



**SOMERSET SOLAR, LLC**

**MATTER NO. 22-00026**

**§900-2.24 Exhibit 23 Revised**

**Site Restoration and Decommissioning**

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## ACRONYM LIST

%	percent
§	Section
AES	The AES Corporation, Inc.
LOD	limit of disturbance
MW	megawatt
NYCRR	New York Codes, Rules, and Regulations
NYSAGM	New York State Department of Agriculture and Markets
ORES	Office of Renewable Energy Siting
PV	photovoltaic
SPCC	Spill Prevention Control and Countermeasure Plan
USC	Uniform Standards and Conditions

## GLOSSARY TERMS

<b>Applicant</b>	Somerset Solar, LLC, a subsidiary of The AES Corporation, Inc. (AES), the entity seeking a siting permit for the Facility Site from the Office of Renewable Energy Siting (ORES) under Section (§) 94-c of the New York State Executive Law.
<b>Application</b>	Application under §94-c of the New York State Executive Law for review by the ORES for a Siting Permit.
<b>Facility</b>	The proposed components to be constructed for the collection and distribution of energy for the Somerset Solar Facility, which includes solar arrays, inverters, electric collection lines, and the collection substation.
<b>Facility Site</b>	The limit of disturbance (LOD) that will be utilized for construction and operation of the Facility, which totals about 700 acres on the Project Parcels in the Town of Somerset, Niagara County, New York (Figure 2-1).
<b>Project Parcels</b>	The parcels that are currently under agreement with the Applicant and Landowner, totaling about 1,784 acres in the Town of Somerset, Niagara County, New York, on which the Facility Site will be sited (Figure 3-1).
<b>Project Site</b>	The acreage of the Project Parcels under agreement between the Applicant and the Landowner, consisting of approximately 1,396 acres, in which the Applicant has performed diligence, surveys and assessments in support of Facility design and layout.

**EXHIBIT 23                    SITE RESTORATION AND DECOMMISSIONING**

This exhibit addresses the requirements specified in 19 New York Codes, Rules and Regulations (NYCRR) Section (§) 900-2.24 regarding site restoration and decommissioning.

The Somerset Solar Facility (Facility) Decommissioning and Restoration Plan (Appendix 23-A) has been developed to lay out the process by which the land within the Facility Site is to be reclaimed and returned to pre-construction conditions. At that time, Facility components will be removed, recycled, to the maximum extent practicable, and/or disposed of safely. The Applicant also is committed to providing financial assurance to the Town of Somerset that will cover the net decommissioning and site restoration costs, in the unlikely event that the Applicant is unable to complete decommissioning of the Facility. The Facility has been designed to comply with the Decommissioning and Restoration Plan (Appendix 23-A), 19 NYCRR § 900-2.24, and the Uniform Standards and Conditions (USCs).

While it is possible that the use of this site for solar energy production may be extended or additions to the site may be completed at a future date, at this time the Applicant has developed a conceptual Decommissioning and Site Restoration Plan (Appendix 23-A) for the Facility to return the land to productive farmland or fallow farmland, similar to what is currently found on the Facility Site. The intent is for the Facility to be reclaimed and returned to conditions that are as close as possible to the pre-construction conditions. Utility-scale solar panels available on the market today, like the panels proposed for this Facility, are typically designed to last for a minimum of 35 years. The Applicant will continually maintain the solar panels throughout the useful life of the Facility. The Facility Site has been selected for its ability to harness solar energy in tandem with landowners willing to participate, and ease of access to transmission facilities. While the Decommissioning and Restoration Plan outlines standard procedures for decommissioning of the Facility, the Applicant intends for the Facility to be operational for several decades. In the event that the Facility permanently ceases operations at the end of its useful life, or due to an unlikely, unforeseen circumstance prior to the end of its useful life, the Decommissioning and Restoration Plan will be implemented to remove, recycle and/or dispose of equipment and related materials to restore the Facility Site to its pre-construction condition to allow for continued agricultural activities and open space use by the landowners. The Applicant also is committed to providing financial assurance that will cover the net decommissioning and site restoration costs, in the unlikely event that the Applicant is unable to complete decommissioning of the Facility. The financial assurance will be allocated to the Town of Somerset to cover the costs associated with the removal and restoration of the Facility.

## **23(a) Performance Criteria for Site Restoration**

A Decommissioning and Site Restoration Plan for the Facility is provided as Appendix 23-A. This plan addresses decommissioning and site restoration in the event the Facility cannot be completed or after the end of the useful life of the Facility. A summary of substantial components of the plan are contained in this section. As described throughout this Application, the Facility is anticipated to operate for 35 years reliably and safely. The 125-megawatt (MW) Facility is proposed to be constructed on the approximately 700-acre footprint for the Facility Site (limit of disturbance, or LOD). The activities described in the Facility Decommissioning and Restoration Plan will be focused within the Facility LOD, rather than the entire 1,396-acre Project Site.

### ***(1) Safety and Removal of Hazardous Conditions***

The contractor(s) engaged to commence the decommissioning process will be required to provide a safety plan prior to mobilizing that includes site safety orientation training for all on-site workers. The contractor(s) also will be required to establish a Spill Prevention Control and Countermeasure (SPCC) Plan.

The only hazardous material to be used by the Facility during operation will be the cooling oil contained in the transformers. That oil will be drained and recycled or disposed. During the decommissioning work, some vehicle fuel and lubricating oils may be present on-site and will be managed in accordance with the SPCC Plan.

### ***(2) Environmental Impacts***

During the decommissioning work the contractor(s) will be required to assign a Health, Safety and Environment Manager to monitor the work in compliance with the authorized Facility permits.

Prior to decommissioning, the Applicant will notify the Office of Renewable Energy Siting (ORES) and the Town of Somerset of its intention to begin decommissioning. The Applicant will engage an environmental consultant to assess the decommissioning activities and potential environmental impacts. The decommissioning work is expected to have an insignificant impact on the environment. The decommissioning work will not involve tree clearing. The Applicant will consult with the landowners regarding their preference for the removal of roads and fences, as may be allowed by federal, state, and local laws at the time of decommissioning.

### ***(3) Aesthetics***

All disturbed areas will be restored to pre-construction conditions during the restoration phase of decommissioning activities. Based on historic land uses of the Facility Site that are present at the time of construction, it is anticipated the Facility may be restored to reflect a mix of pre-construction conditions. Where the decommissioned coal plant lands are located, the land will be restored to similar industrialized conditions that are currently present, including stabilizing through seeding the portions of the Facility located on the landfill and coal storage pile. Where agricultural fields are currently located, those portions of the Facility Site will be restored for potential agricultural purposes, with restoration of agricultural areas to be completed in accordance with New York State Department of Agriculture and Markets (NYSAGM) Guidelines to promote the viability of agriculture as a land use and associated aesthetic for the Facility. If an area disturbed by decommissioning activities is not planned to be used for future agricultural purposes, these areas will be re-seeded using an appropriate native seed mix, resulting in a grass or meadow aesthetic.

### ***(4) Salvage and Recycling***

During decommissioning, the Facility components will be dismantled and removed using conventional construction equipment. Material will be recycled or disposed of safely. Panels and other electrical equipment or the individual components (metal, glass, semiconductor material) will be packaged for collection and returned to a designated facility for recycling. Racking support structures and foundation support posts are expected to be salvaged for steel. Copper from the cabling and the high voltage transformer are expected to be salvaged as raw materials. Electrical cables will be recycled off-site by an approved recycling facility. Electrical and electronic devices, including inverters, transformers, support structures, lighting fixtures and their protective shelters will be recycled off-site by an approved recycler. Metal components of inverters, such as fans and fixtures, will be disposed of or recycled. Gravel and aggregate are expected to be removed and of sufficient quality that it may be re-used, with minimal processing, as construction fill<sup>1</sup>. Fill will be desired for public use and trucking off site is included in the cost. As a last resort, the PV modules will be transported to an appropriate facility for disposal. The Summary

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<sup>1</sup> Road surface material is assumed to be as clean at removal as it is during installation, so material testing is not included. Any future contamination events at the site would be remediated outside of the decommissioning process. All road surface material is of the same size and makeup, so separation will not be required. As shown in the summary report, trucking is included in the unit cost and is not assumed to be covered by others.

Report included as Appendix 3-A, Attachment 3 (Decommissioning Estimate Summary) includes the information to facilitate cross checking salvage quantities and units.

### ***(5) Potential Future Uses***

The lease arrangements approved prior to construction, require the Facility areas be returned to substantially current conditions upon termination of the lease agreements. The parties to the lease may choose to extend the solar lease as the Facility continues to operate effectively.

The parties also may consider repowering the Facility. The cabling systems and tracker structures may provide reuse in situ and allow replacement of PV modules and inverters thereby repowering as a refreshed solar project. The Applicant will obtain any required approvals for repowering.

Upon the Facility area being restored after operations is terminated, the landowners may choose a variety of uses including agriculture or other approved land uses that are permitted per the Town's zoning code at the time of decommissioning. The planned Facility implementation and decommissioning would not inhibit the possible land uses approved for the Project Parcels by the Town's zoning code.

### ***(6) Funding***

During construction, a Construction Performance Bond will be provided by the construction contractor to the Applicant. The Construction Bond will reflect a significant proportion of the total construction cost of the Facility and will ensure the Facility will be fully completed on time and in compliance with all regulatory and contractual requirements. The Construction Performance Bond will be relinquished upon successful completion of the Facility installation and startup.

ORES' regulations require that the Applicant post security in an amount equal to 115 percent (%) of decommissioning costs, an amount sufficient to guarantee removal of the system and site restoration. The Applicant is required to provide decommissioning financial security to protect the Town of Somerset in the unlikely event that the Facility owner does not conduct decommissioning and site restoration on its own. The Plan includes a protocol for removal of panel arrays in the event of abandonment and a net decommissioning/site restoration estimate to be allocated to the Town of Somerset based on the estimated costs associated with removal and restoration of facilities. The Applicant



will post a bond equal to 115% of the estimated decommissioning costs. The Applicant also will re-assess the net decommissioning costs and financial security amount no less than every 5 years to reflect current market conditions and salvage value assumptions, as well as protect against price fluctuations. Decommissioning costs were estimated based on the experience of the cost estimator, Gary Murdock (Appendix 23-B). For estimating, Gary uses average rates for existing work and projects that have been bid on and are based on recent actuals and wage surveys for various areas. Equipment rates are developed in a similar way, with actual costs received from vendors for services sent out for bid.

### ***(7) Decommissioning Schedule***

Decommissioning and removal of Facility components from the Facility area is anticipated to occur within 1 year following discontinuation of operations of the Facility. The removal of equipment will take approximately 6 months, and the reclamation is anticipated to be completed over an additional 2–3 month period, most likely during a summer season that provides drier conditions. The workforce may consist of up to 30 on-site workers sourced primarily locally.

## **23(b) Site Restoration, Decommissioning and Guaranty/Security Agreements on Property Not Owned by the Applicant**

### **Host Landowner Agreements**

As described above, the Facility is anticipated to operate for an operational life of 35 years reliably and safely. The 125 MW Facility is proposed on the 700-acre Facility Site, including the fenced-in area of the Facility. All of the Facility Site parcels are currently under a lease agreement with the current landowners. The land leasing arrangement between the Applicant and the current landowners provides for up to 35 years of operation and could conceivably be extended further if the parties agree. The lease agreements between the Applicant and the host landowners requires the Applicant to decommission the Facility and restore the Facility area as is reasonably practicable to the lands' original conditions (agricultural and industrial land uses) if the lease is terminated or if the lease expires.

### **Host Municipalities Decommissioning and Security Agreements**

The Applicant shall establish a decommissioning surety agreement between the Applicant and the host municipalities. The decommissioning surety agreement shall be compliant with §94-c §900-6.6. The financial security shall be in the form of a bond having a lump sum equal to 115% of the estimated decommissioning costs. The financial security shall remain active until the Facility is fully decommissioned. The bond shall be irrevocable and held by and for the sole benefit of the host municipalities.

The terms of the decommissioning surety agreement will include:

- Designation,
- Designation of the host municipalities as the beneficiaries,
- Conditions under which either host municipality can draw on the financial security, with the intention that either host municipality could access the entirety of the financial security to decommission the Facility,
- Conditions under which the host municipalities realize the salvage value of the Facility,
- Financial security shall be in the form of a bond equal to 115% of the estimated net decommissioning costs, and
- A commitment by the Applicant to re-assess the net decommissioning costs and financial security amount no less than every 5 years to reflect current market conditions and salvage value assumptions. The review will be reviewed by a registered professional engineer in the New York State.

The Town of Somerset Solar Law §205-110 (Permitting requirements for Tier 3 solar energy systems), part D(3) (Decommissioning, Security) requires a decommissioning security amount that is 125% of the cost of removal of the Tier 3 solar energy system and restoration of the property with an escalator of 2% annually for the life of the solar energy system. A comparison of the Town escalation rate compared to the estimated escalation rates for decommissioning and salvage values for the past 35 years is provided in Table 23-1.

**Table 23-1. Comparison of Annual Escalation Rates for Decommissioning and Salvage Values**

Source	Decommissioning	Salvage Value (Metal)
Town of Somerset Solar Law §205-110 D(3) – Decommissioning, Security	2%	Not reported
U.S. Bureau of Labor Statistics <sup>1</sup>	2.87% <sup>3</sup>	Not reported
Bakeoven Solar LLC <sup>2</sup>	Not available	8.5% <sup>4</sup>

1 – U.S. Bureau of Labor Statistics no date

2 – Bakeoven Solar LLC no date

3 – Based on a 35-year look back at inflation rates

4 – Based on extrapolation of reported scrap steel values for the 18 year period of January 2002 through April 2019, and a resulting escalation rate of 325% for the reported period.

### **New York State Department of Agriculture and Markets Decommissioning Requirements**

NYSAGM Guidelines for Agricultural Mitigation for Solar Power Projects (NYSAGM 2019) require that if operation of the Facility is permanently discontinued, the above ground structures and underground utilities, if less than 48-inches deep, shall be removed. All areas intended for agricultural production shall be restored. Environmental monitoring will be required for decommissioning restoration, and NYSAGM shall be notified before the Applicant undertakes decommissioning.

### **23(c) Gross and Net Decommissioning and Site Restoration Estimate**

The Decommissioning and Site Restoration Plan provided as Appendix 23-A provides a gross and net decommissioning and site restoration estimate. The net decommissioning cost estimate considers salvage value and provides a data source for the respective salvage values (SteelBenchmark no date). The Decommissioning and Restoration Plan considers the removal of all Facility components up to 4 feet below grade on agricultural lands, up to 3 feet below grade in non-agricultural land, and removal and restoration of access roads, including culverts built as part of Facility construction. The gross cost estimate includes a 15% contingency cost.

All decommissioning costs are estimated in the Decommissioning and Restoration Plan for year 2022 and are outlined in Appendix 23-A, Attachment 2, Table A-1. These costs include any associated overhead and/or markup, but are not called out separately in the worksheet.

Decommissioning does not include any design costs, and permitting costs are anticipated to be minimal.

The Net Decommissioning Costs are estimated in the Decommissioning and Site Restoration Plan for 2022 costs as outlined in Appendix 23-A, Attachment 2, Table A-1.

## References

Bakeoven Solar LLC. No date. Scrap Steel Value, Historical Analysis. 3 pp.

New York State Department of Agriculture and Markets (NYSAGM). 2019. NYS DAM Guidelines for Solar Energy Projects - Construction Mitigation for Agricultural Lands (Revision 10/18/2019). Available online at:

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