dismantle Wind Turbine Generators – The cost associated with removal of the nacelle, hub, blades and tower. Also included is a percentage of the utility, DOC, and security staffing, miscellaneous expenses, and site characterization costs.

Haul Off of Materials (Trucking/Rail) – The cost associated with the transportation of the scrap material.

Foundation Removal – The cost of removal of the WTG concrete foundation or in the 48-inch scenario, the pedestal removal.

Crane Mobilization & Demobilization – All heavy equipment costs.

SITE CIVIL WORK REMOVAL

Balance of Site Civil Work Removals – The cost associated with backfilling below grade voids, and grading and landscaping the grounds to preclude erosion of soils. Also included is a percentage of the utility, DOC, and security staffing, miscellaneous expenses and site characterization costs.

COLLECTION SYSTEM REMOVAL

Remove Collection Cable, Remove Junction Boxes & Turbine Switchgears – The cost associated with excavation of the cable and back-fill of the trench. Also included is a percentage of the utility, DOC, and security staffing, miscellaneous expenses and site characterization costs.

Contingency (15%) - The cost to cover expenses for unforeseen events that are likely to occur.

Approximate scrap value of components – A credit to the project for the recovery of scrap metals. This corresponds to value shown in Table 4.3b through 4.3c.

TABLE 5.2

SUMMARY OF ACTIVITY COSTS – WIND FARMS
(2019 Dollars)

ITEM	DESCRIPTION	Blazing Star I AMOUNT	Blazing Star I (48 in.) AMOUNT	Border Winds Project AMOUNT	Border Winds Project (48 in.) AMOUNT	Courtenay AMOUNT	Courtenay (48 in.) AMOUNT	Foxtail AMOUNT	Foxtail (48 in.) AMOUNT	Grand Meadow AMOUNT	Grand Meadow (48 in.) AMOUNT	Lake Benton II AMOUNT	Lake Benton II (48 in.) AMOUNT	Nobles AMOUNT	Nobles (48 in.) AMOUNT	Pleasant Valley AMOUNT	Pleasant Valley (48 in.) AMOUNT	Complete Removal AMOUNT	Removal (to to 48" depth) ITEM
1	TURBINE SITE REMOVAL																		
1a	Dismantle Wind Turbine Generators - Model 1	$1,392,653	$1,437,495	$11,136,713	$11,604,079	$13,597,829	$13,970,467	$993,756	$1,025,000	$10,279,573	$10,906,283	$804,060	$837,777	$18,641,078	$19,146,628	$15,900,269	$16,381,957	$72,745,929	$75,309,687
	Dismantle Wind Turbine Generators - Model 2	$12,625,322	$13,028,894	$0	$0	$0	$0	$9,723,737	$10,027,257	$0	$0	$6,529,184	$6,792,178	$0	$0	$0	$0	$28,878,242	$29,848,328
1b	Haul Off of Materials (Trucking/Rail)	$3,053,850	$2,643,300	$1,769,707	$1,462,533	$2,568,667	$2,158,116	$2,353,658	$1,987,602	$2,336,369	$2,072,402	$1,608,528	$1,391,969	$4,017,223	$3,339,613	$2,713,931	$2,285,819	$20,421,933	$17,341,355
1c	Foundation Removal - Model 1	$609,370	$73,272	$5,263,779	$585,008	$6,704,742	$801,686	$465,755	$54,629	$3,416,996	$525,128	$302,318	$37,728	$7,736,964	$1,012,965	$6,787,708	$792,287	$31,287,631	$3,882,702
	Foundation Removal - Model 2	$5,484,331	$659,444	$0	$0	$0	$0	$4,524,475	$530,685	$0	$0	$2,358,079	$294,280	$0	$0	$0	$0	$12,366,885	$1,484,409
1d	Crane Mobilization & Demobilization	$1,998,541	$1,903,425	$2,417,050	$2,283,888	$1,954,154	$1,846,356	$1,522,963	$1,453,212	$2,201,454	$2,138,044	$1,015,680	$977,633	$1,947,813	$1,871,720	$2,150,726	$2,061,951	$15,208,380	$14,536,230
	SUBTOTAL	**$25,164,068**	**$19,745,830**	**$20,587,249**	**$15,935,508**	**$24,825,391**	**$18,776,625**	**$19,584,343**	**$15,078,385**	**$18,234,392**	**$15,641,858**	**$12,617,848**	**$10,331,565**	**$32,343,078**	**$25,370,926**	**$27,552,633**	**$21,522,014**	**$180,909,001**	**$142,402,711**
2	SITE CIVIL WORK REMOVAL																		
2a	Balance of Site Civil Work Removals	$10,397,806	$10,084,299	$8,909,810	$8,622,688	$11,048,476	$10,695,312	$8,406,384	$8,171,092	$7,490,034	$7,343,033	$4,848,790	$4,759,976	$13,434,084	$13,038,736	$10,584,412	$10,237,618	$75,119,796	$72,952,756
	SUBTOTAL	**$10,397,806**	**$10,084,299**	**$8,909,810**	**$8,622,688**	**$11,048,476**	**$10,695,312**	**$8,406,384**	**$8,171,092**	**$7,490,034**	**$7,343,033**	**$4,848,790**	**$4,759,976**	**$13,434,084**	**$13,038,736**	**$10,584,412**	**$10,237,618**	**$75,119,796**	**$72,952,756**
3	COLLECTION SYSTEM REMOVAL																		
3a	Remove MV Collection Cable	$2,023,676	$408,958	$1,933,366	$397,071	$2,050,705	$407,251	$1,609,155	$324,523	$1,697,809	$366,382	$1,054,685	$221,763	$2,399,425	$479,044	$2,165,432	$438,778	$14,934,254	$3,043,769
3b	Remove Junction Boxes & Turbine Switchgears	$313,937	$31,394	$248,574	$24,857	$331,432	$33,143	$248,574	$24,857	$210,338	$21,034	$138,132	$13,813	$420,675	$42,068	$313,937	$31,394	$2,225,597	$222,560
	SUBTOTAL	**$2,337,613**	**$440,352**	**$2,181,939**	**$421,928**	**$2,382,137**	**$440,394**	**$1,857,729**	**$349,380**	**$1,908,147**	**$387,416**	**$1,192,817**	**$235,576**	**$2,820,100**	**$521,112**	**$2,479,368**	**$470,172**	**$17,159,851**	**$3,266,329**
	SITE SUBTOTAL	**$37,899,487**	**$30,270,481**	**$31,678,997**	**$24,980,125**	**$38,256,004**	**$29,912,331**	**$29,848,456**	**$23,598,856**	**$27,632,572**	**$23,372,307**	**$18,659,455**	**$15,327,118**	**$48,597,262**	**$38,930,775**	**$40,616,414**	**$32,229,804**	**$273,188,648**	**$218,621,796**
	CONTINGENGY (15%)	$5,684,923	$4,540,572	$4,751,850	$3,747,019	$5,738,401	$4,486,850	$4,477,268	$3,539,828	$4,144,886	$3,505,846	$2,798,918	$2,299,068	$7,289,589	$5,839,616	$6,092,462	$4,834,471	$40,978,297	$32,793,269
	Project Total (before scrap credit)	$43,584,410	$34,811,053	$36,430,847	$28,727,143	$43,994,405	$34,399,181	$34,325,724	$27,138,685	$31,777,458	$26,878,153	$21,458,374	$17,626,185	$55,886,851	$44,770,391	$46,708,876	$37,064,275	$314,166,945	$251,415,066
	APPROXIMATE SCRAP VALUE OF COMPONENTS	($8,818,650)	($6,449,499)	($5,456,601)	($3,681,527)	($7,680,961)	($5,311,810)	($6,767,995)	($4,850,452)	($6,741,282)	($5,180,812)	($4,628,964)	($3,429,286)	($12,298,196)	($8,815,111)	($7,970,541)	($5,558,899)	($60,363,190)	($43,277,397)
	TOTAL PRICE	**$34,765,760**	**$28,361,555**	**$30,974,246**	**$25,045,616**	**$36,313,443**	**$29,087,370**	**$27,557,729**	**$22,288,232**	**$25,036,176**	**$21,697,340**	**$16,829,410**	**$14,196,899**	**$43,588,656**	**$35,955,280**	**$38,738,336**	**$31,505,376**	**$253,803,755**	**$208,137,669**

Note: Model 1 and Model 2 designate the two Models of WTG at Blazing Star I, Foxtail, and Lake Benton II.

TABLE 5.2a
Blazing Star I Wind Farm

SUMMARY OF ACTIVITY COSTS
(2019 Dollars)

					Blazing Star I
ITEM	**DESCRIPTION**	**QUANTITY**	**UNIT**	**UNIT PRICE**	**AMOUNT**
1	TURBINE SITE REMOVAL				
1a	Dismantle Wind Turbine Generators - V110	10	EA	$139,265	$1,392,653
	Dismantle Wind Turbine Generators - V120	90	EA	$140,281	$12,625,322
1b	Haul Off of Materials (Trucking/Rail)	100	EA	30,539	$3,053,850
1c	Foundation Removal - V110	10	EA	$60,937	$609,370
	Foundation Removal - V120	90	EA	$60,937	$5,484,331
1d	Crane Mobilization & Demobilization	1	LS	$1,998,541	$1,998,541
		SUBTOTAL			**$25,164,068**
2	SITE CIVIL WORK REMOVAL				
2a	Balance of Site Civil Work Removals	1	LS	$10,397,806	$10,397,806
		SUBTOTAL			**$10,397,806**
3	COLLECTION SYSTEM REMOVAL				
3a	Remove MV Collection Cable	1	LS	$2,023,676	$2,023,676
3b	Remove Junction Boxes & Turbine Switchgears	1	LS	$313,937	$313,937
		SUBTOTAL			**$2,337,613**
		SITE SUBTOTAL			**$37,899,487**
	CONTINGENGY (15%)				$5,684,923
	Project Total (before scrap credit)				$43,584,410
	APPROXIMATE SCRAP VALUE OF COMPONENTS				($8,818,650)
TOTAL PRICE					**$34,765,760**

TABLE 5.2b
Blazing Star I Wind Farm
(Removal to 48 inches)
SUMMARY OF ACTIVITY COSTS
(2019 Dollars)

Blazing Star I (48 in.)

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	AMOUNT
1	TURBINE SITE REMOVAL				
1a	Dismantle Wind Turbine Generators - V110	10	EA	$143,749	$1,437,495
	Dismantle Wind Turbine Generators - V120	90	EA	$144,765	$13,028,894
1b	Haul Off of Materials (Trucking/Rail)	100	EA	26,433	$2,643,300
1c	Foundation Removal V110	10	EA	$7,327	$73,272
	Foundation Removal V120	90	EA	$7,327	$659,444
1d	Crane Mobilization & Demobilization	1	LS	$1,903,425	$1,903,425
		SUBTOTAL			**$19,745,830**
2	SITE CIVIL WORK REMOVAL				
2a	Balance of Site Civil Work Removals	1	LS	$10,084,299	$10,084,299
		SUBTOTAL			**$10,084,299**
3	COLLECTION SYSTEM REMOVAL				
3a	Remove MV Collection Cable	1	LS	$408,958	$408,958
3b	Remove Junction Boxes & Turbine Switchgears	1	LS	$31,394	$31,394
		SUBTOTAL			**$440,352**
		SITE SUBTOTAL			**$30,270,481**
	CONTINGENGY (15%)				$4,540,572
	Project Total (before scrap credit)				$34,811,053
	APPROXIMATE SCRAP VALUE OF COMPONENTS				($6,449,499)
TOTAL PRICE					**$28,361,555**

TABLE 5.2c
Border Winds Project

SUMMARY OF ACTIVITY COSTS
(2019 Dollars)

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	Border Winds Project AMOUNT
1	TURBINE SITE REMOVAL				
1a	Dismantle Wind Turbine Generators V100.20	75	EA	$148,490	$11,136,713
1b	Haul Off of Materials (Trucking/Rail)	75	EA	23,596	$1,769,707
1c	Foundation Removal V100.20	75	EA	$70,184	$5,263,779
1d	Crane Mobilization & Demobilization	1	LS	$2,417,050	$2,417,050
		SUBTOTAL			**$20,587,249**
2	SITE CIVIL WORK REMOVAL				
2a	Balance of Site Civil Work Removals	1	LS	$8,909,810	$8,909,810
		SUBTOTAL			**$8,909,810**
3	COLLECTION SYSTEM REMOVAL				
3a	Remove MV Collection Cable	1	LS	$1,933,366	$1,933,366
3b	Remove Junction Boxes & Turbine Switchgears	1	LS	$248,574	$248,574
		SUBTOTAL			**$2,181,939**
		SITE SUBTOTAL			**$31,678,997**
	CONTINGENGY (15%)				$4,751,850
	Project Total (before scrap credit)				$36,430,847
	APPROXIMATE SCRAP VALUE OF COMPONENTS				($5,456,601)
TOTAL PRICE					**$30,974,246**

TABLE 5.2d
Border Winds Project
(Removal to 48 inches)
SUMMARY OF ACTIVITY COSTS
(2019 Dollars)

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	Border Winds Project (48 in.) AMOUNT
1	TURBINE SITE REMOVAL				
1a	Dismantle Wind Turbine Generators - V100-2.0	75	EA	$154,721	$11,604,079
1b	Haul Off of Materials (Trucking/Rail)	75	EA	19,500	$1,462,533
1c	Foundation Removal - V100-2.0	75	EA	$7,800	$585,008
1d	Crane Mobilization & Demobilization	1	LS	$2,283,888	$2,283,888
		SUBTOTAL			**$15,935,508**
2	SITE CIVIL WORK REMOVAL				
2a	Balance of Site Civil Work Removals	1	LS	$8,622,688	$8,622,688
		SUBTOTAL			**$8,622,688**
3	COLLECTION SYSTEM REMOVAL				
3a	Remove MV Collection Cable	1	LS	$397,071	$397,071
3b	Remove Junction Boxes & Turbine Switchgears	1	LS	$24,857	$24,857
		SUBTOTAL			**$421,928**
		SITE SUBTOTAL			**$24,980,125**
	CONTINGENGY (15%)				$3,747,019
	Project Total (before scrap credit)				$28,727,143
	APPROXIMATE SCRAP VALUE OF COMPONENTS				($3,681,527)
TOTAL PRICE					**$25,045,616**

TABLE 5.2e
Courtenay Wind Farm

SUMMARY OF ACTIVITY COSTS
(2019 Dollars)

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	Courtenay AMOUNT
1	TURBINE SITE REMOVAL				
1a	Dismantle Wind Turbine Generators - V100-2.0	100	EA	$135,978	$13,597,829
1b	Haul Off of Materials (Trucking/Rail)	100	EA	25,687	$2,568,667
1c	Foundation Removal - V100-2.0	100	EA	$67,047	$6,704,742
1d	Crane Mobilization & Demobilization	1	LS	$1,954,154	$1,954,154
		SUBTOTAL			**$24,825,391**
2	SITE CIVIL WORK REMOVAL				
2a	Balance of Site Civil Work Removals	1	LS	$11,048,476	$11,048,476
		SUBTOTAL			**$11,048,476**
3	COLLECTION SYSTEM REMOVAL				
3a	Remove MV Collection Cable	1	LS	$2,050,705	$2,050,705
3b	Remove Junction Boxes & Turbine Switchgears	1	LS	$331,432	$331,432
		SUBTOTAL			**$2,382,137**
		SITE SUBTOTAL			**$38,256,004**
	CONTINGENGY (15%)				$5,738,401
	Project Total (before scrap credit)				$43,994,405
	APPROXIMATE SCRAP VALUE OF COMPONENTS				($7,680,961)
TOTAL PRICE					**$36,313,443**

TABLE 5.2f
Courtenay Wind Farm
(Removal to 48 inches)
SUMMARY OF ACTIVITY COSTS
(2019 Dollars)

Courtenay (48 in.)

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	AMOUNT
1	TURBINE SITE REMOVAL				
1a	Dismantle Wind Turbine Generators - V100-2.0	100	EA	$139,705	$13,970,467
1b	Haul Off of Materials (Trucking/Rail)	100	EA	21,581	$2,158,116
1c	Foundation Removal - V100-2.0	100	EA	$8,017	$801,686
1d	Crane Mobilization & Demobilization	1	LS	$1,846,356	$1,846,356
		SUBTOTAL			**$18,776,625**
2	SITE CIVIL WORK REMOVAL				
2a	Balance of Site Civil Work Removals	1	LS	$10,695,312	$10,695,312
		SUBTOTAL			**$10,695,312**
3	COLLECTION SYSTEM REMOVAL				
3a	Remove MV Collection Cable	1	LS	$407,251	$407,251
3b	Remove Junction Boxes & Turbine Switchgears	1	LS	$33,143	$33,143
		SUBTOTAL			**$440,394**
		SITE SUBTOTAL			**$29,912,331**
	CONTINGENGY (15%)				$4,486,850
	Project Total (before scrap credit)				$34,399,181
	APPROXIMATE SCRAP VALUE OF COMPONENTS				($5,311,810)
TOTAL PRICE					**$29,087,370**

TABLE 5.2g
Foxtail Wind Farm

SUMMARY OF ACTIVITY COSTS
(2019 Dollars)

					Foxtail
ITEM	**DESCRIPTION**	**QUANTITY**	**UNIT**	**UNIT PRICE**	**AMOUNT**
1	TURBINE SITE REMOVAL				
1a	Dismantle Wind Turbine Generators - V110	7	EA	$141,965	$993,756
	Dismantle Wind Turbine Generators - V120	68	EA	$142,996	$9,723,737
1b	Haul Off of Materials (Trucking/Rail)	75	EA	31,382	$2,353,658
1c	Foundation Removal - V110	7	EA	$66,536	$465,755
	Foundation Removal - V120	68	EA	$66,536	$4,524,475
1d	Crane Mobilization & Demobilization	1	LS	$1,522,963	$1,522,963
		SUBTOTAL			**$19,584,343**
2	SITE CIVIL WORK REMOVAL				
2a	Balance of Site Civil Work Removals	1	LS	$8,406,384	$8,406,384
		SUBTOTAL			**$8,406,384**
3	COLLECTION SYSTEM REMOVAL				
3a	Remove MV Collection Cable	1	LS	$1,609,155	$1,609,155
3b	Remove Junction Boxes & Turbine Switchgears	1	LS	$248,574	$248,574
		SUBTOTAL			**$1,857,729**
		SITE SUBTOTAL			**$29,848,456**
	CONTINGENGY (15%)				$4,477,268
	Project Total (before scrap credit)				$34,325,724
	APPROXIMATE SCRAP VALUE OF COMPONENTS				($6,767,995)
TOTAL PRICE					**$27,557,729**

TABLE 5.2h
Foxtail Wind Farm
(Removal to 48 inches)
SUMMARY OF ACTIVITY COSTS
(2019 Dollars)

Foxtail (48 in.)

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	AMOUNT
1	TURBINE SITE REMOVAL				
1a	Dismantle Wind Turbine Generators - V110	7	EA	$146,429	$1,025,000
	Dismantle Wind Turbine Generators - V120	68	EA	$147,460	$10,027,257
1b	Haul Off of Materials (Trucking/Rail)	75	EA	26,501	$1,987,602
1c	Foundation Removal - V110	7	EA	$7,804	$54,629
	Foundation Removal - V120	68	EA	$7,804	$530,685
1d	Crane Mobilization & Demobilization	1	LS	$1,453,212	$1,453,212
		SUBTOTAL			**$15,078,385**
2	SITE CIVIL WORK REMOVAL				
2a	Balance of Site Civil Work Removals	1	LS	$8,171,092	$8,171,092
		SUBTOTAL			**$8,171,092**
3	COLLECTION SYSTEM REMOVAL				
3a	Remove MV Collection Cable	1	LS	$324,523	$324,523
3b	Remove Junction Boxes & Turbine Switchgears	1	LS	$24,857	$24,857
		SUBTOTAL			**$349,380**
		SITE SUBTOTAL			**$23,598,856**
	CONTINGENGY (15%)				$3,539,828
	Project Total (before scrap credit)				$27,138,685
	APPROXIMATE SCRAP VALUE OF COMPONENTS				($4,850,452)
TOTAL PRICE					**$22,288,232**

TABLE 5.2i
Grand Meadow Wind

SUMMARY OF ACTIVITY COSTS
(2019 Dollars)

					Grand Meadow
ITEM	**DESCRIPTION**	**QUANTITY**	**UNIT**	**UNIT PRICE**	**AMOUNT**
1	TURBINE SITE REMOVAL				
1a	Dismantle Wind Turbine Generators - GE1.5-77	67	EA	$153,426	$10,279,573
1b	Haul Off of Materials (Trucking/Rail)	67	EA	34,871	$2,336,369
1c	Foundation Removal - GE1.5-77	67	EA	$51,000	$3,416,996
1d	Crane Mobilization & Demobilization	1	LS	$2,201,454	$2,201,454
		SUBTOTAL			**$18,234,392**
2	SITE CIVIL WORK REMOVAL				
2a	Balance of Site Civil Work Removals	1	LS	$7,490,034	$7,490,034
		SUBTOTAL			**$7,490,034**
3	COLLECTION SYSTEM REMOVAL				
3a	Remove MV Collection Cable	1	LS	$1,697,809	$1,697,809
3b	Remove Junction Boxes & Turbine Switchgears	1	LS	$210,338	$210,338
		SUBTOTAL			**$1,908,147**
		SITE SUBTOTAL			**$27,632,572**
	CONTINGENGY (15%)				$4,144,886
	Project Total (before scrap credit)				$31,777,458
	APPROXIMATE SCRAP VALUE OF COMPONENTS				($6,741,282)
TOTAL PRICE					**$25,036,176**

TABLE 5.2j
Grand Meadow Wind
(Removal to 48 inches)
SUMMARY OF ACTIVITY COSTS
(2019 Dollars)

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	Grand Meadow (48 in.) AMOUNT
1	TURBINE SITE REMOVAL				
1a	Dismantle Wind Turbine Generators - GE1.5-77	67	EA	$162,780	$10,906,283
1b	Haul Off of Materials (Trucking/Rail)	67	EA	30,931	$2,072,402
1c	Foundation Removal - GE1.5-77	67	EA	$7,838	$525,128
1d	Crane Mobilization & Demobilization	1	LS	$2,138,044	$2,138,044
		SUBTOTAL			**$15,641,858**
2	SITE CIVIL WORK REMOVAL				
2a	Balance of Site Civil Work Removals	1	LS	$7,343,033	$7,343,033
		SUBTOTAL			**$7,343,033**
3	COLLECTION SYSTEM REMOVAL				
3a	Remove MV Collection Cable	1	LS	$366,382	$366,382
3b	Remove Junction Boxes & Turbine Switchgears	1	LS	$21,034	$21,034
		SUBTOTAL			**$387,416**
		SITE SUBTOTAL			**$23,372,307**
	CONTINGENGY (15%)				$3,505,846
	Project Total (before scrap credit)				$26,878,153
	APPROXIMATE SCRAP VALUE OF COMPONENTS				($5,180,812)
TOTAL PRICE					**$21,697,340**

TABLE 5.2k
Lake Benton II Wind

SUMMARY OF ACTIVITY COSTS
(2019 Dollars)

Lake Benton II

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	AMOUNT
1	TURBINE SITE REMOVAL				
1a	Dismantle Wind Turbine Generators - GE2.1-116	5	EA	$160,812	$804,060
	Dismantle Wind Turbine Generators - GE2.3-116	39	EA	$167,415	$6,529,184
1b	Haul Off of Materials (Trucking/Rail)	44	EA	36,557	$1,608,528
1c	Foundation Removal - GE2.1-116	5	EA	$60,464	$302,318
	Foundation Removal - GE2.3-116	39	EA	$60,464	$2,358,079
1d	Crane Mobilization & Demobilization	1	LS	$1,015,680	$1,015,680
		SUBTOTAL			**$12,617,848**
2	SITE CIVIL WORK REMOVAL				
2a	Balance of Site Civil Work Removals	1	LS	$4,848,790	$4,848,790
		SUBTOTAL			**$4,848,790**
3	COLLECTION SYSTEM REMOVAL				
3a	Remove MV Collection Cable	1	LS	$1,054,685	$1,054,685
3b	Remove Junction Boxes & Turbine Switchgears	1	LS	$138,132	$138,132
		SUBTOTAL			**$1,192,817**
		SITE SUBTOTAL			**$18,659,455**
	CONTINGENGY (15%)				$2,798,918
	Project Total (before scrap credit)				$21,458,374
	APPROXIMATE SCRAP VALUE OF COMPONENTS				($4,628,964)
TOTAL PRICE					**$16,829,410**

TABLE 5.2l
Lake Benton II Wind
(Removal to 48 inches)
SUMMARY OF ACTIVITY COSTS
(2019 Dollars)

Lake Benton II (48 in.)

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	AMOUNT
1	TURBINE SITE REMOVAL				
1a	Dismantle Wind Turbine Generators - GE2.1-116	5	EA	$167,555	$837,777
	Dismantle Wind Turbine Generators - GE2.3-116	39	EA	$174,158	$6,792,178
1b	Haul Off of Materials (Trucking/Rail)	44	EA	31,636	$1,391,969
1c	Foundation Removal - GE2.1-116	5	EA	$7,546	$37,728
	Foundation Removal - GE2.3-116	39	EA	$7,546	$294,280
1d	Crane Mobilization & Demobilization	1	LS	$977,633	$977,633
		SUBTOTAL			**$10,331,565**
2	SITE CIVIL WORK REMOVAL				
2a	Balance of Site Civil Work Removals	1	LS	$4,759,976	$4,759,976
		SUBTOTAL			**$4,759,976**
3	COLLECTION SYSTEM REMOVAL				
3a	Remove MV Collection Cable	1	LS	$221,763	$221,763
3b	Remove Junction Boxes & Turbine Switchgears	1	LS	$13,813	$13,813
		SUBTOTAL			**$235,576**
		SITE SUBTOTAL			**$15,327,118**
	CONTINGENGY (15%)				$2,299,068
	Project Total (before scrap credit)				$17,626,185
	APPROXIMATE SCRAP VALUE OF COMPONENTS				($3,429,286)
TOTAL PRICE					**$14,196,899**

TABLE 5.2m
Nobles Wind Farm

SUMMARY OF ACTIVITY COSTS
(2019 Dollars)

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	Nobles AMOUNT
1	TURBINE SITE REMOVAL				
1a	Dismantle Wind Turbine Generators - GE1.5-77	134	EA	$139,113	$18,641,078
1b	Haul Off of Materials (Trucking/Rail)	134	EA	29,979	$4,017,223
1c	Foundation Removal - GE1.5-77	134	EA	$57,739	$7,736,964
1d	Crane Mobilization & Demobilization	1	LS	$1,947,813	$1,947,813
		SUBTOTAL			**$32,343,078**
2	SITE CIVIL WORK REMOVAL				
2a	Balance of Site Civil Work Removals	1	LS	$13,434,084	$13,434,084
		SUBTOTAL			**$13,434,084**
3	COLLECTION SYSTEM REMOVAL				
3a	Remove MV Collection Cable	1	LS	$2,399,425	$2,399,425
3b	Remove Junction Boxes & Turbine Switchgears	1	LS	$420,675	$420,675
		SUBTOTAL			**$2,820,100**
		SITE SUBTOTAL			**$48,597,262**
	CONTINGENGY (15%)				$7,289,589
	Project Total (before scrap credit)				$55,886,851
	APPROXIMATE SCRAP VALUE OF COMPONENTS				($12,298,196)
TOTAL PRICE					**$43,588,656**

TABLE 5.2n
Nobles Wind Farm
(Removal to 48 inches)
SUMMARY OF ACTIVITY COSTS
(2019 Dollars)

					Nobles (48 in.)
ITEM	**DESCRIPTION**	**QUANTITY**	**UNIT**	**UNIT PRICE**	**AMOUNT**
1	TURBINE SITE REMOVAL				
1a	Dismantle Wind Turbine Generators - GE1.5-77	134	EA	$142,885	$19,146,628
1b	Haul Off of Materials (Trucking/Rail)	134	EA	24,922	$3,339,613
1c	Foundation Removal - GE1.5-77	134	EA	$7,559	$1,012,965
1d	Crane Mobilization & Demobilization	1	LS	$1,871,720	$1,871,720
		SUBTOTAL			**$25,370,926**
2	SITE CIVIL WORK REMOVAL				
2a	Balance of Site Civil Work Removals	1	LS	$13,038,736	$13,038,736
		SUBTOTAL			**$13,038,736**
3	COLLECTION SYSTEM REMOVAL				
3a	Remove MV Collection Cable	1	LS	$479,044	$479,044
3b	Remove Junction Boxes & Turbine Switchgears	1	LS	$42,068	$42,068
		SUBTOTAL			**$521,112**
		SITE SUBTOTAL			**$38,930,775**
	CONTINGENGY (15%)				$5,839,616
	Project Total (before scrap credit)				$44,770,391
	APPROXIMATE SCRAP VALUE OF COMPONENTS				($8,815,111)
TOTAL PRICE					**$35,955,280**

TABLE 5.2o
Pleasant Valley Wind Farm

SUMMARY OF ACTIVITY COSTS
(2019 Dollars)

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	Pleasant Valley AMOUNT
1	TURBINE SITE REMOVAL				
1a	Dismantle Wind Turbine Generators - V100-2.0	100	EA	$159,003	$15,900,269
1b	Haul Off of Materials (Trucking/Rail)	100	EA	27,139	$2,713,931
1c	Foundation Removal - V100-2.0	100	EA	$67,877	$6,787,708
1d	Crane Mobilization & Demobilization	1	LS	$2,150,726	$2,150,726
		SUBTOTAL			**$27,552,633**
2	SITE CIVIL WORK REMOVAL				
2a	Balance of Site Civil Work Removals	1	LS	$10,584,412	$10,584,412
		SUBTOTAL			**$10,584,412**
3	COLLECTION SYSTEM REMOVAL				
3a	Remove MV Collection Cable	1	LS	$2,165,432	$2,165,432
3b	Remove Junction Boxes & Turbine Switchgears	1	LS	$313,937	$313,937
		SUBTOTAL			**$2,479,368**
		SITE SUBTOTAL			**$40,616,414**
	CONTINGENGY (15%)				$6,092,462
	Project Total (before scrap credit)				$46,708,876
	APPROXIMATE SCRAP VALUE OF COMPONENTS				($7,970,541)
TOTAL PRICE					**$38,738,336**

TABLE 5.2p
Pleasant Valley Wind Farm
(Removal to 48 inches)
SUMMARY OF ACTIVITY COSTS
(2019 Dollars)

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	Pleasant Valley (48 in.) AMOUNT
1	TURBINE SITE REMOVAL				
1a	Dismantle Wind Turbine Generators - V100-2.0	100	EA	$163,820	$16,381,957
1b	Haul Off of Materials (Trucking/Rail)	100	EA	22,858	$2,285,819
1c	Foundation Removal - V100-2.0	100	EA	$7,923	$792,287
1d	Crane Mobilization & Demobilization	1	LS	$2,061,951	$2,061,951
		SUBTOTAL			**$21,522,014**
2	SITE CIVIL WORK REMOVAL				
2a	Balance of Site Civil Work Removals	1	LS	$10,237,618	$10,237,618
		SUBTOTAL			**$10,237,618**
3	COLLECTION SYSTEM REMOVAL				
3a	Remove MV Collection Cable	1	LS	$438,778	$438,778
3b	Remove Junction Boxes & Turbine Switchgears	1	LS	$31,394	$31,394
		SUBTOTAL			**$470,172**
		SITE SUBTOTAL			**$32,229,804**
	CONTINGENGY (15%)				$4,834,471
	Project Total (before scrap credit)				$37,064,275
	APPROXIMATE SCRAP VALUE OF COMPONENTS				($5,558,899)
TOTAL PRICE					**$31,505,376**

6. REFERENCES

1. E-mail dated November 18, 2019 from Roger P. Schluessel of Xcel Energy to Ben Stochmal at TLG Services; "Labor Rates"
2. E-mail dated December 11, 2019 from Roger P. Schluessel of Xcel Energy to Ben Stochmal at TLG Services; subject "Utility Salaries for 2019"
3. "Building Construction Cost Data 2019," Robert Snow Means Company, Inc., Kingston, Massachusetts [Open]
4. Recycler's World, Iron and Steel Recycling Section and Scrap Copper Recycling Section, U.S. Scrap Metal Index, January 1, 2015 to December 31, 2019 [Open]
5. T.S. LaGuardia et al., "Guidelines for Producing Commercial Nuclear Power Plant Decommissioning Cost Estimates," AIF/NESP-036, May 1986 [Open]
6. W.J. Manion and T.S. LaGuardia, "Decommissioning Handbook," U.S. Department of Energy, DOE/EV/10128-1, November 1980 [Open]
7. AACE International, Skills and Knowledge of Cost Engineering, 4th Edition, 1999 [Open]
8. 29 CFR Part 1926, Subpart T - Demolition , United States Department of Labor, 2019 https://www.osha.gov/doc/topics/demolition/index.html

APPENDIX A
SUMMARY OF STATION SYSTEM AND STRUCTURES INVENTORIES

TABLE A

SUMMARY OF STATION SYSTEMS AND STRUCTURES INVENTORIES

Index	System/Structure Inventory Data Point	Allen S . King	Angus Anson	Black Dog	Blue Lake	Granite City	Hennepin Island	High Bridge	Inver Hills	Key City	Maplewood	Minnesota Valley	Red Wing	Riverside	Sherburne County	Sibley	Wescott	Wilmarth
Station Rating (Mwe)		511	386	409	545	0	14	606	371	0	0	0	178	502	2238	0	0	18
2	Piping 0.25 to 2 inches diameter, linear foot	79,850	31,521	11,835	20,178	1,501	-	24,690	3,268	1,501	-	492	4,919	24,046	233,790	-	-	4,919
3	Piping >2 to 4 inches diameter, linear foot	53,123	31,014	36,003	13,452	1,001	-	16,460	2,579	1,001	2,195	12,745	3,279	16,031	157,111	2,110	-	3,279
4	Piping >4 to 8 inches diameter, linear foot	35,133	14,009	24,870	10,357	3,138	-	11,173	6,964	3,138	1,120	6,427	2,186	10,687	103,907	520	5,585	2,186
5	Piping >8 to 14 inches diameter, linear foot	30,662	8,006	16,782	6,229	445	-	8,015	1,348	445	330	4,778	1,457	7,125	89,271	385	2,265	1,457
6	Piping >14 to 20 inches diameter, linear foot	7,208	2,614	7,217	4,259	148	-	5,377	1,139	148	90	2,484	794	4,750	26,401	75	20	794
7	Piping >20 to 36 inches diameter, linear foot	9,734	1,886	4,260	2,419	-	-	3,971	-	-	70	1,803	289	3,716	37,053	16	-	289
8	Piping >36 inches diameter, linear foot	5,335	898	3,074	1,796	-	-	2,420	-	-	-	17	173	2,126	15,991	-	60	173
9	Valves <2 inches	1,373	1,308	20	144	108	-	-	216	108	-	54	540	1,418	4,118	-	-	540
10	Valves >2 to 4 inches	935	1,660	1,869	672	72	-	698	174	72	330	402	360	698	2,805	346	-	360
11	Valves >4 to 8 inches	610	592	886	464	80	-	381	264	80	78	207	240	369	1,830	47	104	240
12	Valves >8 to 14 inches	1,519	272	531	142	24	-	159	62	24	44	134	120	123	1,115	54	35	120
13	Valves >14 to 20 inches	158	84	102	48	-	-	78	-	-	2	29	50	66	587	-	4	50
14	Valves >20 to 36 inches	128	22	31	24	-	-	36	-	-	-	14	16	36	476	-	-	16
15	Valves >36 inches	56	6	22	12	-	-	26	-	-	-	1	14	18	104	-	-	14
24	Pipe hangers for small bore piping, each	5,018	3,641	3,225	1,449	81	-	1,742	246	81	88	847	909	1,742	14,975	84	-	909
25	Pipe hangers for large bore piping, each	3,351	1,243	1,672	1,089	121	-	1,249	391	121	64	393	543	1,237	9,618	40	317	543
26	Pump and motor set < 300 pounds	77	17	62	72	16	-	13	108	16	6	32	38	13	507	3	7	38
27	Pumps, 300-1000 pound pump	23	16	18	12	-	-	13	-	-	-	4	8	13	73	-	7	8
28	Pumps, >1000-10,000 pound pump	14	5	15	-	-	-	2	-	-	-	4	11	2	44	-	-	11
29	Pumps, >10,000 pound pump	13	5	14	4	-	-	8	-	-	-	5	8	4	9	-	-	8
32	Pump motors, 300-1000 pound pump	23	32	18	12	-	-	13	-	-	-	4	8	13	28	-	7	8
33	Pump motors, >1000-10,000 pound pump	13	5	12	-	-	-	3	-	-	-	4	11	3	68	2	-	11
34	Pump motors, >10,000 pound pump	13	5	14	4	-	-	8	-	-	-	5	4	4	18	-	-	4
37	Turbine-driven pumps > 10,000 pounds	1	-	-	-	-	-	-	-	-	-	-	-	-	6	-	-	-
38	Main turbine-generator (pounds per MW(e) input)	1	1	2	-	-	-	1	-	-	-	3	2	2	3	-	-	2
39	Heat exchanger <3000 pound	16	12	30	101	-	-	6	210	-	-	15	12	6	60	-	-	12
40	Heat exchanger >3000 pound	-	27	12	48	-	-	5	96	-	-	7	14	5	21	-	-	14
41	Feedwater heater/deaerator	9	6	25	2	-	-	2	-	-	-	7	12	2	31	-	-	12
49	Main condenser (pounds per MW(e) input)	1	1	2	-	-	-	1	-	-	-	3	2	1	3	-	-	2
51	Tanks, <300 gallons, filters, and ion exchangers	38	33	41	20	16	3	10	34	16	5	39	12	10	66	28	25	12
52	Tanks, 300-3000 gallons	12	32	29	4	12	-	11	8	12	6	7	2	6	132	9	4	2
53	Tanks, >3000 gallons, square foot surface	27,566	75,184	4,933	62,690	2,847	-	23,259	7,069	2,847	101,764	87,790	33,585	1,859	162,458	81,889	374,754	6,871
54	Electrical equipment, <300 pound	742	686	881	647	420	54	150	846	420	21	222	322	128	6,686	36	-	322
55	Electrical equipment, 300-1000 pound	144	296	500	350	40	16	289	184	40	17	51	18	280	936	13	15	18
56	Electrical equipment, 1000-10,000 pound	122	190	203	280	80	25	207	175	80	7	39	56	201	122	2	32	56
57	Electrical equipment, >10,000 pound	19	99	18	128	28	36	16	168	28	5	4	16	16	30	3	5	16
59	Electrical transformers < 30 tons	3	13	22	14	2	-	4	18	2	2	10	-	4	6	2	1	-
60	Electrical transformers > 30 tons	3	9	6	12	2	-	5	12	2	-	4	2	5	3	-	-	2
61	Standby diesel-generator, <100 kW	-	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
62	Standby diesel-generator, 100 kW to 1 MW	-	-	-	-	8	-	-	-	8	-	-	-	-	-	-	-	-
63	Standby diesel-generator, >1 MW	2	-	-	-	4	-	-	-	4	-	-	-	2	5	-	-	-
64	Fluorescent light fixture	200	250	450	180	80	10	200	100	80	30	163	38	150	498	30	24	38
65	Incandescent light fixture	1,564	288	1,000	180	120	16	200	170	120	30	327	258	150	4,060	30	24	258
66	Electrical cable tray, linear foot	27,803	5,512	13,091	5,651	1,730	250	10,276	-	1,730	-	2,107	1,364	9,206	166,291	-	820	1,364
67	Electrical conduit, linear foot	41,992	7,922	45,448	8,631	2,471	4,790	13,688	-	2,471	2,060	18,605	8,658	11,905	119,404	2,000	8,500	8,658
69	Mechanical equipment, <300 pound	788	288	670	52	44	5	31	78	44	8	258	360	21	2,388	6	48	360
70	Mechanical equipment, 300-1000 pound	198	312	290	812	64	8	274	30	64	-	77	14	274	457	21	9	14
71	Mechanical equipment, 1000-10,000 pound	204	60	38	127	-	38	59	1,000	-	3	23	60	44	516	17	28	60
72	Mechanical equipment, >10,000 pound	68	160	106	238	60	26	141	219	60	20	5	45	103	90	8	62	45

TABLE A

SUMMARY OF SYSTEMS AND STRUCTURES INVENTORIES
(Continued)

Index	System/Structure Inventory Data Point	Allen S. King	Angus Anson	Black Dog	Blue Lake	Granite City	Hennepin Island	High Bridge	Inver Hills	Key City	Maplewood	Minnesota Valley	Red Wing	Riverside	Sherburne County	Sibley	Wescott	Wilmarth
Station Rating (Mwe)		511	386	409	545	0	14	606	371	0	0	0	178	502	2238	0	0	18
76	HVAC equipment, <300 pound	108	14	-	16	-	-	-	24	-	-	4	10	-	328	-	-	10
77	HVAC equipment, 300-1000 pound	-	22	4	-	-	-	36	-	-	-	-	-	24	107	-	-	-
78	HVAC equipment, 1000-10,000 pound	-	5	-	-	-	-	14	-	-	-	2	4	10	6	-	-	4
79	HVAC equipment, >10,000 pound	-	-	-	-	-	-	-	-	-	-	-	-	-	15	-	-	-
82	HVAC ductwork, pound	119,977	10,000	273,680	-	-	8,175	142,100	-	-	-	96,406	18,295	38,202	439,440	-	-	18,295
201	Standard reinforced concrete, cubic yard	24,015	6,662	22,278	14,027	3,806	2,006	18,008	14,800	1,903	770	7,390	9,138	23,366	89,076	591	7,914	5,248
202	Grade slab concrete, cubic yard	10,800	1,329	8,959	1,176	906	-	372	1,384	906	-	676	474	3,551	-	-	-	474
206	Heavily rein concrete w/#9 rebar, cubic yard	7,824	1,110	7,007	-	-	-	-	-	-	-	3,788	1,793	3,035	22,775	-	-	1,793
222	Hollow masonry block wall, cubic yard	-	1,103	374	58	-	-	425	-	-	-	-	-	2,219	-	-	-	109
224	Solid masonry block wall, cubic yard	3,788	-	4,114	-	-	458	-	-	-	-	8,809	663	3,011	14,335	-	-	663
229	Backfill of below grade voids, cubic yard	29,218	11,074	14,043	12,493	2,170	20,000	19,394	6,898	1,308	-	32,816	17,556	12,325	-	-	-	20,531
230	Excavation of clean material, cubic yard	8,747	-	13,387	-	-	-	-	-	-	-	7,307	5,760	18,507	34,560	-	-	5,760
235	Building by volume, cubic foot	5,117,058	229,493	35,076	970,228	189,562	-	318,816	247,411	189,562	159,000	155,740	321,500	597,793	9,863,100	107,000	390,842	321,500
236	Building metal siding, square foot	217,256	42,789	56,780	19,901	37,278	-	108,748	15,564	37,278	-	73,964	32,498	93,913	669,467	-	-	32,498
242	Standard asphalt roofing, square foot	47,897	22,500	32,544	-	-	9,375	110,000	-	-	-	23,588	9,129	119,469	237,266	-	-	9,129
245	Placement of cofferdam, linear foot	200	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
248	Lead paint removal from concrete surfaces, square foo	373,064	54,000	-	-	-	54,150	-	-	-	-	135,495	54,337	-	-	-	-	54,337
253	Overhead cranes/monorails < 10 ton capacity, each	14	5	2	-	-	-	-	-	-	-	-	1	-	136	-	-	1
255	Overhead cranes/monorails >10 - 50 ton capacity, each	6	2	-	4	-	1	5	-	-	-	2	2	7	21	-	1	2
258	Gantry cranes > 50 ton capacity, each	1	-	-	1	-	-	1	-	-	-	-	-	5	6	-	-	-
260	Structural steel, pounds	24,541,699	2,731,615	13,947,804	1,748,139	310,648	299,854	6,981,323	662,931	310,648	12,000	6,612,141	2,429,526	17,879,987	83,653,565	10,000	77,000	2,429,526
262	Steel floor grating, square foot	161,222	16,242	43,412	7,410	2,673	900	18,797	-	2,673	-	12,083	30,386	56,169	578,353	-	-	30,386
268	Placement of scaffolding in clean areas, square foot	66,680	-	83,881	-	-	-	-	-	-	-	19,777	13,043	-	210,181	-	-	13,043
270	Landscaping with topsoil, acre	3	4	4	1	0	2	1.9	2	0	3	1	4	3	33	2	4	2
271	Landscaping w/o topsoil, acre	29	4	5	8	2	-	4	9	2	3	7	3	8	239	2	4	4
272	Chain link fencing, linear foot	3,372	6,800	3,000	2,880	995	550	3,144	2,800	995	2,460	3,859	8,372	5,016	20,000	3,680	3,450	995
273	Railroad track, linear foot	3,000	-	3,600	-	-	-	-	-	-	-	-	-	-	24,000	-	-	-
274	Asphalt pavement, square foot	220,880	91,000	122,500	78,300	12,000	17,650	75,171	51,000	12,000	17,750	38,225	-	128,241	801,500	45,625	62,700	52,000
293	Carbon steel plate 3/8 inch thick, square foot	-	8,200	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
294	Carbon steel plate 1/2 inch thick, square foot	66,630	7,388	36,515	14,776	75,398	12,441	14,550	-	75,398	-	6,959	17,695	78,517	219,533	-	-	17,695
359	Steam drum removal (fossil)	1	3	5	6	-	-	6	-	-	-	3	2	9	6	-	-	2
360	Water drum removal (fossil)	-	-	-	-	-	-	-	-	-	-	4	4	-	12	-	-	4
361	Upper/lower waterwall headers (fossil)	26	-	22	-	-	-	-	-	-	-	14	6	27	72	-	-	6
362	Top sup boiler waterwall (8'x8' section), inches cut	138,902	-	75,985	-	-	-	-	-	-	-	45,627	13,392	128,711	470,566	-	-	13,392
369	Boiler convective superheaater platens	307	-	356	-	-	-	-	-	-	-	256	116	459	1,344	-	-	116
370	Boiler radiant superheater platens	-	-	-	-	-	-	-	-	-	-	-	-	-	156	-	-	-
371	Boiler reheat platens	140	-	180	-	-	-	-	-	-	-	-	-	90	666	-	-	-
372	Boiler economizer platens	420	-	169	-	-	-	-	-	-	-	39	-	163	1,344	-	-	-
374	Stationary soot blowers	98	-	64	-	-	-	-	-	-	-	21	-	32	315	-	-	-
375	Retractable soot blowers	70	-	36	-	-	-	-	-	-	-	7	16	18	144	-	-	16
376	Process ductwork (8'x8' section), inches cut	757,268	321,019	1,009,405	625,433	54,416	-	446,315	307,617	54,416	-	470,306	61,481	1,009,280	3,392,767	-	-	61,481
378	Non-asbestos insulated regenerative air preheaters	4	-	9	-	-	-	-	-	-	-	8	8	4	13	-	-	8
380	Non-asbestos insulated recuperative air preheaters	-	-	-	-	-	-	-	-	-	-	4	-	8	-	-	-	-
382	Induced, forced, primary draft fans	9	-	11	-	-	-	-	-	-	-	4	4	-	42	-	-	4
383	Coal car dumpers	1	-	-	-	-	-	-	-	-	-	-	-	-	4	-	-	-
384	Conveyors	5,528	-	-	-	-	-	-	-	-	-	-	625	-	5,000	-	-	625
385	Transfer Towers	100,500	-	-	-	-	-	-	-	-	-	-	-	-	201,000	-	-	-
386	Stacker-reclaimers	1	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-
389	Ball mills	12	-	8	-	-	-	-	-	-	-	4	-	-	43	-	-	-
390	Coal feeders	120	-	122	-	-	-	-	-	-	-	40	86	-	1,019	-	-	86

TABLE A
SUMMARY OF STATION SYSTEMS AND STRUCTURES INVENTORIES

WIND FARMS ONLY

Index	System/Structure Inventory Data Point	Blazing Star I	Blazing Star I (48 in.)	Border Winds Project	Border Winds Project (48 in.)	Courtenay	Courtenay (48 in.)	Foxtail	Foxtail (48 in.)	Grand Meadow	Grand Meadow (48 in.)	Lake Benton II	Lake Benton II (48 in.)	Nobles	Nobles (48 in.)	Pleasant Valley	Pleasant Valley (48 in.)
Station Rating (Mwe)		200	200	148	148	190	190	150	150	99	99	99	99	197	197	196	196
56	Electrical equipment, 1000-10,000 pound	100	100	75	75	100	100	75	75	67	67	44	44	134	134	100	100
57	Electrical equipment, >10,000 pound	300	300	225	225	300	300	225	225	134	134	132	132	268	268	300	300
67	Electrical conduit, linear foot	1,731,165	-	1,298,374	-	1,731,165	-	1,298,374	-	1,159,881	-	513184	0	2,319,761	-	1,731,165	-
72	Mechanical equipment, >10,000 pound	1,550	1,550	1,163	1,163	1,550	1,550	1,163	1,163	1,039	1,039	770	770	2211	2,211	1650	1650
201	Standard reinforced concrete, cubic yard	36,220	4,067	28,822	3,125	36,182	4,029	28,397	3,086	18,865	2,765	15854	1908	43,432	5,336	38,082	3,997
229	Backfill of below grade voids, cubic yard	207,034	174,881	156,858	131,161	207,034	174,881	156,471	131,161	133,270	117,170	90893	76948	272,437	234,341	208,965	174,881
230	Excavation of clean material, cubic yard	333,101	187,310	249,826	140,483	333,101	187,310	249,826	140,483	223,178	125,498	146565	82416	446,356	250,996	333,101	187,310
235	Building by volume, cubic foot	132,000	132,000	132,000	132,000	108,000	108,000	108,000	108,000	95,625	95,625	102,000	102,000	123,930	123,930.00	88,560	88,560
270	Landscaping with topsoil, acre	71	71	53	53	71	71	53	53	47	47	31	31	95	95	71	71
271	Landscaping w/o topsoil, acre	4	4	3	3	4	4	3	3	3	3	3	3	3	3	3	3
294	Carbon steel plate 1/2 inch thick, square foo	892,716	892,716	588,123	588,123	784,164	784,164	669,644	669,644	658,346	658,346	524316	524316	1,316,693	1,316,692.58	1,156,983	1,156,983

APPENDIX B

UNIT COST FACTOR DEVELOPMENT

APPENDIX B

UNIT COST FACTOR DEVELOPMENT
(Using Minnesota-based labor rates)

Example: Unit Factor for Removal of Heat Exchanger < 3,000 pounds

1. SCOPE

Heat exchangers weighing < 3,000 lb. will be removed in one piece using a crane or small hoist. They will be disconnected from the inlet and outlet piping. The heat exchanger will be sent to the laydown area.

2. CALCULATIONS

Act ID	Activity Description	Activity Duration	Critical Duration
a	Remove insulation	20	(b)
b	Mount pipe cutters	60	60
c	Disconnect inlet and outlet lines	60	60
d	Rig for removal	30	30
e	Unbolt from mounts	30	30
f	Remove, send to packing area	60	60
	Totals (Activity/Critical)	260	240

Duration adjustment(s):	
+ Work break adjustment (8.33 % of productive duration)	20
Total work duration (minutes)	260

***** Total duration = 4.333 hours *****

3. LABOR REQUIRED

Crew	Number	Duration (hr)	Rate ($/hr)	Cost ($)
Laborers	3.0	4.333	60.80	790.34
Craftsmen	2.0	4.333	71.33	618.15
Foreman	1.0	4.333	73.44	318.22
General Foreman	0.25	4.333	74.44	80.64
Fire Watch	0.05	4.333	60.80	13.17
Total labor cost				1,820.52

4. EQUIPMENT & CONSUMABLES COSTS

Equipment Costs	none
Consumables/Materials Costs	
Gas torch consumables 1 @ $19.93/hr x 1 hr {1}	19.93
Subtotal cost of equipment and materials	19.93
Overhead & profit on equipment and materials @ 16.88%	3.36
Total costs, equipment & material	23.29
TOTAL COST Removal of heat exchanger <3000 pound:	**1,843.81**
Total labor cost:	1,820.52
Total equipment/material costs:	23.29
Total craft labor man-hours required per unit:	27.298

5. NOTES AND REFERENCES

- Durations are shown in minutes. The integrated duration accounts for those activities that can be performed in conjunction with other activities, indicated by the alpha designator of the concurrent activity. This results in an overall decrease in the sequenced duration.

- Work difficulty factors were developed in conjunction with the AIF program to standardize decommissioning cost studies and are delineated in the "Guidelines" study (Reference 2, Vol. 1, Chapter 5).

- References for equipment and consumables costs:

    1. R.S. Means (2019) Division 01 54 33, Section 40-6360 Page 736

APPENDIX C

UNIT COST FACTOR LISTING

TABLE C-1

UNIT COST FACTOR LISTING
Minnesota Stations
(Costs are in 2019 dollars/Scrap Weights in pounds)

Unit Cost Factors					Scrap Weight							
UCF #	Description	Total Cost	Labor Cost	Labor Hours	Cast Iron	Carbon Steel No. 1	Mixed Scrap	SS-1	Galv. Steel.	Insul Cable	No. 2 Copper	Large Motor
2	Piping 0.25 to 2 inches diameter, linear foot	6.97	6.89	0.1	-	4	-	0.5	-	-	-	-
3	Piping >2 to 4 inches diameter, linear foot	9.79	9.68	0.2	-	7	-	0.9	-	-	0.4	-
4	Piping >4 to 8 inches diameter, linear foot	18.72	18.56	0.3	-	22	-	-	-	-	-	-
5	Piping >8 to 14 inches diameter, linear foot	36.53	36.34	0.6	-	57	-	-	-	-	-	-
6	Piping >14 to 20 inches diameter, linear foot	47.51	46.93	0.7	-	-	120	-	-	-	-	-
7	Piping >20 to 36 inches diameter, linear foot	69.90	69.13	1.1	-	-	221	-	-	-	-	-
8	Piping >36 inches diameter, linear foot	83.05	82.27	1.3	-	-	417	-	-	-	-	-
9	Valves <2 inches	133.87	133.10	2.0	-	-	-	-	-	-	-	-
10	Valves >2 to 4 inches	124.03	122.86	1.9	75	-	-	8.8	-	-	4.4	-
11	Valves >4 to 8 inches	187.18	185.61	2.8	510	-	-	-	-	-	-	-
12	Valves >8 to 14 inches	365.29	363.36	5.6	1,066	-	-	-	-	-	-	-
13	Valves >14 to 20 inches	475.15	469.33	7.3	-	-	2,040	-	-	-	-	-
14	Valves >20 to 36 inches	699.04	691.28	10.7	-	-	3,334	-	-	-	-	-
15	Valves >36 inches	830.45	822.69	12.7	-	-	11,535	-	-	-	-	-
24	Pipe hangers for small bore piping, each	43.43	37.61	0.6	-	10	-	-	-	-	-	-
25	Pipe hangers for large bore piping, each	156.79	145.14	2.3	-	50	-	-	-	-	-	-
26	Pump and motor set < 300 pounds	316.32	306.61	4.7	-	-	50	12.5	-	-	-	62.3
27	Pumps, 300-1000 pound pump	866.84	851.31	12.7	293	-	49	48.9	-	-	-	-
28	Pumps, >1000-10,000 pound pump	3,438.05	3,414.76	51.3	2,834	-	472	472.3	-	-	-	-
29	Pumps, >10,000 pound pump	6,651.40	6,581.52	98.9	43,693	-	7,282	7,282.1	-	-	-	-
32	Pump motors, 300-1000 pound pump	362.10	362.10	5.4	-	-	-	-	-	-	-	307.8
33	Pump motors, >1000-10,000 pound pump	1,428.02	1,428.02	21.5	-	-	-	-	-	-	-	3,531.6
34	Pump motors, >10,000 pound pump	3,213.05	3,213.05	48.3	-	-	-	-	-	-	-	42,324.5
37	Turbine-driven pumps > 10,000 pounds	8,904.73	8,827.09	132.7	20,000	-	20,000	-	-	-	-	-
38	Main turbine-generator (pounds per MW(e) input)	208,434.81	206,943.98	3,042.0	-	-	851,500	-	-	-	-	851,500.0
39	Heat exchanger <3000 pound	1,843.81	1,820.52	27.3	-	-	416	623.4	-	-	-	-
40	Heat exchanger >3000 pound	4,644.67	4,551.49	68.3	-	-	5,599	8,397.9	-	-	-	-
41	Feedwater heater/deaerator	13,109.71	12,923.36	194.2	-	-	12,000	18,000.0	-	-	-	-
49	Main condenser (pounds per MW(e) input)	573,864.75	553,556.38	8,243.6	149,400	-	149,400	199,200.0	-	-	-	-
51	Tanks, <300 gallons, filters, and ion exchangers	406.82	395.17	6.0	-	-	401	401.2	-	-	-	-
52	Tanks, 300-3000 gallons	1,281.67	1,258.38	19.1	-	-	2,700	300.0	-	-	-	-
53	Tanks, >3000 gallons, square foot surface	10.64	10.35	0.2	-	21	-	-	-	-	-	-
54	Electrical equipment, <300 pound	171.33	171.33	2.6	-	-	56	-	-	-	2.9	-
55	Electrical equipment, 300-1000 pound	589.54	589.54	8.8	-	-	624	-	-	-	32.8	-

TABLE C-1 (continued)

UNIT COST FACTOR LISTING
Minnesota Stations
(Costs are in 2019 dollars/Scrap Weights in pounds)

Unit Cost Factors					Scrap Weight							
UCF #	Description	Total Cost	Labor Cost	Labor Hours	Cast Iron	Carbon Steel No. 1	Mixed Scrap	SS-1	Galv. Steel.	Insul Cable	No. 2 Copper	Large Motor
56	Electrical equipment, 1000-10,000 pound	1,179.09	1,179.09	17.6	-	-	2,212	-	-	-	116.4	-
57	Electrical equipment, >10,000 pound	2,779.22	2,779.22	41.0	-	-	19,950	-	-	-	1,050.0	-
59	Electrical transformers < 30 tons	1,930.13	1,930.13	28.4	-	-	11,250	-	-	-	3,750.0	-
60	Electrical transformers > 30 tons	5,558.44	5,558.44	81.9	-	-	375,000	-	-	-	125,000.0	-
61	Standby diesel-generator, <100 kW	1,971.46	1,971.46	29.1	2,340	-	-	-	-	-	-	260.0
62	Standby diesel-generator, 100 kW to 1 MW	4,400.42	4,400.42	64.8	9,450	-	-	-	-	-	-	1,050.0
63	Standby diesel-generator, >1 MW	9,109.78	9,109.78	134.2	47,250	-	-	-	-	-	-	5,250.0
64	Fluorescent light fixture	71.90	71.90	1.1	-	-	-	-	-	-	-	-
65	Incandescent light fixture	36.05	36.05	0.6	-	-	-	-	-	-	-	-
66	Electrical cable tray, linear foot	16.12	15.73	0.2	-	-	-	-	6.6	6.6	-	-
67	Electrical conduit, linear foot	7.04	6.85	0.1	-	-	-	-	3.4	3.4	-	-
69	Mechanical equipment, <300 pound	171.33	171.33	2.6	-	-	127	-	-	-	-	-
70	Mechanical equipment, 300-1000 pound	589.54	589.54	8.8	-	-	641	-	-	-	-	-
71	Mechanical equipment, 1000-10,000 pound	1,179.09	1,179.09	17.6	-	-	4,184	-	-	-	-	-
72	Mechanical equipment, >10,000 pound	2,779.22	2,779.22	41.0	-	-	11,938	-	-	-	-	-
76	HVAC equipment, <300 pound	207.18	207.18	3.1	-	-	184	-	-	-	-	-
77	HVAC equipment, 300-1000 pound	708.37	708.37	10.6	-	-	643	-	-	-	-	-
78	HVAC equipment, 1000-10,000 pound	1,411.80	1,411.80	21.0	-	-	3,813	-	-	-	-	-
79	HVAC equipment, >10,000 pound	2,779.22	2,779.22	41.0	-	-	19,391	-	-	-	-	-
82	HVAC ductwork, pound	0.68	0.68	0.0	-	-	-	-	1.0	-	-	-
201	Standard reinforced concrete, cubic yard	77.12	26.84	0.4	-	183	-	-	-	-	-	-
202	Grade slab concrete, cubic yard	87.72	30.65	0.5	-	183	-	-	-	-	-	-
206	Heavily rein concrete w/#9 rebar, cubic yard	111.41	39.28	0.6	-	730	-	-	-	-	-	-
222	Hollow masonry block wall, cubic yard	26.45	10.27	0.1	-	66	-	-	-	-	-	-
224	Solid masonry block wall, cubic yard	26.45	10.27	0.1	-	66	-	-	-	-	-	-
229	Backfill of below grade voids, cubic yard	31.11	4.21	0.1	-	-	-	-	-	-	-	-
230	Excavation of clean material, cubic yard	3.23	1.49	0.0	-	-	-	-	-	-	-	-
235	Building by volume, cubic foot	0.34	0.21	-	-	-	1	-	-	-	-	-
236	Building metal siding, square foot	1.74	1.28	0.0	-	-	-	-	2.4	-	-	-
242	Standard asphalt roofing, square foot	3.01	3.01	0.1	-	-	-	-	-	-	-	-
243	Galbestos panels, square foot	2.58	2.06	0.0	-	-	-	-	-	-	-	-
245	Placement of cofferdam, linear foot	-	-	-	-	-	-	-	-	-	-	-

TABLE C-1 (continued)

UNIT COST FACTOR LISTING
Minnesota Stations
(Costs are in 2019 dollars/Scrap Weights in pounds)

Unit Cost Factors					Scrap Weight							
UCF #	Description	Total Cost	Labor Cost	Labor Hours	Cast Iron	Carbon Steel No. 1	Mixed Scrap	SS-1	Galv. Steel.	Insul Cable	No. 2 Copper	Large Motor
248	Lead paint removal from concrete surfaces, square foot	10.07	8.11	0.1	-	-	-	-	-	-	-	-
253	Overhead cranes/monorails < 10 ton capacity, each	810.83	810.83	11.8	-	3,700	-	-	-	-	-	-
255	Overhead cranes/monorails >10 - 50 ton capacity, each	1,945.99	1,945.99	28.3	-	-	298,832	-	-	-	3,018.5	-
258	Gantry cranes > 50 ton capacity, each	31,034.60	31,034.60	457.3	-	-	712,800	-	-	-	7,200.0	-
260	Structural steel, pounds	0.24	0.20	-	-	1	-	-	-	-	-	-
262	Steel floor grating, square foot	5.73	5.32	0.1	-	-	6	-	1.1	-	-	-
268	Placement of scaffolding in clean areas, square foot	18.58	6.42	0.1	-	-	-	-	-	-	-	-
270	Landscaping with topsoil, acre	24,287.33	3,567.37	52.6	-	-	-	-	-	-	-	-
271	Landscaping w/o topsoil, acre	1,151.70	380.40	5.3	-	-	-	-	-	-	-	-
272	Chain link fencing, linear foot	4.13	3.47	0.1	-	-	-	-	10.0	-	-	-
273	Railroad track, linear foot	28.23	14.43	0.2	-	91	-	-	-	-	-	-
274	Asphalt pavement, square foot	1.02	0.75	0.0	-	-	-	-	-	-	-	-
291	Carbon steel plate 1/4 inch thick, square foot	4.48	3.80	0.1	-	-	10	-	-	-	-	-
294	Carbon steel plate 1/2 inch thick, square foot	4.73	4.00	0.1	-	-	20	-	-	-	-	-
359	Steam drum removal (fossil)	26,089.30	25,934.00	411.6	-	-	480,000	-	-	-	-	-
360	Water drum removal (fossil)	9,683.73	9,654.62	153.2	-	-	320,000	-	-	-	-	-
361	Upper/lower waterwall headers (fossil)	7,308.10	7,278.99	115.5	-	-	120,000	-	-	-	-	-
362	Top sup boiler waterwall (8'x8' section), inches cut	0.87	0.83	0.0	-	-	11	-	-	-	-	-
369	Boiler convective superheaater platens	2,090.33	1,888.47	29.6	-	-	19,501	-	-	-	-	-
370	Boiler radiant superheater platens	884.30	798.91	12.5	-	-	51,652	-	-	-	-	-
371	Boiler reheat platens	884.30	798.91	12.5	-	-	19,501	-	-	-	-	-
372	Boiler economizer platens	1,125.50	1,016.81	15.9	-	-	11,703	-	-	-	-	-
374	Stationary soot blowers	46.10	46.10	0.7	-	-	500	-	-	-	-	50.0
375	Retractable soot blowers	435.82	435.82	6.8	-	-	11,150	-	-	-	-	100.0
376	Process ductwork (8'x8' section), inches cut	0.43	0.40	0.0	-	-	0	-	-	-	-	-
378	Non-asbestos insulated regenerative air preheaters	13,695.05	11,878.10	188.5	-	-	1,376,000	-	-	-	-	-
380	Non-asbestos insulated recuperative air preheaters	7,571.40	6,435.81	101.6	-	-	1,376,000	-	-	-	-	-
382	Induced, forced, primary draft fans	2,080.55	2,033.96	31.9	-	-	30,000	-	-	-	-	3,531.6
383	Coal car dumpers	18,719.68	15,924.38	249.4	-	-	125,000	-	-	-	-	500.0
384	Conveyors	17.64	16.48	0.3	-	-	820	-	-	-	-	-
385	Transfer Towers	0.31	0.17	-	-	-	5	-	-	-	-	-
386	Stacker-reclaimers	190,631.94	190,631.94	3,008.3	-	-	300,000	-	-	-	-	2,000.0
387	Coal crushers	1,260.40	1,248.75	19.3	-	-	36,000	-	-	-	-	250.0
389	Ball mills	1,816.03	1,816.03	28.1	-	-	360,000	-	-	-	-	7,063.1
390	Coal feeders	457.07	445.42	7.1	-	-	1,194	-	-	-	-	-

TABLE C-2

UNIT COST FACTOR LISTING
North Dakota Stations
(Costs are in 2019 dollars/Scrap Weights in pounds)

Unit Cost Factors					Scrap Weight				
UCF #	Description	Total Cost	Labor Cost	Labor Hours	Carbon Steel No. 1	Mixed Scrap	No. 2 Copper	Large Motor	Aluminum
56	Electrical equipment, 1000-10,000 pound	1,179.09	1,179.09	17.6	-	2,212	116.4	-	-
57	Electrical equipment, >10,000 pound	2,779.22	2,779.22	41.0	-	19,950	-	75,610	-
67	Electrical conduit, linear foot	7.06	6.85	0.1	-	-	0.3	-	1.2
72	Mechanical equipment, >10,000 pound	2,779.22	2,779.22	41.0	-	11,938	-	-	-
201	Standard reinforced concrete, cubic yard	82.15	26.84	0.4	183	-	-	-	-
229	Backfill of below grade voids, cubic yard	33.80	4.21	0.1	-	-	-	-	-
230	Excavation of clean material, cubic yard	3.41	1.49	0.02	-	-	-	-	-
235	Building by volume, cubic foot	0.35	0.21	0.003	-	1	-	-	-

TABLE C-3

UNIT COST FACTOR LISTING
South Dakota Station
(Costs are in 2019 dollars/Scrap Weights in pounds)

		Unit Cost Factors			Scrap Weight							
UCF #	Description	Total Cost	Labor Cost	Labor Hours	Cast Iron	Carbon Steel No. 1	Mixed Scrap	SS-1	Galv. Steel.	Insul Cable	No. 2 Copper	Large Motor
2	Piping 0.25 to 2 inches diameter, linear foot	6.97	6.89	0.1	-	4	-	0.5	-	-	-	-
3	Piping >2 to 4 inches diameter, linear foot	9.79	9.68	0.2	-	7	-	0.9	-	-	0.4	-
4	Piping >4 to 8 inches diameter, linear foot	18.71	18.56	0.3	-	22	-	-	-	-	-	-
5	Piping >8 to 14 inches diameter, linear foot	36.52	36.34	0.6	-	57	-	-	-	-	-	-
6	Piping >14 to 20 inches diameter, linear foot	47.48	46.93	0.7	-	-	120	-	-	-	-	-
7	Piping >20 to 36 inches diameter, linear foot	69.86	69.13	1.1	-	-	221	-	-	-	-	-
8	Piping >36 inches diameter, linear foot	83.00	82.27	1.3	-	-	417	-	-	-	-	-
9	Valves <2 inches	133.82	133.10	2.0	-	-	-	-	-	-	-	-
10	Valves >2 to 4 inches	123.95	122.86	1.9	75	-	-	8.8	-	-	4.4	-
11	Valves >4 to 8 inches	187.08	185.61	2.8	510	-	-	-	-	-	-	-
12	Valves >8 to 14 inches	365.17	363.36	5.6	1,066	-	-	-	-	-	-	-
13	Valves >14 to 20 inches	474.79	469.33	7.3	-	-	2,040	-	-	-	-	-
14	Valves >20 to 36 inches	698.56	691.28	10.7	-	-	3,334	-	-	-	-	-
15	Valves >36 inches	829.97	822.69	12.7	-	-	11,535	-	-	-	-	-
24	Pipe hangers for small bore piping, each	43.07	37.61	0.6	-	10	-	-	-	-	-	-
25	Pipe hangers for large bore piping, each	156.07	145.14	2.3	-	50	-	-	-	-	-	-
26	Pump and motor set < 300 pounds	315.72	306.61	4.7	-	-	50	12.5	-	-	-	62.3
27	Pumps, 300-1000 pound pump	865.89	851.31	12.7	293	-	49	48.9	-	-	-	-
28	Pumps, >1000-10,000 pound pump	3,436.62	3,414.76	51.3	2,834	-	472	472.3	-	-	-	-
29	Pumps, >10,000 pound pump	6,647.09	6,581.52	98.9	43,693	-	7,282	7,282.1	-	-	-	-
32	Pump motors, 300-1000 pound pump	362.10	362.10	5.4	-	-	-	-	-	-	-	307.8
33	Pump motors, >1000-10,000 pound pump	1,428.02	1,428.02	21.5	-	-	-	-	-	-	-	3,531.6
34	Pump motors, >10,000 pound pump	3,213.05	3,213.05	48.3	-	-	-	-	-	-	-	42,324.5
38	Main turbine-generator (pounds per MW(e) input)	208,342.91	206,943.98	3,042.0	-	-	851,500	-	-	-	-	851,500.0
39	Heat exchanger <3000 pound	1,842.38	1,820.52	27.3	-	-	416	623.4	-	-	-	-
40	Heat exchanger >3000 pound	4,638.92	4,551.49	68.3	-	-	5,599	8,397.9	-	-	-	-
41	Feedwater heater/deaerator	13,098.22	12,923.36	194.2	-	-	12,000	18,000.0	-	-	-	-
49	Main condenser (pounds per MW(e) input)	572,617.94	553,556.38	8,243.6	149,400	-	149,400	199,200.0	-	-	-	-
51	Tanks, <300 gallons, filters, and ion exchangers	406.10	395.17	6.0	-	-	401	401.2	-	-	-	-
52	Tanks, 300-3000 gallons	1,280.24	1,258.38	19.1	-	-	2,700	300.0	-	-	-	-
53	Tanks, >3000 gallons, square foot surface	10.63	10.35	0.2	-	21	-	-	-	-	-	-
54	Electrical equipment, <300 pound	171.33	171.33	2.6	-	-	56	-	-	-	2.9	-
55	Electrical equipment, 300-1000 pound	589.54	589.54	8.8	-	-	624	-	-	-	32.8	-
56	Electrical equipment, 1000-10,000 pound	1,179.09	1,179.09	17.6	-	-	2,212	-	-	-	116.4	-
57	Electrical equipment, >10,000 pound	2,779.22	2,779.22	41.0	-	-	19,950	-	-	-	1,050.0	-
59	Electrical transformers < 30 tons	1,930.13	1,930.13	28.4	-	-	11,250	-	-	-	3,750.0	-
60	Electrical transformers > 30 tons	5,558.44	5,558.44	81.9	-	-	375,000	-	-	-	125,000.0	-

TABLE C-3 (continued)

UNIT COST FACTOR LISTING
South Dakota Station
(Costs are in 2019 dollars/Scrap Weights in pounds)

		Unit Cost Factors			Scrap Weight							
UCF #	Description	Total Cost	Labor Cost	Labor Hours	Cast Iron	Carbon Steel No. 1	Mixed Scrap	SS-1	Galv. Steel.	Insul Cable	No. 2 Copper	Large Motor
61	Standby diesel-generator, <100 kW	1,971.46	1,971.46	29.1	2,340	-	-	-	-	-	-	260.0
64	Fluorescent light fixture	71.90	71.90	1.1	-	-	-	-	-	-	-	-
65	Incandescent light fixture	36.05	36.05	0.6	-	-	-	-	-	-	-	-
66	Electrical cable tray, linear foot	16.09	15.73	0.2	-	-	-	-	6.6	6.6	-	-
67	Electrical conduit, linear foot	7.03	6.85	0.1	-	-	-	-	3.4	3.4	-	-
69	Mechanical equipment, <300 pound	171.33	171.33	2.6	-	-	127	-	-	-	-	-
70	Mechanical equipment, 300-1000 pound	589.54	589.54	8.8	-	-	641	-	-	-	-	-
71	Mechanical equipment, 1000-10,000 pound	1,179.09	1,179.09	17.6	-	-	4,184	-	-	-	-	-
72	Mechanical equipment, >10,000 pound	2,779.22	2,779.22	41.0	-	-	11,938	-	-	-	-	-
76	HVAC equipment, <300 pound	207.18	207.18	3.1	-	-	184	-	-	-	-	-
77	HVAC equipment, 300-1000 pound	708.37	708.37	10.6	-	-	643	-	-	-	-	-
78	HVAC equipment, 1000-10,000 pound	1,411.80	1,411.80	21.0	-	-	3,813	-	-	-	-	-
82	HVAC ductwork, pound	0.68	0.68	0.0	-	-	-	-	1.0	-	-	-
201	Standard reinforced concrete, cubic yard	74.02	26.84	0.4	-	183	-	-	-	-	-	-
202	Grade slab concrete, cubic yard	84.20	30.65	0.5	-	183	-	-	-	-	-	-
206	Heavily rein concrete w/#9 rebar, cubic yard	106.96	39.28	0.6	-	730	-	-	-	-	-	-
222	Hollow masonry block wall, cubic yard	25.45	10.27	0.1	-	66	-	-	-	-	-	-
229	Backfill of below grade voids, cubic yard	29.45	4.21	0.1	-	-	-	-	-	-	-	-
235	Building by volume, cubic foot	0.33	0.21	-	-	-	1	-	-	-	-	-
236	Building metal siding, square foot	1.71	1.28	0.0	-	-	-	-	2.4	-	-	-
242	Standard asphalt roofing, square foot	3.01	3.01	0.1	-	-	-	-	-	-	-	-
248	Lead paint removal from concrete surfaces, square foot	9.80	7.96	0.1	-	-	-	-	-	-	-	-
253	Overhead cranes/monorails < 10 ton capacity, each	810.83	810.83	11.8	-	3,700	-	-	-	-	-	-
255	Overhead cranes/monorails >10 - 50 ton capacity, each	1,945.99	1,945.99	28.3	-	-	298,832	-	-	-	3,018.5	-
260	Structural steel, pounds	0.23	0.20	-	-	1	-	-	-	-	-	-
262	Steel floor grating, square foot	5.70	5.32	0.1	-	-	6	-	1.1	-	-	-
270	Landscaping with topsoil, acre	23,009.82	3,567.37	52.6	-	-	-	-	-	-	-	-
271	Landscaping w/o topsoil, acre	1,104.15	380.40	5.3	-	-	-	-	-	-	-	-
272	Chain link fencing, linear foot	4.09	3.47	0.1	-	-	-	-	10.0	-	-	-
274	Asphalt pavement, square foot	1.01	0.75	0.0	-	-	-	-	-	-	-	-
293	Carbon steel plate 3/8 inch thick, square foot	4.56	3.90	0.1	-	-	15	-	-	-	-	-
294	Carbon steel plate 1/2 inch thick, square foot	4.68	4.00	0.1	-	-	20	-	-	-	-	-
359	Steam drum removal (fossil)	26,079.72	25,934.00	411.6	-	-	480,000	-	-	-	-	-
376	Process ductwork (8'x8' section), inches cut	0.43	0.40	0.01	-	-	0.03	-	-	-	-	-

				As of 1/1/2020			
Function	**Plant**	**In-service date**	**Approved retirement date (1)**	**Current Age**	**Years to retirement**	**Total Service Life**	**Notes**
Steam Production	Allen S. King	1968	2037	51	18	69	
Steam Production	Red Wing	1949	2027	70	8	78	(2)
Steam Production	Sherco Unit 1	1976	2025	43	6	49	
Steam Production	Sherco Unit 2	1977	2022	42	3	45	
Steam Production	Sherco Unit 3	1987	2034	32	15	47	
Steam Production	Wilmarth Unit 1	1948	2027	71	8	79	(3)
Steam Production	Wilmarth Unit 2	1951	2027	68	8	76	(3)
Nuclear Production	Monticello	1971	2030	48	11	59	(4)
Nuclear Production	Prairie Island Unit 1	1973	2033	46	14	60	
Nuclear Production	Prairie Island Unit 2	1974	2034	45	15	60	
Hydro Production	Hennepin Island	1882	2034	137	15	152	
Hydro Production	St. Croix Falls	1905	2027	114	8	122	
Hydro Production	Upper Dam	2001	2034	18	15	33	
Other Production	Angus Anson Unit 2&3	1994	2035	25	16	41	
Other Production	Angus Anson Unit 4	2005	2045	14	26	40	
Other Production	Black Dog Unit 5	2002	2031	17	12	29	
Other Production	Black Dog Unit 6	2018	2058	1	39	40	
Other Production	Blue Lake Units 1-4	1974	2023	45	4	49	
Other Production	Blue Lake Unit 7&8	2005	2045	14	26	40	
Other Production	High Bridge	2008	2048	11	29	40	
Other Production	Inver Hills	1972	2026	47	7	54	
Other Production	Riverside	2009	2049	10	30	40	
Other Production	Wind2Battery	2009	2024	10	5	15	
Other Production	Border Wind	2015	2040	4	21	25	
Other Production	Courtenay Wind	2016	2041	3	22	25	
Other Production	Foxtail Wind	2019	2044	0	25	25	
Other Production	Grand Meadow Wind	2008	2033	11	14	25	
Other Production	Lake Benton II Wind	2019	2044	0	25	25	
Other Production	Nobles Wind Farm	2010	2035	9	16	25	
Other Production	Pleasant Valley Wind	2015	2040	4	21	25	
Gas Production	Maplewood	1957	2029	62	10	72	
Gas Production	Sibley	1953	2029	66	10	76	
Gas Storage	Wescott	1972	2023	47	4	51	(5)

(1) As approved in Minnesota Public Utilities Commission Docket No. E,G002/D-19-161.

(2) Units converted to burn refuse-derived fuels in 1986.

(3) Units converted to burn refuse-derived fuels in 1987.

(4) Monticello received its 40 year operating license in 1970 but did not start commerical operation until 1971.

(5) Most of the plant is currently approved to retire in 2023. FERC Account 363.2 Vaporizing Equipment is currently approved to retire in 2027 and FERC Account 363.3 Compressor Equipment is currently approved to retire in 2032.

CERTIFICATE OF SERVICE

I, Paget Pengelly, hereby certify that I have this day served copies of the foregoing document on the attached list of persons.

xx by depositing a true and correct copy thereof, properly enveloped with postage paid in the United States mail at Minneapolis, Minnesota

xx electronic filing

DOCKET NO. E,G002/D-19-723

Dated this 18th day of August 2020

/s/

Paget Pengelly
Regulatory Administrator

First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
David	Aafedt	daafedt@winthrop.com	Winthrop & Weinstine, P.A.	Suite 3500, 225 South Sixth Street Minneapolis, MN 554024629	Electronic Service	No	OFF_SL_19-723_D-19-723
Christopher	Anderson	canderson@allete.com	Minnesota Power	30 W Superior St Duluth, MN 558022191	Electronic Service	No	OFF_SL_19-723_D-19-723
Alison C	Archer	aarcher@misoenergy.org	MISO	2985 Ames Crossing Rd Eagan, MN 55121	Electronic Service	No	OFF_SL_19-723_D-19-723
James J.	Bertrand	james.bertrand@stinson.com	STINSON LLP	50 S 6th St Ste 2600 Minneapolis, MN 55402	Electronic Service	No	OFF_SL_19-723_D-19-723
James	Canaday	james.canaday@ag.state.mn.us	Office of the Attorney General-RUD	Suite 1400 445 Minnesota St. St. Paul, MN 55101	Electronic Service	No	OFF_SL_19-723_D-19-723
John	Coffman	john@johncoffman.net	AARP	871 Tuxedo Blvd. St, Louis, MO 63119-2044	Electronic Service	No	OFF_SL_19-723_D-19-723
Generic Notice	Commerce Attorneys	commerce.attorneys@ag.state.mn.us	Office of the Attorney General-DOC	445 Minnesota Street Suite 1400 St. Paul, MN 55101	Electronic Service	Yes	OFF_SL_19-723_D-19-723
Riley	Conlin	riley.conlin@stoel.com	Stoel Rives LLP	33 S. 6th Street Suite 4200 Minneapolis, MN 55402	Electronic Service	No	OFF_SL_19-723_D-19-723
George	Crocker	gwillc@nawo.org	North American Water Office	PO Box 174 Lake Elmo, MN 55042	Electronic Service	No	OFF_SL_19-723_D-19-723
John	Farrell	jfarrell@ilsr.org	Institute for Local Self-Reliance	2720 E. 22nd St Institute for Local Self-Reliance Minneapolis, MN 55406	Electronic Service	No	OFF_SL_19-723_D-19-723

First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
Sharon	Ferguson	sharon.ferguson@state.mn.us	Department of Commerce	85 7th Place E Ste 280 Saint Paul, MN 551012198	Electronic Service	No	OFF_SL_19-723_D-19-723
Edward	Garvey	edward.garvey@AESLconsulting.com	AESL Consulting	32 Lawton St Saint Paul, MN 55102-2617	Electronic Service	No	OFF_SL_19-723_D-19-723
Janet	Gonzalez	Janet.gonzalez@state.mn.us	Public Utilities Commission	Suite 350 121 7th Place East St. Paul, MN 55101	Electronic Service	No	OFF_SL_19-723_D-19-723
Todd J.	Guerrero	todd.guerrero@kutakrock.com	Kutak Rock LLP	Suite 1750 220 South Sixth Street Minneapolis, MN 554021425	Electronic Service	No	OFF_SL_19-723_D-19-723
Annete	Henkel	mui@mnutilityinvestors.org	Minnesota Utility Investors	413 Wacouta Street #230 St.Paul, MN 55101	Electronic Service	No	OFF_SL_19-723_D-19-723
Michael	Hoppe	il23@mtn.org	Local Union 23, I.B.E.W.	932 Payne Avenue St. Paul, MN 55130	Electronic Service	No	OFF_SL_19-723_D-19-723
Alan	Jenkins	aj@jenkinsatlaw.com	Jenkins at Law	2950 Yellowtail Ave. Marathon, FL 33050	Electronic Service	No	OFF_SL_19-723_D-19-723
Richard	Johnson	Rick.Johnson@lawmoss.com	Moss & Barnett	150 S. 5th Street Suite 1200 Minneapolis, MN 55402	Electronic Service	No	OFF_SL_19-723_D-19-723
Sarah	Johnson Phillips	sarah.phillips@stoel.com	Stoel Rives LLP	33 South Sixth Street Suite 4200 Minneapolis, MN 55402	Electronic Service	No	OFF_SL_19-723_D-19-723
Mark J.	Kaufman	mkaufman@ibewlocal949.org	IBEW Local Union 949	12908 Nicollet Avenue South Burnsville, MN 55337	Electronic Service	No	OFF_SL_19-723_D-19-723

First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
Thomas	Koehler	TGK@IBEW160.org	Local Union #160, IBEW	2909 Anthony Ln St Anthony Village, MN 55418-3238	Electronic Service	No	OFF_SL_19-723_D-19-723
Michael	Krikava	mkrikava@taftlaw.com	Taft Stettinius & Hollister LLP	2200 IDS Center 80 S 8th St Minneapolis, MN 55402	Electronic Service	No	OFF_SL_19-723_D-19-723
Peder	Larson	plarson@larkinhoffman.com	Larkin Hoffman Daly & Lindgren, Ltd.	8300 Norman Center Drive Suite 1000 Bloomington, MN 55437	Electronic Service	No	OFF_SL_19-723_D-19-723
Douglas	Larson	dlarson@dakotaelectric.com	Dakota Electric Association	4300 220th St W Farmington, MN 55024	Electronic Service	No	OFF_SL_19-723_D-19-723
Eric	Lipman	eric.lipman@state.mn.us	Office of Administrative Hearings	PO Box 64620 St. Paul, MN 551640620	Electronic Service	No	OFF_SL_19-723_D-19-723
Ryan	Long	ryan.j.long@xcelenergy.com	Xcel Energy	414 Nicollet Mall 401 8th Floor Minneapolis, MN 55401	Electronic Service	No	OFF_SL_19-723_D-19-723
Kavita	Maini	kmaini@wi.rr.com	KM Energy Consulting, LLC	961 N Lost Woods Rd Oconomowoc, WI 53066	Electronic Service	No	OFF_SL_19-723_D-19-723
Pam	Marshall	pam@energycents.org	Energy CENTS Coalition	823 7th St E St. Paul, MN 55106	Electronic Service	No	OFF_SL_19-723_D-19-723
Joseph	Meyer	joseph.meyer@ag.state.mn.us	Office of the Attorney General-RUD	Bremer Tower, Suite 1400 445 Minnesota Street St Paul, MN 55101-2131	Electronic Service	No	OFF_SL_19-723_D-19-723
Stacy	Miller	stacy.miller@minneapolismn.gov	City of Minneapolis	350 S. 5th Street Room M 301 Minneapolis, MN 55415	Electronic Service	No	OFF_SL_19-723_D-19-723

First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
David	Moeller	dmoeller@allete.com	Minnesota Power	30 W Superior St Duluth, MN 558022093	Electronic Service	No	OFF_SL_19-723_D-19-723
Andrew	Moratzka	andrew.moratzka@stoel.com	Stoel Rives LLP	33 South Sixth St Ste 4200 Minneapolis, MN 55402	Electronic Service	No	OFF_SL_19-723_D-19-723
David	Niles	david.niles@avantenergy.com	Minnesota Municipal Power Agency	220 South Sixth Street Suite 1300 Minneapolis, Minnesota 55402	Electronic Service	No	OFF_SL_19-723_D-19-723
Carol A.	Overland	overland@legalectric.org	Legalectric - Overland Law Office	1110 West Avenue Red Wing, MN 55066	Electronic Service	No	OFF_SL_19-723_D-19-723
Generic Notice	Residential Utilities Division	residential.utilities@ag.state.mn.us	Office of the Attorney General-RUD	1400 BRM Tower 445 Minnesota St St. Paul, MN 551012131	Electronic Service	Yes	OFF_SL_19-723_D-19-723
Kevin	Reuther	kreuther@mncenter.org	MN Center for Environmental Advocacy	26 E Exchange St, Ste 206 St. Paul, MN 551011667	Electronic Service	No	OFF_SL_19-723_D-19-723
Richard	Savelkoul	rsavelkoul@martinsquires.com	Martin & Squires, P.A.	332 Minnesota Street Ste W2750 St. Paul, MN 55101	Electronic Service	No	OFF_SL_19-723_D-19-723
Will	Seuffert	Will.Seuffert@state.mn.us	Public Utilities Commission	121 7th Pl E Ste 350 Saint Paul, MN 55101	Electronic Service	Yes	OFF_SL_19-723_D-19-723
Ken	Smith	ken.smith@districtenergy.com	District Energy St. Paul Inc.	76 W Kellogg Blvd St. Paul, MN 55102	Electronic Service	No	OFF_SL_19-723_D-19-723
Byron E.	Starns	byron.starns@stinson.com	STINSON LLP	50 S 6th St Ste 2600 Minneapolis, MN 55402	Electronic Service	No	OFF_SL_19-723_D-19-723

First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
James M	Strommen	jstrommen@kennedy-graven.com	Kennedy & Graven, Chartered	200 S 6th St Ste 470 Minneapolis, MN 55402	Electronic Service	No	OFF_SL_19-723_D-19-723
Eric	Swanson	eswanson@winthrop.com	Winthrop & Weinstine	225 S 6th St Ste 3500 Capella Tower Minneapolis, MN 554024629	Electronic Service	No	OFF_SL_19-723_D-19-723
Lynnette	Sweet	Regulatory.records@xcelenergy.com	Xcel Energy	414 Nicollet Mall FL 7 Minneapolis, MN 554011993	Electronic Service	No	OFF_SL_19-723_D-19-723
Thomas	Tynes	jjazynka@energyfreedomcoalition.com	Energy Freedom Coalition of America	101 Constitution Ave NW Ste 525 East Washington, DC 20001	Electronic Service	No	OFF_SL_19-723_D-19-723
Lisa	Veith	lisa.veith@ci.stpaul.mn.us	City of St. Paul	400 City Hall and Courthouse 15 West Kellogg Blvd. St. Paul, MN 55102	Electronic Service	No	OFF_SL_19-723_D-19-723
Samantha	Williams	swilliams@nrdc.org	Natural Resources Defense Council	20 N. Wacker Drive Ste 1600 Chicago, IL 60606	Electronic Service	No	OFF_SL_19-723_D-19-723
Joseph	Windler	jwindler@winthrop.com	Winthrop & Weinstine	225 South Sixth Street, Suite 3500 Minneapolis, MN 55402	Electronic Service	No	OFF_SL_19-723_D-19-723
Patrick	Zomer	Patrick.Zomer@lawmoss.com	Moss & Barnett a Professional Association	150 S. 5th Street, #1200 Minneapolis, MN 55402	Electronic Service	No	OFF_SL_19-723_D-19-723