Document X01-1844-001, Rev. A

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
Hennepin Island
High Bridge Units 1-3
Inver Hills Units 1- 6
Maplewood Gas Plant
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
Blazing Star I Wind Farm
Blazing Star II Wind Farm
Border Winds Project
Community Wind North
Courtenay Wind Farm
Crowned Ridge II Wind Farm
Dakota Range Wind
Freeborn Wind Farm
Foxtail Wind Farm
Grand Meadow Wind Farm
Jeffers Wind
Lake Benton II Wind Farm
Mower County
Nobles Wind Farm
Northern Wind
Pleasant Valley Wind Farm
Rock Aetna Wind Farm

prepared for

Xcel Energy

prepared by

TLG Services, LLC

148 New Milford Road East
Bridgewater, CT
October 2024

APPROVALS

Project Manager	**DRAFT** **Adam M. Kaczmarek**	_____ **Date**
Project Engineer	**DRAFT** **Richard W. Threlkeld**	_____ **Date**
Project Engineer	**DRAFT** **Timothy A. Arnold**	_____ **Date**
Technical Manager	**DRAFT** **Lori A. Glander**	_____ **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)

TABLE OF CONTENTS
(continued)

SECTION **PAGE**

TABLES
(continued)

FIGURES

APPENDICES

REVISION LOG

No.	Date	Item Revised	Reason for Revision
A	10-16-2024		Draft Issue

ACRONYMS / DEFINITIONS

- ACM Asbestos Containing Material
- AIF Atomic Industrial Forum
- CT Combustion Turbine
- CCGT Combined Cycle Gas Turbine
- DOC Decommissioning Operations Contractor
- DOE Department of Energy
- GE General Electric
- 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
- PACM Presumed Asbestos Containing Material
- PCB Polychlorinated Biphenyl
- RDF Refuse Derived Fuel
- SWT Small Wind Turbine
- TLG TLG Services, LLC
- WTG Wind Turbine Generator

EXECUTIVE SUMMARY

This report, prepared by TLG Services, LLC (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
- Hennepin Island
- High Bridge
- Inver Hills
- 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
- Blazing Star II Wind Farm
- Community Wind North Farm
- Freeborn Wind Farm (physically located in both Minnesota and Iowa, on the border)
- Grand Meadow Wind Farm
- Jeffers Wind Farm
- Lake Benton II Wind Farm
- Mower County Wind Farm
- Nobles Wind Farm
- Northern Wind Farm
- Pleasant Valley Wind Farm
- Rock Aetna Wind Farm

Wind Farms Located in North Dakota:

- Border Winds Project
- Courtenay Wind Farm
- Foxtail Wind Farm

Wind Farms Located in South Dakota:

- Crowned Ridge II Wind Farm
- Dakota Ridge 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, and King)
- 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 2024 dollars, are provided in the following table.

SUMMARY OF DISMANTLING COSTS
(All costs are in thousands of 2024 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	81,208
Angus Anson	1		Steam	N/A	1966	16,363
	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	59,036
(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	19,204
	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	
Hennepin Island	1-5	13.9	Hydro	Water	1882	6,911
High Bridge	1	185	CCGT	NG/Oil	2008	21,004
	2	185	CCGT	NG/Oil	2008	
	3	236	Steam	(note 2)	2008	
Inver Hills	1	62	CT	NG/Oil	1972	13,386
	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 2024 dollars)

Station	Unit	MWe rating	Type	Fuel	In Service	Station Cost
Electric Generation Facilities -Fossil						
Red Wing	1	9	Steam	RDF	1949	20,956
	2	9	Steam	RDF	1949	
Riverside	7	160	Steam	(note 3)	1964	50,750
(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	215,439
(Unit 2 Retired '23)	2	682	Steam	Coal	1977	
	3	876	Steam	Coal	1987	
Wilmarth	1	9	Steam	RDF	1948	21,586
	2	9	Steam	RDF	1951	
Gas Production/Storage Facilities						
Maplewood					1957	5,999
Sibley					1953	5,372
Wescott					1972	13,035
Fleet Totals		**6,285**				**$550,249**

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

Columns may not add due to rounding

SUMMARY OF DISMANTLING COSTS – WIND FARMS (Complete Removal)
(All costs are in thousands of 2024 dollars)

Station	Units	MWe rating	Type	Wind Farm Cost
Electric Generation Facilities -WTG				
Blazing Star I	100	200	Wind Turbine Generator	36,904
Border Winds	75	148	Wind Turbine Generator	32,695
Courtenay	100	190	Wind Turbine Generator	37,823
Foxtail	75	150	Wind Turbine Generator	28,766
Grand Meadow	67	99	Wind Turbine Generator	27,009
Lake Benton II	44	99	Wind Turbine Generator	15,899
Nobles	134	197	Wind Turbine Generator	45,999
Pleasant Valley	100	196	Wind Turbine Generator	41,649
Fleet Totals		**1,279**		**$266,744**

Farms added to the Xcel Energy fleet since 2019

Station	Units	MWe rating	Type	Wind Farm Cost
Electric Generation Facilities -WTG				
Blazing Star II	100	200	Wind Turbine Generator	37,428
Community Wind	12	30	Wind Turbine Generator	3,630
Crowned Ridge II	88	200.6	Wind Turbine Generator	35,788
Dakota Range	72	302.4	Wind Turbine Generator	31,768
Freeborn	100	200	Wind Turbine Generator	39,791
Jeffers	20	57.2	Wind Turbine Generator	6,574
Mower County	43	98.9	Wind Turbine Generator	15,397
Northern Wind	37	100.2	Wind Turbine Generator	15,707
Rock Aetna	8	21.62	Wind Turbine Generator	3,909
Fleet Totals		**1,211**		**$ 189,994**

Columns may not add due to rounding

SUMMARY OF DISMANTLING COSTS – WIND FARMS (48 inches below grade)
(All costs are in thousands of 2024 dollars)

Station	Units	MWe rating	Type	Wind Farm Cost
Electric Generation Facilities -WTG				
Blazing Star I	100	200	Wind Turbine Generator	30,572
Border Winds	75	148	Wind Turbine Generator	26,880
Courtenay	100	190	Wind Turbine Generator	30,792
Foxtail	75	150	Wind Turbine Generator	23,690
Grand Meadow	67	99	Wind Turbine Generator	23,678
Lake Benton II	44	99	Wind Turbine Generator	15,547
Nobles	134	197	Wind Turbine Generator	38,384
Pleasant Valley	100	196	Wind Turbine Generator	34,346
Fleet Totals		**1,279**		**$223,891**

Farms added to the Xcel Energy fleet since 2019

Station	Units	MWe rating	Type	Wind Farm Cost
Electric Generation Facilities -WTG				
Blazing Star II	100	200	Wind Turbine Generator	30,573
Community Wind	12	30	Wind Turbine Generator	4,721
Crowned Ridge II	88	200.6	Wind Turbine Generator	31,015
Dakota Range	72	302.4	Wind Turbine Generator	23,305
Freeborn	100	200	Wind Turbine Generator	30,603
Jeffers	20	57.2	Wind Turbine Generator	7,048
Mower County	43	98.9	Wind Turbine Generator	13,854
Northern Wind	37	100.2	Wind Turbine Generator	12,915
Rock Aetna	8	21.62	Wind Turbine Generator	3,742
Fleet Totals		**1,211**		**$ 144,861**

Columns may not add due to rounding

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.

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.

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 and 3 have a net dependable capacity of 680 and 876 MWe each, respectively. Unit 2 was retired from service in 2023 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.

Wind Farms

The following wind farm were placed in service or acquired between 2020 and 2023 by Xcel Energy.

Blazing Star II is a 100-unit wind turbine complex located on privately owned farmland in Hendricks 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 were placed into service in 2021.

Community Wind North is a 12-unit wind turbine complex is located 5 Miles West of Lake Benton, Minnesota. The wind farm is composed of 12, 2.0 MWe V-110 Vestas wind turbines for a total of 30 MWe. The units were placed in service in 2020.

Crowned Ridge II Wind Farm is an 88-unit wind turbine complex located on privately owned farmland in Watertown, South Dakota. The wind farm is composed of 9, 2.1 MWe (nominal) GE 2.1-116 and 79, 2.3 MWe (nominal) GE 2.3-116 General Electric wind turbines for a complex total of 200.6 MWe. The units were placed into service in 2020.

Dakota Range Wind is a 72-unit wind turbine complex located on privately owned farmland in Summit, South Dakota (Just North of Watertown). The wind farm is composed of 1, 2.2 MWe V-120 and 71, 3.6/4.2 MWe V-136 Vestas wind turbines for a complex total of 302.4 MWe. The units were placed into service in 2020.

Freeborn Wind Farm is a 100-unit wind turbine complex located on privately owned farmland in Glenville and Northwood Minnesota and Iowa. 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 were placed into service in 2021.

Jeffers Wind is a 20-unit wind turbine complex located 2 miles west of Jeffers, Minnesota. The wind farm is composed of 20, 2.2 MWe V-110 Vestas wind turbines for a total of 57.2 MWe. The units were placed into service in 2020.

Mower County is a 43-unit wind turbine complex located South 6 miles of Grand Meadows, Minnesota. The wind farm is composed of 43, 23 MWe SWT-2.3-108 Siemens wind turbines for a total of 98.9 MWe. The units were placed in service in 2020.

Northern Wind is a 37-unit wind turbine complex located on privately owned farmland in Lake Wilson, Minnesota. T The wind farm is composed of 5, 2.62 MWe (nominal) GE 2.3-116/2.72-116 and 3, 2.82 MWe (nominal) GE 2.82-127 General Electric wind turbines for a complex total of 100.2 MWe. The units were placed into service in 2023.

Rock Aetna is an 8-unit wind turbine complex located in Murray County, Minnesota between Wilson and Woodstock. The wind farm is composed of 5, 2.62 MWe (nominal) GE 2.5-116/2.72-116 and 3, 2.82 MWe (nominal) GE 2.82-127 General Electric wind turbines for a complex total of 21.62 MWe. The units were placed into service in 2022.

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 2024 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 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
- Closure of sampling wells
- 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)
- 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.
2. Utility labor rates are based on labor costs for positions likely to be employed during the dismantling project. These rates were provided by Xcel Energy.
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 RSMeans Construction Cost Data (Ref. 1).
4. Scrap metal prices are based on a five-year average of published indices (Ref. 2).
5. Contingency, contractor fee, contractor insurance, environmental sampling, and permits & fees are based upon RSMeans Construction Cost Data (Ref. 1).
6. Costs in this estimate are in 2024 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.

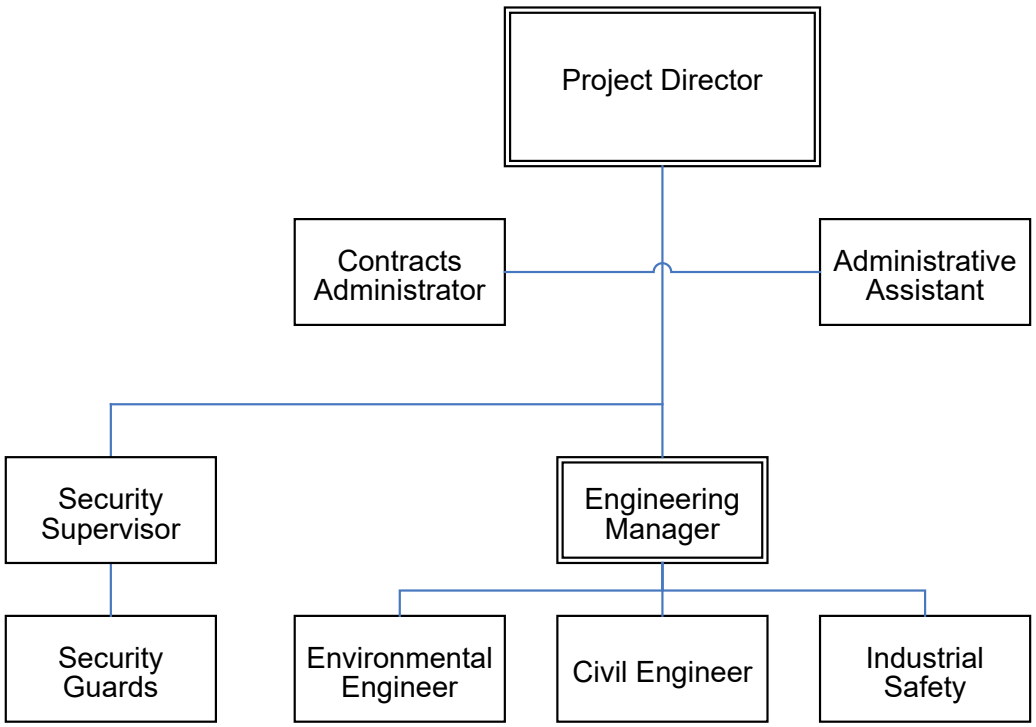
3.2 METHODOLOGY

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 RSMeans. 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 applied the staff provided salaries into the period dependent staffing model. The costs for conventional demolition of structures, materials, backfill, landscaping, and equipment rental are obtained from RSMeans. Examples of such unit cost factor development are presented in AIF/NESP-036.

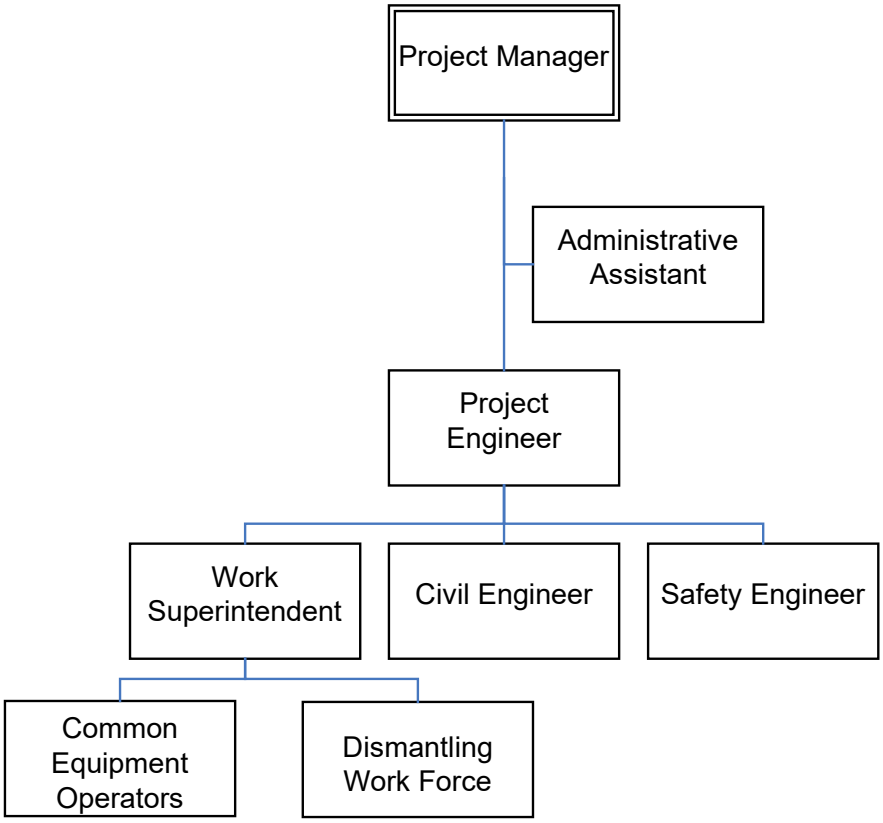
The unit cost factor method provides a demonstrable basis for establishing reliable cost estimates. The detail of activities for labor costs, equipment and consumables costs provide assurance that cost elements have not been omitted. Detailed unit cost factors, coupled with the site-specific inventory 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. 5) 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 existed in 2019 based upon walk-downs conducted by TLG, and databases and drawings provided by owner. The arrangements and inventories were adjusted based on any changes provided from Xcel. The inventories of the new wind farms added to the Xcel Energy fleet since 2019 were developed using drawings provided by Xcel.
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 2024.

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.

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 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.

3.4.6 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.

3.4.7 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.

3.4.8 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.

3.4.9 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.

3.4.10 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).

3.4.11 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 5.1k, 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.

3.4.12 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.

3.4.13 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.

3.4.14 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.

3.4.15 Wind Farms – Blazing Star I, Border Winds, Courtenay, Foxtail, Grand Meadow, Lake Benton II, Nobles, Pleasant Valley, and the following plants which were added to the Xcel Energy Fleet since 2019: Blazing Star II, Community Wind, Crown Ridge II, Dakota Range, Freeborn, Jeffers, Mower County, Northern Wind, Rock Aetna

- 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 these facilities.

3.4.16 Wind Farms (Removal to 48-inch depth) – Blazing Star I, Border Winds, Courtenay, Foxtail, Grand Meadow, Lake Benton II, Nobles, Pleasant Valley, and the following plants which were added to the Xcel Energy Fleet since 2019: Blazing Star II, Community Wind, Crown Ridge II, Dakota Range, Freeborn, Jeffers, Mower County, Northern Wind, Rock Aetna

- 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 these facilities.

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
(2024 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	225.34	Per Ton	57.22	168.11
	No. 1	281.67	Per Ton	57.22	224.45
	Mixed Scrap	225.34	Per Ton	57.22	168.1
	Galvanized	61.97	Per Ton	57.22	4.75
Stainless Steel	SS-1	1.02	Per Pound	0.03	1,991.92
Copper	Insulated Cable	1.76	Per Pound	0.03	3,459.00
	No. 2 Copper	2.81	Per Pound	0.03	5,569.81
	Copper-Nickel	5.11	Per Pound	0.03	10,156.90
	Large Motor	0.42	Per Pound	0.03	786.65
Non-Ferrous	Aluminum	0.35	Per Pound	0.03	636.23

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, 2019 to December 31, 2023 (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 $57.22 / ton or $0.028 / 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
(2024 dollars)

Wind Farms

Type of Material	Scrap Category [1]	Market Value [2]	Units	Scrap Metal Credit [3] (per ton)
Carbon Steel	Cast Iron	225.34	Per Ton	225.34
	No. 1	281.67	Per Ton	281.67
	Mixed Scrap	225.34	Per Ton	225.34
	Galvanized	61.97	Per Ton	61.97
Stainless Steel	SS-1	1.02	Per Pound	2,049.15
Copper	Insulated Cable	1.76	Per Pound	3,516.22
	No. 2 Copper	2.81	Per Pound	5,627.03
	Copper-Nickel	5.11	Per Pound	10,214.12
	Large Motor	0.42	Per Pound	843.87
Non-Ferrous	Aluminum	0.35	Per Pound	693.45

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, 2019 to December 31, 2023 (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			Copper	
Station Name	**Cast Iron**	**No. 1**	**Mixed Scrap**	**SS-1**	**SS-2**	**Steel**	**Bright**	**Insul Cbl**	**No. 2 Cu**	**Large Mtr**	**Nickel**	**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
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
Maplewood	55,689	2,277,558	514,983	109,319	-	31,504	-	6,904	16,564	374	-	3,012,895
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	-	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	7,534,891	1,606,330	189,165	-	68,387	-	33,887	16,236	2,591	-	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	**12,631,057**	**282,979,026**	**400,092,492**	**6,486,978**	**-**	**7,496,761**	**-**	**1,624,468**	**5,004,510**	**12,346,103**	**941,679**	**731,429,652**

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	1,031,491	3,326,828	2,565,922	33,073,937
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**	**4,510,777**	**43,804,815**	**16,141,851**	**392,897,899**

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

Wind Farms (Complete Removal)
Farms added to the Xcel Energy fleet since 2019

	Carbon Steel		Copper			
Station Name	**No. 1**	**Mixed Scrap**	**No. 2 Cu**	**Large Mtr**	**Aluminum**	**Total**
Blazing Star II - New 2021	6,603,257	43,858,999	534,453	6,015,842	2,085,396	59,097,947
Freeborn Wind – New 2021	7,455,625	43,863,199	534,453	6,015,842	2,085,396	59,954,515
Crowned Ridge II Wind Farm – New 2020	6,358,684	45,798,062	523,428	6,653,657	2,052,738	61,386,568
Dakota Range Wind – New 2022	6,555,425	31,363,510	531,193	4,368,804	2,085,396	44,904,328
Community Wind North – New 2020	699,857	5,719,452	524,209	656,757	2,085,396	9,685,671
Jeffers Wind – New 2020	1,119,168	9,473,421	525,140	1,094,595	2,085,396	14,297,719
Mower County – New 2020	2,557,448	18,712,410	527,817	2,612,749	2,085,396	26,495,821
Rock Aetna – New 2022	745,003	4,101,679	47,584	604,878	186,613	5,685,758
Northern Wind – New 2023	3,309,926	18,635,121	220,078	2,797,560	863,083	25,825,767
Total (Complete Removal)	**35,404,392**	**221,525,853**	**3,968,355**	**30,820,684**	**15,614,810**	**307,334,094**

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 4.2c (continued)
QUANTITY OF SCRAP METALS BY STATION
(pounds**)**

Wind Farms (Down to 48 inches below grade)
Farms added to the Xcel Energy fleet since 2019

	Carbon Steel		Copper			
Station Name	**No. 1**	**Mixed Scrap**	**No. 2 Cu**	**Large Mtr**	**Aluminum**	**Total**
Blazing Star II (48 in) - New 2021	669,104	43,858,999	11,641	6,015,842	-	50,555,586
Freeborn Wind (48 in) – New 2021	621,022	43,863,199	11,641	6,015,842	-	50,511,704
Crowned Ridge II Wind Farm (48 in – New 2020	730,845	45,794,062	10,244	6,653,657	-	53,188,808
Dakota Range Wind (48 in) – New 2022	489,915	31,363,510	8,381	4,368,804	-	36,230,610
Community Wind North (48 in) – New 2020	128,039	5,719,452	1,397	656,757	-	6,505,645
Jeffers Wind (48 in) – New 2020	166,137	9,473,421	2,328	1,094,595	-	10,736,481
Mower County (48 in) – New 2020	318,641	18,738,410	5,006	2,612,749	-	21,674,806
Rock Aetna (48 in) – New 2022	107,300	4,101,679	931	604,878	-	4,814,788
Northern Wind (48 in) – New 2023	331,454	18,635,121	4,307	2,797,560	-	21,768,442
Total (Down 48 inch Removal)	**3,562,457**	**221,547,853**	**55,876**	**30,820,684**	**-**	**255,986,870**

TABLE 4.3a
SCRAP METAL CREDITS BY STATION
(thousands of 2024 dollars)

Fossil Stations

	Carbon Steel			Stainless Steel		Galvanized	Copper	Copper			Copper	
Station Name	**Cast Iron**	**No. 1**	**Mixed Scrap**	**SS-1**	**SS-2**	**Steel**	**Bright**	**Insul Cbl**	**No. 2 Cu**	**Large Mtr**	**Nickel**	**Total**
Allen S . King	$ 250	$ 4,630	$ 4,518	$ 230	$ -	$ 2	$ -	$ 272	$ 1,644	$ 715	$ 2,619	$ 14,880
Angus Anson	$ 79	$ 883	$ 871	$ 365	$ -	$ 1	$ -	$ 109	$ 1,547	$ 93	$ 457	$ 4,405
Black Dog	$ 138	$ 3,077	$ 2,950	$ 767	$ -	$ 2	$ -	$ 353	$ 1,393	$ 699	$ 1,125	$ 10,504
Blue Lake	$ 47	$ 803	$ 1,412	$ 470	$ -	$ 0	$ -	$ 114	$ 1,489	$ 66	$ -	$ 4,401
Hennepin Island	$ -	$ 78	$ 153	$ 1	$ -	$ 0	$ -	$ 31	$ 124	$ -	$ -	$ 387
High Bridge	$ 71	$ 1,330	$ 1,569	$ 311	$ -	$ 1	$ -	$ 196	$ 1,843	$ 400	$ -	$ 5,722
Inver Hills	$ 17	$ 455	$ 1,018	$ 908	$ -	$ 0	$ -	$ -	$ 1,496	$ 3	$ -	$ 3,897
Maplewood	$ 5	$ 256	$ 43	$ 109	$ -	$ 0	$ -	$ 12	$ 46	$ 0	$ -	$ 471
Red Wing	$ 23	$ 650	$ 634	$ 458	$ -	$ 1	$ -	$ 50	$ 61	$ 93	$ 174	$ 2,143
Riverside	$ 60	$ 2,955	$ 4,069	$ 274	$ -	$ 1	$ -	$ 106	$ 1,661	$ 563	$ -	$ 9,690
Sherburne County	$ 337	$ 15,009	$ 15,615	$ 2,124	$ -	$ 9	$ -	$ 1,447	$ 2,489	$ 2,128	$ -	$ 39,158
Sibley	$ 5	$ 205	$ 31	$ 103	$ -	$ 0	$ -	$ 12	$ 39	$ 3	$ -	$ 397
Wescott	$ 4	$ 846	$ 135	$ 188	$ -	$ 0	$ -	$ 59	$ 45	$ 1	$ -	$ 1,859
Wilmarth	$ 26	$ 580	$ 611	$ 153	$ -	$ 0	$ -	$ 50	$ 61	$ 93	$ 406	$ 1,979
Total	**$ 1,062**	**$ 31,757**	**$ 33,630**	**$ 6,461**	**$ -**	**$ 18**	**$ -**	**$ 2,810**	**$ 13,937**	**$ 4,856**	**$ 4,782**	**$ 99,893**

TABLE 4.3b
SCRAP METAL CREDITS BY STATION
(thousands of 2024 dollars)

Wind Farms (Complete Removal)

	Carbon Steel		Copper			
Station Name	**No. 1**	**Mixed Scrap**	**No. 2 Cu**	**Large Mtr**	**Aluminum**	**Total**
Blazing Star I	$ 833	$ 4,942	$ 1,504	$ 2,538	$ 723	$ 10,539
Border Winds Project	$ 620	$ 2,666	$ 1,128	$ 1,612	$ 542	$ 6,568
Courtenay	$ 832	$ 4,001	$ 1,504	$ 2,149	$ 723	$ 9,208
Foxtail	$ 797	$ 3,705	$ 1,128	$ 1,905	$ 542	$ 8,076
Grand Meadow	$ 544	$ 3,804	$ 1,007	$ 2,237	$ 484	$ 8,078
Lake Benton II	$ 457	$ 2,581	$ 2,902	$ 1,404	$ 890	$ 8,233
Nobles	$ 1,517	$ 5,849	$ 2,015	$ 4,489	$ 969	$ 14,839
Pleasant Valley	$ 879	$ 4,276	$ 1,504	$ 2,149	$ 723	$ 9,531
Total (Complete Removal)	**$ 6,478**	**$ 31,823**	**$ 12,691**	**$ 18,483**	**$ 5,597**	**$ 75,072**

TABLE 4.3b (continued)
SCRAP METAL CREDITS BY STATION
(thousands of 2024 dollars)

Wind Farms (Complete Removal)
Farms added to the Xcel Energy fleet since 2019

	Carbon Steel		Copper			
Station Name	**No. 1**	**Mixed Scrap**	**No. 2 Cu**	**Large Mtr**	**Aluminum**	**Total**
Blazing Star II - New 2021	$ 930	$ 4,942	$ 1,504	$ 2,538	$ 723	$ 10,637
Freeborn Wind – New 2021	$ 1,050	$ 4,942	$ 1,504	$ 2,538	$ 723	$ 10,757
Crowned Ridge II Wind Farm – New 2020	$ 896	$ 5,160	$ 1,473	$ 2,807	$ 712	$ 11,047
Dakota Range Wind – New 2022	$ 923	$ 3,534	$ 1,495	$ 1,843	$ 723	$ 8,518
Community Wind North – New 2020	$ 99	$ 644	$ 1,475	$ 277	$ 723	$ 3,218
Jeffers Wind – New 2020	$ 158	$ 1,067	$ 1,477	$ 462	$ 723	$ 3,887
Mower County – New 2020	$ 360	$ 2,108	$ 1,485	$ 1,102	$ 723	$ 5,779
Rock Aetna – New 2022	$ 105	$ 462	$ 134	$ 255	$ 65	$ 1,021
Northern Wind – New 2023	$ 466	$ 2,100	$ 619	$ 1,180	$ 299	$ 4,665
Total (Complete Removal)	**$ 4,986**	**$ 24,959**	**$ 11,165**	**$ 13,004**	**$ 5,414**	**$ 59,529**

TABLE 4.3c
SCRAP METAL CREDITS BY STATION
(thousands of 2024 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.)	$ 94	$ 4,942	$ 33	$ 2,538	$ -	$ 7,607
Border Winds Project (48 in.)	$ 68	$ 2,666	$ 25	$ 1,612	$ -	$ 4,370
Courtenay (48 in.)	$ 93	$ 4,001	$ 33	$ 2,149	$ -	$ 6,276
Foxtail (48 in.)	$ 86	$ 3,705	$ 25	$ 1,905	$ -	$ 5,720
Grand Meadow (48 in.)	$ 79	$ 3,804	$ 22	$ 2,237	$ -	$ 6,143
Lake Benton II (48 in.)	$ 54	$ 2,581	$ 14	$ 1,404	$ -	$ 4,053
Nobles (48 in.)	$ 184	$ 5,849	$ 44	$ 4,489	$ -	$ 10,566
Pleasant Valley (48 in.)	$ 93	$ 4,276	$ 33	$ 2,149	$ -	$ 6,551
Total (Down 48 inch Removal)	**$ 752**	**$ 31,823**	**$ 228**	**$ 18,483**	**$ -**	**$ 51,285**

TABLE 4.3c (continued)
SCRAP METAL CREDITS BY STATION
(thousands of 2024 dollars)

Wind Farms (Down to 48 inches below grade)
Farms added to the Xcel Energy fleet since 2019

	Carbon Steel		Copper			
Station Name	**No. 1**	**Mixed Scrap**	**No. 2 Cu**	**Large Mtr**	**Aluminum**	**Total**
Blazing Star II (48 in) - New 2021	$ 94	$ 4,942	$ 33	$ 2,538	$ -	$ 7,607
Freeborn Wind (48 in) – New 2021	$ 87	$ 4,942	$ 33	$ 2,538	$ -	$ 7,601
Crowned Ridge II Wind Farm (48 in – New 2020	$ 103	$ 5,160	$ 29	$ 2,807	$ -	$ 8,099
Dakota Range Wind (48 in) – New 2022	$ 69	$ 3,534	$ 24	$ 1,843	$ -	$ 5,470
Community Wind North (48 in) – New 2020	$ 18	$ 644	$ 4	$ 277	$ -	$ 943
Jeffers Wind (48 in) – New 2020	$ 23	$ 1,067	$ 7	$ 462	$ -	$ 1,559
Mower County (48 in) – New 2020	$ 45	$ 2,111	$ 14	$ 1,102	$ -	$ 3,273
Rock Aetna (48 in) – New 2022	$ 15	$ 462	$ 3	$ 255	$ -	$ 735
Northern Wind (48 in) – New 2023	$ 47	$ 2,100	$ 12	$ 1,180	$ -	$ 3,339
Total (Down 48 inch Removal)	**$ 502**	**$ 24,962**	**$ 157**	**$ 13,004**	**$ -**	**$ 38,625**

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 RSMeans 2024 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 RSMeans 2024 Item 01 41 26.50.

Demolition Contractors Insurance – The cost of the demolition contractors' insurance; the value is consistent with the RSMeans 2024 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 RSMeans 2024 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 RSMeans 2024 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
(2024 Dollars)

Activities (Costs)	Allen S . King	Angus Anson	Black Dog	Blue Lake	Hennepin Island	High Bridge	Inver Hills	Maplewood	Red Wing	Riverside	Sherburne County	Sibley	Wescott	Wilmarth	Fleet Totals
Station Rating (MWe)	511	386	409	545	14	606	371	0	18	502	2238	0	0	18	5618
Characterization / Temporary Services	422,254	351,587	1,081,761	390,254	284,254	537,254	315,087	148,127	564,508	1,228,761	1,364,761	148,127	189,169	565,000	7,590,904
Worker Access	705,803	-	887,884	-	-	-	-	-	138,061	-	2,224,763	-	-	138,061	4,094,573
Pre-Demolition Cleaning (Boiler / Precipitator / Tanks)	1,504,163	334,166	-	-	-	-	476,882	-	717,899	733,494	4,515,623	-	-	717,899	9,000,127
Asbestos / Lead Paint Remediation	5,188,825	174,660	5,898,331	-	171,896	-	-	-	1,948,740	3,921,245	6,506,669	-	-	1,944,576	25,754,943
Equipment Removal	11,520,742	6,817,186	8,488,779	7,155,630	382,342	5,558,297	5,360,821	1,641,060	2,448,882	5,110,608	36,815,707	1,361,122	5,597,262	2,106,685	100,365,125
Boiler(s)	4,523,601	-	4,148,593	-	-	-	-	-	646,647	3,397,979	16,838,203	-	-	1,085,752	30,640,776
Structures Demolition	15,260,878	2,338,247	7,731,662	3,024,560	1,698,855	5,498,765	1,600,791	131,909	2,847,187	11,415,310	44,355,315	94,942	794,985	2,196,810	98,990,217
Backfill / Grade / Landscaping / Well Closure	5,233,892	2,071,521	3,766,834	1,633,067	731,598	2,650,661	1,448,087	164,590	2,092,512	3,878,921	12,787,861	174,672	797,385	1,788,962	39,220,563
Coal Yard Closure	13,092,043	-	-	-	-	-	-	-	-	-	10,094,589	-	-	-	23,186,633
Ash Landfills / Ash Ponds & Landfills Including Evaporation Ponds / Ash Pond Dewatering	1,160,387	-	3,928,166	-	-	-	-	-	1,377,000	-	32,294,022	-	-	2,601,000	41,360,574
Utility Management / Oversight	3,006,070	937,320	3,437,053	1,567,121	771,449	1,605,118	1,320,140	864,705	1,110,195	3,460,011	3,838,093	832,802	995,177	1,110,195	24,855,449
Demolition Contractor Mgmt / Super. / Safety Staff	4,142,329	1,001,187	5,477,729	1,762,203	459,998	1,865,046	1,093,718	630,253	1,275,642	5,357,097	6,915,074	572,008	1,162,697	1,275,642	32,990,622
Security	913,507	232,956	1,129,864	232,956	170,935	245,057	154,295	228,418	320,692	1,136,733	1,335,919	208,753	267,748	320,692	6,898,527
Property Taxes	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Project Expenses															
Shared Heavy Equipment / Operating Engineers	4,232,631	1,139,268	5,662,365	1,893,584	820,437	2,004,887	1,170,111	1,133,824	1,583,912	5,505,255	7,229,630	1,026,612	1,348,247	1,583,912	36,334,674
Small Tool Allowance	833,928	211,872	607,035	239,145	60,454	261,707	169,571	39,251	185,614	497,937	2,384,823	33,115	144,293	168,390	5,837,134
Utilities Allowance	69,183	40,053	85,569	40,053	29,390	42,134	26,529	39,273	55,138	86,089	101,174	35,892	46,035	55,138	751,651
Permits	848,633	180,997	597,059	201,731	57,990	230,234	145,770	49,104	198,522	514,159	2,305,353	43,081	126,001	202,848	5,701,481
Demolition Contractors Insurance	2,106,859	449,352	1,482,288	500,828	143,970	571,591	361,896	121,907	492,860	1,276,476	5,723,384	106,955	312,816	503,600	14,154,783
Demolition Contractors Fee	8,337,978	1,763,614	5,545,791	1,884,856	547,648	2,169,441	1,384,443	433,631	1,912,185	4,695,779	23,192,735	378,065	1,169,524	1,957,329	55,373,020
Sub-Total	83,103,707	18,043,985	59,956,764	20,525,988	6,331,216	23,240,193	15,028,142	5,626,051	19,916,197	52,215,855	220,823,698	5,016,145	12,951,339	20,322,494	563,101,776
Contingency	12,984,439	2,724,064	9,583,348	3,078,898	966,872	3,486,029	2,254,221	843,908	3,182,304	8,224,503	33,774,222	752,422	1,942,701	3,242,832	87,040,761
Project Total (before scrap credit)	96,088,146	20,768,049	69,540,112	23,604,886	7,298,088	26,726,222	17,282,363	6,469,959	23,098,501	60,440,358	254,597,920	5,768,567	14,894,040	23,565,326	650,142,536
Scrap Credit	(14,880,474)	(4,405,099)	(10,504,186)	(4,400,963)	(386,782)	(5,722,125)	(3,896,837)	(470,736)	(2,142,589)	(9,690,061)	(39,158,372)	(396,828)	(1,859,028)	(1,979,329)	(99,893,409)
Project Total	81,207,671	16,362,950	59,035,926	19,203,923	6,911,306	21,004,098	13,385,526	5,999,223	20,955,912	50,750,297	215,439,547	5,371,739	13,035,012	21,585,996	550,249,127

TABLE 5.1a

ALLEN S. KING STATION
SUMMARY OF ACTIVITY COSTS
(2024 Dollars)

Activities	Unit 1	Common	Station	Station Total
Allen S . King Unit Rating (MWe)	511			511
Characterization / Temporary Services	176,000	-	246,254	422,254
Worker Access	705,803	-		705,803
Pre-Demolition Cleaning (Boiler / Precipitator / Tanks)	1,392,775	111,389		1,504,163
Asbestos / Lead Paint Remediation	5,188,825	-		5,188,825
Equipment Removal	9,491,383	2,029,360		11,520,742
Boiler(s)	4,523,601	-		4,523,601
Structures Demolition	12,358,775	2,902,103		15,260,878
Backfill / Grade / Landscaping / Well Closure	3,258,494	1,062,045	913,353	5,233,892
Coal Yard Closure		13,092,043		13,092,043
Ash Landfills / Ash Ponds & Landfills Including Evaporation Ponds		1,160,387		1,160,387
Utility Management / Oversight			3,006,070	3,006,070
Demolition Contractor Management / Supervisory / Safety Staff			4,142,329	4,142,329
Security			913,507	913,507
Property Taxes	-	-	-	0
Project Expenses				
Shared Heavy Equipment / Operating Engineers			4,232,631	4,232,631
Small Tool Allowance	714,058	119,870	n/a	833,928
Utilities Allowance (Office Equip & supplies / Telephone, Electric etc.)			69,183	69,183
Permits			848,633	848,633
Demolition Contractors Insurance			2,106,859	2,106,859
Demolition Contractors Fee			8,337,978	8,337,978
Sub-Total				83,103,707
Contingency				12,984,439
Project Total (before scrap credit)				96,088,146
Scrap Credit	(13,545,235)	(1,335,240)	-	(14,880,474)
Project Total				81,207,671

TABLE 5.1b

ANGUS ANSON STATION
SUMMARY OF ACTIVITY COSTS
(2024 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	24,667	25,333	30,333	-	246,254	351,587
Pre-Demolition Cleaning (Tanks)	-	-	-	-	334,166		334,166
Lead Paint Remediation	174,660	-	-	-	-		174,660
Equipment Removal	3,197,695	712,885	716,466	1,780,389	409,750		6,817,186
Structures Demolition	1,370,752	213,386	217,375	469,269	67,465		2,338,247
Backfill / Grade / Landscaping / Well Closure	611,584	82,773	84,320	167,105	212,386	913,353	2,071,521
Utility Management / Oversight						937,320	937,320
Demolition Contractor Management / Supervisory / Safety Staff						1,001,187	1,001,187
Security						232,956	232,956
Property Taxes	-	-	-	-	-	-	0
Project Expenses							
Shared Heavy Equipment / Operating Engineers						1,139,268	1,139,268
Small Tool Allowance	107,594	20,674	20,870	48,942	13,792	n/a	211,872
Utilities Allowance (Office Equip & supplies / Telephone, Electric etc.)						40,053	40,053
Permits						180,997	180,997
Demolition Contractors Insurance						449,352	449,352
Demolition Contractors Fee						1,763,614	1,763,614
Sub-Total							18,043,985
Contingency							2,724,064
Project Total (before scrap credit)							20,768,049
Scrap Credit	(1,751,261)	(682,377)	(691,706)	(1,189,951)	(89,804)	-	(4,405,099)
Project Total							16,362,950

TABLE 5.1c

BLACK DOG STATION
SUMMARY OF ACTIVITY COSTS
(2024 Dollars)

Activities	Unit 2	Unit 3	Unit 5	Unit 6	Common	Station	Station Total
Black Dog Unit Rating (MWe)	117	Shut down	181	228			526
Characterization / Temporary Services	72,000	75,000	90,000	106,000	-	738,761	1,081,761
Worker Access	433,160	454,724	-	-	-		887,884
Asbestos Remediation	2,338,911	2,354,339	-	1,200,000	5,081		5,898,331
Equipment Removal	2,780,280	2,771,991	1,650,278	1,185,055	101,176		8,488,779
Boiler(s)	2,318,556	1,830,037	-	-	-		4,148,593
Structures Demolition	848,685	1,552,431	1,865,709	2,500,436	964,401		7,731,662
Backfill / Grade / Landscaping / Well Closure	470,195	493,602	493,475	463,758	932,452	913,353	3,766,834
							0
Ash Landfills / Ash Ponds & Landfills Including Evaporation Ponds					3,928,166		3,928,166
							0
Utility Management / Oversight						3,437,053	3,437,053
Demolition Contractor Management / Supervisory / Safety Staff						5,477,729	5,477,729
Security						1,129,864	1,129,864
Property Taxes	-	-	-	-	-	-	0
Project Expenses							
Shared Heavy Equipment / Operating Engineers						5,662,365	5,662,365
Small Tool Allowance	185,236	190,642	81,989	109,105	40,062	n/a	607,035
Utilities Allowance (Office Equip & supplies / Telephone, Electric etc.)						85,569	85,569
Permits						597,059	597,059
Demolition Contractors Insurance						1,482,288	1,482,288
Demolition Contractors Fee						5,545,791	5,545,791
Sub-Total							59,956,764
Contingency							9,583,348
Project Total (before scrap credit)							69,540,112
Scrap Credit	(2,900,227)	(3,632,117)	(1,626,050)	(2,127,784)	(218,009)	-	(10,504,186)
Project Total							59,035,926

TABLE 5.1d

BLUE LAKE STATION
SUMMARY OF ACTIVITY COSTS
(2024 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	13,250	13,250	13,250	13,250	45,500	45,500	-	246,254	390,254
Equipment Removal	684,234	684,234	684,234	684,234	1,777,467	1,777,467	863,758		7,155,630
Structures Demolition	248,308	210,841	210,841	210,841	544,768	544,768	1,054,192		3,024,560
Backfill / Grade / Landscaping	171,778	171,778	171,778	171,778	279,064	279,064	387,829	-	1,633,067
Utility Management / Oversight								1,567,121	1,567,121
Demolition Contractor Management / Supervisory / Safety Staff								1,762,203	1,762,203
Security								232,956	232,956
Property Taxes	-	-	-	-	-	-	-	-	0
Project Expenses									
Shared Heavy Equipment / Operating Engineers					-	-		1,893,584	1,893,584
Small Tool Allowance	22,351	21,602	21,602	21,602	52,936	52,936	46,116	n/a	239,145
Utilities Allowance (Office Equip & supplies / Telephone, Electric etc.)								40,053	40,053
Permits								201,731	201,731
Demolition Contractors Insurance								500,828	500,828
Demolition Contractors Fee								1,884,856	1,884,856
Sub-Total									20,525,988
Contingency (excluding activities currently under contract)									3,078,898
Project Total (before scrap credit)									23,604,886
Scrap Credit	(577,571)	(511,035)	(511,035)	(511,035)	(1,011,329)	(1,011,329)	(267,627)	-	(4,400,963)
Project Total									19,203,923

TABLE 5.1e

HENNEPIN ISLAND STATION
SUMMARY OF ACTIVITY COSTS
(2024 Dollars)

Activities	Unit 1-5	Station	Station Total
Hennepin Island Unit Rating (MWe)	14		14
Characterization / Temporary Services	38,000	246,254	284,254
Lead Paint Remediation	171,896		171,896
Equipment Removal	382,342		382,342
Structures Demolition	1,698,855		1,698,855
Grade / Landscaping	731,598	-	731,598
Utility Management / Oversight		771,449	771,449
Demolition Contractor Management / Supervisory / Safety Staff		459,998	459,998
Security		170,935	170,935
Property Taxes	-	-	0
Project Expenses			
Shared Heavy Equipment / Operating Engineers		820,437	820,437
Small Tool Allowance	60,454	n/a	60,454
Utilities Allowance (Office Equip & supplies / Telephone, Electric etc.)		29,390	29,390
Permits		57,990	57,990
Demolition Contractors Insurance		143,970	143,970
Demolition Contractors Fee		547,648	547,648
Sub-Total			6,331,216
Contingency			966,872
Project Total (before scrap credit)			7,298,088
Scrap Credit	(386,782)	-	(386,782)
Project Total			6,911,306

TABLE 5.1f

HIGH BRIDGE STATION
SUMMARY OF ACTIVITY COSTS
(2024 Dollars)

Activities	Unit 1	Unit 2	Unit 3	Common	Station	Station Total
High Bridge Unit Rating (MWe)	185	185	236			606
Characterization / Temporary Services	90,000	90,000	111,000	-	246,254	537,254
Equipment Removal	1,682,905	1,682,905	1,752,625	439,861		5,558,297
Boiler(s)	-	-	-	-		0
Structures Demolition	1,377,297	1,377,297	2,161,520	582,650		5,498,765
Backfill / Grade / Landscaping / Well Closure	344,631	344,631	849,754	198,291	913,353	2,650,661
Utility Management / Oversight					1,605,118	1,605,118
Demolition Contractor Management / Supervisory / Safety Staff					1,865,046	1,865,046
Security					245,057	245,057
Property Taxes	-	-	-	-	-	0
Project Expenses						
Shared Heavy Equipment / Operating Engineers					2,004,887	2,004,887
Small Tool Allowance	69,897	69,897	97,498	24,416	n/a	261,707
Utilities Allowance (Office Equip & supplies / Telephone, Electric etc.)					42,134	42,134
Permits					230,234	230,234
Demolition Contractors Insurance					571,591	571,591
Demolition Contractors Fee					2,169,441	2,169,441
Sub-Total						23,240,193
Contingency						3,486,029
Project Total (before scrap credit)						26,726,222
Scrap Credit	(1,677,890)	(1,677,890)	(2,236,884)	(129,460)	-	(5,722,125)
Project Total						21,004,098

TABLE 5.1g

INVER HILLS STATION
SUMMARY OF ACTIVITY COSTS
(2024 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	9,833	9,833	9,833	9,833	9,833	9,833	9,833	246,254	315,087
Pre-Demolition Cleaning (Tanks)	-	-	-	-	-	-	476,882		476,882
Equipment Removal	841,301	841,301	841,301	841,301	841,301	841,301	313,018		5,360,821
Boiler(s)	-	-	-	-	-	-	-		0
Structures Demolition	240,746	240,746	240,746	240,746	240,746	240,746	156,314		1,600,791
Backfill / Grade / Landscaping	208,023	208,023	208,023	208,023	208,023	208,023	199,951	-	1,448,087
Utility Management / Oversight								1,320,140	1,320,140
Demolition Contractor Management / Supervisory / Safety Staff								1,093,718	1,093,718
Security								154,295	154,295
Property Taxes	-	-	-	-	-	-	-	-	0
Project Expenses									
Shared Heavy Equipment / Operating Engineers								1,170,111	1,170,111
Small Tool Allowance	25,998	25,998	25,998	25,998	25,998	25,998	13,582	n/a	169,571
Utilities Allowance (Office Equip & supplies / Telephone, Electric etc.)								26,529	26,529
Permits								145,770	145,770
Demolition Contractors Insurance								361,896	361,896
Demolition Contractors Fee								1,384,443	1,384,443
Sub-Total									15,028,142
Contingency									2,254,221
Project Total (before scrap credit)									17,282,363
Scrap Credit	(635,732)	(635,732)	(635,732)	(635,732)	(635,732)	(635,732)	(82,444)	-	(3,896,837)
Project Total									13,385,526

TABLE 5.1h

MAPLEWOOD GAS PLANT
SUMMARY OF ACTIVITY COSTS
(2024 Dollars)

Activities	Unit 1	Station	Station Total
Maplewood Unit Rating (MWe)	0		
Characterization / Temporary Services	25,000	123,127	148,127
Equipment Removal	1,641,060		1,641,060
Structures Demolition	131,909		131,909
Grade / Landscaping	164,590	-	164,590
Utility Management / Oversight		864,705	864,705
Demolition Contractor Management / Supervisory / Safety Staff		630,253	630,253
Security		228,418	228,418
Property Taxes	-	-	0
Project Expenses			
Shared Heavy Equipment / Operating Engineers		1,133,824	1,133,824
Small Tool Allowance	39,251	n/a	39,251
Utilities Allowance (Office Equip & supplies / Telephone, Electric etc.)		39,273	39,273
Permits		49,104	49,104
Demolition Contractors Insurance		121,907	121,907
Demolition Contractors Fee		433,631	433,631
Sub-Total			5,626,051
Contingency			843,908
Project Total (before scrap credit)			6,469,959
Scrap Credit	(470,736)	-	(470,736)
Project Total			5,999,223

TABLE 5.1i

RED WING STATION
SUMMARY OF ACTIVITY COSTS
(2024 Dollars)

Activities	Unit 1	Unit 2	Common	Station	Station Total
Red Wing Unit Rating (MWe)	9	9			18
Characterization / Temporary Services	36,000	36,000	-	492,508	564,508
Pre-Demolition Cleaning (Boiler / Precipitator / Tanks)	358,950	358,950	-		717,899
Worker Access	69,031	69,031	-		138,061
Asbestos / Lead Paint Remediation	974,370	974,370	-		1,948,740
Equipment Removal	941,952	941,952	564,978		2,448,882
Boiler(s)	323,323	323,323	-		646,647
Structures Demolition	876,273	876,273	1,094,642		2,847,187
Backfill / Grade / Landscaping / Well Closure	306,519	306,519	566,120	913,353	2,092,512
Ash Landfills / Ash Ponds & Landfills Inculding Evaporation Ponds			1,377,000		1,377,000
Utility Management / Oversight				1,110,195	1,110,195
Demolition Contractor Management / Supervisory / Safety Staff				1,275,642	1,275,642
Security				320,692	320,692
Property Taxes	-	-	-	-	0
Project Expenses					
Shared Heavy Equipment / Operating Engineers				1,583,912	1,583,912
Small Tool Allowance	70,549	70,549	44,515	n/a	185,614
Utilities Allowance (Office Equip & supplies / Telephone, Electric etc.)				55,138	55,138
Permits				198,522	198,522
Demolition Contractors Insurance				492,860	492,860
Demolition Contractors Fee				1,912,185	1,912,185
Sub-Total					19,916,197
Contingency					3,182,304
Project Total (before scrap credit)					23,098,501
Scrap Credit	(779,383)	(779,383)	(583,823)	-	(2,142,589)
Project Total					20,955,912

TABLE 5.1j

RIVERSIDE STATION
SUMMARY OF ACTIVITY COSTS
(2024 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)			160		171	171			502
Characterization / Temporary Services	53,000	53,000	91,000	107,000	93,000	93,000	-	738,761	1,228,761
Pre-Demolition Cleaning (Boiler / Precipitator / Tanks)	237,536	237,536	-	237,536	-	-	20,885		733,494
Asbestos Remediation	1,257,429	1,257,429	-	1,406,387	-	-	-		3,921,245
Equipment Removal	-	-	1,191,484	570,743	1,663,193	1,663,193	21,996		5,110,608
Boiler(s)	1,134,301	1,134,301	-	1,129,376	-	-	-		3,397,979
Structures Demolition	1,360,962	1,360,962	645,308	3,341,863	1,190,094	1,190,094	2,326,028		11,415,310
Backfill / Grade / Landscaping / Well Closure	265,066	265,066	387,461	740,950	258,838	258,838	789,350	913,353	3,878,921
Utility Management / Oversight								3,460,011	3,460,011
Demolition Contractor Management / Supervisory / Safety Staff								5,357,097	5,357,097
Security								1,136,733	1,136,733
Property Taxes			-		-		-	-	0
Project Expenses									
Shared Heavy Equipment / Operating Engineers								5,505,255	5,505,255
Small Tool Allowance	81,415	81,415	46,305	145,926	40,064	40,064	62,747	n/a	497,937
Utilities Allowance (Office Equip & supplies / Telephone, Electric etc.)								86,089	86,089
Permits								514,159	514,159
Demolition Contractors Insurance								1,276,476	1,276,476
Demolition Contractors Fee								4,695,779	4,695,779
Sub-Total									52,215,855
Contingency									8,224,503
Project Total (before scrap credit)									60,440,358
Scrap Credit	(1,307,271)	(1,307,271)	(1,418,078)	(2,708,774)	(1,394,409)	(1,394,409)	(159,849)	-	(9,690,061)
Project Total									50,750,297

TABLE 5.1k

SHERBURNE COUNTY STATION
SUMMARY OF ACTIVITY COSTS
(2024 Dollars)

Activities	Unit 1	Unit 2	Unit 3	Common	Station	Station Total
Sherco Unit Rating (MWe)	680	682	876			2,238
Characterization / Temporary Services	201,000	201,000	224,000	0	738,761	1,364,761
Worker Access	718,722	718,722	787,320	0		2,224,763
Pre-Demolition Cleaning (Boiler / Precipitator / Tanks)	1,505,208	1,505,208	1,505,208	0		4,515,623
Asbestos Remediation	2,878,334	2,878,334	0	750,000		6,506,669
Equipment Removal	6,878,561	6,878,561	7,927,588	5,608,272		27,292,982
Boiler(s)	5,424,911	5,424,911	5,988,381	0		16,838,203
Turbine Generator & Condensor	734,045	734,045	826,400			2,294,489
Exhaust Gas Treatment Equipment and Structures	5,286,789	5,286,789	5,904,400			16,477,979
Structures Demolition	8,981,808	8,981,808	9,785,612	7,356,344		35,105,572
Backfill / Grade / Landscaping / Well Closure	2,217,092	2,217,092	2,387,870	5,052,455	913,353	12,787,861
Coal Yard Closure				10,094,589		10,094,589
Ash Landfills / Ash Ponds & Landfills Including Evaporation Ponds / Ash Pond Dewatering			5,814,000	26,480,022		32,294,022
Utility Management / Oversight	1,072,922	1,072,922	1,201,148	491,102		3,838,093
Demolition Contractor Management / Supervisory / Safety Staff	1,933,078	1,933,078	2,164,102	884,816		6,915,074
Security	373,450	373,450	418,082	170,937		1,335,919
Property Taxes	0	0	0	0	-	0
Project Expenses						
Shared Heavy Equipment / Operating Engineers	2,021,010	2,021,010	2,262,544	925,065		7,229,630
Small Tool Allowance	666,425	666,425	676,631	375,341	n/a	2,384,823
Utilities Allowance (Office Equip & supplies / Telephone, Electric etc.)					101,174	101,174
Permits					2,305,353	2,305,353
Demolition Contractors Insurance					5,723,384	5,723,384
Demolition Contractors Fee					23,192,735	23,192,735
Sub-Total						220,823,698
Contingency						33,774,222
Project Total (before scrap credit)						254,597,920
Scrap Credit	(11,260,975)	(11,260,975)	(13,738,684)	(2,897,738)	-	(39,158,372)
Project Total						215,439,547

TABLE 5.11

SIBLEY GAS PLANT
SUMMARY OF ACTIVITY COSTS
(2024 Dollars)

Activities	Unit 1	Station	Station Total
Sibley Unit Rating (MWe)	0		
Characterization / Temporary Services	25,000	123,127	148,127
Equipment Removal	1,361,122		1,361,122
Structures Demolition	94,942		94,942
Grade / Landscaping	174,672	-	174,672
Utility Management / Oversight		832,802	832,802
Demolition Contractor Management / Supervisory / Safety Staff		572,008	572,008
Security		208,753	208,753
Property Taxes	-	-	0
Project Expenses			
Shared Heavy Equipment / Operating Engineers		1,026,612	1,026,612
Small Tool Allowance	33,115	n/a	33,115
Utilities Allowance (Office Equip & supplies / Telephone, Electric etc.)		35,892	35,892
Permits		43,081	43,081
Demolition Contractors Insurance		106,955	106,955
Demolition Contractors Fee		378,065	378,065
Sub-Total			5,016,145
Contingency			752,422
Project Total (before scrap credit)			5,768,567
Scrap Credit	(396,828)	-	(396,828)
Project Total			5,371,739

TABLE 5.1m

WESCOTT GAS PLANT
SUMMARY OF ACTIVITY COSTS
(2024 Dollars)

Activities	Unit 1	Station	Station Total
Wescott Unit Rating (MWe)	0		
Characterization / Temporary Services	25,000	164,169	189,169
Equipment Removal	5,597,262		5,597,262
Structures Demolition	794,985		794,985
Grade / Landscaping	797,385	-	797,385
Utility Management / Oversight		995,177	995,177
Demolition Contractor Management / Supervisory / Safety Staff		1,162,697	1,162,697
Security		267,748	267,748
Property Taxes	-	-	0
Project Expenses			
Shared Heavy Equipment / Operating Engineers		1,348,247	1,348,247
Small Tool Allowance	144,293	n/a	144,293
Utilities Allowance (Office Equip & supplies / Telephone, Electric etc.)		46,035	46,035
Permits		126,001	126,001
Demolition Contractors Insurance		312,816	312,816
Demolition Contractors Fee		1,169,524	1,169,524
Sub-Total			12,951,339
Contingency			1,942,701
Project Total (before scrap credit)			14,894,040
Scrap Credit	(1,859,028)	-	(1,859,028)
Project Total			13,035,012

TABLE 5.1n

WILMARTH STATION
SUMMARY OF ACTIVITY COSTS
(2024 Dollars)

Activities	Unit 1	Unit 2	Common	Station	Station Total
Wilmarth Unit Rating (MWe)	9	9			18
Characterization / Temporary Services	36,000	36,000	-	493,000	565,000
Worker Access	69,031	69,031	-		138,061
Pre-Demolition Cleaning (Boiler / Precipitator / Tanks)	358,950	358,950	-		717,899
Asbestos / Lead Paint Remediation	972,288	972,288	-		1,944,576
Equipment Removal	941,952	941,952	222,781		2,106,685
Boiler(s)	542,876	542,876	-		1,085,752
Structures Demolition	695,399	695,399	806,013		2,196,810
Backfill / Grade / Landscaping / Well Closure	309,109	309,109	257,391	913,353	1,788,962
Ash Landfills			2,601,000		2,601,000
Utility Management / Oversight				1,110,195	1,110,195
Demolition Contractor Management / Supervisory / Safety Staff				1,275,642	1,275,642
Security				320,692	320,692
Property Taxes	-	-	-	-	0
Project Expenses					
Shared Heavy Equipment / Operating Engineers				1,583,912	1,583,912
Small Tool Allowance	71,333	71,333	25,724	n/a	168,390
Utilities Allowance (Office Equip & supplies / Telephone, Electric etc.)				55,138	55,138
Permits				202,848	202,848
Demolition Contractors Insurance				503,600	503,600
Demolition Contractors Fee				1,957,329	1,957,329
Sub-Total					20,322,494
Contingency					3,242,832
Project Total (before scrap credit)					23,565,326
Scrap Credit	(898,305)	(898,305)	(182,719)	-	(1,979,329)
Project Total					21,585,996

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 (existing wind farms in the 2019 study) and Table 5.3 (new wind farms added to the Xcel Energy fleet since 2019). Breakdowns of the major cost categories by wind farm are provided in Tables 5.2a through 5.3r. 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 4.2b through 4.3c.

TABLE 5.2

SUMMARY OF ACTIVITY COSTS – WIND FARMS
(2024 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) AMOUNT
1	TURBINE SITE REMOVAL																		
1a	Dismantle Wind Turbine Generators - Model 1	$1,631,056	$1,682,456	$12,933,642	$13,471,423	$15,842,153	$16,274,265	$1,158,302	$1,194,613	$12,020,303	$12,721,009	$945,883	$981,905	$21,910,382	$22,480,918	$18,683,007	$19,235,721	$85,124,728	$88,042,309
	Dismantle Wind Turbine Generators - Model 2	$14,789,890	$15,252,492	$0	$0	$0	$0	$11,336,499	$11,689,236	$0	$0	$7,688,764	$7,969,730	$0	$0	$0	$0	$33,815,153	$34,911,458
1b	Haul Off of Materials (Trucking/Rail)	$3,741,134	$3,238,187	$2,167,988	$1,791,683	$3,146,757	$2,643,811	$2,883,360	$2,434,921	$2,862,180	$2,538,806	$2,118,452	$1,705,238	$4,921,319	$4,091,209	$3,324,714	$2,800,253	$25,165,903	$21,244,109
1c	Foundation Removal - Model 1	$633,944	$78,690	$5,359,429	$603,212	$6,835,650	$828,947	$471,959	$56,332	$3,622,814	$571,848	$314,911	$40,770	$8,159,335	$1,095,046	$7,158,264	$864,611	$32,556,307	$4,139,455
	Foundation Removal - Model 2	$5,705,494	$708,206	$0	$0	$0	$0	$4,584,748	$547,228	$0	$0	$2,456,303	$318,006	$0	$0	$0	$0	$12,746,545	$1,573,440
1d	Crane Mobilization & Demobilization	$2,610,042	$2,486,337	$3,113,285	$2,942,338	$2,519,042	$2,380,657	$1,965,501	$1,875,958	$2,873,947	$2,791,477	$1,331,752	$1,282,270	$2,544,066	$2,445,101	$2,807,971	$2,692,512	$19,765,607	$18,896,651
	SUBTOTAL	**$29,111,560**	**$23,446,368**	**$23,574,343**	**$18,808,656**	**$28,343,603**	**$22,127,679**	**$22,400,369**	**$17,798,288**	**$21,379,245**	**$18,623,140**	**$14,856,066**	**$12,297,919**	**$37,535,102**	**$30,112,275**	**$31,973,956**	**$25,593,097**	**$209,174,244**	**$168,807,422**
2	SITE CIVIL WORK REMOVAL																		
2a	Balance of Site Civil Work Removals	$9,591,668	$9,269,175	$8,195,561	$7,902,812	$9,985,699	$9,626,204	$7,629,281	$7,394,888	$7,028,359	$6,878,947	$4,556,759	$4,459,241	$12,295,432	$11,881,996	$9,812,009	$9,449,721	$69,094,767	$66,862,985
	SUBTOTAL	**$9,591,668**	**$9,269,175**	**$8,195,561**	**$7,902,812**	**$9,985,699**	**$9,626,204**	**$7,629,281**	**$7,394,888**	**$7,028,359**	**$6,878,947**	**$4,556,759**	**$4,459,241**	**$12,295,432**	**$11,881,996**	**$9,812,009**	**$9,449,721**	**$69,094,767**	**$66,862,985**
3	COLLECTION SYSTEM REMOVAL																		
3a	Remove MV Collection Cable	$2,214,378	$450,395	$2,108,757	$436,518	$2,217,262	$443,873	$1,744,742	$355,074	$1,876,304	$406,592	$1,274,532	$256,991	$2,620,678	$525,822	$2,381,408	$485,494	$16,438,061	$3,360,759
3b	Remove Junction Boxes & Turbine Switchgears	$337,263	$33,726	$262,424	$26,242	$349,899	$34,990	$262,424	$26,242	$225,966	$22,597	$296,792	$29,679	$451,933	$45,193	$337,263	$33,726	$2,523,964	$252,396
	SUBTOTAL	**$2,551,642**	**$484,122**	**$2,371,181**	**$462,760**	**$2,567,161**	**$478,863**	**$2,007,166**	**$381,317**	**$2,102,271**	**$429,188**	**$1,571,323**	**$286,670**	**$3,072,611**	**$571,015**	**$2,718,671**	**$519,220**	**$18,962,025**	**$3,613,155**
	SITE SUBTOTAL	**$41,254,870**	**$33,199,664**	**$34,141,086**	**$27,174,229**	**$40,896,462**	**$32,232,746**	**$32,036,816**	**$25,574,493**	**$30,509,874**	**$25,931,275**	**$20,984,149**	**$17,043,830**	**$52,903,144**	**$42,565,286**	**$44,504,635**	**$35,562,039**	**$297,231,036**	**$239,283,562**
	CONTINGENGY (15%)	$6,188,230	$4,979,950	$5,121,163	$4,076,134	$6,134,469	$4,834,912	$4,805,522	$3,836,174	$4,576,481	$3,889,691	$3,147,622	$2,556,575	$7,935,472	$6,384,793	$6,675,695	$5,334,306	$44,584,655	$35,892,534
	Project Total (before scrap credit)	$47,443,100	$38,179,614	$39,262,249	$31,250,364	$47,030,931	$37,067,658	$36,842,338	$29,410,667	$35,086,355	$29,820,967	$24,131,771	$19,600,405	$60,838,616	$48,950,079	$51,180,331	$40,896,344	$341,815,691	$275,176,097
	APPROXIMATE SCRAP VALUE OF COMPONENTS	($10,539,402)	($7,606,872)	($6,567,539)	($4,370,133)	($9,208,170)	($6,275,640)	($8,076,216)	($5,720,203)	($8,077,595)	($6,142,704)	($8,233,156)	($4,053,144)	($14,838,942)	($10,565,992)	($9,530,568)	($6,550,734)	($75,071,589)	($51,285,424)
	TOTAL PRICE	**$36,903,698**	**$30,572,742**	**$32,694,709**	**$26,880,230**	**$37,822,761**	**$30,792,017**	**$28,766,122**	**$23,690,463**	**$27,008,760**	**$23,678,263**	**$15,898,615**	**$15,547,260**	**$45,999,674**	**$38,384,087**	**$41,649,763**	**$34,345,611**	**$266,744,102**	**$223,890,673**

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
(2024 Dollars)

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	AMOUNT
1	TURBINE SITE REMOVAL				
1a	Dismantle Wind Turbine Generators - V110	10	EA	$163,106	$1,631,056
	Dismantle Wind Turbine Generators - V120	90	EA	$164,332	$14,789,890
1b	Haul Off of Materials (Trucking/Rail)	100	EA	37,411	$3,741,134
1c	Foundation Removal - V110	10	EA	$63,394	$633,944
	Foundation Removal - V120	90	EA	$63,394	$5,705,494
1d	Crane Mobilization & Demobilization	1	LS	$2,610,042	$2,610,042
		SUBTOTAL			**$29,111,560**
2	SITE CIVIL WORK REMOVAL				
2a	Balance of Site Civil Work Removals	1	LS	$9,591,668	$9,591,668
		SUBTOTAL			**$9,591,668**
3	COLLECTION SYSTEM REMOVAL				
3a	Remove MV Collection Cable	1	LS	$2,214,378	$2,214,378
3b	Remove Junction Boxes & Turbine Switchgears	1	LS	$337,263	$337,263
		SUBTOTAL			**$2,551,642**
		SITE SUBTOTAL			**$41,254,870**
	CONTINGENGY (15%)				$6,188,230
	Project Total (before scrap credit)				$47,443,100
	APPROXIMATE SCRAP VALUE OF COMPONENTS				($10,539,402)
TOTAL PRICE					**$36,903,698**

TABLE 5.2b
Blazing Star I Wind Farm
(Removal to 48 inches)
SUMMARY OF ACTIVITY COSTS
(2024 Dollars)

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	AMOUNT
1	TURBINE SITE REMOVAL				
1a	Dismantle Wind Turbine Generators - V110	10	EA	$168,246	$1,682,456
	Dismantle Wind Turbine Generators - V120	90	EA	$169,472	$15,252,492
1b	Haul Off of Materials (Trucking/Rail)	100	EA	32,382	$3,238,187
1c	Foundation Removal V120	10	EA	$7,869	$78,690
	Foundation Removal V110	90	EA	$7,869	$708,206
1d	Crane Mobilization & Demobilization	1	LS	$2,486,337	$2,486,337
		SUBTOTAL			**$23,446,368**
2	SITE CIVIL WORK REMOVAL				
2a	Balance of Site Civil Work Removals	1	LS	$9,269,175	$9,269,175
		SUBTOTAL			**$9,269,175**
3	COLLECTION SYSTEM REMOVAL				
3a	Remove MV Collection Cable	1	LS	$450,395	$450,395
3b	Remove Junction Boxes & Turbine Switchgears	1	LS	$33,726	$33,726
		SUBTOTAL			**$484,122**
		SITE SUBTOTAL			**$33,199,664**
	CONTINGENGY (15%)				$4,979,950
	Project Total (before scrap credit)				$38,179,614
	APPROXIMATE SCRAP VALUE OF COMPONENTS				($7,606,872)
TOTAL PRICE					**$30,572,742**

TABLE 5.2c
Border Winds Project

SUMMARY OF ACTIVITY COSTS
(2024 Dollars)

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	AMOUNT
1	TURBINE SITE REMOVAL				
1a	Dismantle Wind Turbine Generators V100.20	75	EA	$172,449	$12,933,642
1b	Haul Off of Materials (Trucking/Rail)	75	EA	28,907	$2,167,988
1c	Foundation Removal V100.20	75	EA	$71,459	$5,359,429
1d	Crane Mobilization & Demobilization	1	LS	$3,113,285	$3,113,285
		SUBTOTAL			**$23,574,343**
2	SITE CIVIL WORK REMOVAL				
2a	Balance of Site Civil Work Removals	1	LS	$8,195,561	$8,195,561
		SUBTOTAL			**$8,195,561**
3	COLLECTION SYSTEM REMOVAL				
3a	Remove MV Collection Cable	1	LS	$2,108,757	$2,108,757
3b	Remove Junction Boxes & Turbine Switchgears	1	LS	$262,424	$262,424
		SUBTOTAL			**$2,371,181**
		SITE SUBTOTAL			**$34,141,086**
	CONTINGENGY (15%)				$5,121,163
	Project Total (before scrap credit)				$39,262,249
	APPROXIMATE SCRAP VALUE OF COMPONENTS				($6,567,539)
TOTAL PRICE					**$32,694,709**

TABLE 5.2d
Border Winds Project
(Removal to 48 inches)
SUMMARY OF ACTIVITY COSTS
(2024 Dollars)

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	AMOUNT
1	TURBINE SITE REMOVAL				
1a	Dismantle Wind Turbine Generators - V100-2.0	75	EA	$179,619	$13,471,423
1b	Haul Off of Materials (Trucking/Rail)	75	EA	23,889	$1,791,683
1c	Foundation Removal - V100-2.0	75	EA	$8,043	$603,212
1d	Crane Mobilization & Demobilization	1	LS	$2,942,338	$2,942,338
		SUBTOTAL			**$18,808,656**
2	SITE CIVIL WORK REMOVAL				
2a	Balance of Site Civil Work Removals	1	LS	$7,902,812	$7,902,812
		SUBTOTAL			**$7,902,812**
3	COLLECTION SYSTEM REMOVAL				
3a	Remove MV Collection Cable	1	LS	$436,518	$436,518
3b	Remove Junction Boxes & Turbine Switchgears	1	LS	$26,242	$26,242
		SUBTOTAL			**$462,760**
		SITE SUBTOTAL			**$27,174,229**
	CONTINGENGY (15%)				$4,076,134
	Project Total (before scrap credit)				$31,250,364
	APPROXIMATE SCRAP VALUE OF COMPONENTS				($4,370,133)
TOTAL PRICE					**$26,880,230**

TABLE 5.2e
Courtenay Wind Farm

SUMMARY OF ACTIVITY COSTS
(2024 Dollars)

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	AMOUNT
1	TURBINE SITE REMOVAL				
1a	Dismantle Wind Turbine Generators - V100-2.0	100	EA	$158,422	$15,842,153
1b	Haul Off of Materials (Trucking/Rail)	100	EA	31,468	$3,146,757
1c	Foundation Removal - V100-2.0	100	EA	$68,356	$6,835,650
1d	Crane Mobilization & Demobilization	1	LS	$2,519,042	$2,519,042
		SUBTOTAL			**$28,343,603**
2	SITE CIVIL WORK REMOVAL				
2a	Balance of Site Civil Work Removals	1	LS	$9,985,699	$9,985,699
		SUBTOTAL			**$9,985,699**
3	COLLECTION SYSTEM REMOVAL				
3a	Remove MV Collection Cable	1	LS	$2,217,262	$2,217,262
3b	Remove Junction Boxes & Turbine Switchgears	1	LS	$349,899	$349,899
		SUBTOTAL			**$2,567,161**
		SITE SUBTOTAL			**$40,896,462**
	CONTINGENGY (15%)				$6,134,469
	Project Total (before scrap credit)				$47,030,931
	APPROXIMATE SCRAP VALUE OF COMPONENTS				($9,208,170)
TOTAL PRICE					**$37,822,761**

TABLE 5.2f
Courtenay Wind Farm
(Removal to 48 inches)
SUMMARY OF ACTIVITY COSTS
(2024 Dollars)

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	AMOUNT
1	TURBINE SITE REMOVAL				
1a	Dismantle Wind Turbine Generators - V100-2.0	100	EA	$162,743	$16,274,265
1b	Haul Off of Materials (Trucking/Rail)	100	EA	26,438	$2,643,811
1c	Foundation Removal - V100-2.0	100	EA	$8,289	$828,947
1d	Crane Mobilization & Demobilization	1	LS	$2,380,657	$2,380,657
		SUBTOTAL			**$22,127,679**
2	SITE CIVIL WORK REMOVAL				
2a	Balance of Site Civil Work Removals	1	LS	$9,626,204	$9,626,204
		SUBTOTAL			**$9,626,204**
3	COLLECTION SYSTEM REMOVAL				
3a	Remove MV Collection Cable	1	LS	$443,873	$443,873
3b	Remove Junction Boxes & Turbine Switchgears	1	LS	$34,990	$34,990
		SUBTOTAL			**$478,863**
		SITE SUBTOTAL			**$32,232,746**
	CONTINGENGY (15%)				$4,834,912
	Project Total (before scrap credit)				$37,067,658
	APPROXIMATE SCRAP VALUE OF COMPONENTS				($6,275,640)
TOTAL PRICE					**$30,792,017**

TABLE 5.2g
Foxtail Wind Farm

SUMMARY OF ACTIVITY COSTS
(2024 Dollars)

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	AMOUNT
1	TURBINE SITE REMOVAL				
1a	Dismantle Wind Turbine Generators - V110	7	EA	$165,472	$1,158,302
	Dismantle Wind Turbine Generators - V120	68	EA	$166,713	$11,336,499
1b	Haul Off of Materials (Trucking/Rail)	75	EA	38,445	$2,883,360
1c	Foundation Removal - V110	7	EA	$67,423	$471,959
	Foundation Removal - V120	68	EA	$67,423	$4,584,748
1d	Crane Mobilization & Demobilization	1	LS	$1,965,501	$1,965,501
		SUBTOTAL			**$22,400,369**
2	SITE CIVIL WORK REMOVAL				
2a	Balance of Site Civil Work Removals	1	LS	$7,629,281	$7,629,281
		SUBTOTAL			**$7,629,281**
3	COLLECTION SYSTEM REMOVAL				
3a	Remove MV Collection Cable	1	LS	$1,744,742	$1,744,742
3b	Remove Junction Boxes & Turbine Switchgears	1	LS	$262,424	$262,424
		SUBTOTAL			**$2,007,166**
		SITE SUBTOTAL			**$32,036,816**
	CONTINGENGY (15%)				$4,805,522
	Project Total (before scrap credit)				$36,842,338
	APPROXIMATE SCRAP VALUE OF COMPONENTS				($8,076,216)
TOTAL PRICE					**$28,766,122**

TABLE 5.2h
Foxtail Wind Farm
(Removal to 48 inches)
SUMMARY OF ACTIVITY COSTS
(2024 Dollars)

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	AMOUNT
1	TURBINE SITE REMOVAL				
1a	Dismantle Wind Turbine Generators - V110	7	EA	$170,659	$1,194,613
	Dismantle Wind Turbine Generators - V120	68	EA	$171,901	$11,689,236
1b	Haul Off of Materials (Trucking/Rail)	75	EA	32,466	$2,434,921
1c	Foundation Removal - V110	7	EA	$8,047	$56,332
	Foundation Removal - V120	68	EA	$8,047	$547,228
1d	Crane Mobilization & Demobilization	1	LS	$1,875,958	$1,875,958
		SUBTOTAL			**$17,798,288**
2	SITE CIVIL WORK REMOVAL				
2a	Balance of Site Civil Work Removals	1	LS	$7,394,888	$7,394,888
		SUBTOTAL			**$7,394,888**
3	COLLECTION SYSTEM REMOVAL				
3a	Remove MV Collection Cable	1	LS	$355,074	$355,074
3b	Remove Junction Boxes & Turbine Switchgears	1	LS	$26,242	$26,242
		SUBTOTAL			**$381,317**
		SITE SUBTOTAL			**$25,574,493**
	CONTINGENGY (15%)				$3,836,174
	Project Total (before scrap credit)				$29,410,667
	APPROXIMATE SCRAP VALUE OF COMPONENTS				($5,720,203)
TOTAL PRICE					**$23,690,463**

TABLE 5.2i
Grand Meadow Wind

SUMMARY OF ACTIVITY COSTS
(2024 Dollars)

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	AMOUNT
1	TURBINE SITE REMOVAL				
1a	Dismantle Wind Turbine Generators - GE1.5-77	67	EA	$179,408	$12,020,303
1b	Haul Off of Materials (Trucking/Rail)	67	EA	42,719	$2,862,180
1c	Foundation Removal - GE1.5-77	67	EA	$54,072	$3,622,814
1d	Crane Mobilization & Demobilization	1	LS	$2,873,947	$2,873,947
		SUBTOTAL			**$21,379,245**
2	SITE CIVIL WORK REMOVAL				
2a	Balance of Site Civil Work Removals	1	LS	$7,028,359	$7,028,359
		SUBTOTAL			**$7,028,359**
3	COLLECTION SYSTEM REMOVAL				
3a	Remove MV Collection Cable	1	LS	$1,876,304	$1,876,304
3b	Remove Junction Boxes & Turbine Switchgears	1	LS	$225,966	$225,966
		SUBTOTAL			**$2,102,271**
		SITE SUBTOTAL			**$30,509,874**
	CONTINGENGY (15%)				$4,576,481
	Project Total (before scrap credit)				$35,086,355
	APPROXIMATE SCRAP VALUE OF COMPONENTS				($8,077,595)
TOTAL PRICE					**$27,008,760**

TABLE 5.2j
Grand Meadow Wind
(Removal to 48 inches)
SUMMARY OF ACTIVITY COSTS
(2024 Dollars)

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	AMOUNT
1	TURBINE SITE REMOVAL				
1a	Dismantle Wind Turbine Generators - GE1.5-77	67	EA	$189,866	$12,721,009
1b	Haul Off of Materials (Trucking/Rail)	67	EA	37,893	$2,538,806
1c	Foundation Removal - GE1.5-77	67	EA	$8,535	$571,848
1d	Crane Mobilization & Demobilization	1	LS	$2,791,477	$2,791,477
		SUBTOTAL			**$18,623,140**
2	SITE CIVIL WORK REMOVAL				
2a	Balance of Site Civil Work Removals	1	LS	$6,878,947	$6,878,947
		SUBTOTAL			**$6,878,947**
3	COLLECTION SYSTEM REMOVAL				
3a	Remove MV Collection Cable	1	LS	$406,592	$406,592
3b	Remove Junction Boxes & Turbine Switchgears	1	LS	$22,597	$22,597
		SUBTOTAL			**$429,188**
		SITE SUBTOTAL			**$25,931,275**
	CONTINGENGY (15%)				$3,889,691
	Project Total (before scrap credit)				$29,820,967
	APPROXIMATE SCRAP VALUE OF COMPONENTS				($6,142,704)
TOTAL PRICE					**$23,678,263**

TABLE 5.2k
Lake Benton II Wind

SUMMARY OF ACTIVITY COSTS
(2024 Dollars)

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	AMOUNT
1	TURBINE SITE REMOVAL				
1a	Dismantle Wind Turbine Generators - GE2.1-116	5	EA	$189,177	$945,883
	Dismantle Wind Turbine Generators - GE2.3-116	39	EA	$197,148	$7,688,764
1b	Haul Off of Materials (Trucking/Rail)	44	EA	48,147	$2,118,452
1c	Foundation Removal - GE2.1-116	5	EA	$62,982	$314,911
	Foundation Removal - GE2.3-116	39	EA	$62,982	$2,456,303
1d	Crane Mobilization & Demobilization	1	LS	$1,331,752	$1,331,752
		SUBTOTAL			**$14,856,066**
2	SITE CIVIL WORK REMOVAL				
2a	Balance of Site Civil Work Removals	1	LS	$4,556,759	$4,556,759
		SUBTOTAL			**$4,556,759**
3	COLLECTION SYSTEM REMOVAL				
3a	Remove MV Collection Cable	1	LS	$1,274,532	$1,274,532
3b	Remove Junction Boxes & Turbine Switchgears	1	LS	$296,792	$296,792
		SUBTOTAL			**$1,571,323**
		SITE SUBTOTAL			**$20,984,149**
	CONTINGENGY (15%)				$3,147,622
	Project Total (before scrap credit)				$24,131,771
	APPROXIMATE SCRAP VALUE OF COMPONENTS				($8,233,156)
TOTAL PRICE					**$15,898,615**

TABLE 5.2l
Lake Benton II Wind
(Removal to 48 inches)
SUMMARY OF ACTIVITY COSTS
(2024 Dollars)

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	AMOUNT
1	TURBINE SITE REMOVAL				
1a	Dismantle Wind Turbine Generators - GE2.1-116	5	EA	$196,381	$981,905
	Dismantle Wind Turbine Generators - GE2.3-116	39	EA	$204,352	$7,969,730
1b	Haul Off of Materials (Trucking/Rail)	44	EA	38,755	$1,705,238
1c	Foundation Removal - GE2.1-116	5	EA	$8,154	$40,770
	Foundation Removal - GE2.3-116	39	EA	$8,154	$318,006
1d	Crane Mobilization & Demobilization	1	LS	$1,282,270	$1,282,270
		SUBTOTAL			**$12,297,919**
2	SITE CIVIL WORK REMOVAL				
2a	Balance of Site Civil Work Removals	1	LS	$4,459,241	$4,459,241
		SUBTOTAL			**$4,459,241**
3	COLLECTION SYSTEM REMOVAL				
3a	Remove MV Collection Cable	1	LS	$256,991	$256,991
3b	Remove Junction Boxes & Turbine Switchgears	1	LS	$29,679	$29,679
		SUBTOTAL			**$286,670**
		SITE SUBTOTAL			**$17,043,830**
	CONTINGENGY (15%)				$2,556,575
	Project Total (before scrap credit)				$19,600,405
	APPROXIMATE SCRAP VALUE OF COMPONENTS				($4,053,144)
TOTAL PRICE					**$15,547,260**

TABLE 5.2m
Nobles Wind Farm

SUMMARY OF ACTIVITY COSTS
(2024 Dollars)

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	AMOUNT
1	TURBINE SITE REMOVAL				
1a	Dismantle Wind Turbine Generators - GE1.5-77	134	EA	$163,510	$21,910,382
1b	Haul Off of Materials (Trucking/Rail)	134	EA	36,726	$4,921,319
1c	Foundation Removal - GE1.5-77	134	EA	$60,891	$8,159,335
1d	Crane Mobilization & Demobilization	1	LS	$2,544,066	$2,544,066
		SUBTOTAL			**$37,535,102**
2	SITE CIVIL WORK REMOVAL				
2a	Balance of Site Civil Work Removals	1	LS	$12,295,432	$12,295,432
		SUBTOTAL			**$12,295,432**
3	COLLECTION SYSTEM REMOVAL				
3a	Remove MV Collection Cable	1	LS	$2,620,678	$2,620,678
3b	Remove Junction Boxes & Turbine Switchgears	1	LS	$451,933	$451,933
		SUBTOTAL			**$3,072,611**
		SITE SUBTOTAL			**$52,903,144**
	CONTINGENGY (15%)				$7,935,472
	Project Total (before scrap credit)				$60,838,616
	APPROXIMATE SCRAP VALUE OF COMPONENTS				($14,838,942)
TOTAL PRICE					**$45,999,674**

TABLE 5.2n
Nobles Wind Farm
(Removal to 48 inches)
SUMMARY OF ACTIVITY COSTS
(2024 Dollars)

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	AMOUNT
1	TURBINE SITE REMOVAL				
1a	Dismantle Wind Turbine Generators - GE1.5-77	134	EA	$167,768	$22,480,918
1b	Haul Off of Materials (Trucking/Rail)	134	EA	30,531	$4,091,209
1c	Foundation Removal - GE1.5-77	134	EA	$8,172	$1,095,046
1d	Crane Mobilization & Demobilization	1	LS	$2,445,101	$2,445,101
		SUBTOTAL			**$30,112,275**
2	SITE CIVIL WORK REMOVAL				
2a	Balance of Site Civil Work Removals	1	LS	$11,881,996	$11,881,996
		SUBTOTAL			**$11,881,996**
3	COLLECTION SYSTEM REMOVAL				
3a	Remove MV Collection Cable	1	LS	$525,822	$525,822
3b	Remove Junction Boxes & Turbine Switchgears	1	LS	$45,193	$45,193
		SUBTOTAL			**$571,015**
		SITE SUBTOTAL			**$42,565,286**
	CONTINGENGY (15%)				$6,384,793
	Project Total (before scrap credit)				$48,950,079
	APPROXIMATE SCRAP VALUE OF COMPONENTS				($10,565,992)
TOTAL PRICE					**$38,384,087**

TABLE 5.2o
Pleasant Valley Wind Farm

SUMMARY OF ACTIVITY COSTS
(2024 Dollars)

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	AMOUNT
1	TURBINE SITE REMOVAL				
1a	Dismantle Wind Turbine Generators - V100-2.0	100	EA	$186,830	$18,683,007
1b	Haul Off of Materials (Trucking/Rail)	100	EA	33,247	$3,324,714
1c	Foundation Removal - V100-2.0	100	EA	$71,583	$7,158,264
1d	Crane Mobilization & Demobilization	1	LS	$2,807,971	$2,807,971
		SUBTOTAL			**$31,973,956**
2	SITE CIVIL WORK REMOVAL				
2a	Balance of Site Civil Work Removals	1	LS	$9,812,009	$9,812,009
		SUBTOTAL			**$9,812,009**
3	COLLECTION SYSTEM REMOVAL				
3a	Remove MV Collection Cable	1	LS	$2,381,408	$2,381,408
3b	Remove Junction Boxes & Turbine Switchgears	1	LS	$337,263	$337,263
		SUBTOTAL			**$2,718,671**
		SITE SUBTOTAL			**$44,504,635**
	CONTINGENGY (15%)				$6,675,695
	Project Total (before scrap credit)				$51,180,331
	APPROXIMATE SCRAP VALUE OF COMPONENTS				($9,530,568)
TOTAL PRICE					**$41,649,763**

TABLE 5.2p
Pleasant Valley Wind Farm
(Removal to 48 inches)
SUMMARY OF ACTIVITY COSTS
(2024 Dollars)

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	AMOUNT
1	TURBINE SITE REMOVAL				
1a	Dismantle Wind Turbine Generators - V100-2.0	100	EA	$192,357	$19,235,721
1b	Haul Off of Materials (Trucking/Rail)	100	EA	28,003	$2,800,253
1c	Foundation Removal - V100-2.0	100	EA	$8,646	$864,611
1d	Crane Mobilization & Demobilization	1	LS	$2,692,512	$2,692,512
		SUBTOTAL			**$25,593,097**
2	SITE CIVIL WORK REMOVAL				
2a	Balance of Site Civil Work Removals	1	LS	$9,449,721	$9,449,721
		SUBTOTAL			**$9,449,721**
3	COLLECTION SYSTEM REMOVAL				
3a	Remove MV Collection Cable	1	LS	$485,494	$485,494
3b	Remove Junction Boxes & Turbine Switchgears	1	LS	$33,726	$33,726
		SUBTOTAL			**$519,220**
		SITE SUBTOTAL			**$35,562,039**
	CONTINGENGY (15%)				$5,334,306
	Project Total (before scrap credit)				$40,896,344
	APPROXIMATE SCRAP VALUE OF COMPONENTS				($6,550,734)
TOTAL PRICE					**$34,345,611**

TABLE 5.3

SUMMARY OF ACTIVITY COSTS – WIND FARMS
(Farms added to the Xcel Energy fleet since 2019)
(2024 Dollars)

ITEM	DESCRIPTION	Blazing Star II - New 2021 AMOUNT	Blazing Star II (48 in) - New 2021 AMOUNT	Freeborn Wind – New 2021 AMOUNT	Freeborn Wind (48 in) – New 2021 AMOUNT	Crowned Ridge II Wind Farm – New 2020 AMOUNT	Crowned Ridge II Wind Farm (48 in – New 2020 AMOUNT	Dakota Range Wind – New 2022 AMOUNT	Dakota Range Wind (48 in) – New 2022 AMOUNT	Community Wind North – New 2020 AMOUNT	Community Wind North (48 in) – New 2020 AMOUNT	Jeffers Wind – New 2020 AMOUNT	Jeffers Wind (48 in) – New 2020 AMOUNT	Mower County – New 2020 AMOUNT	Mower County (48 in) – New 2020 AMOUNT	Rock Aetna – New 2022 AMOUNT	Rock Aetna (48 in) – New 2022 AMOUNT	Northern Wind – New 2023 AMOUNT	Northern Wind (48 in) – New 2023 AMOUNT	Complete Removal Total	Removal (to to 48" depth) Total
1	TURBINE SITE REMOVAL																				
1a	Dismantle Wind Turbine Generators - Model 1	$1,635,151	$1,682,456	$1,654,904	$1,682,709	$1,675,036	$1,754,937	$171,563	$172,182	$2,192,801	$2,332,578	$3,469,711	$3,648,320	$0	$0	$1,019,110	$1,160,213	$5,518,899	$5,698,318	$17,337,174	$18,131,714
	Dismantle Wind Turbine Generators - Model 2	$14,826,743	$15,252,492	$15,004,523	$15,254,772	$15,348,251	$16,049,602	$12,270,161	$12,314,107	$0	$0	$0	$0	$7,222,723	$7,497,175	$635,379	$720,041	$1,586,224	$1,635,719	$66,894,004	$68,723,909
1b	Haul Off of Materials (Trucking/Rail)	$3,785,343	$3,238,187	$3,840,208	$3,235,377	$3,931,934	$3,406,850	$2,876,213	$2,320,644	$620,387	$416,700	$915,798	$687,693	$1,697,111	$1,388,315	$364,184	$308,397	$1,654,193	$1,394,313	$19,685,369	$16,396,476
1c	Foundation Removal - Model 1	$675,523	$78,690	$842,980	$80,904	$583,582	$73,387	$108,207	$8,259	$705,320	$94,427	$1,184,391	$164,861	$0	$0	$373,204	$40,770	$2,182,512	$236,466	$6,655,719	$777,764
	Foundation Removal - Model 2	$6,079,704	$708,206	$7,586,820	$728,137	$5,122,554	$644,175	$7,682,687	$586,399	$0	$0	$0	$0	$2,753,396	$338,365	$223,922	$24,462	$602,072	$65,232	$30,051,155	$3,094,976
																			$0		
1d	Crane Mobilization & Demobilization	$2,610,042	$2,486,337	$2,651,277	$2,486,337	$2,258,703	$2,388,493	$1,958,564	$1,804,439	$432,826	$416,332	$630,755	$606,014	$1,199,800	$1,150,318	$218,403	$342,109	$1,133,824	$1,076,095	$13,094,195	$12,756,472
	SUBTOTAL	**$29,612,504**	**$23,446,368**	**$31,580,711**	**$23,468,236**	**$28,920,060**	**$24,317,444**	**$25,067,395**	**$17,206,029**	**$3,951,334**	**$3,260,038**	**$6,200,655**	**$5,106,888**	**$12,873,030**	**$10,374,173**	**$2,834,203**	**$2,595,992**	**$12,677,724**	**$10,106,142**	**$153,717,616**	**$119,881,311**
2	SITE CIVIL WORK REMOVAL																				
2a	Balance of Site Civil Work Removals	$9,615,196	$9,269,175	$9,727,352	$9,267,937	$9,380,562	$9,211,320	$7,858,925	$7,441,559	$1,515,257	$1,561,830	$2,222,658	$2,238,833	$4,324,807	$4,280,022	$1,083,658	$1,207,248	$3,890,435	$3,803,232	$49,618,851	$48,281,155
	SUBTOTAL	**$9,615,196**	**$9,269,175**	**$9,727,352**	**$9,267,937**	**$9,380,562**	**$9,211,320**	**$7,858,925**	**$7,441,559**	**$1,515,257**	**$1,561,830**	**$2,222,658**	**$2,238,833**	**$4,324,807**	**$4,280,022**	**$1,083,658**	**$1,207,248**	**$3,890,435**	**$3,803,232**	**$49,618,851**	**$48,281,155**
3	COLLECTION SYSTEM REMOVAL																				
3a	Remove MV Collection Cable	$2,230,757	$450,395	$2,309,771	$450,590	$2,106,204	$451,220	$1,843,295	$347,571	$447,939	$100,173	$605,915	$131,880	$1,071,760	$224,064	$342,429	$87,327	$1,021,210	$212,085	$11,979,279	$2,455,305
3b	Remove Junction Boxes & Turbine Switchgears	$337,263	$33,726	$337,263	$33,726	$319,885	$31,988	$261,724	$26,172	$40,472	$4,047	$67,453	$6,745	$145,023	$14,502	$26,981	$2,698	$124,787	$12,479	$1,660,852	$166,085
	SUBTOTAL	**$2,568,020**	**$484,122**	**$2,647,034**	**$484,316**	**$2,426,089**	**$483,208**	**$2,105,019**	**$373,743**	**$488,410**	**$104,220**	**$673,368**	**$138,625**	**$1,216,783**	**$238,566**	**$369,410**	**$90,025**	**$1,145,997**	**$224,564**	**$13,640,131**	**$2,621,390**
	SITE SUBTOTAL	**$41,795,721**	**$33,199,664**	**$43,955,098**	**$33,220,489**	**$40,726,712**	**$34,011,972**	**$35,031,339**	**$25,021,331**	**$5,955,001**	**$4,926,088**	**$9,096,681**	**$7,484,347**	**$18,414,620**	**$14,892,761**	**$4,287,271**	**$3,893,265**	**$17,714,156**	**$14,133,938**	**$216,976,597**	**$170,783,856**
	CONTINGENGY (15%)	$6,269,358	$4,979,950	$6,593,265	$4,983,073	$6,109,007	$5,101,796	$5,254,701	$3,753,200	$893,250	$738,913	$1,364,502	$1,122,652	$2,762,193	$2,233,914	$643,091	$583,990	$2,657,123	$2,120,091	$32,546,490	$25,617,578
	Project Total (before scrap credit)	$48,065,079	$38,179,614	$50,548,362	$38,203,563	$46,835,718	$39,113,767	$40,286,040	$28,774,531	$6,848,251	$5,665,001	$10,461,183	$8,606,999	$21,176,813	$17,126,675	$4,930,361	$4,477,255	$20,371,279	$16,254,029	$249,523,087	$196,401,435
	APPROXIMATE SCRAP VALUE OF COMPONENTS	($10,636,607)	($7,606,872)	($10,757,123)	($7,600,574)	($11,047,413)	($8,098,777)	($8,517,890)	($5,469,656)	($3,218,012)	($943,482)	($3,887,384)	($1,559,166)	($5,778,997)	($3,272,626)	($1,020,861)	($735,087)	($4,664,606)	($3,338,806)	($59,528,892)	($38,625,047)
	TOTAL PRICE	**$37,428,472**	**$30,572,742**	**$39,791,239**	**$30,602,989**	**$35,788,306**	**$31,014,990**	**$31,768,150**	**$23,304,875**	**$3,630,239**	**$4,721,519**	**$6,573,798**	**$7,047,832**	**$15,397,816**	**$13,854,050**	**$3,909,501**	**$3,742,168**	**$15,706,674**	**$12,915,223**	**$189,994,195**	**$157,776,387**

Note: Model 1 and Model 2 designate the two Models of WTG at Blazing Star II, Freeborn, Crowned Ridge, Dakota Ridge, Rock Aetna, and Northern Wind.

TABLE 5.3a
Blazing Star II Wind Farm

SUMMARY OF ACTIVITY COSTS
(2024 Dollars)

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	AMOUNT
1	TURBINE SITE REMOVAL				
1a	Dismantle Wind Turbine Generators - V110	10	EA	$163,515	$1,635,151
	Dismantle Wind Turbine Generators - V120	90	EA	$164,742	$14,826,743
1b	Haul Off of Materials (Trucking/Rail)	100	EA	37,853	$3,785,343
1c	Foundation Removal - V110	10	EA	$67,552	$675,523
	Foundation Removal - V120	90	EA	$67,552	$6,079,704
1d	Crane Mobilization & Demobilization	1	LS	$2,610,042	$2,610,042
		SUBTOTAL			**$29,612,504**
2	SITE CIVIL WORK REMOVAL				
2a	Balance of Site Civil Work Removals	1	LS	$9,615,196	$9,615,196
		SUBTOTAL			**$9,615,196**
3	COLLECTION SYSTEM REMOVAL				
3a	Remove MV Collection Cable	1	LS	$2,230,757	$2,230,757
3b	Remove Junction Boxes & Turbine Switchgears	1	LS	$337,263	$337,263
		SUBTOTAL			**$2,568,020**
		SITE SUBTOTAL			**$41,795,721**
	CONTINGENGY (15%)				$6,269,358
	Project Total (before scrap credit)				$48,065,079
	APPROXIMATE SCRAP VALUE OF COMPONENTS				($10,636,607)
TOTAL PRICE					**$37,428,472**

TABLE 5.3b
Blazing Star II Wind Farm
(Removal to 48 inches)
SUMMARY OF ACTIVITY COSTS
(2024 Dollars)

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	AMOUNT
1	TURBINE SITE REMOVAL				
1a	Dismantle Wind Turbine Generators - V110	10	EA	$168,246	$1,682,456
	Dismantle Wind Turbine Generators - V120	90	EA	$169,472	$15,252,492
1b	Haul Off of Materials (Trucking/Rail)	100	EA	32,382	$3,238,187
1c	Foundation Removal V110	10	EA	$7,869	$78,690
	Foundation Removal V120	90	EA	$7,869	$708,206
1d	Crane Mobilization & Demobilization	1	LS	$2,486,337	$2,486,337
		SUBTOTAL			**$23,446,368**
2	SITE CIVIL WORK REMOVAL				
2a	Balance of Site Civil Work Removals	1	LS	$9,269,175	$9,269,175
		SUBTOTAL			**$9,269,175**
3	COLLECTION SYSTEM REMOVAL				
3a	Remove MV Collection Cable	1	LS	$450,395	$450,395
3b	Remove Junction Boxes & Turbine Switchgears	1	LS	$33,726	$33,726
		SUBTOTAL			**$484,122**
		SITE SUBTOTAL			**$33,199,664**
	CONTINGENGY (15%)				$4,979,950
	Project Total (before scrap credit)				$38,179,614
	APPROXIMATE SCRAP VALUE OF COMPONENTS				($7,606,872)
TOTAL PRICE					**$30,572,742**

TABLE 5.3c
Community Wind North

SUMMARY OF ACTIVITY COSTS
(2024 Dollars)

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	AMOUNT
1	TURBINE SITE REMOVAL				
1a	Dismantle Wind Turbine Generators - V110	12	EA	$182,733	$2,192,801
	Dismantle Wind Turbine Generators - V120	0	EA	$183,960	$0
1b	Haul Off of Materials (Trucking/Rail)	12	EA	51,699	$620,387
1c	Foundation Removal - V110	12	EA	$58,777	$705,320
	Foundation Removal - V120	0	EA	$58,777	$0
1d	Crane Mobilization & Demobilization	1	LS	$432,826	$432,826
		SUBTOTAL			**$3,951,334**
2	SITE CIVIL WORK REMOVAL				
2a	Balance of Site Civil Work Removals	1	LS	$1,515,257	$1,515,257
		SUBTOTAL			**$1,515,257**
3	COLLECTION SYSTEM REMOVAL				
3a	Remove MV Collection Cable	1	LS	$447,939	$447,939
3b	Remove Junction Boxes & Turbine Switchgears	1	LS	$40,472	$40,472
		SUBTOTAL			**$488,410**
		SITE SUBTOTAL			**$5,955,001**
	CONTINGENGY (15%)				$893,250
	Project Total (before scrap credit)				$6,848,251
	APPROXIMATE SCRAP VALUE OF COMPONENTS				($3,218,012)
TOTAL PRICE					**$3,630,239**

TABLE 5.3d
Community Wind North
(Removal to 48 inches)
SUMMARY OF ACTIVITY COSTS
(2024 Dollars)

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	AMOUNT
1	TURBINE SITE REMOVAL				
1a	Dismantle Wind Turbine Generators - V110	12	EA	$194,382	$2,332,578
	Dismantle Wind Turbine Generators - V120	0	EA	$195,608	$0
1b	Haul Off of Materials (Trucking/Rail)	12	EA	34,725	$416,700
1c	Foundation Removal V120	12	EA	$7,869	$94,427
	Foundation Removal V110	0	EA	$7,869	$0
1d	Crane Mobilization & Demobilization	1	LS	$416,332	$416,332
		SUBTOTAL			**$3,260,038**
2	SITE CIVIL WORK REMOVAL				
2a	Balance of Site Civil Work Removals	1	LS	$1,561,830	$1,561,830
		SUBTOTAL			**$1,561,830**
3	COLLECTION SYSTEM REMOVAL				
3a	Remove MV Collection Cable	1	LS	$100,173	$100,173
3b	Remove Junction Boxes & Turbine Switchgears	1	LS	$4,047	$4,047
		SUBTOTAL			**$104,220**
		SITE SUBTOTAL			**$4,926,088**
	CONTINGENGY (15%)				$738,913
	Project Total (before scrap credit)				$5,665,001
	APPROXIMATE SCRAP VALUE OF COMPONENTS				($943,482)
TOTAL PRICE					**$4,721,519**

TABLE 5.3e
Crowned Ridge II Wind Farm

SUMMARY OF ACTIVITY COSTS
(2024 Dollars)

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	AMOUNT
1	TURBINE SITE REMOVAL				
1a	Dismantle Wind Turbine Generators - GE2.1-116	9	EA	$186,115	$1,675,036
	Dismantle Wind Turbine Generators - GE2.3-116	79	EA	$194,282	$15,348,251
1b	Haul Off of Materials (Trucking/Rail)	88	EA	44,681	$3,931,934
1c	Foundation Removal - GE2.1-116	9	EA	$64,842	$583,582
	Foundation Removal - GE2.3-116	79	EA	$64,842	$5,122,554
1d	Crane Mobilization & Demobilization	1	LS	$2,258,703	$2,258,703
		SUBTOTAL			**$28,920,060**
2	SITE CIVIL WORK REMOVAL				
2a	Balance of Site Civil Work Removals	1	LS	$9,380,562	$9,380,562
		SUBTOTAL			**$9,380,562**
3	COLLECTION SYSTEM REMOVAL				
3a	Remove MV Collection Cable	1	LS	$2,106,204	$2,106,204
3b	Remove Junction Boxes & Turbine Switchgears	1	LS	$319,885	$319,885
		SUBTOTAL			**$2,426,089**
		SITE SUBTOTAL			**$40,726,712**
	CONTINGENGY (15%)				$6,109,007
	Project Total (before scrap credit)				$46,835,718
	APPROXIMATE SCRAP VALUE OF COMPONENTS				($11,047,413)
TOTAL PRICE					**$35,788,306**

TABLE 5.3f
Crowned Ridge II Wind Farm
(Removal to 48 inches)
SUMMARY OF ACTIVITY COSTS
(2024 Dollars)

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	AMOUNT
1	TURBINE SITE REMOVAL				
1a	Dismantle Wind Turbine Generators - GE2.1-116	9	EA	$194,993	$1,754,937
	Dismantle Wind Turbine Generators - GE2.3-116	79	EA	$203,160	$16,049,602
1b	Haul Off of Materials (Trucking/Rail)	88	EA	38,714	$3,406,850
1c	Foundation Removal - GE2.1-116	9	EA	$8,154	$73,387
	Foundation Removal - GE2.3-116	79	EA	$8,154	$644,175
1d	Crane Mobilization & Demobilization	1	LS	$2,388,493	$2,388,493
		SUBTOTAL			**$24,317,444**
2	SITE CIVIL WORK REMOVAL				
2a	Balance of Site Civil Work Removals	1	LS	$9,211,320	$9,211,320
		SUBTOTAL			**$9,211,320**
3	COLLECTION SYSTEM REMOVAL				
3a	Remove MV Collection Cable	1	LS	$451,220	$451,220
3b	Remove Junction Boxes & Turbine Switchgears	1	LS	$31,988	$31,988
		SUBTOTAL			**$483,208**
		SITE SUBTOTAL			**$34,011,972**
	CONTINGENGY (15%)				$5,101,796
	Project Total (before scrap credit)				$39,113,767
	APPROXIMATE SCRAP VALUE OF COMPONENTS				($8,098,777)
TOTAL PRICE					**$31,014,990**

TABLE 5.3g
Dakota Range Wind

SUMMARY OF ACTIVITY COSTS
(2024 Dollars)

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	AMOUNT
1	TURBINE SITE REMOVAL				
1a	Dismantle Wind Turbine Generators - V110	1	EA	$171,563	$171,563
	Dismantle Wind Turbine Generators - V120	71	EA	$172,819	$12,270,161
1b	Haul Off of Materials (Trucking/Rail)	72	EA	39,947	$2,876,213
1c	Foundation Removal - V110	1	EA	$108,207	$108,207
	Foundation Removal - V120	71	EA	$108,207	$7,682,687
1d	Crane Mobilization & Demobilization	1	LS	$1,958,564	$1,958,564
		SUBTOTAL			**$25,067,395**
2	SITE CIVIL WORK REMOVAL				
2a	Balance of Site Civil Work Removals	1	LS	$7,858,925	$7,858,925
		SUBTOTAL			**$7,858,925**
3	COLLECTION SYSTEM REMOVAL				
3a	Remove MV Collection Cable	1	LS	$1,843,295	$1,843,295
3b	Remove Junction Boxes & Turbine Switchgears	1	LS	$261,724	$261,724
		SUBTOTAL			**$2,105,019**
		SITE SUBTOTAL			**$35,031,339**
	CONTINGENGY (15%)				$5,254,701
	Project Total (before scrap credit)				$40,286,040
	APPROXIMATE SCRAP VALUE OF COMPONENTS				($8,517,890)
TOTAL PRICE					**$31,768,150**

TABLE 5.3h
Dakota Range Wind
(Removal to 48 inches)
SUMMARY OF ACTIVITY COSTS
(2024 Dollars)

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	AMOUNT
1	TURBINE SITE REMOVAL				
1a	Dismantle Wind Turbine Generators - V110	1	EA	$172,182	$172,182
	Dismantle Wind Turbine Generators - V120	71	EA	$173,438	$12,314,107
1b	Haul Off of Materials (Trucking/Rail)	72	EA	32,231	$2,320,644
1c	Foundation Removal - V110	1	EA	$8,259	$8,259
	Foundation Removal - V120	71	EA	$8,259	$586,399
1d	Crane Mobilization & Demobilization	1	LS	$1,804,439	$1,804,439
		SUBTOTAL			**$17,206,029**
2	SITE CIVIL WORK REMOVAL				
2a	Balance of Site Civil Work Removals	1	LS	$7,441,559	$7,441,559
		SUBTOTAL			**$7,441,559**
3	COLLECTION SYSTEM REMOVAL				
3a	Remove MV Collection Cable	1	LS	$347,571	$347,571
3b	Remove Junction Boxes & Turbine Switchgears	1	LS	$26,172	$26,172
		SUBTOTAL			**$373,743**
		SITE SUBTOTAL			**$25,021,331**
	CONTINGENGY (15%)				$3,753,200
	Project Total (before scrap credit)				$28,774,531
	APPROXIMATE SCRAP VALUE OF COMPONENTS				($5,469,656)
TOTAL PRICE					**$23,304,875**

TABLE 5.3i
Freeborn Wind

SUMMARY OF ACTIVITY COSTS
(2024 Dollars)

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	AMOUNT
1	TURBINE SITE REMOVAL				
1a	Dismantle Wind Turbine Generators - V110	10	EA	$165,490	$1,654,904
	Dismantle Wind Turbine Generators - V120	90	EA	$166,717	$15,004,523
1b	Haul Off of Materials (Trucking/Rail)	100	EA	38,402	$3,840,208
1c	Foundation Removal - V110	10	EA	$84,298	$842,980
	Foundation Removal - V120	90	EA	$84,298	$7,586,820
1d	Crane Mobilization & Demobilization	1	LS	$2,651,277	$2,651,277
		SUBTOTAL			**$31,580,711**
2	SITE CIVIL WORK REMOVAL				
2a	Balance of Site Civil Work Removals	1	LS	$9,727,352	$9,727,352
		SUBTOTAL			**$9,727,352**
3	COLLECTION SYSTEM REMOVAL				
3a	Remove MV Collection Cable	1	LS	$2,309,771	$2,309,771
3b	Remove Junction Boxes & Turbine Switchgears	1	LS	$337,263	$337,263
		SUBTOTAL			**$2,647,034**
		SITE SUBTOTAL			**$43,955,098**
	CONTINGENGY (15%)				$6,593,265
	Project Total (before scrap credit)				$50,548,362
	APPROXIMATE SCRAP VALUE OF COMPONENTS				($10,757,123)
TOTAL PRICE					**$39,791,239**

TABLE 5.3j
Freeborn Wind
(Removal to 48 inches)
SUMMARY OF ACTIVITY COSTS
(2024 Dollars)

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	AMOUNT
1	TURBINE SITE REMOVAL				
1a	Dismantle Wind Turbine Generators - V110	10	EA	$168,271	$1,682,709
	Dismantle Wind Turbine Generators - V120	90	EA	$169,497	$15,254,772
1b	Haul Off of Materials (Trucking/Rail)	100	EA	32,354	$3,235,377
1c	Foundation Removal V110	10	EA	$8,090	$80,904
	Foundation Removal V120	90	EA	$8,090	$728,137
1d	Crane Mobilization & Demobilization	1	LS	$2,486,337	$2,486,337
		SUBTOTAL			**$23,468,236**
2	SITE CIVIL WORK REMOVAL				
2a	Balance of Site Civil Work Removals	1	LS	$9,267,937	$9,267,937
		SUBTOTAL			**$9,267,937**
3	COLLECTION SYSTEM REMOVAL				
3a	Remove MV Collection Cable	1	LS	$450,590	$450,590
3b	Remove Junction Boxes & Turbine Switchgears	1	LS	$33,726	$33,726
		SUBTOTAL			**$484,316**
		SITE SUBTOTAL			**$33,220,489**
	CONTINGENGY (15%)				$4,983,073
	Project Total (before scrap credit)				$38,203,563
	APPROXIMATE SCRAP VALUE OF COMPONENTS				($7,600,574)
TOTAL PRICE					**$30,602,989**

TABLE 5.3k
Jeffers Wind

SUMMARY OF ACTIVITY COSTS
(2024 Dollars)

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	AMOUNT
1	TURBINE SITE REMOVAL				
1a	Dismantle Wind Turbine Generators - V110	20	EA	$173,486	$3,469,711
	Dismantle Wind Turbine Generators - V120	0	EA	$174,712	$0
1b	Haul Off of Materials (Trucking/Rail)	20	EA	45,790	$915,798
1c	Foundation Removal - V110	20	EA	$59,220	$1,184,391
	Foundation Removal - V120	0	EA	$59,220	$0
1d	Crane Mobilization & Demobilization	1	LS	$630,755	$630,755
		SUBTOTAL			**$6,200,655**
2	SITE CIVIL WORK REMOVAL				
2a	Balance of Site Civil Work Removals	1	LS	$2,222,658	$2,222,658
		SUBTOTAL			**$2,222,658**
3	COLLECTION SYSTEM REMOVAL				
3a	Remove MV Collection Cable	1	LS	$605,915	$605,915
3b	Remove Junction Boxes & Turbine Switchgears	1	LS	$67,453	$67,453
		SUBTOTAL			**$673,368**
		SITE SUBTOTAL			**$9,096,681**
	CONTINGENGY (15%)				$1,364,502
	Project Total (before scrap credit)				$10,461,183
	APPROXIMATE SCRAP VALUE OF COMPONENTS				($3,887,384)
TOTAL PRICE					**$6,573,798**

TABLE 5.3l
Jeffers Wind
(Removal to 48 inches)
SUMMARY OF ACTIVITY COSTS
(2024 Dollars)

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	AMOUNT
1	TURBINE SITE REMOVAL				
1a	Dismantle Wind Turbine Generators - V110	20	EA	$182,416	$3,648,320
	Dismantle Wind Turbine Generators - V120	0	EA	$183,643	$0
1b	Haul Off of Materials (Trucking/Rail)	20	EA	34,385	$687,693
1c	Foundation Removal V120	20	EA	$8,243	$164,861
	Foundation Removal V110	0	EA	$8,243	$0
1d	Crane Mobilization & Demobilization	1	LS	$606,014	$606,014
		SUBTOTAL			**$5,106,888**
2	SITE CIVIL WORK REMOVAL				
2a	Balance of Site Civil Work Removals	1	LS	$2,238,833	$2,238,833
		SUBTOTAL			**$2,238,833**
3	COLLECTION SYSTEM REMOVAL				
3a	Remove MV Collection Cable	1	LS	$131,880	$131,880
3b	Remove Junction Boxes & Turbine Switchgears	1	LS	$6,745	$6,745
		SUBTOTAL			**$138,625**
		SITE SUBTOTAL			**$7,484,347**
	CONTINGENGY (15%)				$1,122,652
	Project Total (before scrap credit)				$8,606,999
	APPROXIMATE SCRAP VALUE OF COMPONENTS				($1,559,166)
TOTAL PRICE					**$7,047,832**

TABLE 5.3m
Mower County

SUMMARY OF ACTIVITY COSTS
(2024 Dollars)

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	AMOUNT
1	TURBINE SITE REMOVAL				
1a	Dismantle Wind Turbine Generators - V110	0	EA	$166,744	$0
1a	Dismantle Wind Turbine Generators - SWT-2.3-108	43	EA	$167,970	$7,222,723
1b	Haul Off of Materials (Trucking/Rail)	43	EA	39,468	$1,697,111
1c	Foundation Removal - V110	0	EA	$64,032	$0
1c	Foundation Removal - SWT-2.3-108	43	EA	$64,032	$2,753,396
1d	Crane Mobilization & Demobilization	1	LS	$1,199,800	$1,199,800
		SUBTOTAL			**$12,873,030**
2	SITE CIVIL WORK REMOVAL				
2a	Balance of Site Civil Work Removals	1	LS	$4,324,807	$4,324,807
		SUBTOTAL			**$4,324,807**
3	COLLECTION SYSTEM REMOVAL				
3a	Remove MV Collection Cable	1	LS	$1,071,760	$1,071,760
3b	Remove Junction Boxes & Turbine Switchgears	1	LS	$145,023	$145,023
		SUBTOTAL			**$1,216,783**
		SITE SUBTOTAL			**$18,414,620**
	CONTINGENGY (15%)				$2,762,193
	Project Total (before scrap credit)				$21,176,813
	APPROXIMATE SCRAP VALUE OF COMPONENTS				($5,778,997)
TOTAL PRICE					**$15,397,816**

TABLE 5.3n
Mower County
(Removal to 48 inches)
SUMMARY OF ACTIVITY COSTS
(2024 Dollars)

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	AMOUNT
1	TURBINE SITE REMOVAL				
1a	Dismantle Wind Turbine Generators - V110	0	EA	$173,126	$0
1a	Dismantle Wind Turbine Generators - SWT-2.3-108	43	EA	$174,353	$7,497,175
1b	Haul Off of Materials (Trucking/Rail)	43	EA	32,286	$1,388,315
1c	Foundation Removal V120	0	EA	$7,869	$0
1c	Foundation Removal - SWT-2.3-108	43	EA	$7,869	$338,365
1d	Crane Mobilization & Demobilization	1	LS	$1,150,318	$1,150,318
		SUBTOTAL			**$10,374,173**
2	SITE CIVIL WORK REMOVAL				
2a	Balance of Site Civil Work Removals	1	LS	$4,280,022	$4,280,022
		SUBTOTAL			**$4,280,022**
3	COLLECTION SYSTEM REMOVAL				
3a	Remove MV Collection Cable	1	LS	$224,064	$224,064
3b	Remove Junction Boxes & Turbine Switchgears	1	LS	$14,502	$14,502
		SUBTOTAL			**$238,566**
		SITE SUBTOTAL			**$14,892,761**
	CONTINGENGY (15%)				$2,233,914
	Project Total (before scrap credit)				$17,126,675
	APPROXIMATE SCRAP VALUE OF COMPONENTS				($3,272,626)
TOTAL PRICE					**$13,854,050**

TABLE 5.3o
Northern Wind

SUMMARY OF ACTIVITY COSTS
(2024 Dollars)

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	AMOUNT
1	TURBINE SITE REMOVAL				
1a	Dismantle Wind Turbine Generators - GE2.1-116	29	EA	$190,307	$5,518,899
	Dismantle Wind Turbine Generators - GE2.3-116	8	EA	$198,278	$1,586,224
1b	Haul Off of Materials (Trucking/Rail)	37	EA	44,708	$1,654,193
1c	Foundation Removal - GE2.1-116	29	EA	$75,259	$2,182,512
	Foundation Removal - GE2.3-116	8	EA	$75,259	$602,072
1d	Crane Mobilization & Demobilization	1	LS	$1,133,824	$1,133,824
		SUBTOTAL			**$12,677,724**
2	SITE CIVIL WORK REMOVAL				
2a	Balance of Site Civil Work Removals	1	LS	$3,890,435	$3,890,435
		SUBTOTAL			**$3,890,435**
3	COLLECTION SYSTEM REMOVAL				
3a	Remove MV Collection Cable	1	LS	$1,021,210	$1,021,210
3b	Remove Junction Boxes & Turbine Switchgears	1	LS	$124,787	$124,787
		SUBTOTAL			**$1,145,997**
		SITE SUBTOTAL			**$17,714,156**
	CONTINGENGY (15%)				$2,657,123
	Project Total (before scrap credit)				$20,371,279
	APPROXIMATE SCRAP VALUE OF COMPONENTS				($4,664,606)
TOTAL PRICE					**$15,706,674**

TABLE 5.3p
Northern Wind
(Removal to 48 inches)
SUMMARY OF ACTIVITY COSTS
(2024 Dollars)

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	AMOUNT
1	TURBINE SITE REMOVAL				
1a	Dismantle Wind Turbine Generators - GE2.1-116	29	EA	$196,494	$5,698,318
	Dismantle Wind Turbine Generators - GE2.3-116	8	EA	$204,465	$1,635,719
1b	Haul Off of Materials (Trucking/Rail)	37	EA	37,684	$1,394,313
1c	Foundation Removal - GE2.1-116	29	EA	$8,154	$236,466
	Foundation Removal - GE2.3-116	8	EA	$8,154	$65,232
1d	Crane Mobilization & Demobilization	1	LS	$1,076,095	$1,076,095
		SUBTOTAL			**$10,106,142**
2	SITE CIVIL WORK REMOVAL				
2a	Balance of Site Civil Work Removals	1	LS	$3,803,232	$3,803,232
		SUBTOTAL			**$3,803,232**
3	COLLECTION SYSTEM REMOVAL				
3a	Remove MV Collection Cable	1	LS	$212,085	$212,085
3b	Remove Junction Boxes & Turbine Switchgears	1	LS	$12,479	$12,479
		SUBTOTAL			**$224,564**
		SITE SUBTOTAL			**$14,133,938**
	CONTINGENGY (15%)				$2,120,091
	Project Total (before scrap credit)				$16,254,029
	APPROXIMATE SCRAP VALUE OF COMPONENTS				($3,338,806)
TOTAL PRICE					**$12,915,223**

TABLE 5.3q
Rock Aetna

SUMMARY OF ACTIVITY COSTS
(2024 Dollars)

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	AMOUNT
1	TURBINE SITE REMOVAL				
1a	Dismantle Wind Turbine Generators - GE2.1-116	5	EA	$203,822	$1,019,110
	Dismantle Wind Turbine Generators - GE2.82-127	3	EA	$211,793	$635,379
1b	Haul Off of Materials (Trucking/Rail)	8	EA	45,523	$364,184
1c	Dismantle Wind Turbine Generators - GE2.1-116	5	EA	$74,641	$373,204
	Dismantle Wind Turbine Generators - GE2.82-127	3	EA	$74,641	$223,922
1d	Crane Mobilization & Demobilization	1	LS	$218,403	$218,403
		SUBTOTAL			**$2,834,203**
2	SITE CIVIL WORK REMOVAL				
2a	Balance of Site Civil Work Removals	1	LS	$1,083,658	$1,083,658
		SUBTOTAL			**$1,083,658**
3	COLLECTION SYSTEM REMOVAL				
3a	Remove MV Collection Cable	1	LS	$342,429	$342,429
3b	Remove Junction Boxes & Turbine Switchgears	1	LS	$26,981	$26,981
		SUBTOTAL			**$369,410**
		SITE SUBTOTAL			**$4,287,271**
	CONTINGENGY (15%)				$643,091
	Project Total (before scrap credit)				$4,930,361
	APPROXIMATE SCRAP VALUE OF COMPONENTS				($1,020,861)
TOTAL PRICE					**$3,909,501**

TABLE 5.3r
Rock Aetna
(Removal to 48 inches)
SUMMARY OF ACTIVITY COSTS
(2024 Dollars)

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	AMOUNT
1	TURBINE SITE REMOVAL				
1a	Dismantle Wind Turbine Generators - GE2.1-116	5	EA	$232,043	$1,160,213
	Dismantle Wind Turbine Generators - GE2.3-116	3	EA	$240,014	$720,041
1b	Haul Off of Materials (Trucking/Rail)	8	EA	38,550	$308,397
1c	Foundation Removal - GE2.1-116	5	EA	$8,154	$40,770
	Foundation Removal - GE2.3-116	3	EA	$8,154	$24,462
1d	Crane Mobilization & Demobilization	1	LS	$342,109	$342,109
		SUBTOTAL			**$2,595,992**
2	SITE CIVIL WORK REMOVAL				
2a	Balance of Site Civil Work Removals	1	LS	$1,207,248	$1,207,248
		SUBTOTAL			**$1,207,248**
3	COLLECTION SYSTEM REMOVAL				
3a	Remove MV Collection Cable	1	LS	$87,327	$87,327
3b	Remove Junction Boxes & Turbine Switchgears	1	LS	$2,698	$2,698
		SUBTOTAL			**$90,025**
		SITE SUBTOTAL			**$3,893,265**
	CONTINGENGY (15%)				$583,990
	Project Total (before scrap credit)				$4,477,255
	APPROXIMATE SCRAP VALUE OF COMPONENTS				($735,087)
TOTAL PRICE					**$3,742,168**

6. REFERENCES

1. "Building Construction Cost Data 2024," RSMeans Company, Inc., Greenville, SC [Open]
2. Recycler's World, Iron and Steel Recycling Section and Scrap Copper Recycling Section, U.S. Scrap Metal Index, January 1, 2019 to December 31, 2023 [Open]
3. T.S. LaGuardia et al., "Guidelines for Producing Commercial Nuclear Power Plant Decommissioning Cost Estimates," AIF/NESP-036, May 1986 [Open]
4. W.J. Manion and T.S. LaGuardia, "Decommissioning Handbook," U.S. Department of Energy, DOE/EV/10128-1, November 1980 [Open]
5. AACE International, Skills and Knowledge of Cost Engineering, 4th Edition, 1999 [Open]
6. 29 CFR Part 1926, Subpart T - Demolition , United States Department of Labor, 2024 https://www.ecfr.gov/current/title-29

APPENDIX A
SUMMARY OF STATION SYSTEM AND STRUCTURES INVENTORIES

TABLE A

SUMMARY OF STATION SYSTEMS AND STRUCTURES INVENTORIES

FOSSIL STATIONS

Index	System/Structure Inventory Data Point	Allen S . King	Angus Anson	Black Dog	Blue Lake	Hennepin Island	High Bridge	Inver Hills	Maplewood	Red Wing	Riverside	Sherburne County	Sibley	Wescott	Wilmarth
Station Rating (Mwe)		511	386	526	545	14	606	371	0	18	502	2238	0	0	18
2	Piping 0.25 to 2 inches diameter, linear foot	79,850	31,521	11,835	20,178	-	24,690	3,268	-	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	-	16,460	2,579	2,195	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	-	11,173	6,964	1,120	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	-	8,015	1,348	330	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	-	5,377	1,139	90	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	289	3,716	37,053	16	-	289
8	Piping >36 inches diameter, linear foot	5,335	898	3,074	1,796	-	2,420	-	-	173	2,126	15,991	-	60	173
9	Valves <2 inches	1,373	1,308	20	144	-	-	216	-	540	1,418	4,118	-	-	540
10	Valves >2 to 4 inches	935	1,660	1,869	672	-	698	174	330	360	698	2,805	346	-	360
11	Valves >4 to 8 inches	610	592	886	464	-	381	264	78	240	369	1,830	47	104	240
12	Valves >8 to 14 inches	1,519	272	531	142	-	159	62	44	120	123	1,115	54	35	120
13	Valves >14 to 20 inches	158	84	102	48	-	78	-	2	50	66	587	-	4	50
14	Valves >20 to 36 inches	128	22	31	24	-	36	-	-	16	36	476	-	-	16
15	Valves >36 inches	56	6	22	12	-	26	-	-	14	18	104	-	-	14
24	Pipe hangers for small bore piping, each	5,018	3,641	3,225	1,449	-	1,742	246	88	909	1,742	14,975	84	-	909
25	Pipe hangers for large bore piping, each	3,351	1,243	1,672	1,089	-	1,249	391	64	543	1,237	9,618	40	317	543
26	Pump and motor set < 300 pounds	77	17	62	72	-	13	108	6	38	13	507	3	7	38
27	Pumps, 300-1000 pound pump	23	16	18	12	-	13	-	-	8	13	73	-	7	8
28	Pumps, >1000-10,000 pound pump	14	5	15	-	-	2	-	-	11	2	44	-	-	11
29	Pumps, >10,000 pound pump	13	5	14	4	-	8	-	-	8	4	9	-	-	8
32	Pump motors, 300-1000 pound pump	23	32	18	12	-	13	-	-	8	13	28	-	7	8
33	Pump motors, >1000-10,000 pound pump	13	5	12	-	-	3	-	-	11	3	68	2	-	11
34	Pump motors, >10,000 pound pump	13	5	14	4	-	8	-	-	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	-	-	2	2	3	-	-	2
39	Heat exchanger <3000 pound	16	12	30	101	-	6	210	-	12	6	60	-	-	12
40	Heat exchanger >3000 pound	-	27	12	48	-	5	96	-	14	5	21	-	-	14
41	Feedwater heater/deaerator	9	6	25	2	-	2	-	-	12	2	31	-	-	12
49	Main condenser (pounds per MW(e) input)	1	1	2	-	-	1	-	-	2	1	3	-	-	2
51	Tanks, <300 gallons, filters, and ion exchangers	38	33	41	20	3	10	34	5	12	10	66	28	25	12
52	Tanks, 300-3000 gallons	12	32	29	4	-	11	8	6	2	6	132	9	4	2
53	Tanks, >3000 gallons, square foot surface	27,566	75,184	4,933	62,690	-	23,259	7,069	101,764	33,585	1,859	162,458	81,889	374,754	6,871
54	Electrical equipment, <300 pound	742	686	881	647	54	150	846	21	322	128	6,686	36	-	322
55	Electrical equipment, 300-1000 pound	144	296	500	350	16	289	184	17	18	280	936	13	15	18
56	Electrical equipment, 1000-10,000 pound	122	190	203	280	25	207	175	7	56	201	122	2	32	56
57	Electrical equipment, >10,000 pound	19	99	18	128	36	16	168	5	16	16	30	3	5	16
59	Electrical transformers < 30 tons	3	13	22	14	-	4	18	2	-	4	6	2	1	-
60	Electrical transformers > 30 tons	3	9	6	12	-	5	12	-	2	5	3	-	-	2
61	Standby diesel-generator, <100 kW	-	2	1	-	-	-	-	-	-	-	-	-	-	-
63	Standby diesel-generator, >1 MW	2	-	-	-	-	-	-	-	-	2	5	-	-	-
64	Fluorescent light fixture	200	250	450	180	10	200	100	30	38	150	498	30	24	38
65	Incandescent light fixture	1,564	288	1,000	180	16	200	170	30	258	150	4,060	30	24	258
66	Electrical cable tray, linear foot	27,803	5,512	13,091	5,651	250	10,276	-	-	1,364	9,206	166,291	-	820	1,364
67	Electrical conduit, linear foot	41,992	7,922	45,448	8,631	4,790	13,688	-	2,060	8,658	11,905	119,404	2,000	8,500	8,658
69	Mechanical equipment, <300 pound	788	288	670	52	5	31	78	8	360	21	2,388	6	48	360
70	Mechanical equipment, 300-1000 pound	198	312	290	812	8	274	30	-	14	274	457	21	9	14
71	Mechanical equipment, 1000-10,000 pound	204	60	38	127	38	59	1,000	3	60	44	516	17	28	60
72	Mechanical equipment, >10,000 pound	68	160	106	238	26	141	219	20	45	103	90	8	62	45

TABLE A

SUMMARY OF SYSTEMS AND STRUCTURES INVENTORIES

FOSSIL STATIONS (Continued)

Index	System/Structure Inventory Data Point	Allen S . King	Angus Anson	Black Dog	Blue Lake	Hennepin Island	High Bridge	Inver Hills	Maplewood	Red Wing	Riverside	Sherburne County	Sibley	Wescott	Wilmarth
Station Rating (Mwe)		511	386	526	545	14	606	371	0	18	502	2238	0	0	18
76	HVAC equipment, <300 pound	108	14	-	16	-	-	24	-	10	-	328	-	-	10
77	HVAC equipment, 300-1000 pound	-	22	4	-	-	36	-	-	-	24	107	-	-	-
78	HVAC equipment, 1000-10,000 pound	-	5	-	-	-	14	-	-	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	-	-	18,295	38,202	439,440	-	-	18,295
201	Standard reinforced concrete, cubic yard	24,015	6,662	22,278	14,027	2,006	18,008	14,800	770	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	-	372	1,384	-	474	3,551	-	-	-	474
206	Heavily rein concrete w/#9 rebar, cubic yard	7,824	1,110	7,007	-	-	-	-	-	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	-	-	-	663	3,011	14,335	-	-	663
229	Backfill of below grade voids, cubic yard	29,218	11,074	14,043	12,493	20,000	19,394	6,898	0	17,556	12,325	0	0	0	20,531
230	Excavation of clean material, cubic yard	8,747	-	13,387	-	-	-	-	-	5,760	18,507	34,560	-	-	5,760
235	Building by volume, cubic foot	5,117,058	229,493	35,076	970,228	-	318,816	247,411	159,000	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	-	108,748	15,564	-	32,498	93,913	669,467	-	-	32,498
242	Standard asphalt roofing, square foot	47,897	22,500	32,544	-	9,375	110,000	-	-	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	-	-	-	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	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	299,854	6,981,323	662,931	12,000	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	900	18,797	-	-	30,386	56,169	578,353	-	-	30,386
268	Placement of scaffolding in clean areas, square foot	66,680	-	83,881	-	-	-	-	-	13,043	-	210,181	-	-	13,043
270	Landscaping with topsoil, acre	3	4	4	1	2	1.9	2	3	4	3	33	2	4	2
271	Landscaping w/o topsoil, acre	29	4	5	8	-	4	9	3	3	8	239	2	4	4
272	Chain link fencing, linear foot	3,372	6,800	3,000	2,880	550	3,144	2,800	2,460	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	17,650	75,171	51,000	17,750	-	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	12,441	14,550	-	-	17,695	78,517	219,533	-	-	17,695
359	Steam drum removal (fossil)	1	3	5	6	-	6	-	-	2	9	6	-	-	2
360	Water drum removal (fossil)	-	-	-	-	-	-	-	-	4	-	12	-	-	4
361	Upper/lower waterwall headers (fossil)	26	-	22	-	-	-	-	-	6	27	72	-	-	6
362	Top sup boiler waterwall (8'x8' section), inches cut	138,902	-	75,985	-	-	-	-	-	13,392	128,711	470,566	-	-	13,392
369	Boiler convective superheaater platens	307	-	356	-	-	-	-	-	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	-	-	-	-	-	-	163	1,344	-	-	-
374	Stationary soot blowers	98	-	64	-	-	-	-	-	-	32	315	-	-	-
375	Retractable soot blowers	70	-	36	-	-	-	-	-	16	18	144	-	-	16
376	Process ductwork (8'x8' section), inches cut	757,268	321,019	1,009,405	625,433	-	446,315	307,617	-	61,481	1,009,280	3,392,767	-	-	61,481
378	Non-asbestos insulated regenerative air preheaters	4	-	9	-	-	-	-	-	8	4	13	-	-	8
380	Non-asbestos insulated recuperative air preheaters	-	-	-	-	-	-	-	-	-	8	-	-	-	-
382	Induced, forced, primary draft fans	9	-	11	-	-	-	-	-	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	-	-	-	-	-	-	-	43	-	-	-
390	Coal feeders	120	-	122	-	-	-	-	-	86	-	1,019	-	-	86

TABLE A
SUMMARY OF STATION SYSTEMS AND STRUCTURES INVENTORIES

WIND FARMS

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	150	150	200	200	150	150	101	101	88	88	201	201	200	200
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	0	1,298,374	0	1,731,165	0	1,298,374	0	1,159,881	0	1,026,369	0	2,319,761	0	1,731,165	0
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	2,211	2,211	1,650	1,650
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	15,854	1,908	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	90,893	76,948	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	217,840	89,544	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	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 foot	892,716	892,716	588,123	588,123	784,164	784,164	669,644	669,644	658,346	658,346	524,316	524,316	1,316,693	1,316,693	1,156,983	1,156,983

TABLE A
SUMMARY OF STATION SYSTEMS AND STRUCTURES INVENTORIES

WIND FARMS
(Farms added to the Xcel Energy fleet since 2019)

Index	System/Structure Inventory Data Point	Blazing Star II - New 2021	Blazing Star II (48 in) - New 2021	Freeborn Wind – New 2021	Freeborn Wind (48 in) – New	Ridge II Wind Farm – New 2020	Ridge II Wind Farm (48 in – New 2020	Range Wind – New 2022	Range Wind (48 in) – New 2022	Community Wind North – New 2020	Community Wind North (48 in) – New 2020	Jeffers Wind – New 2020	Jeffers Wind (48 in) – New 2020	Mower County – New 2020	Mower County (48 in) – New 2020	Rock Aetna – New 2022	Rock Aetna (48 in) – New 2022	Northern Wind – New 2023	Northern Wind (48 in) – New 2023
Station Rating (Mwe)		200	200	200	200	176	176	144	144	24	24	40	40	86	86	16	16	74	74
56	Electrical equipment, 1000-10,000 pound	100	100	100	100	88	88	72	72	12	12	20	20	43	43	8	8	37	37
57	Electrical equipment, >10,000 pound	300	300	300	300	264	264	216	216	36	36	60	60	129	129	24	24	111	111
67	Electrical conduit, linear foot	1,731,165	-	1,731,165	-	1,026,369	0	1,731,165	0	1,731,165	0	1,731,165	0	1,731,165	0	93,306	0	431,541	0
72	Mechanical equipment, >10,000 pound	1,550	1,550	1,550	1,550	1,540	1,540	1,116	1,116	186	186	310	310	667	667	140	140	648	648
201	Standard reinforced concrete, cubic yard	38,771	4,067	48,933	4,029	31,048	3,595	43,628	2,973	4,269	750	6,856	990	15,656	1,918	3,661	551	16,171	1,644
229	Backfill of below grade voids, cubic yard	209,585	174,881	219,785	174,881	181,348	153,895	166,569	125,914	24,505	20,986	40,842	34,976	89,025	75,199	17,101	13,990	79,233	64,706
230	Excavation of clean material, cubic yard	333,101	187,310	333,101	187,310	293,129	164,833	239,833	134,863	39,972	22,477	66,620	37,462	143,233	80,543	26,648	14,985	123,247	69,305
235	Building by volume, cubic foot	132,000	132,000	140,400	140,400	128,000	120,000	122,400	122,400	132,000	132,000	102,000	102,000	80,000	132,000	102,000	102,000	102,000	102,000
270	Landscaping with topsoil, acre	71	71	71	71	62	62	51	51	8	8	14	14	30	30	6	6	26	26
271	Landscaping w/o topsoil, acre	4	4	4	4	3	3	4	4	4	4	4	4	4	4	3	3	3	3
294	Carbon steel plate 1/2 inch thick, square foo	892,716	892,716	892,716	892,716	1,050,028	1,050,028	644,087	644,087	104,806	104,806	174,677	174,677	384,792	384,792	89,619	89,619	406,288	406,288

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	73.89	960.50
Craftsmen	2.0	4.333	86.04	745.62
Foreman	1.0	4.333	88.04	381.48
General Foreman	0.25	4.333	89.04	96.45
Fire Watch	0.05	4.333	73.89	16.01
Total labor cost				2,200.06

4. EQUIPMENT & CONSUMABLES COSTS

Equipment Costs	none
Consumables/Materials Costs	
Gas torch consumables 1 @ $20.26/hr x 1 hr {1}	20.26
Subtotal cost of equipment and materials	20.26
Overhead & profit on equipment and materials @ 16.88%	3.42
Total costs, equipment & material	23.68
TOTAL COST Removal of heat exchanger <3000 pound:	**2,223.74**
Total labor cost:	2,200.06
Total equipment/material costs:	23.68
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. RSMeans (2024) Division 01 54 33, Section 40-6360 Page 744

APPENDIX C

UNIT COST FACTOR LISTING

TABLE C-1

UNIT COST FACTOR LISTING
Minnesota Stations
(Costs are in 2024 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	8.44	8.36	0.1	-	4	-	0.5	-	-	-	-
3	Piping >2 to 4 inches diameter, linear foot	11.83	11.72	0.2	-	7	-	0.9	-	-	0.4	-
4	Piping >4 to 8 inches diameter, linear foot	22.61	22.45	0.3	-	22	-	-	-	-	-	-
5	Piping >8 to 14 inches diameter, linear foot	44.18	43.99	0.6	-	57	-	-	-	-	-	-
6	Piping >14 to 20 inches diameter, linear foot	57.41	56.82	0.7	-	-	120	-	-	-	-	-
7	Piping >20 to 36 inches diameter, linear foot	84.47	83.68	1.1	-	-	221	-	-	-	-	-
8	Piping >36 inches diameter, linear foot	100.38	99.59	1.3	-	-	417	-	-	-	-	-
9	Valves <2 inches	161.74	160.96	2.0	-	-	-	-	-	-	-	-
10	Valves >2 to 4 inches	149.60	148.42	1.9	75	-	-	8.8	-	-	4.4	-
11	Valves >4 to 8 inches	226.06	224.47	2.8	510	-	-	-	-	-	-	-
12	Valves >8 to 14 inches	441.82	439.86	5.6	1,066	-	-	-	-	-	-	-
13	Valves >14 to 20 inches	574.09	568.16	7.3	-	-	2,040	-	-	-	-	-
14	Valves >20 to 36 inches	844.73	836.84	10.7	-	-	3,334	-	-	-	-	-
15	Valves >36 inches	1,003.82	995.93	12.7	-	-	11,535	-	-	-	-	-
24	Pipe hangers for small bore piping, each	51.46	45.53	0.6	-	10	-	-	-	-	-	-
25	Pipe hangers for large bore piping, each	187.85	176.01	2.3	-	50	-	-	-	-	-	-
26	Pump and motor set < 300 pounds	380.68	370.80	4.7	-	-	50	12.5	-	-	-	62.3
27	Pumps, 300-1000 pound pump	1,044.73	1,028.94	12.7	293	-	49	48.9	-	-	-	-
28	Pumps, >1000-10,000 pound pump	4,151.91	4,128.23	51.3	2,834	-	472	472.3	-	-	-	-
29	Pumps, >10,000 pound pump	8,027.72	7,956.68	98.9	43,693	-	7,282	7,282.1	-	-	-	-
32	Pump motors, 300-1000 pound pump	437.64	437.64	5.4	-	-	-	-	-	-	-	307.8
33	Pump motors, >1000-10,000 pound pump	1,726.35	1,726.35	21.5	-	-	-	-	-	-	-	3,531.6
34	Pump motors, >10,000 pound pump	3,884.28	3,884.28	48.3	-	-	-	-	-	-	-	42,324.5
37	Turbine-driven pumps > 10,000 pounds	10,750.37	10,671.44	132.7	20,000	-	20,000	-	-	-	-	-
38	Main turbine-generator (pounds per MW(e) input)	251,460.73	249,945.22	3,042.0	-	-	851,500	-	-	-	-	851,500.0
39	Heat exchanger <3000 pound	2,223.74	2,200.06	27.3	-	-	416	623.4	-	-	-	-
40	Heat exchanger >3000 pound	5,595.11	5,500.39	68.3	-	-	5,599	8,397.9	-	-	-	-
41	Feedwater heater/deaerator	15,813.02	15,623.58	194.2	-	-	12,000	18,000.0	-	-	-	-
49	Main condenser (pounds per MW(e) input)	690,077.38	669,051.25	8,243.6	149,400	-	149,400	199,200.0	-	-	-	-
51	Tanks, <300 gallons, filters, and ion exchangers	489.75	477.91	6.0	-	-	401	401.2	-	-	-	-
52	Tanks, 300-3000 gallons	1,545.54	1,521.86	19.1	-	-	2,700	300.0	-	-	-	-
53	Tanks, >3000 gallons, square foot surface	12.81	12.51	0.2	-	21	-	-	-	-	-	-
54	Electrical equipment, <300 pound	207.19	207.19	2.6	-	-	56	-	-	-	2.9	-
55	Electrical equipment, 300-1000 pound	712.52	712.52	8.8	-	-	624	-	-	-	32.8	-

TABLE C-1 (continued)

UNIT COST FACTOR LISTING
Minnesota Stations
(Costs are in 2024 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	1,425.03	1,425.03	17.6	-	-	2,212	-	-	-	116.4	-
57	Electrical equipment, >10,000 pound	3,355.24	3,355.24	41.0	-	-	19,950	-	-	-	1,050.0	-
59	Electrical transformers < 30 tons	2,330.17	2,330.17	28.4	-	-	11,250	-	-	-	3,750.0	-
60	Electrical transformers > 30 tons	6,710.50	6,710.50	81.9	-	-	375,000	-	-	-	125,000.0	-
61	Standby diesel-generator, <100 kW	2,380.08	2,380.08	29.1	2,340	-	-	-	-	-	-	260.0
62	Standby diesel-generator, 100 kW to 1 MW	5,312.47	5,312.47	64.8	9,450	-	-	-	-	-	-	1,050.0
63	Standby diesel-generator, >1 MW	10,997.90	10,997.90	134.2	47,250	-	-	-	-	-	-	5,250.0
64	Fluorescent light fixture	87.04	87.04	1.1	-	-	-	-	-	-	-	-
65	Incandescent light fixture	43.67	43.67	0.6	-	-	-	-	-	-	-	-
66	Electrical cable tray, linear foot	19.42	19.02	0.2	-	-	-	-	6.6	6.6	-	-
67	Electrical conduit, linear foot	8.48	8.28	0.1	-	-	-	-	3.4	3.4	-	-
69	Mechanical equipment, <300 pound	207.19	207.19	2.6	-	-	127	-	-	-	-	-
70	Mechanical equipment, 300-1000 pound	712.52	712.52	8.8	-	-	641	-	-	-	-	-
71	Mechanical equipment, 1000-10,000 pound	1,425.03	1,425.03	17.6	-	-	4,184	-	-	-	-	-
72	Mechanical equipment, >10,000 pound	3,355.24	3,355.24	41.0	-	-	11,938	-	-	-	-	-
76	HVAC equipment, <300 pound	250.55	250.55	3.1	-	-	184	-	-	-	-	-
77	HVAC equipment, 300-1000 pound	856.15	856.15	10.6	-	-	643	-	-	-	-	-
78	HVAC equipment, 1000-10,000 pound	1,706.29	1,706.29	21.0	-	-	3,813	-	-	-	-	-
79	HVAC equipment, >10,000 pound	3,355.24	3,355.24	41.0	-	-	19,391	-	-	-	-	-
82	HVAC ductwork, pound	0.82	0.82	0.0	-	-	-	-	1.0	-	-	-
201	Standard reinforced concrete, cubic yard	75.02	32.43	0.4	-	183	-	-	-	-	-	-
202	Grade slab concrete, cubic yard	85.31	37.04	0.5	-	183	-	-	-	-	-	-
206	Heavily rein concrete w/#9 rebar, cubic yard	108.35	47.48	0.6	-	730	-	-	-	-	-	-
222	Hollow masonry block wall, cubic yard	29.52	12.39	0.1	-	66	-	-	-	-	-	-
224	Solid masonry block wall, cubic yard	29.52	12.39	0.1	-	66	-	-	-	-	-	-
229	Backfill of below grade voids, cubic yard	26.00	5.08	0.1	-	-	-	-	-	-	-	-
230	Excavation of clean material, cubic yard	3.47	1.80	0.0	-	-	-	-	-	-	-	-
235	Building by volume, cubic foot	0.44	0.26	-	-	-	1	-	-	-	-	-
236	Building metal siding, square foot	2.03	1.55	0.0	-	-	-	-	2.4	-	-	-
242	Standard asphalt roofing, square foot	3.65	3.65	0.1	-	-	-	-	-	-	-	-
245	Placement of cofferdam, linear foot	-	-	-	-	-	-	-	-	-	-	-

TABLE C-1 (continued)

UNIT COST FACTOR LISTING
Minnesota Stations
(Costs are in 2024 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	11.61	9.46	0.1	-	-	-	-	-	-	-	-
253	Overhead cranes/monorails < 10 ton capacity, each	978.64	978.64	11.8	-	3,700	-	-	-	-	-	-
255	Overhead cranes/monorails >10 - 50 ton capacity, each	2,348.73	2,348.73	28.3	-	-	298,832	-	-	-	3,018.5	-
258	Gantry cranes > 50 ton capacity, each	37,466.94	37,466.94	457.3	-	-	712,800	-	-	-	7,200.0	-
260	Structural steel, pounds	0.35	0.24	-	-	1	-	-	-	-	-	-
262	Steel floor grating, square foot	6.82	6.41	0.1	-	-	6	-	1.1	-	-	-
268	Placement of scaffolding in clean areas, square foot	19.03	7.77	0.1	-	-	-	-	-	-	-	-
270	Landscaping with topsoil, acre	20,687.15	4,312.71	52.6	-	-	-	-	-	-	-	-
271	Landscaping w/o topsoil, acre	1,246.47	458.85	5.3	-	-	-	-	-	-	-	-
272	Chain link fencing, linear foot	4.71	4.20	0.1	-	-	-	-	10.0	-	-	-
273	Railroad track, linear foot	31.84	17.45	0.2	-	91	-	-	-	-	-	-
274	Asphalt pavement, square foot	1.17	0.91	0.0	-	-	-	-	-	-	-	-
291	Carbon steel plate 1/4 inch thick, square foot	5.41	4.60	0.1	-	-	10	-	-	-	-	-
294	Carbon steel plate 1/2 inch thick, square foot	5.71	4.84	0.1	-	-	20	-	-	-	-	-
359	Steam drum removal (fossil)	31,586.35	31,428.48	411.6	-	-	480,000	-	-	-	-	-
360	Water drum removal (fossil)	11,729.68	11,700.07	153.2	-	-	320,000	-	-	-	-	-
361	Upper/lower waterwall headers (fossil)	8,850.76	8,821.15	115.5	-	-	120,000	-	-	-	-	-
362	Top sup boiler waterwall (8'x8' section), inches cut	1.05	1.01	0.0	-	-	11	-	-	-	-	-
369	Boiler convective superheaater platens	2,491.42	2,286.21	29.6	-	-	19,501	-	-	-	-	-
370	Boiler radiant superheater platens	1,053.98	967.17	12.5	-	-	51,652	-	-	-	-	-
371	Boiler reheat platens	1,053.98	967.17	12.5	-	-	19,501	-	-	-	-	-
372	Boiler economizer platens	1,341.46	1,230.97	15.9	-	-	11,703	-	-	-	-	-
374	Stationary soot blowers	55.81	55.81	0.7	-	-	500	-	-	-	-	50.0
375	Retractable soot blowers	527.62	527.62	6.8	-	-	11,150	-	-	-	-	100.0
376	Process ductwork (8'x8' section), inches cut	0.52	0.49	0.0	-	-	0	-	-	-	-	-
378	Non-asbestos insulated regenerative air preheaters	16,241.67	14,394.64	188.5	-	-	1,376,000	-	-	-	-	-
380	Non-asbestos insulated recuperative air preheaters	8,950.33	7,795.94	101.6	-	-	1,376,000	-	-	-	-	-
382	Induced, forced, primary draft fans	2,509.71	2,462.35	31.9	-	-	30,000	-	-	-	-	3,531.6
383	Coal car dumpers	22,119.94	19,278.35	249.4	-	-	125,000	-	-	-	-	500.0
384	Conveyors	21.13	19.95	0.3	-	-	820	-	-	-	-	-
385	Transfer Towers	0.35	0.21	-	-	-	5	-	-	-	-	-
386	Stacker-reclaimers	230,919.52	230,919.52	3,008.3	-	-	300,000	-	-	-	-	2,000.0
389	Ball mills	2,196.64	2,196.64	28.1	-	-	360,000	-	-	-	-	7,063.1
390	Coal feeders	551.64	539.80	7.1	-	-	1,194	-	-	-	-	-

TABLE C-2

UNIT COST FACTOR LISTING
North Dakota Stations
(Costs are in 2024 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	1,425.03	1,425.03	17.6	-	2,212	116.4	-	-
57	Electrical equipment, >10,000 pound	3,355.24	3,355.24	41.0	-	19,950	-	75,610	-
67	Electrical conduit, linear foot	8.50	8.28	0.1	-	-	0.3	-	1.2
72	Mechanical equipment, >10,000 pound	3,355.24	3,355.24	41.0	-	11,938	-	-	-
201	Standard reinforced concrete, cubic yard	78.55	32.43	0.4	183	-	-	-	-
229	Backfill of below grade voids, cubic yard	27.73	5.08	0.1	-	-	-	-	-
230	Excavation of clean material, cubic yard	3.60	1.80	0.02	-	-	-	-	-
235	Building by volume, cubic foot	0.46	0.26	0.003	-	1	-	-	-

TABLE C-3

UNIT COST FACTOR LISTING
South Dakota Station
(Costs are in 2024 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	8.45	8.36	0.1	-	4	-	0.5	-	-	-	-
3	Piping >2 to 4 inches diameter, linear foot	11.85	11.72	0.2	-	7	-	0.9	-	-	0.4	-
4	Piping >4 to 8 inches diameter, linear foot	22.63	22.45	0.3	-	22	-	-	-	-	-	-
5	Piping >8 to 14 inches diameter, linear foot	44.21	43.99	0.6	-	57	-	-	-	-	-	-
6	Piping >14 to 20 inches diameter, linear foot	57.50	56.82	0.7	-	-	120	-	-	-	-	-
7	Piping >20 to 36 inches diameter, linear foot	84.60	83.68	1.1	-	-	221	-	-	-	-	-
8	Piping >36 inches diameter, linear foot	100.51	99.59	1.3	-	-	417	-	-	-	-	-
9	Valves <2 inches	161.86	160.96	2.0	-	-	-	-	-	-	-	-
10	Valves >2 to 4 inches	149.79	148.42	1.9	75	-	-	8.8	-	-	4.4	-
11	Valves >4 to 8 inches	226.31	224.47	2.8	510	-	-	-	-	-	-	-
12	Valves >8 to 14 inches	442.14	439.86	5.6	1,066	-	-	-	-	-	-	-
13	Valves >14 to 20 inches	575.04	568.16	7.3	-	-	2,040	-	-	-	-	-
14	Valves >20 to 36 inches	846.00	836.84	10.7	-	-	3,334	-	-	-	-	-
15	Valves >36 inches	1,005.09	995.93	12.7	-	-	11,535	-	-	-	-	-
24	Pipe hangers for small bore piping, each	52.41	45.53	0.6	-	10	-	-	-	-	-	-
25	Pipe hangers for large bore piping, each	189.77	176.01	2.3	-	50	-	-	-	-	-	-
26	Pump and motor set < 300 pounds	382.27	370.80	4.7	-	-	50	12.5	-	-	-	62.3
27	Pumps, 300-1000 pound pump	1,047.29	1,028.94	12.7	293	-	49	48.9	-	-	-	-
28	Pumps, >1000-10,000 pound pump	4,155.74	4,128.23	51.3	2,834	-	472	472.3	-	-	-	-
29	Pumps, >10,000 pound pump	8,039.22	7,956.68	98.9	43,693	-	7,282	7,282.1	-	-	-	-
32	Pump motors, 300-1000 pound pump	437.64	437.64	5.4	-	-	-	-	-	-	-	307.8
33	Pump motors, >1000-10,000 pound pump	1,726.35	1,726.35	21.5	-	-	-	-	-	-	-	3,531.6
34	Pump motors, >10,000 pound pump	3,884.28	3,884.28	48.3	-	-	-	-	-	-	-	42,324.5
38	Main turbine-generator (pounds per MW(e) input)	251,706.14	249,945.22	3,042.0	-	-	851,500	-	-	-	-	851,500.0
39	Heat exchanger <3000 pound	2,227.57	2,200.06	27.3	-	-	416	623.4	-	-	-	-
40	Heat exchanger >3000 pound	5,610.45	5,500.39	68.3	-	-	5,599	8,397.9	-	-	-	-
41	Feedwater heater/deaerator	15,843.69	15,623.58	194.2	-	-	12,000	18,000.0	-	-	-	-
49	Main condenser (pounds per MW(e) input)	693,469.63	669,051.25	8,243.6	149,400	-	149,400	199,200.0	-	-	-	-
51	Tanks, <300 gallons, filters, and ion exchangers	491.67	477.91	6.0	-	-	401	401.2	-	-	-	-
52	Tanks, 300-3000 gallons	1,549.37	1,521.86	19.1	-	-	2,700	300.0	-	-	-	-
53	Tanks, >3000 gallons, square foot surface	12.86	12.51	0.2	-	21	-	-	-	-	-	-
54	Electrical equipment, <300 pound	207.19	207.19	2.6	-	-	56	-	-	-	2.9	-
55	Electrical equipment, 300-1000 pound	712.52	712.52	8.8	-	-	624	-	-	-	32.8	-
56	Electrical equipment, 1000-10,000 pound	1,425.03	1,425.03	17.6	-	-	2,212	-	-	-	116.4	-
57	Electrical equipment, >10,000 pound	3,355.24	3,355.24	41.0	-	-	19,950	-	-	-	1,050.0	-
59	Electrical transformers < 30 tons	2,330.17	2,330.17	28.4	-	-	11,250	-	-	-	3,750.0	-
60	Electrical transformers > 30 tons	6,710.50	6,710.50	81.9	-	-	375,000	-	-	-	125,000.0	-

TABLE C-3 (continued)

UNIT COST FACTOR LISTING
South Dakota Station
(Costs are in 2024 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	2,380.08	2,380.08	29.1	2,340	-	-	-	-	-	-	260.0
64	Fluorescent light fixture	87.04	87.04	1.1	-	-	-	-	-	-	-	-
65	Incandescent light fixture	43.67	43.67	0.6	-	-	-	-	-	-	-	-
66	Electrical cable tray, linear foot	19.48	19.02	0.2	-	-	-	-	6.6	6.6	-	-
67	Electrical conduit, linear foot	8.51	8.28	0.1	-	-	-	-	3.4	3.4	-	-
69	Mechanical equipment, <300 pound	207.19	207.19	2.6	-	-	127	-	-	-	-	-
70	Mechanical equipment, 300-1000 pound	712.52	712.52	8.8	-	-	641	-	-	-	-	-
71	Mechanical equipment, 1000-10,000 pound	1,425.03	1,425.03	17.6	-	-	4,184	-	-	-	-	-
72	Mechanical equipment, >10,000 pound	3,355.24	3,355.24	41.0	-	-	11,938	-	-	-	-	-
76	HVAC equipment, <300 pound	250.55	250.55	3.1	-	-	184	-	-	-	-	-
77	HVAC equipment, 300-1000 pound	856.15	856.15	10.6	-	-	643	-	-	-	-	-
78	HVAC equipment, 1000-10,000 pound	1,706.29	1,706.29	21.0	-	-	3,813	-	-	-	-	-
82	HVAC ductwork, pound	0.82	0.82	0.0	-	-	-	-	1.0	-	-	-
201	Standard reinforced concrete, cubic yard	81.92	32.43	0.4	-	183	-	-	-	-	-	-
202	Grade slab concrete, cubic yard	93.13	37.04	0.5	-	183	-	-	-	-	-	-
206	Heavily rein concrete w/#9 rebar, cubic yard	118.21	47.48	0.6	-	730	-	-	-	-	-	-
222	Hollow masonry block wall, cubic yard	32.30	12.39	0.1	-	66	-	-	-	-	-	-
229	Backfill of below grade voids, cubic yard	29.39	5.08	0.1	-	-	-	-	-	-	-	-
235	Building by volume, cubic foot	0.47	0.26	-	-	-	1	-	-	-	-	-
236	Building metal siding, square foot	2.10	1.55	0.0	-	-	-	-	2.4	-	-	-
242	Standard asphalt roofing, square foot	3.65	3.65	0.1	-	-	-	-	-	-	-	-
248	Lead paint removal from concrete surfaces, square foot	11.85	9.36	0.1	-	-	-	-	-	-	-	-
253	Overhead cranes/monorails < 10 ton capacity, each	978.64	978.64	11.8	-	3,700	-	-	-	-	-	-
255	Overhead cranes/monorails >10 - 50 ton capacity, each	2,348.73	2,348.73	28.3	-	-	298,832	-	-	-	3,018.5	-
260	Structural steel, pounds	0.37	0.24	-	-	1	-	-	-	-	-	-
262	Steel floor grating, square foot	6.89	6.41	0.1	-	-	6	-	1.1	-	-	-
270	Landscaping with topsoil, acre	23,340.08	4,312.71	52.6	-	-	-	-	-	-	-	-
271	Landscaping w/o topsoil, acre	1,374.05	458.85	5.3	-	-	-	-	-	-	-	-
272	Chain link fencing, linear foot	4.79	4.20	0.1	-	-	-	-	10.0	-	-	-
274	Asphalt pavement, square foot	1.22	0.91	0.0	-	-	-	-	-	-	-	-
293	Carbon steel plate 3/8 inch thick, square foot	5.69	4.72	0.1	-	-	15	-	-	-	-	-
294	Carbon steel plate 1/2 inch thick, square foot	5.85	4.84	0.1	-	-	20	-	-	-	-	-
359	Steam drum removal (fossil)	31,611.92	31,428.48	411.6	-	-	480,000	-	-	-	-	-
376	Process ductwork (8'x8' section), inches cut	0.52	0.49	0.01	-	-	0.03	-	-	-	-	-