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Soda Mountain Solar Closure and Decommissioning Plan

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This Closure and Decommissioning Plan (Plan) outlines the framework for decommissioning and reclamation of the Soda Mountain Solar Project (Project). The Plan describes the means and methods that may be used to remove all structures, foundations, underground cables, and equipment and to reclaim and restore the land altered during the construction and operation of the Project to its pre-development conditions to the extent feasible. This Plan will be updated prior to commencing decommissioning activities based on final Project layout and design, existing site conditions, and current local, state, and federal regulations.

1. Present Use of the Site

The project site is composed of rural desert land and is almost entirely undeveloped. Rasor Road, an unimproved BLM public access road, runs from the southwest corner of the site and splits into two forks after approximately 1.4 mile. The Rasor Road fork continues from west to east, to the Rasor OHV recreation area. Arrowhead Trail, the other fork, continues northward through the project site.

2. Project Facilities and Equipment

The project proposes to construct, operate, maintain, and decommission a proposed 300-MW PV solar facility located on approximately 2,670 acres. The approximate disturbance acreage for the project would be 2,081 acres. The project components are as follows:

1. The solar plant site (i.e., all facilities that create a footprint in and around the field of solar panels, including the solar field consisting of solar power arrays identified as the East Array and South Arrays 1, 2, and 3), operation and maintenance buildings and structures, stormwater infrastructure, and related infrastructure and improvements.
2. A substation and switchyard for interconnection to the existing transmission system.
3. Approximately 300 MW of battery energy storage system (BESS) across 18 acres.

Solar Panel Arrays: For the project, hundreds of solar trackers would be interconnected to form a utility-scale PV system. The solar panel arrays would be organized into Area 1, Area 2, Area 3, and Area 4 on the southeast side of I-15.

Support and Mounting Structures: The single-axis solar tracker would be mounted on structures supported by steel piles (e.g., cylindrical pipes, H-beams, or similar), which would be driven into the soil using pile/vibratory/rotary driving technique. Driven pier foundations are a "concrete-free" foundation solution that would result in minimal site disturbance and facilitate site reclamation during decommissioning. Most pier foundations would be driven to approximate depths of 8 to 12 feet deep depending upon the required embedment depth. The piles would be spaced 10 to 15 feet apart. The support structure would be elevated at least 1 foot above the base flood elevation and approximately 6 to 12 feet tall, depending on site topography.

Electrical Connection System: Solar panels would be electrically connected using string wiring secured to the panel support system. String wiring terminates at PV array combiner boxes, which are lockable electrical boxes mounted on or near an array's support structure. Output wires from combiner boxes would be routed along an underground trench system approximately 3 to 4 feet deep and 1 to 3 feet wide, including trench and disturbed area, to the inverters and transformer pads. Inverters are a key component of solar PV power-generating facilities because they convert the direct current (DC) power generated by the solar panel into alternating current (AC) power that is compatible for use with the transmission network. The output voltage of the inverters would be stepped up to 34.5- to 60-kV AC power and transmitted by underground collection lines to the project substation.

Substation and Switchyard: A 90,000-square-foot high-voltage substation would be located adjacent to Area 1 and Area 2 on a concrete ground foundation. The substation would include transformers, breakers, switches, meters, and related equipment. The substation is where all of the underground 34.5-kV collection lines are combined, and the voltage is then stepped up to 500 kV via a transformer. All interconnection equipment, including the control room if required, would be installed aboveground and within the footprint of the substation. A generation-tie line (gen-tie line) would connect the collector lines from the substation to the project switchyard by boring under I-15. The gen-tie would be located within an existing Caltrans culvert. The switchyard would be 0.8-mile northwest of I-15, adjacent to the LADWP Marketplace-Adelanto 500kV transmission line ROW. The switchyard would permanently occupy approximately 5 acres on a concrete ground foundation. A permanently gated, 8-foot-high chainlink fence with three-strand barbed wire meeting National Electric Safety Code requirements would be constructed around both the substation and switchyard.

Batteries: Individual lithium-ion cells form the core of the BESS and are assembled in sealed battery modules. The battery modules would be installed in self-supporting racks electrically connected either in series or parallel to each other. The operating rack-level DC voltage currently ranges between 700 and 1,500 volts (V). The individual battery racks would be connected in series or a parallel configuration to deliver the BESS energy and power rating.

Battery Energy Storage System Enclosure and Controller: The BESS containers would house the batteries described above, as well as the BESS controller. The BESS controller is a multilevel control system for the battery modules, power conversion system, medium-voltage system, and up to the point of connection with the electrical grid. The controllers ensure that the BESS effectively mimics conventional turbine generators when responding to grid emergency conditions. The BESS enclosure would also house required heating, ventilation, and air conditioning (HVAC) and fire protection systems. The battery storage containers would be built using standard International Organization for Standardization (ISO) shipping containers, and each would measure approximately 20 feet in length, 6 feet in width, and 8 feet in height, although other smaller form-factor structures exist that may be used. The safety system would include a fire detection and suppression control system that would be triggered automatically when the system senses imminent fire danger. A fire suppression control system would be provided within each on-site battery enclosure.

Operation and Maintenance Buildings: The following permanent buildings would be constructed as part of the project:

1. Operation and maintenance building (approximate dimensions: 5,000 square feet, 30 feet high)
2. Maintenance facility (approximate dimensions: 2,400 square feet, 35 feet high)
3. Warehouse facility (approximate dimensions: 6,000 square feet, 35 feet high)
4. Substation (approximate dimensions: 90,000 square feet)

The operation and maintenance building, maintenance facility, and warehouse facility would all be located at the southwest corner of the site. The operation and maintenance building may consist of offices, a restroom, and a storage area and would include a heating, ventilating, and air conditioning system. A septic system would be constructed adjacent to the permanent project buildings to serve the sanitary wastewater treatment needs.

Parking Areas: Parking areas would be located adjacent to the buildings described above, in the southwest corner of the site. The parking areas are not expected to exceed approximately 0.33 acre, or 13,200 square feet.

Access Roads: The project would maintain and improve a portion of Rasor Road to be 20 feet wide and include a gated entrance to the project site which can be accessed approximately 250 feet southeast from the I-15 northbound off-ramp. North of I-15, an existing LADWP/SCE transmission maintenance road would be upgraded for access to the LADWP switchyard. A Caltrans access road may also be used for construction of the gen-tie line. Internal access roads would be developed between the arrays. These internal access roads would be 16 feet wide and include a 35-foot turning radius at the project boundary. Access roads would consist of compacted native material and would be graded as necessary but would generally follow the existing terrain. Larger boulders that could impede vehicle access would be removed. These permanent access roads would be compacted to meet load requirements for vehicle traffic over the life of the project.

Fencing: All project components would be surrounded by warning signage, perimeter security fencing, desert tortoise exclusionary fencing, and perimeter security cameras. Combined security and desert tortoise fencing would be installed surrounding each individual array field and extend to include the substation and BESS area. The security fencing would be an 8-foot-high chain-link fence with an additional 1 foot of barbed wire. The line posts and terminal posts of the fence would be buried up to 3.5 feet deep, and the distance between posts would not exceed 10 feet.

Lighting: Lighting would be provided at the Rasor Road site entrance, operation and maintenance building, substation, and switchyard. Exterior security lighting would be installed to provide safe access to project facilities as well as visual surveillance. Some portable lighting also could be required for essential nighttime maintenance activities. All lighting would be kept to the minimum required for safety and security; sensors, motion detectors, and switches would be used to keep lighting turned off when not required. All lights would be downward, shielded, and directed so as to minimize light exposure.

Drainage Facilities: Three drainage channels would be constructed between the array fields. Each channel would be approximately 3 feet below grade and vary in width and length. Ten temporary sediment basins of varying sizes and depths would be constructed adjacent to the drainage channels and throughout the site and removed at the conclusion of construction. Development within the channels would be limited to access road crossings and potential subsurface collector lines. Twelve box culverts and eight low-water crossings would be installed at the intersection of access roads and drainage channels, and permanent protection berms would be constructed along the edges of the arrays near these flow corridors to prevent occasional side channel flows from entering the array fields. Temporary and permanent fiber rolls would also be installed on slopes before they transition into steeper slopes to control runoff.

3. Facility Closure

Facility closure can be temporary or permanent. Temporary closure is defined as a shutdown for a period exceeding the time required for normal maintenance, with an intent to restart in the future. Causes for temporary closure may include equipment upgrades and repowering the Project or damage to the Project components from earthquake, fire, storm, or other natural acts. Permanent closure is defined as a cessation in operations with no intent to restart operations.

Temporary Closure: The Project's equipment has a useful life of up to 35 years. At that time, the Applicant would seek to either repower or decommission the Project. In order to repower, the Project components would likely be optimized to increase the Project's efficiency by swapping out inverters for more efficient units, and potentially swapping out some of the solar facility's photovoltaic panels. Ground disturbing work would not be necessary for optimization activities. The Project would be offline for several weeks or months during optimization activities, but would subsequently continue delivering electricity to the wholesale market for many decades. For a temporary closure where there is no release of hazardous materials, such as in the case of repowering, the Project would maintain security of the Project components and would notify the California Energy Commission and other responsible agencies as required by law.

Where the temporary closure includes damage to the Project components, and where there is a release or threatened release of regulated substances or other hazardous materials into the environment, procedures would be followed set forth in accordance with emergency response procedures set forth in local, state and federal regulations. Procedures would include methods to control releases, notification of applicable authorities and the public, emergency response, and training for personnel in responding to and controlling releases of hazardous materials. Once the immediate problem is solved and the regulated substance/hazardous material release is contained and cleaned up, temporary closure would proceed as described above for a closure where there is no release of hazardous materials.

Permanent Closure: When the Project is permanently closed, the closure procedure would follow a decommissioning plan, which is described below. At the time of decommissioning, all decommissioning related activities would follow the then-applicable laws, ordinances, regulations, and standards. Upon decommissioning, a majority of Project components would be suitable for recycling or reuse. All dismantling, removal, recycling, and disposal of materials generated during decommissioning would comply with rules, regulations, and prevailing federal, state, and local

laws at the time decommissioning is initiated and would use approved local or regional disposal or recycling sites as available.

4. Decommissioning Procedures

The life of the project is expected to be at least 35 years. When the project has reached the limit of utility, it will be decommissioned, and land occupied by project components will be reclaimed. All decommissioning, reclamation, and restoration activities will adhere to the requirements of appropriate governing authorities, and will be in accordance with all applicable federal, state, and local permits. Project decommissioning will be coordinated with BLM. Decommissioned and reclaimed material may be sold to offset the costs of reclamation.

Decommissioning of the solar facility will include removing the solar panels, solar panel racking, steel foundation posts and beams, inverters, transformers, overhead and underground cables and lines, equipment pads and foundations, equipment cabinets, and ancillary equipment. All buildings, access road, fencing, and drainage facilities will also be removed. Standard decommissioning practices will be utilized, including dismantling and repurposing, salvaging/recycling, or disposing of the solar energy improvements.

Decommissioning activities are expected to involve a similar level of effort as project construction, requiring approximately 3,000 truck trips per month, an average workforce of approximately 150 workers, a maximum workforce of 250 workers, and approximately 24 months to complete. All dismantling, removal, recycling, and disposal of materials generated during decommissioning will comply with rules, regulations, and prevailing Federal, State, and local laws at the time decommissioning is initiated and will use approved local or regional disposal or recycling sites as available. Recyclable materials will be recycled to the furthest extent practicable. Nonrecyclable materials will be disposed of in accordance with State and Federal law.

Pre-demolition Activities: Pre-decommissioning activities will consist of preparing the project area for demolition. A pre- demolition meeting that includes safety and environmental training will be held on site for pertinent project staff, all construction personnel, and environmental monitors. The solar power plant will be de-energized and completely disconnected from the substation per Soda Mountain Solar health and safety program procedures. The site also will be surveyed and marked for demolition. Pre-demolition activities will include removal of products such as diesel fuel, hydraulic oil, lubricants, mineral oil, and other materials to reduce personnel health and environmental risk during decommissioning work. Hazardous materials and petroleum containers and pipelines will be rinsed clean when feasible and the rinseate collected for off-site disposal. These materials generally will be transferred directly into tanker trucks or other transport vessels and removed from the site at the point of generation to minimize the need for hazardous material and waste storage at the project site. Decommissioning operations are assumed to span about 2 years; therefore, fencing, electrical power, and water facilities will be maintained in place and operational to be available for limited use by decommissioning and site restoration workers. Temporary desert tortoise exclusion fencing will be placed as required by biological and cultural resource monitors.

Decommissioning Tasks: Decommissioning activities will involve use of heavy machinery to disassemble and remove buildings and fixtures used during operations. To the extent possible, these activities will only occur within existing disturbed areas. Previously undisturbed areas that are inadvertently affected by project decommissioning activities will require recontouring and

restoration. These areas will be included in the Final Closure Plan, which will include a requirement that areas disturbed during decommissioning be identified and included for restoration.

Demolition of Above Ground Structures: Mechanized equipment operated by trained personnel will be used to dismantle each structure or facility. Decommissioning will be undertaken using traditional heavy construction equipment including, but not limited to, front-end loaders, cranes, track-mounted and rubber- tired excavators, bulldozers, and scrapers. Dismantling and demolition of aboveground structures will be followed by concrete removal, as needed, to ensure that no concrete structure remains within 3 feet of final grade (i.e., floor slabs, belowground walls, and footings).

Underground utilities associated with aboveground structures will then be dismantled and removed. Excavation and removal of soils will be conducted, as needed, following by final site contouring, as required. Combining switchgear will be isolated from the substation using standard lock-out tag-out procedures. It will then be electrically disconnected, unbolted from its foundation, and lifted onto a truck for removal from the site. PV modules will be disconnected from each other and removed from the racks. They will be returned to PV manufacturer storage sites or recycling centers. Direct current (DC) string wiring that is connected to the racking will be removed and salvaged. Racks will be disassembled and removed from the site and delivered to recycling centers. Steel posts that support the PV racking system will be pulled out of the ground.

Electrical cabling will be disconnected from combiner boxes, inverters, transformers, and overhead transmission poles. Inverter and transformer skids will be electrically disconnected, unbolted, and lifted onto trucks for removal from the site. The supervisory control and data acquisition (SCADA) system will be disconnected, removed, and salvaged by the electrical demolition contractor. Electrical and mechanical systems will be properly isolated and demolished in the operations and maintenance building. Walls, doors, and windows will be removed and recycled or disposed of at an approved landfill. Parking lot gravel will be loaded into a dump truck and transported off site. All salvageable parts and parts to be disposed of will be removed from the site. Aboveground foundations will be demolished, and the rubble loaded onto dump trucks and transported to nearest landfill or recycling center.

Dismantled materials will be transported by heavy-haul dump truck to a central recycling/staging area where the debris will be processed for transport to an off-site recycler. A project recycling center (either one within each solar array area or one on either side of I-15) will be established to: 1) Stage PV panels for transport to an off-site recycler; 2) Crush concrete and remove support posts and rebar; 3) Stage support posts and rebar for transport to an off-site recycler; and 4) Temporarily store and act as a shipping point for any hazardous materials to an approved treatment, storage, or disposal facility.

Limited quantities, if any, of aggregate are anticipated to be used on access roads to ensure surface stability. To the extent required, aggregate surfacing, if present, will be removed. Areas where aggregate surfacing has been removed will be graded to ensure suitable drainage. The removed aggregate will be loaded into a dump truck and the demolition contractor will take ownership of the aggregate for reuse. Site-related fencing, including special-status species exclusion fencing, will be maintained until near the end of project decommissioning (i.e., after initial reclamation efforts have been completed).

Demolition of Belowground Facilities and Utilities: Belowground facilities will include concrete slabs and footings that will be removed to a depth of 3 feet below grade after final contouring. Pipelines will be cleaned, closed off, and removed. Pipeline rinseate will be temporarily stored on site prior to transport to an off-site facility for disposal or recycling. Underground cables will be removed and salvaged or kept in place, according to BLM requirements. Installations of underground electrical systems are typically trenched to a depth of 3 feet with cables directly buried (i.e., no conduit is used). If underground cabling is to be removed, underground DC cabling from module arrays to combiner boxes and from the combiner boxes to the DC fuse boxes will be removed and salvaged. AC cables from the inverter stations to switchgear will also be removed and salvaged, or kept in place. Inverters will be removed and salvaged, and the inverter housing and pad will be destroyed.

Removed materials will be excavated and transported to the on-site processing area for processing and transport prior to recycling. Any cavities resulting from structure removal will be backfilled with suitable material of similar consistency and permeability as the surrounding native materials and compacted according to the guidelines for revegetation prescribed by the Reclamation Specialist. All project access roads will be decompacted according to BLM requirements at the time.

Debris Disposal and Recycling: Demolition debris will be placed in temporary on-site storage area(s) pending treatment at the processing area, and final transportation and disposal/recycling according to the procedures listed below. Demolition debris and removed equipment will be cut up or dismantled into pieces that can be safely lifted or carried with the on-site equipment. Most glass and steel will be processed for transportation and delivery to an off-site recycling center. Some specific equipment such as PV panels, transformers and generators may be transported as intact components, or size-reduced on site with cutting torches or similar equipment.

A front-end loader, backhoe, or other appropriate equipment will be used to crush or compact compressible materials. These materials will be laid out in a processing area to facilitate crushing or compacting with equipment prior to transport for disposal/recycling. Steel, glass, and other materials will be temporarily stockpiled at or near the processing location pending transport to an appropriate off-site recycling facility. Concrete foundations will be removed to a depth of at least 3 feet below final grade. Upon removal of rebar from concrete rubble, the residual crushed concrete may be layered beneath the ground surface to fill cavities but only at locations that will remain greater than 3 feet below final grade, which will reduce waste volume and transportation requirements.

A full-time crew will be responsible for maintaining site cleanliness during decommissioning. The crew will be responsible for cleaning up micro-trash at temporary facilities as well as at the various work areas. All trash will be collected in containers with secure lids. All hazardous and nonhazardous waste will be stored in appropriate containers for off-site disposal.

Soil Cleanup and Excavation: Evidence of the presence of contaminated soil or the release of hazardous materials or wastes observed during decommissioning activities will be reported to CEC and BLM. The need for, depth, and lateral extent of contaminated soil excavation will be evaluated by an environmental professional with experience in contaminated soils investigation procedures. The evaluation will be based on observation of soil conditions and analysis of soil samples after

removal of hazardous materials storage areas, and upon closure of the temporary recycling center and waste storage areas used during project decommissioning. Soil excavation will be conducted to the extent required to meet regulatory cleanup criteria for the protection of soil, groundwater, and surface water resources. If contaminated soil removal occurs, excavations will be backfilled with clean (uncontaminated) native soil of similar permeability and consistency as the surrounding materials, and compacted and revegetated according to the guidelines prescribed by the Reclamation Specialist.

Soil Recontouring: Minimal recontouring of affected areas of the site will be conducted using standard grading equipment to return the land surface to preconstruction conditions, to the extent possible. Grading activities will be limited to previously disturbed areas that require recontouring. Efforts will be made to minimize disturbance of natural drainage and vegetation. Concrete rubble, crushed to approximately 2 inches in diameter or smaller, will be placed in the lower portions of fill areas, at depths at least 3 feet below final grade. Backfill will be compacted by wheel- or track-rolling to avoid over-compaction of soils.

Hazardous Waste Management: Fuel, hydraulic fluids, and oils will be transferred directly to a tanker truck from the original storage containers. Storage containers will be rinsed and rinseate will also be transferred to tanker trucks. Storage containers will be disposed of properly according to requirements for the handling and disposal of such materials. Any other materials that may be deemed hazardous will be removed from the site and disposed of according to the hazardous materials handling requirements pertaining to the site. Other items that are not feasible to remove at the point of generation, such as small containers of lubricants, paints, thinners, solvents, cleaners, batteries, and sealants, will be maintained in a secured location with secondary containment, meeting all requirements for hazardous waste storage until removal for proper disposal. All oils and batteries would be recycled off site at an appropriately licensed facility. Site personnel involved in handling these materials will be trained to properly handle them. Containers used to store hazardous materials will be inspected regularly for any signs of failure or leakage.

As part of the preparation for closure, the Spill Prevention, Control, and Countermeasure Plan for the site would be updated to address measures for handling these materials during decommissioning activities. Procedures to minimize the potential for release of contaminants to the environment and contact with stormwater will be specified in a project-specific Best Management Practices (BMP) Plan. A site-specific Health and Safety Plan will be prepared to specify requirements for establishing and maintaining a safe working environment during implementation of the planned decommissioning activities.

Vegetation Reclamation: The goal of the reclamation will be to restore natural hydrology and vegetative cover to the greatest extent practicable while minimizing new disturbance and removal of existing vegetation. At least 12 months prior to project closure, the applicant shall prepare a Final Closure Plan to restore the site's topography and hydrology to a relatively natural condition and to establish native plant communities within the project site. The Final Closure Plan shall include a cost estimate for implementing the proposed decommissioning and reclamation activities, and shall cover the estimated cost as though BLM were to contract with a third party to decommission the project and reclaim the project site. The plan shall be subject to review and revisions from the BLM Authorized Officer in consultation with USFWS and CDFW.