

**South Ripley Solar Project
Matter No. 21-00750**

**Decommissioning
and Site Restoration Plan**

Supplement

2022

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1.0 Introduction

ConnectGen Chautauqua County LLC (ConnectGen), a direct subsidiary of ConnectGen LLC, proposes to construct and operate the South Ripley Solar Project (Project) in Chautauqua County, New York. The Project would consist of an up to 270-megawatt (MW) photovoltaic (PV) energy system and 80 MW-hour battery energy storage system (BESS) located in the Town of Ripley. The proposed Facility Site, which includes the area where all components will be located, will have an estimated limit of construction activity of approximately 1,269 acres.

Proposed Facility components will include:

- PV panels
- access roads
- buried and overhead electrical collection system
- inverters
- construction staging/laydown areas
- collection substation
- POI switchyard
- BESS
- O&M storage facility

Project construction is expected to begin in the third quarter of 2022 and is expected to take 12-18 months to complete. The Project is expected to reach commercial operation by the end of 2023. ConnectGen expects the Project to operate up to 35 years before being decommissioned.

This Decommissioning and Site Restoration Plan (Plan) will be updated prior to construction to reflect the final design of the Facility. The Plan will additionally be updated every five years upon project operation to reflect any changes in market rates and prices, and regulatory requirements, as well to consider any new developments in technology and site restoration methods.

1.1 Purpose of the Plan

The purpose of this Plan is to describe:

- The potential future use and aesthetics of the Project Site beyond its initial contract period;
- The decommissioning activities and schedule, including the location and timing of site rehabilitation and restoration for areas disturbed by the Project, and the management of excess materials and waste during dismantling and decommissioning of the Project;
- Potential negative environmental impacts due to decommissioning and their mitigation measures;
- Site safety and security during decommissioning;
- Notification to inform the public of Project decommissioning;

- Decommissioning costs and financial assurances; and
- The local and state permits and approvals which may be required at the time of decommissioning.

2.0 Probable Future Use of the Facility Site

The Project is anticipated to have an operational lifespan up to 35 years. At the end of the project lifespan, the Project components are expected to be decommissioned, as described below. However, if there is a continued local, state, or federal need for renewable energy production at the site and Project economics remain viable at the end of the Project lifespan, the facility may be “repowered” with new technology and continue operating for an extended period. A repower of the system would require additional or updated land agreements, state permitting approval, and renewed local agreements not covered under this Application.

Although the future land use of the Facility Site cannot be predicted with any amount of certainty, it is most probable that after decommissioning the majority of the Facility Site will be returned to its former agricultural land use. Therefore, this Plan has conservatively assumed that the future site uses will be primarily agricultural.

3.0 Noticing

The Applicant will provide notification to the Town, County, impacted landowner(s), and all other required parties at least two weeks prior to the commencement of any decommissioning activities or site restoration. Notification may be in the form of letters, newspaper notices, and updates on the Project website.

4.0 Environmental Protection Measures

Decommissioning activities could result in environmental impacts similar to those that occur during the construction phase. For example, there is the potential for disturbance (e.g., erosion and sedimentation) to adjacent watercourses or other sensitive environmental features. As such, many of the mitigation measures, management practices, and permitting requirements applied during construction would be applied during decommissioning, including construction requirements outlined in the NYSDAM Guidelines for Solar Projects. This would include, as appropriate, erosion and sediment control plans, air quality and noise mitigation requirements, traffic management plans, spill prevention control and containment plans, and permits for work in wetlands and waterbodies.

Erosion control and stormwater management during site reclamation will utilize similar measures and best management practices (BMPs) outlined in the Project’s stormwater pollution prevention plan (SWPPP) and in accordance with New York State Standards and Specifications for Erosion and Sediment Control in order to maintain downstream water quality and manage stormwater runoff during decommissioning of the Project. Selection and design of erosion and sedimentation controls will account for climate, topography, soils, and vegetative cover to be re-established at the Facility Site following decommissioning. Commonly used BMPs

that may be employed at the site during restoration will include:

- Minimize disturbed areas and protect natural features of the site (native soil, topsoil, vegetation, topography, and drainage areas);
- Control stormwater runoff and flow to and from disturbed areas;
- Stabilize soils as quickly as possible following disturbance of work areas;
- Protect slopes and exposed soil;
- Protect culvert inlets, drainage structures, and nearby surface water features;
- Establish perimeter controls around areas to be restored;
- Retain sediment to prevent transport off-site in stormwater runoff; and
- Maintain controls including removal or accumulated sediment during re-establishment of vegetation.

Environmental protection plans, permitting requirements, and other measures will remain in place, as needed, until the site is stabilized to mitigate erosion and silt/sediment runoff and any impacts to natural features or waterbodies located within and adjacent to the Facility Site.

The Applicant will hire an Environmental Monitor (EM) with an understanding of state and federal regulations, BMPs and agricultural practices. The Project's Decommissioning Site Manager will coordinate with the EM to ensure compliance with all applicable requirements during the decommissioning phase. All decommissioning and restoration activities will be performed as per the requirements of applicable state regulations and laws in effect at the time of decommissioning.

5.0 Facility Component Dismantling and Removal

5.1 Decommissioning During Construction (Abandonment of Project)

In the unlikely event that construction cannot be completed and decommissioning of the Project is initiated during the construction phase, all applicable environmental protection and restoration procedures would be followed.

If the site has been cleared and/or excavated in preparation for the installation of Project infrastructure, appropriate environmental protection measures would be implemented to prevent topsoil erosion as the site is decommissioned and stabilized. The extent of work required to decommission the site and the associated environmental protection measures required would be dependent on the progress made at the time of Project abandonment and would be determined through site inspections by qualified specialists.

5.2 Decommissioning After Ceasing Operation

It is assumed that the Project will be decommissioned at the end of its operational lifespan. However, decommissioning may also be triggered if the Facility is non-operational for a continuous period of 12 months or more.

5.3 Pre-Dismantling Activities

At the end of the Project’s useful life, it will first be de-energized and isolated from all external electrical lines. Prior to any dismantling or removal of equipment, staging areas would be delineated at appropriate locations within the Project site, including near the project substation, the battery energy storage system, and inverter locations.

Temporary erosion and sedimentation control measures will be installed prior to decommissioning and in accordance with any project-specific erosion and sediment control plans developed for the decommissioning phase of the Project. These measures will be enacted with consideration of industry standard practices.

5.4 Equipment Dismantling and Removal

The following subsections describe the process that will be undertaken to remove all Project components subject to the exceptions below. This Plan and the associated cost estimate assume that all Project components will be removed during decommissioning.¹

See Section 6 for a description of site rehabilitation and restoration practices that will be implemented during and after equipment dismantling and removal.

Solar Panels, Racking, Piles

The Project will include the installation of solar panels mounted on galvanized steel piles with a steel racking system. Each panel will be disconnected from the electrical system and unfastened from the mounting rack. After hand removal of the panel from the rack, modules will be placed face down on pallets with taped wire ends and tied down for transport via skid-steer to staging location. Modules will then be placed in a vehicle or container for transportation off-site for recycling or disposal, following applicable local, state, and federal regulations.

The racking system that supports the solar panels will be disassembled and removed from the site. The metal racking components may be reused or recycled for future use. Piles will be pulled out of the ground where conditions allow, otherwise cut at a minimum of 4 feet below grade or flush with the top of shallow bedrock.

Consistent with the 2019 NYSDAM Guidelines, all surface components and subsurface components, including those related to foundations will be removed to 4 feet below the soil surface, flush with the top of

¹ Note: Exceptions to this rule may be provided where written requests are received from landowners to leave all or portions of Project components in place for use by the landowner (e.g., access roads and fences).

shallow bedrock if less than 4 feet deep, or to the depth originally installed if less than 4 feet. Where feasible, some Project components that are located below 4 feet depth (such as piles or concrete footings) may be completely removed from the ground.

Electrical Equipment and Collector System

Inverters and inverter step-up transformer skids, including associated piling, will be removed and will be shipped off site for eventual reuse², salvage, or disposal. The piles and associated foundations will be removed from the site and disposed or recycled.

Underground collector cables are anticipated to be installed to a depth greater than 4 feet across the Facility Site and therefore will be left in place. In shallow bedrock conditions, where cable is buried between 2 feet to 4 feet below the ground surface and below the top of bedrock, it will be removed. Overhead power lines will be removed, poles included.

Collection Substation

Unless the Project's Collection Substation is independently required for operation of the local National Grid owned transmission system, all above ground structures and electrical equipment including circuit breakers, chain link fencing, control building(s), overhead lines connecting to the POI, and grounding grid would be removed, and any concrete foundations would be removed to at least 4 feet below grade. All granular materials would be removed from the Project site by a dump truck or placed in a designated on-site area for use by the landowner. Geotextile materials would be sent for disposal. All electrical system components will be taken off-site for reuse, salvage, or disposal.

Point-of-Interconnection

The Point of Interconnection, a new 230 kV 3-ring breaker switching station tapping the existing National Grid 230 kV Dunkirk to South Ripley transmission line will be transferred to National Grid ownership upon the commencement of Project operations and will not be decommissioned under this Plan. National Grid will be responsible for the long-term operations and maintenance decisions associated with the Point of Interconnection and will be responsible for potential removal and restoration.

Access Roads

Unless a host landowner requests that an access road be left in place for use after project decommissioning, all access roads are assumed to be gravel and will be removed by skid steer with sweeper. Material will be transported via dump truck to a staging area to ultimately be sent for disposal.

Water crossings will be removed using appropriate erosion and sediment control (ESC) measures (silt fences, diverting flow, etc.). Once ESC measures are in place, road aggregate and culverts will be removed by

² Decommissioning cost estimate will not assume reuse or resale for reuse of equipment.

excavator.

Storage Infrastructure, Landscape Plantings, and Perimeter Fence

Equipment storage, operation infrastructure, and any associated temporary decommissioning improvements (e.g., temporary construction trailer) used during the decommissioning phase will be removed from the site by truck. Any foundations associated with these facilities would be removed to a depth of at least 4 feet below grade or to the depth originally installed if less than 4 feet. Perimeter fencing would be removed and recycled, re-used, or disposed of. Landscape plantings (trees and shrubs) will be removed where they are sited on active agricultural land³, unless otherwise requested by the landowner.

Energy Storage

BESS containers have assumed salvage value, while batteries and racks have assumed offsite disposal by battery vendor. For safety reasons, BESS modules are removed by hand. It is assumed BESS modules are returned to the battery vendor for disposal, as is typical in BESS supply agreements.

Energy storage facilities and equipment will be removed following the procedures noted above. This includes any energy storage buildings, containers, pads, electrical equipment, inverters, transformers, other ancillary equipment, and all associated foundations and supporting infrastructure.

6.0 Site Rehabilitation/Restoration

6.1 General Rehabilitation/Restoration Practices

At the time of decommissioning, rehabilitation activities will be conducted in accordance with applicable NYSDAM Guidelines and local laws. Restoration measures that will be implemented to restore all disturbed areas to pre-construction conditions will generally include, but will not be limited to, the following:

- Ground disturbance will be minimized to the extent practical.
- The site will be restored to meet adjacent ground contours to the extent practical. This may include regrading access roads and other features in specific areas to restore drainage patterns and reestablish preexisting contours.
- During road removal activities, culverts and drainage infrastructure will also be removed; streams or drainage channels will be restored to preexisting elevations and stabilized in accordance with New York State Erosion Control standard practices.
- Drainage tile that existed within the Project Site at the initiation of the Project and was impacted by the Project will be restored to the same or better condition than existed prior to Project construction.
- Soils stockpiled during site restoration will be used in the restoration and not transported off-site.

³ Agricultural land being actively farmed at the time of Application filing.

Excess soils will be used for balancing and distributing across various locations during restoration.

- Access roads and other areas which may become compacted during operation or decommissioning will be de-compacted. Decommissioning standards established in the NYSDAM Guidelines will be adhered to, where applicable.
- Topsoil will be redistributed to provide substantially similar ground cover as was present within the areas prior to site disturbance.
- Disturbed areas will be seeded by the Applicant with the appropriate species to prevent topsoil erosion, unless seeding is immediately applied by the landowner. In the event the land is intended to return to agricultural production, the re-seeding of the land will be coordinated with the landowner or agriculture producer.
- Site restoration will include proper pre-seeding preparation of the soil surface and topsoil prior to application of approved, native seed mix.
- Areas that were previously not developed or used for agriculture will be revegetated using native plant material and seeds appropriate for the Facility Site or allowed to revegetate naturally.
- Erosion and sediment control measures will be left in place, as needed, until the site is stabilized.

6.2 Watercourses

Any proposed decommissioning activities that could result in impacts to wetlands or surface waters (e.g., culvert removal) would be coordinated with the appropriate agencies, as necessary, to determine applicable guidelines, permitting, and site-specific mitigation and/or remediation plans. Similar mitigation and monitoring measures implemented during construction will be used during the decommissioning of the Project. These mitigation measures are generally described in Exhibits 13 and 14 of the Applicant’s Section 94-c Application and will be more specifically detailed in the site-specific requirements identified in the permits secured by the Applicant.

6.3 Spills

Although strict spill prevention and spill response procedures will be in place throughout the lifespan of the Facility, including decommissioning, there is the potential for small spills to occur. Spill control and countermeasures will be outlined in a Spill Prevention Control and Countermeasures (SPCC) Plan developed in support of the specific decommissioning activities.

Hazardous materials or wastes will not be stored on-site during operation and maintenance of the Project. Provided the Project is operated and maintained in accordance with industry best practices there should be no significant environmental liabilities associated with Project decommissioning.

6.4 Excess Materials & Waste Management and Recycling

Prior to decommissioning of the Project, the Applicant will complete a waste audit and prepare a waste reduction work plan in accordance with any relevant regulations in effect at time of decommissioning.

Typical waste materials and modes of disposal, recycling or reuse are presented in Table 1 below:

Table 1. Typical Facility Decommissioning Waste Materials and Modes of Disposal

Component	Typical Mode of Disposal
Concrete foundations	Crush and disposed off-site.
Solar Panels	Reuse, recycle/salvage, or dispose. Assumed 5% breakage, salvage value as e-waste for crystalline.
Steel racks and mounts	Salvage for reuse or recycle for scrap
Cabling	Assumed salvage value for recycle
Inverter step-up transformers, inverters and circuit breakers	Salvage for reuse, recycle for scrap, or dispose
Granular material	Reuse or dispose in landfill
Oils/lubricants	Oil drained from components and recycled or disposed in accordance with SPCC
Hazardous materials, if applicable	Dispose through licensed hauler at appropriate facility
Geotextile material	Dispose in landfill
Miscellaneous non-recyclable materials	Dispose in landfill
Energy storage batteries	Container has assumed salvage value for reuse, recycle, or dispose. Batteries and racks have offsite disposal by battery vendor.
Inverters	Salvage for reuse or recycle for scrap
Transformers	Salvage for reuse or recycle for scrap

*Note that decommissioning cost estimate does not assume equipment resale for reuse per ORES requirements.

Major pieces of equipment may be recyclable or salvageable. The galvanized-steel racks may be sold for scrap, reused, or recycled. Electrical equipment, including inverter electronics, could either be salvaged for reuse or recycled. Components within transformers and cables would have a high salvage value due to copper, steel, and aluminum content. Concrete from footings could be crushed and disposed off-site with no assumed salvage value. Spent oils, if any, could be recovered for recycling through existing oil reprocessing companies.

As much of the Facility would consist of reusable or recyclable materials, residual waste for disposal would be relatively limited as a result of decommissioning the Facility. Small amounts of registerable waste materials would be managed in accordance with applicable regulations. Residual non-hazardous wastes would be disposed of at a licensed landfill in operation at the time of decommissioning.

7.0 Site Safety and Communications

Site safety and communications programs, plans, and procedures filed by the Applicant as part of the Application or compliance filings during the construction and operation of the Facility will be updated, as needed, for the decommissioning of the Project. These plans will address health and safety, site security,

emergency response procedures, and communications and monitoring.⁴

8.0 Other Approvals

The Applicant will obtain all necessary approvals in effect at the time from appropriate government and regulatory bodies.

9.0 Schedule

Once a decision is made that the Facility is to be decommissioned and all preliminary steps have been taken (e.g., de-energizing), the schedule for the decommissioning process will generally follow the approach outlined in Table 2.

Table 2. Schedule for the completion of major milestones in the decommissioning process.

Milestone	Time Requirement
Mobilization, Site Preparation	4 weeks
PV Array, BESS, collector system, Substation removal	20 weeks
Civil, roads, grading	8 weeks
Restoration	8 weeks
Total	40 weeks

10.0 Decommissioning Costs and Financial Assurance

The decommissioning cost estimate detailed in Table 3 below has been prepared by Joe Farrell and certified by Josh Berkow, a Senior Engineer at Mott MacDonald, on behalf of ConnectGen, and is an opinion of probable costs to decommission a 270-MW AC Solar Facility as of December 2021. The following sources were used in preparing the estimate:

- Mott MacDonald engineering professional experience in the design and construction of energy facilities and are subject to final engineering;
- Mott MacDonald experience supervising the construction of PV facilities and supervising the demolition of other non-PV facilities;
- External construction cost databases such as RS Means;
 - Labor costs have been estimated using the 2020 Occupational Employment and Wage Statistics

⁴ See the Site Security Plan and Safety Response Plan submitted with the Section 94-c Application for general examples of the site safety and communications plans that will be applicable during decommissioning.

from the Bureau of Labor Statistics⁵; The 75th percentile wages for New York State were used;

- Electrician: \$64.89/hr
 - Note, de-energized equipment was assumed to be removed by laborers.
- Carpenter: \$51.77/hr
- Machine Operator: \$65.30/hr
- Bricklayer / Concrete Mason: \$49.304/hr
- Laborer: \$45.85/hr
- Iron Worker: \$61.54/hr
- Foreman: \$97.45/hr
 - First-Line Supervisors of Construction Trades and Extraction Workers, Bureau of Labor Statistics
- Tipping fees and salvage values of valuable recyclable materials (aluminum, steel, copper, etc.);⁶
- Annual inflation has been projected based on the Producer Price Indices (PPI) for Final Demand Construction. PPI is a more appropriate measure than CPI as it is targeted to the specific commodity. It is important to note that inflation has not been assumed for salvage values;
- Project Contingency of 15% applied to the gross decommissioning cost estimate, as required by 94-c regulations;
- Manufacturer and component datasheets; and
- Plans and drawings.⁷

Financial assurance will be provided prior to the start of construction in the form of a letter of credit or other form of security reasonably acceptable to the Town. Per the South Ripley Solar Project Host Community Agreement approved by the Ripley Town Board on December 30, 2021, the amount in the letter of credit or other security will be in the amount of one hundred percent (100%) of the cost of decommissioning, including restoration. In the event of default upon performance of such conditions outlined in this Plan, after proper notice and expiration of any cure periods, the letter of credit or other security shall be forfeited to the Town, which shall be entitled to maintain an action thereon. The letter of credit or other security shall remain in full force and effect until restoration of the property as set forth in the Final Decommissioning and Site Restoration Plan is completed. The Final Decommissioning and Site Restoration Plan, which will be submitted by the Applicant as a compliance filing prior to the start of construction (and will be updated every five years by a professional engineer with solar experience to reflect changing conditions and regulatory requirements), will provide the Town with clear instructions on how to access the financial assurance should it become necessary.

⁵ U. S. Bureau of Labor Statistics. 2020. Occupational Employment and Wage Statistics. New York. Available at: https://www.bls.gov/oes/2020/may/oes_ny.htm

⁶ The scrap value of these materials will be updated, as needed, with each update of this Plan to account for current market rates. Scrap values were estimated using publicly available data from <http://www.scrapmonster.com>. Please note that the Salvage Values associated with the Preliminary Decommissioning and Site Restoration Plan were updated for October 2021 values and are inflated due to the COVID-19 pandemic and material demands. These values are subject to change at the time of decommissioning.

⁷ As presented in the Preliminary Design Drawings submitted with the Section 94-c Application.

Table 3. Decommissioning Cost Estimate

BEGIN CONFIDENTIAL INFORMATION <

<i>A. Decommissioning Costs (Gross)</i>			
Description	Quantity	Unit Price	Total
PV Modules (560 W)	██████	██	██████
PV Inverter(s) (0.1309 MVA)	██	██████	██████
PV Transformer(s)	██	██████	██████
ESS Inverter(s) (2.86MVA)	██	██████	██████
ESS Container(s)	██	██████	██████
ESS Transformer(s) (3.15MVA)	██	██████	██████
Racking Frame (Fixed Tilt)	██████	██	██████
Racking Posts	██████	██	██████
Racking Wiring	██████	██	██████
Underground Cable (LV, MV, Comm)	██████	██	██████
Plant Fence	██████	██	██████
Interconnection Facilities (Substation & Overhead Line)	██	██████	██████
Concrete	██████	██	██████
Gravel	██████	██	██████
Offsite Hauling	██████	██	██████
Offsite Disposal	██████	██	██████
General Conditions (includes all equipment costs)	██████	██████	██████
Re-Seeding	██	██████	██████
Re-Grading	██	██████	██████
Erosion and Sediment Control	██	██████	██████
Contingency	██	██████	██████
Total			██████
<i>B. Salvage Value</i>			
Description	Quantity	Unit Price	Total
PV Modules (560 W)	██████	██	██████
PV Inverter(s) (0.1309 MVA)	██	██████	██████
PV Transformer(s) (0.1309 MVA)	██	██████	██████
ESS Inverter(s) (2.86MVA)	██	██████	██████
ESS Container(s)	██████	██	██████
ESS Transformer(s) (3.15MVA)	██	██████	██████
Racking Frame (Fixed Tilt)	██████	██	██████
Racking Posts	██████	██	██████
Interconnection Steel Structures	██████	██	██████
Interconnection Power & Instrument Transformers	██████	██	██████
Interconnection Disconnect Switches (1 & 3-Phase)	██████	██	██████

Interconnection Primary Conductor	████████	██	████████
Interconnection Pre-Fab Steel Buildings	████████	██	████████
Control Panels	████████	██	████████
Electronic Controls	████████	██	████████
LV Wiring (PV Plant & Interconnection)	████████	██	████████
MV Wiring	████████	██	████████
Chain Link Fence (PV Plant & Interconnection)	████████	██	████████
Total Salvage	████████		
<i>C. Total Net Decommissioning Cost</i>	████████		

> END CONFIDENTIAL INFORMATION

Please refer to Attachment 1 for the detailed decommissioning cost breakdown of all Facility components, including the PV plant, battery system, POI substation, collector substation, overhead lines, as well as costs associated with offsite disposal and salvage values.

**Attachment 1 -
Decommissioning Cost Breakdown
by Facility Component**