1898 & CO.
PART OF BURNS & MCDONNELL

WIND FARM DECOMMISSIONING PLAN FOR UNION COUNTY

MIDAMERICAN ENERGY COMPANY

SOUTHERN HILLS WIND PROJECT
182523

REVISION 2
June 26, 2025

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LIST OF ABBREVIATIONS

Abbreviation	Term/Phrase/Name
BMP	Best management practice
kV	Kilovolt
MidAmerican	MidAmerican Energy Company
MW	Megawatt
O&M	Operations and maintenance
Project	Southern Hills Wind Project assets in Union County, Iowa
Project Site	Location of the Project in Union County, Iowa
Study	Decommissioning Plan / Decommissioning Obligation Cost Evaluation

Table A-1: Estimated Cost for Wind Turbine Decommissioning (2025$)

Southern Hills 1 Wind Project - Union County

Decommissioning Cost Evaluation

Wind Turbine Removal Cost		
Removal	$	3,172,000
Hauling & Disposal	$	438,000
Total	**$**	**3,610,000**
Scrap Value	**$**	**(4,307,000)**
Wind Turbine Foundation Removal Cost		
Removal	$	255,000
Hauling & Disposal	$	303,000
Total	**$**	**558,000**
Scrap Value	**$**	**-**
Collection System Removal Cost		
Removal	$	21,000
Hauling & Disposal	$	1,000
Total	**$**	**22,000**
Scrap Value	**$**	**-**
Transmission Line Removal Cost		
Equipment Removal	$	3,000
Hauling & Disposal	$	1,000
Total	**$**	**4,000**
Scrap Value	**$**	**(3,000)**
Civil Works Removal Cost		
Removal	$	271,000
Hauling & Disposal	$	502,000
Grading & Seeding Costs	$	70,000
Total	**$**	**843,000**
Scrap Value	**$**	**-**
Other Costs		
Oils & Chemicals Removal & Disposal	$	17,000
Total	**$**	**17,000**

Total Estimated Cost	**$**	**5,054,000**
Owner Indirects (5%)	**$**	**252,700**
Contingency (10%)	**$**	**505,400**
Total Gross Cost	**$**	**5,812,100**
Total Scrap Value	**$**	**(4,310,000)**
Total Net Cost	**$**	**1,502,100**

1.0 Executive Summary

1.1 Introduction

1898 & Co., a part of Burns & McDonnell Engineering Company, Inc. (hereinafter called "1898 & Co."), was retained by MidAmerican Energy Company ("MidAmerican") to conduct a decommissioning cost evaluation for the Southern Hills Wind Project ("Project"). The objective of the Study was to review the Project and to make a recommendation regarding the decommissioning plan for retiring the facility at the end of its useful life.

1.2 Project Overview

The Project is located in Union, Adair, and Adams Counties of Iowa approximately 70 miles southwest of Des Moines (the "Project Site"). This Study includes only those assets located in Union County. The Project has a total nameplate capacity of approximately 135.9 megawatts ("MW") and includes 9 Vestas V110-2.0/2.2MW, and 27 Vestas V136-4.2/4.3MW wind turbine generators.

The overall Project configuration that was used as the basis for this Study is shown in Appendix B.

1.3 Results

The total cost to decommission the Project at the end of its useful life, based on the assumptions noted herein, is presented in the table below. It is expressly noted that while costs are presented both in total and per turbine, a change in the quantity of turbines may not cause the total decommissioning cost to increase or decrease linearly by the per turbine cost due to non-scalable differences in balance-of-plant costs and other similar factors.

Table 1-1: Decommissioning Cost Summary (2025$)

Turbine Layout	Gross Cost	Scrap Cost	Net Cost	Net Cost per Turbine
9 x V110-2.0/2.2MW 27 x V136-4.2/4.3MW	$5,812,100	($4,310,000)	$1,502,100	$41,700

2.0 Project Overview

2.1 Project Summary

1898 & Co. was retained by MidAmerican to conduct a decommissioning cost evaluation for the Southern Hills Wind Project. The objective of the Study was to review the Project and to make a recommendation regarding the decommissioning cost and plan for retiring the facility at the end of its useful life.

The Project is located in Union, Adair, and Adams Counties of Iowa approximately 70 miles southwest of Des Moines (the "Project Site"). This Study includes only those assets located in Union County. The Project has a total nameplate capacity of approximately 135.9 megawatts ("MW") and includes 9 Vestas V110-2.0/2.2MW, and 27 Vestas V136-4.2/4.3MW wind turbine generators.

2.2 Methodology

When it is determined that the Project should be retired, the above-grade steel structures and turbine nacelles are assumed to have significant scrap value to a salvage contractor, offsetting a portion of the cost to remove these items. The Project will also incur costs for removal and disposal of the blades, foundations, and other Project facilities as well as for the restoration of the site following the removal of salvageable equipment.

The decommissioning cost estimates provided herein include the costs to return the site to a condition compatible with the surrounding land, similar to the conditions that existed before development of the Project. Included are the costs to retire the power generating equipment that is part of the Project as well as the costs to retire the Project's balance-of-plant facilities. All equipment, structures, and supporting facilities are assumed to be removed to a depth of 4 feet below grade in accordance with Union County Decommissioning Plan.

2.3 Site Visit

1898 & Co did not visit the Project Site as part of this Study. The contents of this evaluation are based exclusively upon desktop analysis by 1898 & Co.

3.0 Project Description

The following sections provide an overview of the Project facilities.

3.1 Wind Turbines

The Project consists of 9 Vestas V110-2.0/2.2MW, and 27 Vestas V136-4.2/4.3MW wind turbines resulting in a total nominal capacity of approximately 135.9 MW.

Each wind turbine includes a conical tubular steel tower which supports the turbine nacelle on top. The nacelle of each turbine includes three blades mounted to the nacelle rotor. The Vestas V110-2.0/2.2MW model has a 95-meter steel tower and a total rotor diameter of approximately 110 meters. The Vestas V136-4.2/4.3MW model has a 105-meter steel tower and a total rotor diameter of approximately 136 meters.

3.2 Wind Turbine Foundations

Each wind turbine tower is supported by a concrete foundation. Foundation design drawings were not provided for review. As such, foundation removal costs were assumed based on 1898 & Co.'s experience with similar projects. For each turbine type, 1898 & Co. assumed the foundation consisted of a circular concrete pedestal supported by a cylindrical base.

All underground facilities for the Project are to be removed to a depth of at least 4 feet below grade in accordance with the Union County Decommissioning Plan. Thus, the concrete pedestal and base are to be removed down to 4 feet below-grade and backfilled as part of the decommissioning, and the remaining foundation will be abandoned in place.

3.3 Access Roads

Each wind turbine has an access road to support construction and allow for vehicle access to facilitate inspections and maintenance of the turbines and associated equipment during operation. It was assumed that each turbine has a quarter-mile of access road which are assumed to be surfaced with approximately 8 inches of crushed rock with a final width of approximately 16 feet. Approximately 9.0 miles of access roads are assumed to be removed, de-compacted, and seeded as part of this Study.

3.4 Collection System

Each wind turbine generates three-phase electrical power that is transformed to 34.5 kilovolts ("kV") via a pad-mounted transformer located at the base of each wind turbine. Power from each transformer is delivered through one of the Project's underground power collection circuits to the on-site collector substation.

All cables were assumed to be buried at a minimum depth of 4 feet below grade. At this depth, all cables (including both power and communication cabling) are assumed to remain in place after the Project is decommissioned as they exceed the depth requirement set forth in the Union County Decommissioning Plan. As such, the only costs incurred in the Study from the collection system will be the removal and disposal of the above-grade junction boxes and pad-mounted transformers. However, if the demolition contractor deems the salvageable value of the collector system cabling to be greater than the cost for removal, the contractor may elect to remove the cabling at its own cost.

3.5 Project Substation

Power from each wind turbine is delivered via underground power collection circuits to an on-site collector substation where it is transformed to 345 kV via one main power transformer. Generic substation drawings were provided for review, as such the substation removal costs were assumed based on 1898 & Co.'s prior experience. The substation is assumed to consist of multiple disconnect switches, lightning masts, control building (including firewall), and other ancillary equipment. All above-grade equipment within the perimeter fence of the substation is assumed to be removed, and all below-grade equipment to a depth of 4 feet (per the Union County Decommissioning Plan) is assumed to be removed. Costs for removal of the Project substation are not included in this Study as the substation is located in Adair County.

3.6 Transmission Line

The Project output is transformed to 345 kV at the on-site collector substation. The Project is interconnected to the local utility via jumper cables, which transfers power over the Project substation fence to the adjacent utility substation; no other transmission lines are included for removal in the Study.

All above-grade equipment associated with the transmission line (up to the point of change of ownership) will be removed as part of decommissioning, including structures, conductors, and cabling. All salvageable materials will be loaded onto trucks and hauled to a scrap yard for recycling. All other materials will be loaded onto trucks and hauled to a local landfill for disposal.

All below-grade equipment and foundations associated with the transmission line will be removed to a depth of 48 inches below grade in accordance with the Union County Decommissioning Plan. Voids left from the removal of the below-grade foundations / structures will be backfilled with surrounding soils and fine graded to provide suitable drainage.

3.7 Maintenance/Warehouse Facility

The Project includes an operation and maintenance ("O&M") facility on the Project site but decommissioning costs were not included in the Study.

3.8 Meteorological Equipment

No meteorological towers are present on site.

4.0 Decommissioning

4.1 Decommissioning Plan

When it is determined that the Project should be retired, the Project equipment will be removed as noted herein. It was assumed that the Project will incur costs for removal and disposal of the wind turbines, wind turbine foundations, and other Project facilities, as well as for the restoration of the site following the removal of equipment. However, the above-grade steel, aluminum, and copper equipment is expected to have significant scrap value to a salvage contractor that will offset some decommissioning costs. 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 wind turbine blades will be removed from the nacelle using a crane, cut into manageably-sized sections, loaded onto a trailer, and hauled to a local landfill for disposal. The wind turbine blades are constructed from a composite material that was assumed to have no salvage value at the time of decommissioning. The turbine nacelles will be removed from the towers with a crane and loaded onto a trailer. The towers will be disassembled and loaded onto a trailer as well. The nacelle and towers typically will then be hauled off to a scrap yard for recycling. The cost estimate presented in this report that includes scrap includes the cost to haul the turbines and nacelles to the scrap yard.

All concrete wind turbine foundations will be removed to a depth of 4 feet below grade in accordance with the Union County Decommissioning Plan, the portions of the foundation that are greater than 4 feet below grade will be abandoned in place. The recovered concrete will be demolished, loaded into a dump truck, and hauled to a local landfill for disposal. Voids left from the removal of the concrete footings will be backfilled with surrounding subsoil and topsoil and fine graded to provide suitable drainage.

The Project substation will be removed from the site, including all above-grade equipment (e.g., transformers, breakers, busbars), buildings, crushed rock surfacing, and fencing. All below-grade equipment (e.g., foundations) will be removed to a depth of 4 feet below grade in accordance with the Union County Decommissioning Plan. The Project substation is located in Adair County so the costs for removal are not included in this Study.

All crushed rock surfacing will be removed from the Project's access roads. Areas where crushed rock surfacing has been removed will be fine graded to provide suitable drainage. In right-of-way and non-agricultural areas, the ground will be seeded to prevent erosion. The removed crushed rock will be loaded into dump trucks and hauled offsite. Crushed rock can be recycled and reused and typically has a salvage value as a commodity equal to or greater than the cost to haul to an end user. However, for the purpose of this Study, the cost to remove the crushed rock, load it into dump trucks, and haul it offsite will be at the expense of the Project.

Prior to commencing activities associated with foundation removal, crushed rock surfacing removal, or any other earthwork, an approved erosion control plan will need to be developed by the demolition contractor. Best management practices ("BMPs") applicable at the time that decommissioning activities occur will need to be implemented by the contractor for control of storm water runoff. Since decommissioning activities are not anticipated to occur for 20 years or more, BMPs may differ from current standards. However, if decommissioning takes place in the near future, 1898 & Co. would anticipate BMPs such as silt fencing and proper compaction, seeding, and mulching practices to be implemented. BMPs will need to be reviewed by

the contractor prior to commencing decommissioning activities to determine appropriate BMPs at that time. To the extent necessary, permits relating to decommissioning activities will need to be obtained. The costs included in this Study are expected to be sufficient for a demolition contractor to develop suitable plans for the control of surface water drainage and water accumulation and, where appropriate, for backfilling, soil stabilization, compacting, and grading prior to commencing demolition activities.

All disturbed areas at the site will be returned to as close to predevelopment conditions as possible. This will allow all land disturbed by the construction of the Project to be returned to its predevelopment use at the end of the useful life of the Project. The cost estimates provided in the following section include activities and costs to return the land to a condition suitable for agricultural use subsequent to decommissioning of the Project.

The activities associated with the decommissioning plan described above are anticipated to be completed within a 6-month timeframe, according to the following estimated schedule:

- Decommissioning Planning & Permitting: 2 months
- Demolition: 3 months
- Site Restoration: 1 month

Additional time may be required for post-decommissioning activities, including monitoring of new vegetation. However, this timetable and the cost estimates below should provide sufficient time and budget to comply with any applicable health and safety regulations.

4.2 Decommissioning Costs

The total cost to decommission the Project at the end of its useful life, based on the assumptions noted herein including the original construction methods of the Project, is presented below; a detailed breakdown of these costs is included in Appendix B. It is expressly noted that while costs are presented both in total and per turbine, a change in the quantity of turbines may not cause the total decommissioning cost to increase or decrease linearly by the per turbine cost, due to non-scalable differences in balance-of-plant costs and other similar factors.

Table 4-1: Decommissioning Cost Summary (2025$)

Turbine Layout	Gross Cost	Scrap Cost	Net Cost	Net Cost per Turbine
9 x V110-2.0/2.2MW 27 x V136-4.2/4.3MW	$5,812,100	($4,310,000)	$1,502,100	$41,700

4.3 Decommissioning Assumptions

In addition to other assumptions noted herein, the following general assumptions were utilized for the study's decommissioning cost estimates.

1. All costs are presented in current (2025) dollars using the site cost index of 93.8% for Creston, Iowa.
2. The decommissioning estimate is based on details and equipment defined through conversations with and documentation provided by MidAmerican. Where project details were not available, 1898 & Co. based removal costs on prior experience with similar projects.

3. The Southern Hills Wind Project includes turbines in three counties; however, only the turbines located in Union County, Iowa are included for removal as part of this Study. As such, a portion of the decommission costs for the common facilities is included to account for the associated turbines located in Union County.
4. An approved disposal facility will be used for the disposal of debris from decommissioning activities. For purposes of this Study, disposal costs are based on the Metro Park East Landfill being used for disposal of demolition waste. The hauling distance to this landfill is approximately 70 miles from the Project site, and the cost for disposal of debris and concrete is $40 per ton.
5. An approved facility will be used for the disposal of the wind turbine blades. For the purposes of this Study, recycling costs are based on REGEN Fiber being used for the recycling of the wind turbine blades. The hauling distance is approximately 200 miles, and the cost of recycling the wind turbine blades is $75 per ton.
6. Where applicable, scrap values are based upon an average of monthly American Metal Market prices for February 2023 through January 2025 (i.e., one calendar year). These values include the cost to haul the scrap via truck and/or rail to the major market which provides the best price. Based on hauling and rail prices, the best market at the time of this Study is Chicago, Illinois. Prices used include:
    a. Steel scrap value is $219.10 per net ton.
    b. Copper scrap value is $3.23 per pound.
    c. Aluminum scrap value is $0.46 per pound.
7. Fluids located within the turbine nacelle, including oils, fuels, solvents and process chemicals, were assumed to be drained and disposed of offsite as part of the decommissioning.
8. It was assumed that all containers and chemical storage tanks owned by the Project will be drained and the material disposed of prior to demolition; these costs are excluded from the estimate.
9. All underground equipment will be removed to a depth of 4 feet below grade in accordance with the Union County Decommissioning Plan. All non-hazardous structures or foundations greater than 4 feet below grade will remain and are excluded from the decommissioning estimate.
10. Access roads, parking areas, storage yards, crane pads, and all other areas constructed from asphalt, concrete, gravel, or compactable fill will be removed, recycled, and reclaimed.
11. Crushed rock from roads, balance-of-plant areas, and turbine foundation areas were assumed to have value as a commodity for reuse. The cost to remove the crushed rock, load it into dump trucks, and haul it offsite is assumed to be at the expense of the Project.
12. It was assumed that all disturbed areas will be restored to original grade, reclaimed with native soils, seeded, and replanted with native vegetation consistent with the surrounding land use.
13. Transformers will be removed and processed on-site. The cost to drain and dispose of transformer oil off-site is included in the decommissioning cost estimate.
14. The Project laydown yard utilized during construction of the Project was assumed to have been previously reclaimed and restored; no further grading, seeding, or other restoration of the laydown yard is included in this estimate.
15. Cost estimates include 5 percent indirects and 10 percent contingency.
16. Market conditions may result in cost variations at the time of contract execution