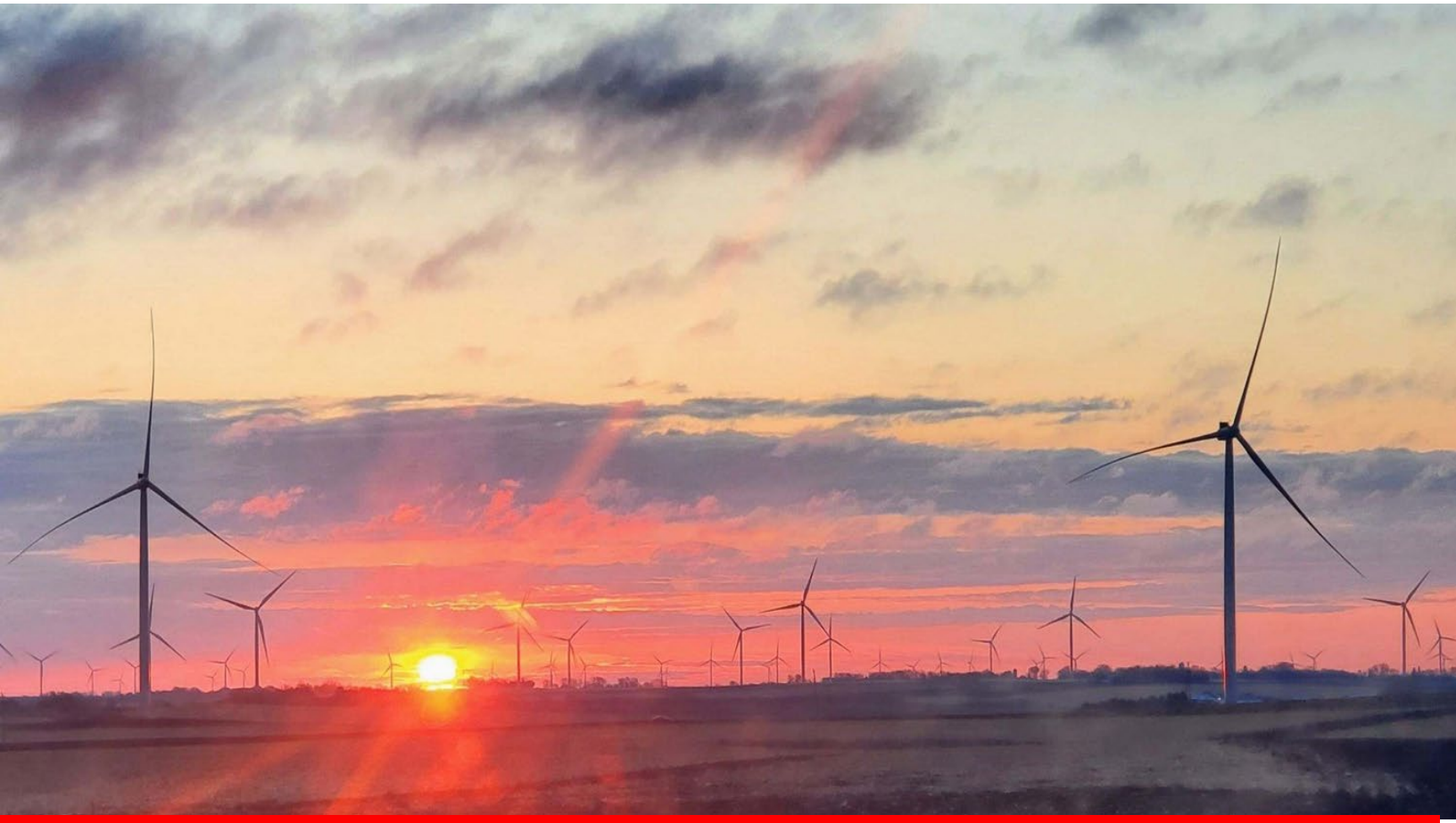


Appendix J

Updated Decommissioning Plan



DECOMMISSIONING PLAN

**Pleasant Valley Wind Farm
April 2022**



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Decommissioning Plan for Pleasant Valley Wind Farm

1.0 INTRODUCTION

1.1 Background

Northern States Power Company (NSPM or the Company), a subsidiary of Xcel Energy, has prepared this Decommissioning Plan in accordance Minn. R. 7854.0500, subp. 13 and Section 11.1 of the Pleasant Valley Wind Farm Site Permit (MPUC Docket No. IP-6828/WS-09-1197) to provide documentation of the activities necessary to decommission the Pleasant Valley Wind Farm and restore the Project area, request of Xcel Energy for an amendment to the Large Wind Energy Conversion System (LWECS) Site Permit to repower the existing 200 megawatt (MW) facility.

Xcel Energy is a regulated utility governed by the laws of the State of Minnesota and will observe all regulatory requirements with respect to decommissioning the Pleasant Wind Farm, including removal of all structures, equipment, and restoration of the land.

The Pleasant Valley Wind Farm is located in Mower County and Dodge Counties Minnesota, primarily agricultural, privately-owned land. The project was placed in service in November 2015 and Vestas V100 2.0 MW turbines were installed with a rotor size of 100 meters (328.1feet) in diameter. Xcel Energy plans to repower all 100 turbines (Repower) which will increase energy production from the facility, improve overall reliability, and extend the service life of the turbines. The Pleasant Wind Energy Project is an important part of Xcel Energy's generation.

1.2 Project Description

Commercial Operation Date: November 2015 (original) December 31, 2025 (repower)

Project Ownership: Xcel Energy

Location: Mower and Dodge County, MN

Generation Capacity: 200 MW

Number of Turbines: 100

Proposed Repower Turbine Type:

- (100) Vestas V110-2.2 MW STE, 110m rotor diameter turbines

Footprint: 45,449 acres

Underground Collection Cable: 78 Miles

161kV Transmission Line: 5 miles

Access Roads: 27.33 Miles

O&M Building + parking lot: 1.8 acres

The Pleasant Valley Wind Farm is located in Mower and Dodge County, Minnesota. The 100 wind turbines sit atop spread footing foundations which rest on the native soils. A 50-foot gravel ring will surround each foundation. Collection cable runs entirely underground between the substation and turbine sites.

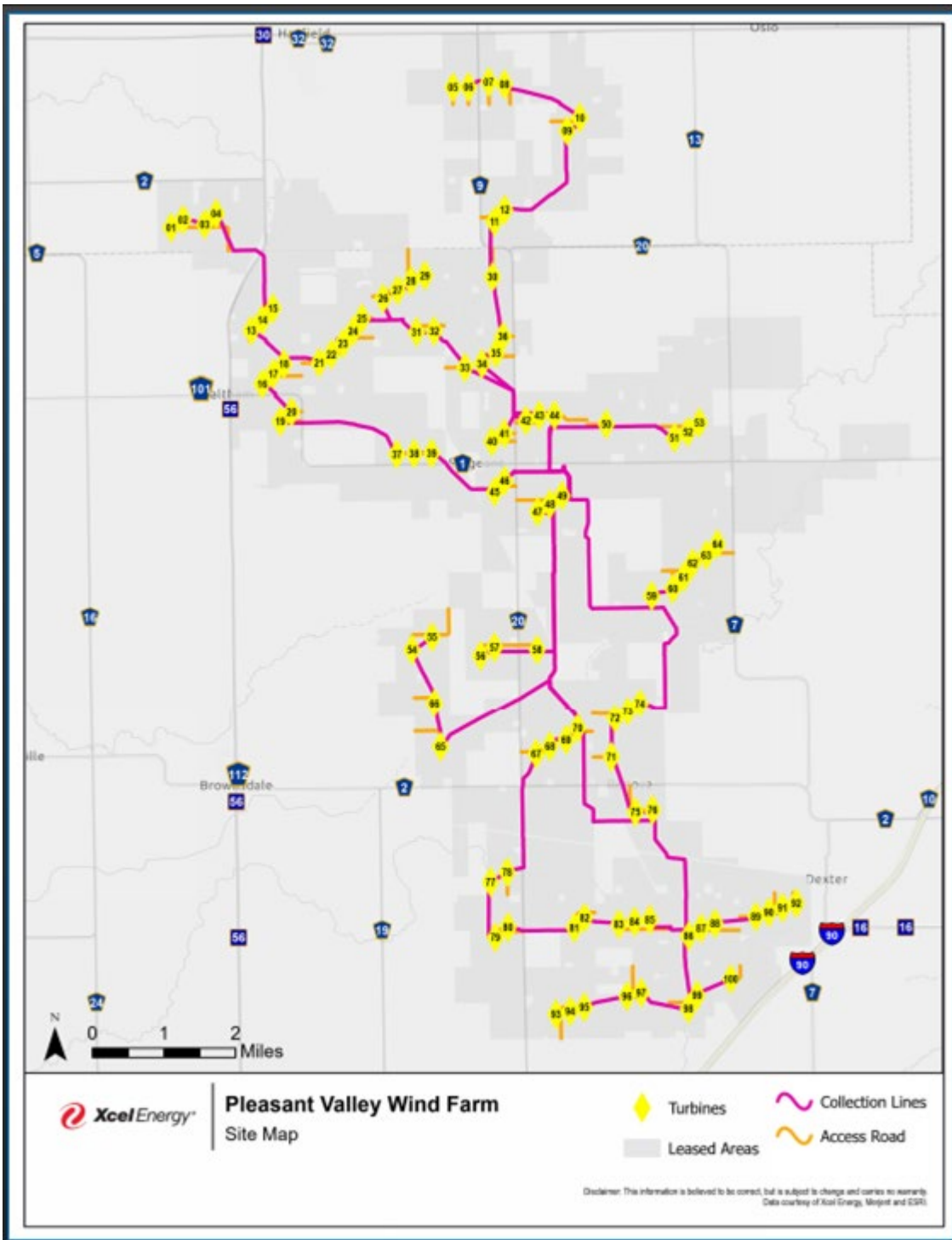
This Decommissioning Plan includes the following information per Minn. R. 7854.0500, Subp. 13. The items listed below are detailed further in the Plan.

- The current anticipated life of the Pleasant Valley Wind Farm is 25 years;
- An estimate of the total cost of decommissioning and site restoration at the end of the project's useful life (excluding salvage value of the turbines and equipment) is \$32,411,168;
- A description of the anticipated manner in which the project will be decommissioned and the site restored;
- A description of the method and schedule for updating the costs of decommissioning and restoration;
- A description of how the Company is ensuring that funds will be available for decommissioning and restoration.

1.2 Anticipated Life of the Project

Xcel Energy expects the Project to be in service for 25 years. This estimate is based on Xcel Energy's experience operating projects with similar turbine models, and technology.

Pleasant Valley Wind Farm Site Map



2.0 DECOMMISSIONING AND RESTORATION

2.1 Decommissioning Objective

The objective of decommissioning is to restore and reclaim areas disturbed by the construction and operation of the Project to pre-construction topography and soil quality. Access roads and construction pads will be reclaimed to agricultural land suitable for its purpose. The overall pricing worksheet, salvage value of materials, assumptions, and schedule is stated in Attachment A. The Company has internal resources with the experience necessary to conduct a financial analysis of decommissioning and; therefore, did not rely up on an independent preparer for this analysis. Necessary updates to the decommissioning plan will be filed with the Commission for their review and approval every five years.

2.2 Decommissioning Scope

The Project will be disconnected from the grid to allow for the safe dismantling of the Project. The decommissioning process will be completed within 18 months of the end of the facility's useful life.

Decommissioning will include:

1. Dismantling and removal of all towers, turbine generators, transformers, and overhead cables;
2. Removal of foundations, buildings, and ancillary equipment to a depth of 48 inches (4 feet);
3. Site restoration and reclamation to the approximate original topography that existed prior to the construction of the facility with topsoil re-spread over the disturbed areas at a depth similar to that in existence prior to the disturbance.
4. Grading and topsoil of areas disturbed by the facility, and reseeded according to natural resources conservation service recommendations, unless the commission approves an owner request signed by the applicable landowner, identifying the surface features the landowner prefers to remain in place and the reason the landowner prefers those features to remain.
5. Removal of surface road material and restoration of the roads and turbine sites to previous conditions to the extent feasible, consistent with the landowners' desires.

The Company's decommissioning and restoration activities will adhere to the requirements of the appropriate governing authorities and will be in accordance with applicable federal, state, and local permits (if any are required), and pursuant to the terms and conditions of any landowner leases currently in place.

2.3 Decommissioning Process

All decommissioning and restoration activities will adhere to the requirements of appropriate governing authorities and will be in accordance with all applicable federal, state, and local permits. Prior to commencing decommissioning activities, there will be written notification sent to landowners, the PUC, and Mower and Dodge County advising of the Project's intent to decommission. Removal and restoration obligations will be completed within 18 months after the expiration of the Site Permit, or in the event that the Project, or any specific turbine, ceases operation for a period of one year, and in general accordance with the requirements of Minnesota Rules 7854.0500, subpart 13.

The decommissioning and restoration process for the repowered Project comprises removal of all above ground structures; work with MPCA to obtain prior approval to limit the removal of below ground structures to a depth of 4 feet; restoration of topsoil, revegetation and seeding; and a two-year monitoring and remediation period.

Above ground structures include the turbines, step-up (pad-mounted) transformers, O&M building, ADLS unit, overhead electrical transmission lines, interconnection switchyard equipment and the substation. Below ground structures include turbine foundations, collection system conduits/cable, foundation for the O&M building, substation equipment foundations, ADLS unit foundations and cabling, and drainage structures.

It is assumed that the Project will incur costs for the removal and disposal of the turbines, foundations, and other Project facilities, as well as costs for the restoration of the Project site. Above-grade steel, aluminum, and copper equipment, however, is expected to have significant scrap value to a salvage contractor. All recyclable materials will be recycled to the extent possible, while all other non-recyclable waste materials will be disposed of in accordance with state and federal law.

The process of removing structures involves evaluating and categorizing all components and materials into categories of reconditioning and reuse, salvage, recycling, and disposal at suitable facilities. In the interest of increased efficiency and minimal transportation impacts, components and material may be stored on-site in a pre-approved location until the bulk of similar components or materials are ready for transport. The components and material will be transported to the appropriate facilities for reconditioning, salvage, recycling, or disposal.

Decommissioning Objective: The objective of decommissioning is to restore and reclaim areas disturbed by the construction and operation of the Pleasant Valley project to pre-construction topography and soil quality. Access roads and construction pads will be reclaimed to agricultural land suitable for its purpose. The Company has internal resources with the experience necessary to conduct a financial analysis of decommissioning and; therefore, did not rely upon an independent preparer for this analysis. Necessary updates to the decommissioning plan will be filed with the Commission every five years.

Decommissioning Scope: Decommissioning of the Pleasant Valley Wind Project will include:

1. Removal of all turbines and towers;
2. Removal of all above-ground distribution facilities;
3. Removal of foundations to a depth of four feet below grade;
4. Removal of surface road material and restoration of the roads and turbine sites to previous conditions to the extent feasible, consistent with the landowner's desires.

The removed components will either be scrapped and properly disposed of or recycled. The determination will be made based on the expected market for the used components.

Removal and restoration obligations shall be completed within eighteen (18) months, and in general accordance with the requirements of Minnesota Rules 7854.0500, subp. 13.

Turbine Removal: Access roads to turbines will be widened to a sufficient width to accommodate movement of appropriately sized cranes, trucks, and other machinery required for the disassembly and removal of the turbines. Control cabinets, electronic components, and internal cables will be removed. The rotor, nacelle, and tower sections will be lowered to the ground where they may be transported whole for reconditioning and reuse or disassembled/cut into more easily transportable sections for salvageable, recyclable, or disposable components.

Once the turbine components and materials have been transported off-site, each turbine pad area will be thoroughly cleaned to ensure all potential debris has been removed prior to beginning restoration activities.

Turbine Foundation Removal: Topsoil will be stripped from the area surrounding the foundation and stockpiled for restoration once foundation removal activities are complete. Turbine foundations will be excavated sufficiently to allow for the removal of all foundation materials; anchor bolts, reinforcing steel, concrete, conduit, and cables, to depth of 4 feet below-grade. The void will then be backfilled

with a suitable clean subgrade soil and compacted to a density similar to the surrounding soils.

Turbine Access Roads: Once the turbine access roads are no longer needed to facilitate the decommissioning process, all of the access road surfacing material will be stripped off to the native soil subgrade. Access road surfacing material will be hauled away for repurposing as roadway material or disposal. The subgrade will then be sufficiently ripped to remove any compacted soils. Topsoil will then be spread over the exposed access road subgrade as to restore existing drainage conditions. The topsoil will then be stabilized as required by local and state pollution control requirements.

Collection System: All underground collection cable, junction boxes, and conduits will be removed to a depth of at least 4 feet below grade. The valuable materials generated will be sold as scrap, with the remaining materials recycled or properly disposed of offsite.

Project Substation & Transmission Line: The collector substation above ground structural steel and control equipment will be dismantled and removed from the project. Structural steel, cables, electrical control equipment, transformers, etc., will be reused, sold as scrap, recycled, or properly disposed of based on market values. Concrete foundations and underground conduit will be removed to a depth of 4 feet below grade. All gravel surfacing will be removed and disposed of. The approximately 5.0 miles of overhead transmission line connecting to the grid interconnect will be removed and disposed of through recycling, selling for scrap, or hauled to a waste management facility. All the areas previously occupied by either substation or transmission line infrastructure will be properly decompacted, re-spread with topsoil, and revegetated to achieve restoration.

Operations & Maintenance (O&M) Building: The approximately 10,000 square-foot O&M building will be demolished with the resulting materials being disposed of offsite. The 1.8-acre gravel surface lot surrounding the building site will be reclaimed, thoroughly cleaned of any construction debris, and restored back to agricultural use. All building foundation and communications cable will be removed to a depth of 4 feet below grade. The site will be cleaned of debris, graded, decompacted, and re-spread with topsoil to ensure revegetation and proper restoration.

Aircraft Detection Lighting System Removal: The ADLS unit will be disassembled, and all material/equipment will be removed from the site. Tower steel, conductors, switches, transformers, etc., will be reconditioned and reused, sold as scrap, recycled, or disposed of appropriately depending upon market value. Foundations and underground components (cabling) will be removed to a depth of 4

feet below grade and the excavation filled, contoured, and revegetated. The site surface gravel will be removed for disposal. All unexcavated areas compacted by equipment used in decommissioning shall be decompacted to adequately restore the topsoil and subgrade material to the proper density consistent and compatible with the surrounding area. The area will be cleaned, and all debris will be removed.

3.0 DECOMMISSIONING COSTS

The decommissioning cost estimate provided herein includes the costs to return the site to a condition compatible with the surrounding land and similar to the conditions that existed before development of the Project. Included in the estimate are the costs to decommission the power generating equipment associated with the Project, as well as the costs to discontinue the Project facilities, with all equipment and structures removed to a depth of 4 feet below grade. These costs are offset by the estimated revenue that will be received for scrap value of steel, aluminum, and copper material.

The estimated decommissioning costs for the Project were primarily derived from *“Document X01-1776-001, Rev. A, March 2020 Xcel Energy Dismantling Cost Study”* which calculates and details the costs associated with dismantling Xcel Energy’s generating facilities. The estimated decommissioning costs presented for the repowering project were derived using cost escalation to account for the new turbine technology as well as 1 year of inflation. As summarized in Appendix A, the current cost of decommissioning the Project is estimated to be approximately \$324,111.68 per turbine in 2021 dollars. This cost includes a partial offset from the salvage value of the towers, turbine components, and electrical equipment. In Docket No. E,G002/D-19-723 (the 2020 Annual Review of Remaining Lives), the Company has proposed the following net salvage percentages for those wind facilities currently in operation:

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

The cost of decommissioning is estimated to be approximately \$32,411,168 in 2021 dollars. NSP will be responsible for all costs associated with decommissioning. A negative net salvage rate will be used to ensure that there are adequate funds for decommissioning and restoration costs. The net salvage rate reflects the net of the estimated decommissioning costs and any offsetting proceeds from the salvaging and/or recycling of generation equipment. The net salvage rate will be negative in this case because the forecasted costs of decommissioning the facility are higher than the expected salvage proceeds.

4.0 DECOMMISSIONING PLAN UPDATES

NSP is required to conduct a comprehensive dismantling study every 5 years, and report to the PUC as part of the Annual Review of Remaining Lives. A third-party evaluation will be conducted every 5 years to determine the accuracy of decommissioning costs and make any necessary adjustments to the guaranty. The next update to the Pleasant Valley Decommissioning Plan will be in 2027.

5.0 PERMITTING AND NOTIFICATIONS

- All decommissioning and restoration activities will comply with federal and state permit requirements. The permits, if required, will be applied for and received prior to decommissioning construction activities commencing. Xcel Energy will also provide notice to landowners, townships and counties prior to decommissioning activities.
- Decommissioning activities that will disturb more than one acre of soil may trigger the NPDES Construction General permitting process and Minnesota general permit or Notice of Intent. A Storm Water Pollution Prevention Plan will be developed prior to filing a Notice of Intent.
- Minnesota Pollution Control Agency (MPCA) air quality rules will be reviewed at the time the work is scheduled to determine if an air quality permit will be required. Further, no operating air quality permits are needed for ongoing operation of the wind farm facility. No air permits are currently required for construction activities typical for decommissioning.
- Minnesota Department of Natural Resources (MDNR) permits for work in public waters associated with crane crossings and/or collection line removal may be required.
- All demolitions require notification to the MPCA.
- A protected species review will be requested from the MDNR and U.S. Fish and Wildlife Service to determine whether there may be potential impacts to protected species from decommissioning activities and if avoidance and minimization measures are necessary.
- Should decommissioning activities cause temporary or permanent impacts to wetlands, permit applications will be submitted, as appropriate, to the Army Corps of Engineers for dredge and fill within waters of the U.S. under Section

404 of the Clean Water Act, to the Local Government Unit for Minnesota Wetland Conservation Act coverage and the MPCA for Water Quality Certification under Section 401 of the CWA prior to construction.

- A Spill Prevention, Control and Countermeasures (SPCC) Plan for decommissioning, separate from the operating SPCC will likely be required.
- A Case Specific Beneficial Use Determination is required from the MPCA Solid Waste Division for approval to leave portions of the foundations in place.
- Overweight/Overwidth Permits, and temporary road-widening approvals will be required from local Road Use Authorities, as well as coordination on an Emergency Management Plan with local authorities.



**OVERALL PRICING WORKSHEET – Dismantle, Downsize, & Scrap
Dismantling Cost Estimate**

**XCEL ENERGY - PLEASANT VALLEY
REPOWER**

ITEM	DESCRIPTION	QTY	UNIT	UNIT PRICE	PLEASANT REPOWER AMOUNT
1	TURBINE SITE REMOVAL				
1a	Dismantle Wind Turbine Generators - V100-2.0	100	EA	\$155,826	\$15,582,260
1b	Haul Off of Materials (Trucking/Rail)	100	EA	\$28,158	\$2,815,800
1c	Foundation Removal - V100-2.0	100	EA	\$2,983	\$298,300
1d	Crane Mobilization & Demobilization	1	LS	\$2,116,180	\$2,116,180
		SUBTOTAL			\$20,812,900
2	SITE CIVIL WORK REMOVAL				
2a	Balance of Site Civil Work Removals	1	LS	\$11,556,912	\$11,556,912

		SUBTOTAL			\$11,556,912
3	COLLECTION SYSTEM REMOVAL				
3a	Remove MV Collection Cable	1	LS	\$541,758	\$541,758
3b	Remove Junction Boxes & Turbine Switchgears	1	LS	\$56,723	\$56,723
4	Transmission Line Removal	1	LS	\$307,751	\$307,751
		SUBTOTAL			\$906,232
		SITE SUBTOTAL			\$33,276,044
	CONTINGENCY (15%)				\$4,991,407
	Project Total (before scrap credit)				\$38,267,451
	APPROXIMATE SCRAP VALUE OF COMPONENTS				(\$5,856,283)
TOTAL PRICE					\$32,411,168

Assumptions & Clarifications: Budgetary Decommissioning Pricing

General Conditions Assumptions & Clarifications

1. Xcel Energy has prepared the foregoing decommissioning pricing for strictly budgetary purposes based on current market prices.
2. Xcel Energy has not included costs associated with provisions requiring prevailing wage or union participation.
3. Any costs related to applicable taxes have not been included within this document.

Site Control Assumptions & Clarifications

4. Xcel Energy will provide access to the work within the project as well as to an adequate work area without restriction.
5. Xcel Energy's estimated costs include the construction of a temporary laydown area for the interim storage of materials, supplies and equipment required for decommissioning activities.
6. Xcel Energy's estimated costs include temporary field trailers for site staff to manage and supervise decommissioning activities.
7. Xcel Energy will be responsible for landowner communications and coordination.
8. Xcel Energy has not included costs related to any state, or county road improvements and/or traffic control measures, barricades, or utility relocation, which may be required during the completion of decommissioning activities.

Turbine Disassembly & Dismantling Assumptions & Clarifications

9. Xcel Energy's estimated costs assume the wind turbine generators will be disassembled with a crane, following construction industry standard safety practices. Once, disassembled the wind turbine generator components will be further dismantled or downsized until acceptably sized for hauling off-site for scrap or disposal.
10. Xcel Energy's estimated costs assume mobilizing and demobilizing the following during completion of decommissioning activities: one main erection crane (sized similar to a Liebherr LR1600 crawler crane), support cranes, support equipment, and personnel to form two (2) work crews.
11. Xcel Energy's estimated erection costs assume two (2) crews disassembling and dismantling turbines. The first crew will be using the main erection crane will prepare and disassemble the wind turbine generators, placing at ground level the respective individual components; three (3) blades, hub, nacelle, and three (3) tower sections. The second crew will utilize the support cranes and equipment to dismantle or downsize the components into pieces, sized suitably for hauling via a standard semi-tractor trailer. Additionally, materials will be separated for either salvage or disposal. Xcel Energy has assumed a production rate of six (6) disassembled and dismantled turbines per week.

Civil Works & Foundation Removal Assumptions & Clarifications

12. Xcel Energy's estimated costs assume the complete removal of 4" of Class 5 aggregate from access roads and turbine rock rings. Xcel Energy assumes all removed aggregate materials will be approved for reuse and placement on surrounding aggregate surfaced public roads.
13. Xcel Energy's estimated costs assume the removal of wind turbine generator foundation concrete and reinforcing steel to a depth of 48". Xcel Energy assumes all excavation and demolition activities on the foundations will follow OSHA requirements. Once the topsoil has been separated and the foundation is excavated, demolition of the foundation concrete and reinforcing steel will be completed using equipment similar to an excavator with a hydraulic concrete hammer and excavator with a hydraulic steel shears attachment. The concrete and steel resulting from the demolition activities will be hauled off, respectively, for disposal and salvage. The excavations will be backfilled, compacted to 85 percent, and re-spread with topsoil.
14. Xcel Energy's estimated costs assume all areas impacted by project infrastructure and decommissioning activities will be de-compacted and graded to match surrounding drainage patterns. All disturbed soils will be reseeded and stabilized with an approved seed mix as required by land use and regulatory requirements.

Collection System Removal Assumptions & Clarifications

15. Xcel Energy has included the costs to remove junction boxes and collection cables to a depth of 48". Any collection materials below that depth will be capped, filled to ensure no voids exist within bore casing pipes, and abandoned.
16. All disturbed soils will be reseeded and stabilized with an approved seed mix as required by land use and regulatory requirements.

Collector Substation Removal Assumptions & Clarifications

17. Xcel Energy's estimated cost assumes a removal of all steel structures, equipment, security fence, and control cables within and immediately adjacent to the collector substation. Concrete foundations will be removed to a depth of 48" below final grade. All materials below a depth of 48" will remain in place. Removed materials will be separated for proper disposal or salvage prior to being hauled away.
18. Xcel Energy assumes the substation's aggregate surfacing will be removed and distributed on surrounding aggregate surfaced public roads.
19. All disturbed soils will be reseeded and stabilized with an approved seed mix as required by land use and regulatory requirements.

