

**Appendix E – Preliminary Decommissioning Plan**

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PART OF BURNS & MCDONNELL



# BLUE LAKE BATTERY ENERGY STORAGE SYSTEM PROJECT DECOMMISSIONING PLAN

XCEL ENERGY

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## LIST OF ABBREVIATIONS

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### Abbreviation

1898 & Co.

BESS

BMPs

MWac

MWdc

Project

Study

Xcel

### Term/Phrase/Name

1898 & Co., a part of Burns & McDonnell Engineering Company, Inc.

Battery Energy Storage System

Best Management Practices

Megawatts Alternating Current

Megawatts Direct Current

Blue Lake BESS Project

Decommissioning Cost Evaluation

Xcel Energy

# 1.0 Introduction

## 1.1 Study Overview

1898 & Co., a part of Burns & McDonnell Engineering Company, Inc. (hereinafter called “1898 & Co.”) was retained by Xcel Energy (“Xcel”) to conduct a decommissioning cost evaluation (the “Study”) for the proposed Blue Lake Battery Energy Storage System (“BESS”) Project (the “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 proposed Project will be located in Scott County, MN, approximately 15 miles Southwest of Minneapolis, MN. Its total nameplate capacity is approximately 135.5 megawatts (“MW”) and approximately 542 megawatt hours alternating current (“MWHac”). The facility is expected to achieve commercial operation in 2027.

## 1.3 Applicable Regulation

Decommissioning obligations are not currently regulated in applicable state or federal law with regard to requirements for decommissioning. This report assumes that (i) all above-grade structures associated with the Project will be removed and (ii) all Project equipment, structures, and supporting facilities will be removed to a depth of 48 inches below grade, although it is noted that this threshold is presented as a typical industry benchmark for similar studies and not as a suggested limitation.

## 1.4 Site Visit

1898 & Co. did not visit the Project as part of this Study. The contents of this evaluation are based on design drawings and desktop analysis by 1898 & Co.

## 2.0 Project Overview

### 2.1 General

The decommissioning cost evaluation for the Study was prepared by 1898 & Co. based on the following assumptions regarding the Project facilities. The overall Project configuration that was used as the basis for this Study is shown in Appendix A.

### 2.2 BESS System

The Project is expected to utilize approximately 128 Sungrow ST5015UX-4H-US BESS enclosures in the beginning of life, and 156 enclosures at the end of life. For the purposes of this study it is assumed 156 enclosures will be decommissioned at the end of life. Each BESS enclosure was estimated to weigh approximately 93,696 pounds and have approximate dimensions of 19.8 feet by 9.5 feet. Each BESS enclosure is assumed to contain 48 Lithium Iron Phosphate battery modules.

The fenced area of the Project encompasses approximately 4 acres; approximately 1,753 linear feet of fence was assumed to be installed. The land within the perimeter fencing is predominantly agricultural. Approximately 25% of this area was assumed to be disturbed and require grading and reseeding as part of decommissioning.

All above-grade equipment within the perimeter fence of the BESS will be removed as part of decommissioning, including the enclosures, racks, and fencing. All salvageable materials will be loaded onto trucks and hauled to a scrap yard for recycling. All other non-recyclable materials will be transported to approved disposal facilities.

All below-grade equipment and foundations associated with the BESS system will be removed to a depth of 48 inches below grade. Voids left from the removal of the below-grade foundations will be backfilled with surrounding soils and fine graded to provide suitable drainage.

### 2.3 Transformer Stations

The transformers generally sit on small concrete footings or concrete ballasts on steel piles within the array. A quantity of 32 MVS5140-LS-US 34.5kv/0.69kv Dry-Type transformers across 32 transformer stations were assumed to be installed at the beginning of life and 39 transformer stations were assumed to be removed as part of decommissioning at the end of life.

All above-grade equipment associated with the transformer stations will be removed as part of decommissioning. All salvageable materials will be loaded onto trucks and hauled to a scrap yard for recycling. All other non-recyclable materials will be transported to approved disposal facilities.

All below-grade equipment and foundations associated with the inverter stations will be removed to a depth of 48 inches. Voids left from the removal of the below-grade foundations will be backfilled with surrounding soils and fine graded to provide suitable drainage.

### 2.4 Electrical Cabling

The Project will utilize wiring behind the panels, wiring running from the converter boxes to the inverters, as well as below-grade cabling running from the inverters to a substation. The substation is not assumed to be removed as part of the decommissioning and is not included in this Study. All above-grade electrical cabling supporting the Project was assumed to be removed.

Below-grade cabling was assumed to be buried at a minimum depth of 48 inches below grade. At this depth, all cables are assumed to remain in place after the Project is decommissioned as they exceed the assumed depth requirement. However, if the demolition contractor deems the salvageable value of the cabling to be greater than the cost for removal, the contractor may elect to remove the cabling at its own cost.

## 2.5 Access Roads

The Project will utilize access roads to support construction and allow for vehicle access to facilitate inspections and maintenance of the BESS panels and associated equipment during operation. Access roads were assumed to be 20-foot wide and be surfaced with 6 inches of crushed rock. A total of 1,938 linear feet of access roads was assumed to be installed, including for entry roads and substation roads.

All crushed rock surfacing will be removed from the Project's access roads. 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 was assumed to be at the expense of the Project.

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.

## 2.6 Project Substation

Power from the BESS project is delivered via power cables to an on-site collector substation, where it is transformed to a higher voltage. The substation was assumed to consist of one main power transformer, one high-voltage breaker, and other typical equipment, including disconnect switches, lightning masts, control building, and other ancillary equipment. Weights, dimensions, and specifications for this equipment were each assumed by 1898 & Co. for purposes of this Study.

All above-grade equipment within the perimeter fence of the substation will be removed as part of decommissioning, including transformers, breakers, buildings, crushed rock surfacing, and fencing. All salvageable materials will be loaded onto trucks and hauled to a scrap yard for recycling. All other non-recyclable materials will be transported to approved disposal facilities.

All below-grade equipment and foundations associated with the substation will be removed to a depth of 48 inches below grade. Voids left from the removal of the below-grade foundations will be backfilled with surrounding soils and fine graded to provide suitable drainage.

## 3.0 Decommissioning Plan

### 3.1 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 BESS project components, 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 a portion of the 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.

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, although if decommissioning takes place in the near future, 1898 & Co. would anticipate BMPs such as silt fencing, 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 the 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 as well as for backfilling, soil stabilization, compacting, and grading prior to commencing demolition activities.

As part of decommissioning, all disturbed areas at the site will be returned to as close to predevelopment conditions as practicable. The cost estimates provided herein include activities and costs to return the land to a condition suitable for industrial 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, including approximately two months for planning, and permitting activities; approximately three months for demolition; and approximately one month for site restoration. 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.

### 3.2 General 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 a site cost index of 91.1% for Minneapolis, MN.
2. The estimate is based on information provided by Xcel Energy, including the following design information for the Project: BESS facility layout contract exhibits and Original Manufacturer equipment datasheets. Other Project-related information was assumed by 1898 & Co.
3. An approved disposal facility will be used for the disposal of debris from decommissioning activities. If an approved disposal facility such as (Dem-Con Shakopee Landfill) is used for the disposal of demolition waste, the hauling distance is approximately 10 miles from the Project and the cost for disposal of debris and concrete is \$55.21 per ton.

4. An approved recycling facility will be used for the disposal of Lithium Batteries from decommissioning activities. The cost of recycling lithium batteries is assumed to be \$0.75 per pound and included in the estimate. The cost to transport the batteries to a recycling center was not included in the estimate.
5. Scrap values are based upon an average of monthly American Metal Market prices; the most recent 12-month period (March 2024 through February 2025) was used for this estimate. These values include the cost to haul the scrap via truck and/or rail to the major market which provides the best market at the time of this Study is Chicago, Illinois. Prices used include:
  - a. Steel scrap value of \$233.55 per net ton
  - b. Copper scrap value of \$3.23 per net pound
  - c. Aluminum scrap value of \$0.46 per net pound
6. Any fluids were assumed to be drained from their containers and the contents disposed of prior to demolition; these costs are excluded from the estimate. No allowances are included for unforeseen environmental remediation activities.
7. All underground equipment will be removed to a depth of 48 inches below grade. All structures or foundations greater than 48 inches below grade will remain and are excluded from the decommissioning estimate.
8. 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.
9. 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.
10. The Project laydown yards utilized during construction of the Project were assumed to have been previously reclaimed and restored; no further grading, seeding, or other restoration of these areas is included in this estimate.
11. Cost estimates include 10 percent indirect and 20 percent contingency.
12. Market conditions may result in cost variations at the time of contract execution.
13. Valuation and sale of land, as well as replacement generation costs, are excluded from this scope.

## 4.0 Results

The total cost to decommission the Project at the end of its useful life, based on the assumptions noted herein, is estimated to be approximately \$20,207,500; a detailed breakdown of these costs is included in Table 4-1 below.

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

<b>Project Facilities</b>	<b>Cost</b>
BESS Array	\$16,252,000
Roads	\$11,500
Perimeter Fencing	\$25,900
Concrete / Debris	\$22,500
Project Substation	\$99,700
Site Restoration	\$3,500
<b>Total Estimated Cost</b>	<b>\$16,415,000</b>
Owner Indirects (10%)	\$1,641,500
Contingency (20%)	\$3,283,000
<b>Total Gross Cost</b>	<b>\$21,339,500</b>
Estimated Scrap / Salvage Value	\$(1,132,000)
<b>Total Net Cost</b>	<b>\$20,207,500</b>

## APPENDIX A - PLANT AERIAL

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Blue Lake BESS  
Shakopee, MN  
Xcel Energy



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