APPENDIX PD-1
DECOMMISSIONING AND SITE RESTORATION PLAN
DECEMBER 2023

Project Decommissioning and Site Restoration Plan

Coyote Creek Agrivoltaic Ranch Project

DECEMBER 2023

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Acronyms and Abbreviations

Acronym/Abbreviation	Definition [Table Heading (RGB: 15, 43,77)]
County	County of Sacramento
MW	megawatt
PV	photovoltaic
Project	Coyote Creek Agrivoltaic Ranch Project

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1 Project Decommissioning and Site Restoration Plan

1.1 Introduction

Sacramento Valley Energy Center, LLC (Project Proponent) is proposing to develop the Coyote Creek Agrivoltaic Ranch (Project), an approximately 200-megawatt (MW) alternating current (AC) solar photovoltaic (PV) energy storage and generating facility located on the Barton Ranch adjacent to 3830 Scott Road, Sacramento County, California. The Project site is located approximately 4.5 miles south of U.S. Route 50, southeast of the Prairie City State Vehicle Recreation Area (PCSVRA) and is bisected by Scott Road. The geographic center of the Project roughly corresponds with 38.576278° North and -121.132944° West, at an elevation of 196 feet above sea level.

The planned operational life of the facility is approximately 35 years. If the facility is decommissioned at the end of this period, Project Proponent or its successor in interest will be responsible for the removal, recycling, or disposal of all solar arrays, batteries, inverters, transformers, and other structures on the site, depending upon the proposed future use of the site. Project Proponent anticipates using the best available recycling measures at the future time of decommissioning.

1.2 Existing Use

The Project site is currently used as grazing lands for livestock, designated general agricultural (GA-80) by the County of Sacramento (County) General Plan Land Use Element (County of Sacramento 2017), and the Project site parcels are comprised of lands zoned as AG-80. The Project will continue to use land for agricultural activities, which may consist of apiary facilities and/or grazing activities.

1.3 Planned Use

The Project is being developed to combine ranching activities with solar energy generation and storage. The Project would sell its energy, capacity, and environmental attributes to an electric utility purchaser under long-term contracts to help meet California Renewable Portfolio Standard goals.

The process starts with photovoltaic cells that make up photovoltaic modules (environmentally sealed collections of photovoltaic cells). Groups of photovoltaic modules are wired together to form a PV array. The DC produced by the array is collected at inverters (power conversion devices) where the DC is converted to alternating current (AC). The voltage of the electricity is increased by a transformer at each power conversion station to a medium voltage level (typically 34.5 kilovolts (kV)). Medium voltage electric lines (underground and/or overhead) are used to collect the electricity from each medium voltage transformer and transmit it to the facility substation, where the voltage is further increased by a high voltage transformer to match the electric grid for export to the point of interconnection either along Sacramento Municipal Utility District's (SMUD) 230 kV powerline which runs through PCSVRA, Pacific Gas & Electric's (PG&E) 138 kV powerline, or SMUD's 69 kV powerline. Disconnect switches, fuses, circuit breakers, and other miscellaneous equipment will be installed throughout the system for electrical protection and operations and maintenance purposes.

The Project may include only one PV technology or a combination of various PV technologies, including but not limited to crystalline silicon-based systems, bifacial, thin-film systems, perovskites, and concentrating PV systems.

Site Layout

At full build-out, most of the Project site will be disturbed by construction of the Project. Temporary construction lay down, construction trailers, and parking areas will be provided within the Project Site. Due to the size of the Project site, the solar field lay down areas may be relocated periodically within the solar field acreage as the project is built out in phases.

The Project may also include additional auxiliary facilities such as raw water/fire water storage, treated water storage, storm water retention basins, water filtration buildings and equipment, and equipment control buildings, septic system(s) and parking. The design and construction of the buildings, solar arrays (panels, etc.), energy storage facilities, and auxiliary facilities will be consistent with County building standards.

The proposed Project consists of a solar PV generating and storage facility approximately 200 MWac in size. The ultimate energy output is dependent on several variables, including offtake arrangements and the evolving efficiency of PV panels, so it is possible that the Project could generate more or less than 200 MWac. Project construction will take approximately 12 months.

Project Facilities

The proposed Project consists of a solar PV storage and generating facility approximately 200 MWac in size. The major components of the proposed Project are described below.

Photovoltaic Solar Modules

The Project will utilize PV modules. When sunlight strikes a PV module, the energy absorbed is transferred to electrons in the atoms of the semiconductor causing them to escape from their normal positions and become part of the current in an electrical circuit. The PV modules convert the sunlight directly into low-voltage DC electricity that is subsequently transformed to AC electricity through an inverter. The system only operates when the sun is shining during daylight hours. The system operates at peak output when the sunlight is most intense, though it also produces power in low light conditions.

Fixed-Tilt and Tracker Structures

Depending on the selected manufacturer for the PV modules, the modules will be mounted on fixed-tilt, single or dual-axis tracking structures. The modules will be grouped in nominal 1 to 2MW-AC arrays. Fixed tilt arrays will be oriented in east-west rows and will face in a generally southern orientation with a tilt angle between 10 and 35 degrees to maximize the amount of incidental solar radiation absorbed over the year. Single-axis trackers typically rotate ±60 degrees (0 degrees is horizontal) along a nominally north-south axis to track the sun's movement throughout the day. Structural support elements will be constructed of corrosion-resistant steel, aluminum, or equivalent members that are attached to circular piers or I-beam posts that will be driven into the prepared base grade of the site.

The solar array field is arranged in groups called "blocks." The entire array block is connected to an inverter and transformer station to convert the current from DC to AC and step up the voltage to a higher voltage which is more efficient for transmitting power to the project substation.

Inverters and Pad-mounted Transformers

At the center of each array is a power conversion station where inverters take the DC power output from the PV modules and convert it to AC power. The adjacent pad-mounted transformer steps the voltage up to a medium voltage level. The medium voltage outputs from each of the pad-mounted transformers are collected in combining switchgear located at discrete locations on the Project site. The medium voltage output from the combining switchgear will be connected to the Project substation where it will then be stepped up to 69 kV, 138 kV, or 230kV depending on the final point of interconnection for export to the grid.

Substation and Switchyard

An on-site substation will step-up the voltage from the collection level voltage to either 69 kV, 138 kV, or 230 kV depending on the final point of interconnection. Breakers, bus work, protective relaying, Supervisory Control and Data Acquisition (SCADA), and associated substation equipment will be constructed on the Project site. The communication system may include above or below ground fiber optic cable or microwave tower. The Project will be interconnected to the regional transmission system from the on-site substation/switchyard via the gen-tie facilities.

Transmission Interconnection Facilities

The Project plans to connect to SMUD's nearest 230 kV powerline which runs through PCSVRA approximately 1.1 miles away. However, the Project may also interconnect to the 138 kV powerline on site which is owned by Pacific Gas & Electric (PG&E) or to the 69 kV SMUD powerline which is located 1.5 miles away along the same gen-tie easement as the path to SMUD's 230 kV powerline.

Energy Storage

The Project will incorporate an approximately 400 MW hour battery energy storage facility. The field of energy storage is rapidly advancing; thus, a single technology or provider has not been selected for the energy storage portion of the Project. The storage component may be centralized and located adjacent to the substation or switchgear, or alternatively, the energy storage component may be distributed throughout the plant adjacent to individual power conversion centers. The storage component would be housed in a warehouse type building or alternatively in smaller modular structures such as cargo shipping containers.

Ranching Activities

The Barton Ranch had historically been used for sheep grazing and has more recently been used for cattle grazing. While cattle may remain in areas outside of the solar fenceline, sheep will graze within the solar fenceline. Additionally, apiary facilities will continue on the ranch. The Project proposes to maintain and enhance foraging habitat and install additional troughs.

1.4 Plan Purpose

The purpose of this Project Decommissioning and Site Restoration Plan is to ensure that if the Project is decommissioned, the site restoration will be accomplished in a way that is environmentally sound, safe, and protects the public health and safety. Decommissioning is a general term used to describe a formal process to remove something from active status, whereas restoration objectives aspire to return the land to some degree of its former state, after some process has resulted in its disturbance.

Future conditions that could affect decommissioning are largely unknown at this time; however, the best available technologies and management practices will be deployed to ensure successful Project decommissioning and site restoration.

1.5 Plan Objectives

In order to ensure that decommissioning will be completed in a manner that is environmentally sound, safe, and protects the public health and safety, Project Proponent or its successor in interest will submit a final plan for Project decommissioning to the County for review and approval before the Project's decommissioning begins. Overall, the final plan will include a discussion of the following:

- Proposed decommissioning activities for the Project and all appurtenant facilities that were constructed as part of the Project
- The activities necessary to restore the site if the plan requires removal of equipment and appurtenant facilities
- Decommissioning alternatives at the time of final decommissioning

Satisfying the above requirements should serve as a safeguard, even in the unlikely event that the Project is abandoned.

1.6 Project Decommissioning

In general, decommissioning would attempt to maximize the recycling of all facility components. Specific opportunities for recycling (for example, PV solar panels) are discussed below in the context of various site components. The individual Project components to be decommissioned will be recycled to the maximum extent possible. The key Project components to be affected by decommissioning activities are discussed below. The general decommissioning approach would be the same whether a portion of the Project or the entire Project would be decommissioned.

Decommissioning Preparation

The first step in the decommissioning process would be to assess existing site conditions and prepare the site for demolition. Site decommissioning and equipment removal can take a year or longer. Therefore, access roads, fencing, electrical power, and raw/sanitary water facilities will temporarily remain in place for use by the decommissioning and restoration workers until no longer needed. Demolition debris will be placed in temporary on-site storage area(s) pending final transportation and disposal/recycling according to the procedures listed below.

PV Equipment Removal and Recycling

During decommissioning, Project components that are no longer needed would be removed from the site and recycled or abandoned in place for all underground conductors. The PV solar panels and supports will be removed. The demolition debris and removed equipment may be cut or dismantled into pieces that can be safely lifted or carried with the on-site equipment being used. The majority of glass and steel will be processed for transportation and delivery to an off-site recycling center. All steel, aluminum, and copper will be recycled, and panels will be recycled in accordance with the PV manufacturer recycling program.

Energy Storage Components

If it is determined that the energy storage will no longer be useful for future land uses on the site, it will be decommissioned. The energy storage components would be dismantled and recycled. The concrete to a minimum of 12 inches below grade, foundation, and parking area would be broken up and removed from the site to an appropriately licensed disposal facility. All equipment would be removed and recycled to the extent practical.

Substation and Switchyard

At decommissioning, if it is determined that the on-site substation will not be utilized by a public or private utility, the prefabricated control house and electronic components of the substation equipment will be electrically disconnected and made safe for removal. The control house will then be disassembled and removed from the site. The transformers, breakers, buswork, and metal dead-end structures will also be disassembled and removed. Concrete foundations and containment berms/curbs for the transformers will be broken up to a minimum of 12 inches below grade, and all debris will be removed from the site, as will the aggregate rock.

Transformers using insulating oils will be removed from the site and recycled or disposed of at an appropriately licensed disposal facility. Site personnel involved in handling these materials will be trained appropriately.

As part of the preparation for closure, the Spill Containment and Countermeasures Plan for the site will be updated to cover spill prevention and countermeasures for handling these materials during decommissioning. Procedures to decrease the potential for release of contaminants to the environment and contact with stormwater would be specified in a decommissioning Stormwater Pollution Prevention Plan (SWPPP).

Internal Power Collection System

The power collection system will be dismantled and removed. All underground cables will be cut off and will remain in place at a depth of 12 inches below ground surface. All equipment and cabling that is removed will be recycled.

Transmission Interconnection Facilities

The transmission interconnection facilities will remain in place for the life of the facility. At the time of full Project decommissioning, if the transmission interconnection facilities will not be further utilized by a public or private utility or power generator, the line will be decommissioned. Decommissioning of the aboveground portion of the line will consist of removal of the overhead conductors and removal of poles. All steel and concrete will be recycled and the foundations will be removed to a depth of at least 2 feet below the ground surface. Aluminum from overhead conductors will be recycled.

1.7 Site Restoration

Restoration activities will return the Project site to agriculture use (i.e., livestock grazing). Returning the land to agricultural use would entail increasing the nutrient content to pre-construction levels and aerating the soils through regular tilling.

Reclamation will restore landform features, vegetative cover, and hydrologic function after closure of the facility. The process will involve replacement of topsoil, brush, rocks, and natural debris over disturbed areas so that the site will support agriculture use (i.e., livestock grazing) or similar useful purpose. Restoring these features to a natural condition compatible with the adjacent surroundings will inherently restore the basic visual elements of line, form, texture, and color of the site to pre-disturbance conditions.

If soils are determined to be compacted at levels that would affect successful restoration, decompaction would occur. The method of decompaction will depend on how compacted the soil has become over the life of the project. Efforts will be made to disturb as little of the natural drainages and existing natural vegetation, that remain post-decommissioning, as possible. The soil surface will be left rough to retain micro-catchments to capture water and seeds to facilitate water infiltration and seed germination.

A combination of seeding, planting of nursery stock, transplanting of local vegetation within the proposed disturbance areas, and staging of decommissioning activities enabling direct transplanting, will be considered. Native vegetation will be used for revegetating to establish a composition consistent with the form, line, color, and texture of the surrounding undisturbed landscape.

The success of the restoration effort will be based on the development of the target vegetation communities relative to undisturbed reference sites. The reference sites should represent intact, native vegetative communities with similar species composition and conditions that that occurred prior to impacts. The success standards should include metrics for evaluating the comparative structure and function of the plant community in the reference area. The seed mix composition will include a combination of grassland species and non-invasive forbs, and therefore revegetation areas may not represent the character and composition of undisturbed areas. As detailed in the Agricultural Management Plan for the Project, the seed mix was selected due to its soil erosion protection and sustainable forage production qualities. Some of the preferred forage plants for sheep include: subclover (multiple varieties), rose clover (*Trifolium hirtum*), medics (multiple varieties), blando brome (*Bromus hordeaceus*), berber orchardgrass (*Dactylis glomerata*), and annual ryegrass (*Festuca perennis*). Upon decommissioning, the same seed mix will be used to reseed disturbed areas, as shown in Table 1, See Mix Summary. Therefore, success will be linked to seedling establishment and survival, increase in the cover and species richness of native species, species diversity, and development of the target vegetation community. The seed mix will be adjusted based on the success of seeding efforts throughout the life of the project and the climate conditions at the time of seeding. The seed mix is preliminary at this time as the success of revegetation efforts will take into consideration the weather conditions as they relate to seed germination and plant growth.

Table 1. Seed Mix Summary

Common Name	Scientific name	Percentage
Intermediate Ryegrass	Lolium hybridum, Hausska	10%
Annual Ryegrass	Festuca perennis	27%
Blando Brome	Bromus mollis	20%

Table 1. Seed Mix Summary

Common Name	Scientific name	Percentage
Hykon Rose Clover	*Trifolium hirtum*	10%
Balansa Clover	*Trifolium michelianum*	5%
Persian Clover	*Trifolium resupinatum*	5%
'Losa' Subclover	*Trifolium subterraneum*	8%
Vetch	*Vicia* sp.	15%

Visual inspections will be conducted to document germination, growth, and survival of seeded species. Data collected will include species composition and cover, general size, and vigor of the plants, observed soil erosion, evidence of wildlife use, and any other information that will be useful in evaluating success. The monitoring program will also include photographic documentation at permanent photo locations.

All permits related to restoration would be obtained where required.

1.8 Estimated Costs

Project Proponent will provide financial security for the performance of its decommissioning and restoration obligations based on the initial decommissioning and site restoration plan. A decommissioning cost estimate will be prepared and submitted to the County prior to grading activities. The cost estimate will be used to determine the value of the performance bond, letter of credit, or other form of surety, to ensure that the funds will be available for decommissioning and site restoration (see Section 3.0 – 3.2).

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2 Decommissioning and Restoration: Scope and Timing

2.1 Scope of Decommissioning

Decommissioning the Project will involve removal of the Project's components as necessary for reuse of the site, including the solar panels, panel trackers, supports and mounts, batteries, inverters, transformers, electrical conductors, electrical cables, and substation components; removal of other structures; and the regrading of any areas significantly impacted by the removal of any components. Roads may be removed or left in place based upon the landowner's anticipated reuse after decommissioning.

2.2 Site Restoration

Restoration of the Project site will be to a reasonable approximation of its original condition prior to construction allowing for any permanent improvements chosen by the underlying landowners to be left on site. The final decommissioning and restoration plans will contain the measures necessary to fulfill Project Proponent's restoration obligations.

2.3 Timing, Exemptions, and Extension

Project Proponent will decommission the Project and restore the Project site within 12 months following Project termination. The 12-month period to perform the decommissioning and restoration may be extended for one additional 12-month period if there is a delay caused by forces beyond the control of Project Proponent including, but not limited to, inclement weather conditions, planting requirements, equipment failure, wildlife considerations, or the availability of equipment or personnel to support decommissioning.

2.4 County Access and Reporting

The County will be granted access to the Project site during decommissioning of the Project for purposes of inspecting any decommissioning work or to perform decommissioning evaluations. County personnel must provide a 5-day pre-notification for site access on the Project site and must observe all current owner safety standards and protocols. If requested by the County, Project Proponent will provide monthly status reports until decommissioning work is complete.

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3 Decommissioning and Restoration Funding and Security

3.1 Decommissioning and Restoration Obligations

Project Proponent will post a performance bond, letter of credit, or other form of surety, as described in Section 3.2, to ensure the availability of funds to cover Project Proponent decommissioning and restoration obligations. Surety

Project Proponent will provide financial security for the performance of its decommissioning and restoration obligations assuming the site is restored to agricultural use through a performance bond, letter of credit, or other form of surety issued by a surety registered with the California State Insurance Commissioner and is, at the time of delivery of the bond, letter of credit, or other form of surety, on the authorized insurance provider list published by the Insurance Commissioner. The performance bond, letter of credit, or other form of surety will be in an amount equal to 100% of the estimated costs for Project Proponent's decommissioning and restoration obligations with credit provided for any recyclable materials.

To allow for compliance with potential amendments to SZC Section 3.6.6.C, Project Proponent will implement the following revised conditions:

- PRIOR TO ISSUANCE OF A BUILDING PERMIT OR AT THE TIME REQUIRED BY SZC SECTION 3.6.6.C, IF DIFFERENT: The applicant shall provide performance and financial assurance guarantees in an amount sufficient to ensure the performance of the approved Project Decommissioning and Site Restoration Plan. The performance and financial guarantees shall be provided and approved to the satisfaction of the Planning Director.

- PRIOR TO ISSUANCE OF A BUILDING PERMIT OR AT THE TIME REQUIRED BY SZC SECTION 3.6.6.C, IF DIFFERENT: The performance and financial assurance guarantee may be comprised of, but not limited to, one or more of the following to the satisfaction of the Planning Director: an irrevocable letter of credit; or a trust fund or escrow established and maintained in accordance with the approved financial assurances and practices to guarantee that decommissioning will be completed in accordance with the approved Project Decommissioning and Site Restoration Plan.

Planning and Environmental Review staff review and Planning Director's Determination of the performance and financial assurance guarantees shall require the Permittee to pay for and submit a Research Request

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4 Reference

County of Sacramento. 2017. “Land Use Element.” In *County of Sacramento General Plan*. Amended December 13, 2017. https://planning.saccounty.net/PlansandProjectsIn-Progress/Pages/GeneralPlan.aspx.