Ocotillo Sol Project
Decommissioning & Reclamation Plan

PREPARED FOR:
UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
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RIGHT-OF-WAY APPLICATION CACA-51625

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I. PROJECT DESCRIPTION

A. Introduction

This Decommissioning and Reclamation Plan is being submitted to the United States Department of the Interior, Bureau of Land Management (BLM) as an appendix to the Environmental Impact Study (EIS) in connection with the right-of-way application (SF 299) CACA-51625 filed in December 2009, and revised in August 2010 for the design, construction, and operation of the Ocotillo Sol Project (Project). The plan will adhere to all applicable environmental and safety and health standards.

This Project will be a photovoltaic (PV) electric generation facility in Imperial County, California on undeveloped Federal land adjacent to the southern boundary of the San Diego Gas & Electric (SDG&E) Imperial Valley Substation, located on BLM managed land with a right-of-way to SDG&E. The proposed Project will generate a peak capacity of 15-20 megawatts (MW) of alternating current (AC) renewable energy.

SDG&E has proposed this site due to its proximity to existing transmission infrastructure (Imperial Valley Substation), access roads, the abundance of solar resources in the Imperial Valley region of southern California, and the ability to minimize potential impacts to natural and cultural resources. Locating the proposed facility adjacent to the Imperial Valley Substation allows SDG&E to consolidate the PV system with existing SDG&E operations, and minimizes the length of new 12.47 kilovolt (kV) transmission infrastructure required to interconnect with the existing transmission system.

The renewable energy generated from the proposed Project would be supplied to SDG&E's customers and included in the SDG&E state mandated renewable energy portfolio standard requirements.

i. Type of Facility, Planned Uses, Generation Output

Preliminary design of the proposed facility consists of a well established standardized design for a solar power plant using a PV system to generate a nominal peak 20 MW_{AC} of renewable electrical energy. The proposed PV system will require 100 acres of land for solar modules (Solar "module" and solar "panel" have been used interchangeably in the PV industry, but since "module" is a more precise term it will be used for the remainder of this document) grouped into a collection of multiple arrays in addition to inverters, transformers, and a maintenance building. Equipment location and orientation on the 100-acre site will be determined during final design. The electrical energy produced will tie into the adjacent Imperial Valley Substation at 12.47 kV.

The proposed facility's maintenance building will include storage for maintenance equipment, control electronics and a small gravel parking lot to accommodate up to 15 vehicles. The parking lot will generally be utilized by SDG&E personnel for routine maintenance and cleaning activities.

Figure 1 shows solar arrays from a typical utility scale PV plant.

Figure 1: Photograph of typical utility scale PV project

B. Purpose and Need for Decommissioning Plan

The purpose of the proposed Project is the generation of clean, renewable energy utilizing the abundant solar energy resources available in the Imperial Valley region of southern California and thus reduce greenhouse gas emissions consistent with California's needs and requirements. The plant is expected to produce clean power for a minimum of 25 years. The objective of project decommissioning and reclamation is to remove the installed power generation equipment and return the site to a condition as close to a pre-construction state as practical. The procedures outlined herein are formulated to ensure public health and safety, environmental protection, and compliance with applicable regulations. The procedures described identify the proposed activities to restore the site upon operation completion.

Reclamation activities will restore vegetative cover, hydrologic function, control erosion; and minimize habitat and landform alteration during and after the life of the facilities.

C. General Facility Description, Design and Operation

i. Location and Site Description

The proposed Project site, as shown in Figures 2 and 3, is located on Federal land in Imperial County, California, four miles south of Interstate 8 (I-8), nine miles southwest of El Centro, and 82 miles east of San Diego. All proposed components of the Project are located on BLM administered land subject to a right-of-way grant. The proposed project is within the Yuha Desert Management Area (MA).

The Project site will consist of 100 acres on BLM administered land, and will temporarily utilize an additional fifteen acres during construction for equipment laydown, construction trailers, staging areas and construction work force parking. The 100-acre parcel will include the PV modules and mounting structures, a maintenance building with an associated parking area, access road, internal roads, inverters, transformers, and the combining switchgear. An underground

12.47 kV interconnection line will be located in an approximately 1,000 foot trench from the combining switchgear located in the northern Project site boundary to a 12.47 kV bus and circuit breaker to be installed in the Imperial Valley Substation. An existing road to the Imperial Valley Substation will provide access for the proposed Project; however, new minor access roads between the module rows will be constructed. Once the facility has been constructed and commissioned, the fifteen acre construction laydown area will be returned to its near pre-construction state and ceded back to the BLM.

Figure 2: Photograph of the Ocotillo Sol Project Site Viewing North-Northwest

Access to the proposed Project site is provided by an existing SDG&E easement off Highway 98 that leads to the Imperial Valley Substation. A gravel access road leads to the project from the south, approaching the west side of the site. Any necessary upgrades to the Imperial Valley Substation where the PV plant will connect to the transmission system will be completed within the existing substation boundary.

Geotechnical Characteristics: The Project site is in an area of undeveloped low-lying desert with sparse vegetation. The Westside Main Canal runs generally north-south and is located to the east of the Project. The soils in the vicinity of the site are alluvial and contain much sand. South of the site, Pinto Wash transitions from channelized, stable flow to distributary flow and typically flows in a northeasterly to easterly direction.

Fine-grained clayey soils with expansion potential are present in the near surface in many areas of the site. Borings near the site encountered alluvial and lacustrine deposits. These deposits are layered and interlaced, consisting of alternating layers of clean sand, silty and clayey sand, silt, lean clay, and fat clay.

Groundwater was encountered at a depth of approximately 35 feet below existing grade. It is anticipated that groundwater will not affect development of the site.

ii. Land-Use Management

As part of the 1976 Federal Land Policy Management Act (FLPMA), the California Desert Conservation Area (CDCA) Plan was developed to guide land use management of BLM lands within this portion of California. The Project site is within and under the jurisdiction of the CDCA Plan. The CDCA Plan has four multiple-use classes. The Project site is located within the Multiple-Use Class L (Limited Use). The Limited Use classification is intended to protect sensitive, natural, scenic, ecological and cultural resource values. The CDCA Plan states that "public lands designated as Limited Use are managed to provide for multiple use of resources at a lower intensity, ensuring that sensitive values are not significantly diminished." The basic intent of this Plan, then, will be to restore the site to its limited use and natural, scenic, ecological, and cultural value.

iii. Environmental Setting

The project site is within the Yuha Basin Area of Critical Environmental Concern (ACEC), which is managed by BLM to protect sensitive cultural and wildlife resources while allowing for compatible public uses such as camping. This area consists primarily of undeveloped open space. The Yuha Basin ACEC includes the Yuha Desert Management Area, which was designated by BLM for management of flat-tailed horned lizard (*Phrynosoma mcallii*; FTHL) habitat, as outlined in the *Flat-Tailed Horned Lizard Rangewide Management Strategy* (FTHLRMS) (Flat-tailed Horned Lizard Interagency Coordinating Committee2003).

The project site is primarily surrounded by undeveloped, moderately disturbed desert scrubland, with the exception of SDG&E's Imperial Valley Substation located immediately to the north and associated power lines and access roads scattered throughout the area. Vegetation on the project site consists of Sonoran creosote bush scrub (Holland 1986). (*Larrea tridentata – Ambrosia dumosa* Alliance; CDFG 2007), the most common natural community in the region. The vegetation is somewhat disturbed as a result of various human-related activities. Pinto Wash is located south and southeast of the project site, with the Westside Main Canal and irrigated agricultural lands to the east and north.

Biological resource assessments surveys as well as focused surveys for rare plants, FTHL, burrowing owl (*Athene cunicularia*), and other bird species were conducted in accordance with the most recent BLM-accepted survey protocols. Surveys were conducted between fall 2009 and spring 2011 in order to identify and document botanical and wildlife species, map jurisdictional areas and natural communities, and evaluate suitability of habitat for various special status species.

No special status plant species were observed within the survey area. Based on the level of disturbance within the survey area and the results of the focused rare plant surveys, no special status plant species are expected to occur within the survey area, and none are expected to occur within the project impact area.

Protocol surveys for FTHL were conducted on September 23, 2009, FTHL is a California Species of Special Concern and a BLM Sensitive species. It has been recorded in high

numbers in Sonoran desert scrub habitat. Horned lizard scat was found within all ten study plots, and tracks were observed; however, no individuals of FTHL were observed during the focused surveys. Incidentally, during the focused rare plant surveys in late March 2010, a juvenile FTHL was observed in Pinto Wash adjacent to the project area and remnants of a FTHL carcass were observed near the center of the survey area at the mouth of a burrow with burrowing owl sign. The entire project site, however, is considered to be occupied with FTHL in accordance the protocol provided in the FTHLRMS for determination of FTHL presence.

Protocol-level burrowing owl surveys were conducted in accordance with the California Burrowing Owl Consortium's (BOC) *Burrowing Owl Survey Protocol and Mitigation Guidelines* (CBOC 1993). Many potentially suitable burrows were mapped and at least two of the occupied burrows were within the project limits. In addition, during the focused plant survey in March 2010, a burrowing owl was incidentally observed in flight near the project area. Burrowing owls were not found during the four focused breeding season field visits in May 2010. The four burrows that were occupied at the time of the burrow survey were found to be inactive, and, although over 20 suitable burrows were investigated for sign, no additional active burrows were found. The results of the burrow survey and focused breeding season survey indicate that breeding owls were not present on site at the time of the survey, but that the site was utilized by wintering individuals. However, during the focused plant survey in late March 2010, a burrowing owl individual was observed near a burrow with owl sign near the center of the survey area.

In addition, focused avian point-count surveys were also conducted in accordance with the BLM Solar Facility Point Count Protocol (March 2009). Winter and spring surveys were conducted. Swainson's hawk (*Buteo swainsoni*), a California Threatened species, was observed as migrating individuals flying over the site.

Water Resource surveys were conducted in areas considered potentially jurisdictional by USACE pursuant to Section 404 of the CWA, the RWQCB pursuant to Section 401 of the CWA, or the Porter Cologne Act and the CDFG pursuant to Section 1600 et seq. of the California Fish and Game Code. No drainages, wetlands, or any other topographical or hydrological features with potential to be subject to USACE, RWQCB, or CDFG jurisdiction were observed within the 115-acre project limits. No evidence of streambed and banks as defined by CDFG was observed within the project limits, nor were any defined channels that would be subject to agency jurisdiction. Evidence of hydrology on site is limited to some bare spots and soil sorting due to sheet flow, which was observed throughout the project site, generally following the gentle slope of the terrain.

Figure 3: Project Location Map

iv. Site Topography and Hydrology

The Ocotillo Sol site is at an average elevation of about 12 feet above sea level (USGS). The ground surface of the site is relatively smooth and uniform with a northeasterly slope of approximately 0.5%. The site is undeveloped desert land with minimal vegetation (sparse desert scrub) and sandy soils.

The site receives off-site storm runoff from the west and south, from the Pinto Wash watershed. The Pinto Wash, as shown in Figure 4, is expected to be a stable wash, that will unlikely shift due to erosion, or migrate toward the site. The slopes of the watershed in this area are nearly flat alluvial deposits.

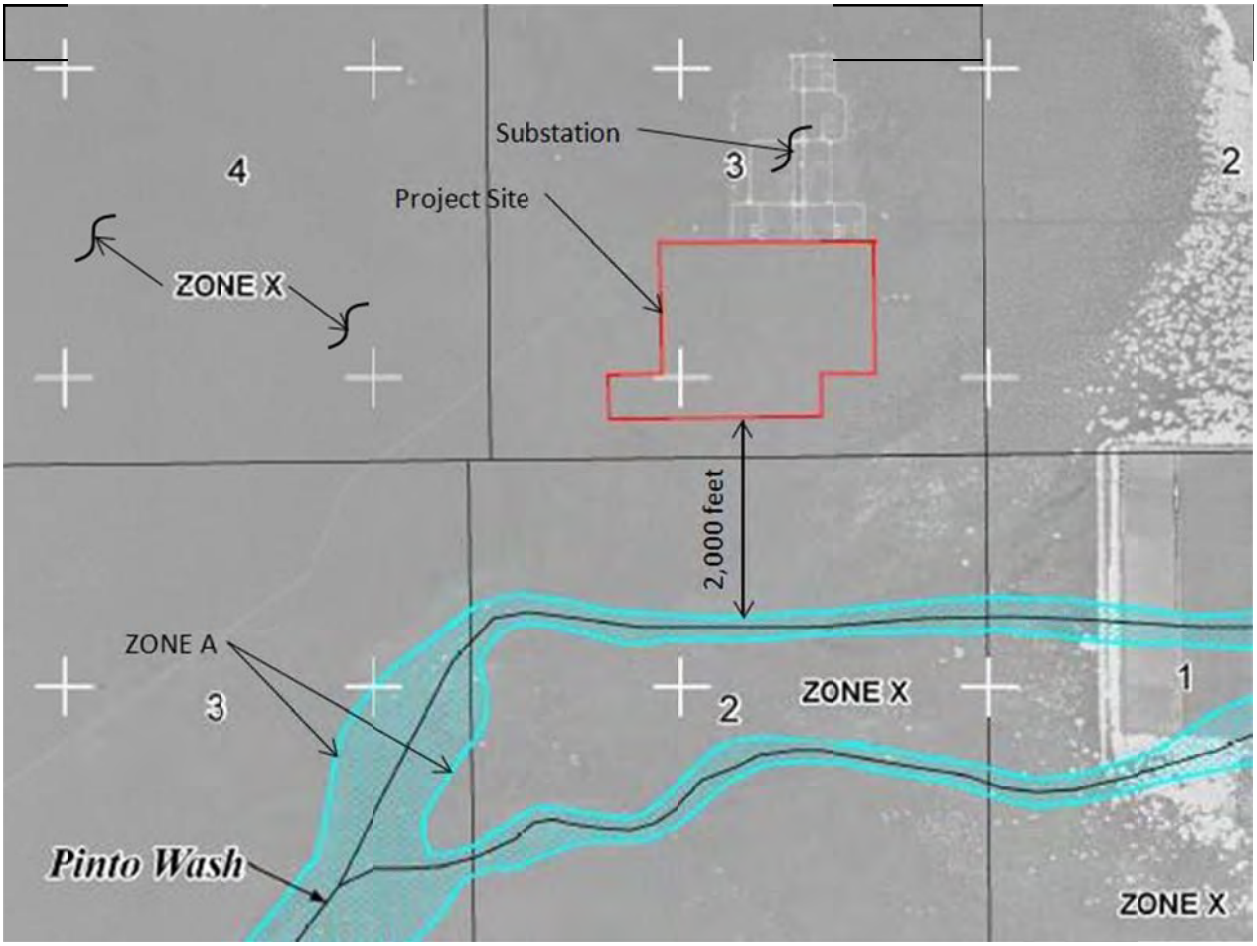


Figure 4: Pinto Wash Watershed and Ocotillo Sol Site

v. Site Drainage

The site has been selected to minimize grading requirements and allow the site hydrology to remain in a quasi natural state where sheet flow predominates. No drainage ditches or retention basins will need to be constructed on the site.

vi. Foundations and Ground Mounting

Site and solar field foundations will include:

- PV arrays supported on galvanized steel posts that are driven into the ground or something similar thereto.

- Concrete foundations will be required for the inverters, transformers, switchgear, and Operations and Maintenance (O&M) building. The foundations will likely vary in depth from 4" to 48". Final depth of concrete pours for building and equipment foundations will depend on the results of the geotechnical investigation

vii. Power Plant Facilities/Process

The PV generation plant will be designed to create electrical energy from the sun in the form of direct current (DC); it will convert that DC into a useable alternating current (AC), and place the power on the transmission grid. The power producing units for photovoltaic (PV) power plants are the solar modules which are constructed from semiconductor materials. The PV modules are mounted on structures called the racking system and generally referred to as racks. The PV cells are the generators of electrical energy by converting sunlight (photo) directly into electricity (voltaic). Figure 5 provides an example of a PV technology that could be used for the proposed Project.

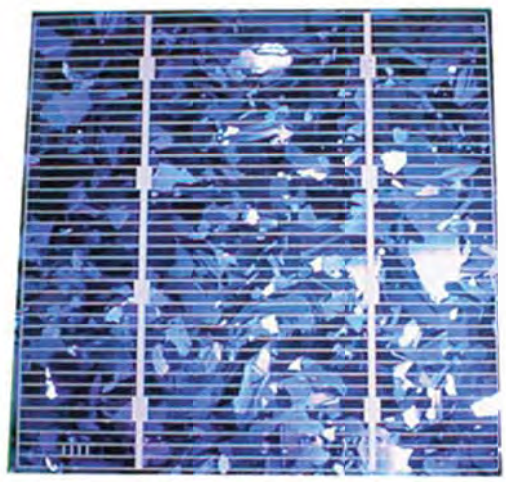


Figure 5: Example PV Cell

Several solar cells are connected in series to make up a module. The modules are placed in series which are called module strings. The number of modules in a string is dependent upon the PV module technology and the operating voltage of the system and can vary between 8 modules and 33 modules. The module strings are wired and routed underground to a collection point called a combiner box. The combiner box collects the DC circuits from multiple module strings and combines them into one circuit that is then routed to the inverter.

The modules themselves are mounted in rows on the racking system. The rack mounted PV modules, termed arrays are spaced to avoid shading each other and to allow maintenance access between adjacent rows.

Inverters convert the DC energy generated by the PV arrays to useable AC power at a low voltage (300 to 400 volts). The low voltage AC output from the inverters will be stepped up to the required 12.47 kV by transformers located next to the inverters. This 12.47 kV output from the transformers is collected at a combining switchgear located just inside the fence line of the proposed PV power plant. This switchgear allows for a disconnect and a consolidation of circuits that go underground to the Imperial Valley Substation.

The maintenance building will house electronics to monitor the generation produced at the site, and will be used to store materials required for the maintenance of the power plant.

viii. Equipment and Associated Facilities

This nominal 20 MW_{AC} project proposes the use of ground mounted PV technology. The system type (silicon crystalline, thin film, fixed axis or tracking) will be determined as the Project develops. Though the project may utilize either thin film or crystalline PV modules, this does not change the means by which energy is produced, construction methods or activities nor the operation and maintenance activities. A preliminary site layout has been developed, Figure 6, showing the outline of the solar field consisting of twenty 1 MW_{AC} blocks to match typical inverter sizing available on the market today. According to the description above, the current generated by module strings in each one-MW_{AC} block will be collected in several combiner boxes throughout the block and will then be routed to the DC fuse box, inverters and transformer. The inverters and transformer will be sized to handle one MW_{AC} of capacity. The quantity of materials required for the project will be dependent on final design. It is estimated between 64,000 polysilicon or 200,000 thin film PV modules will be needed. Inverter quantities will range from 20 to 40 using today's technology. At this time, approximately twenty small transformers are expected to be utilized. Figure 6 also indicates a preliminary route for the interconnection between the Project and the existing Imperial Valley Substation.

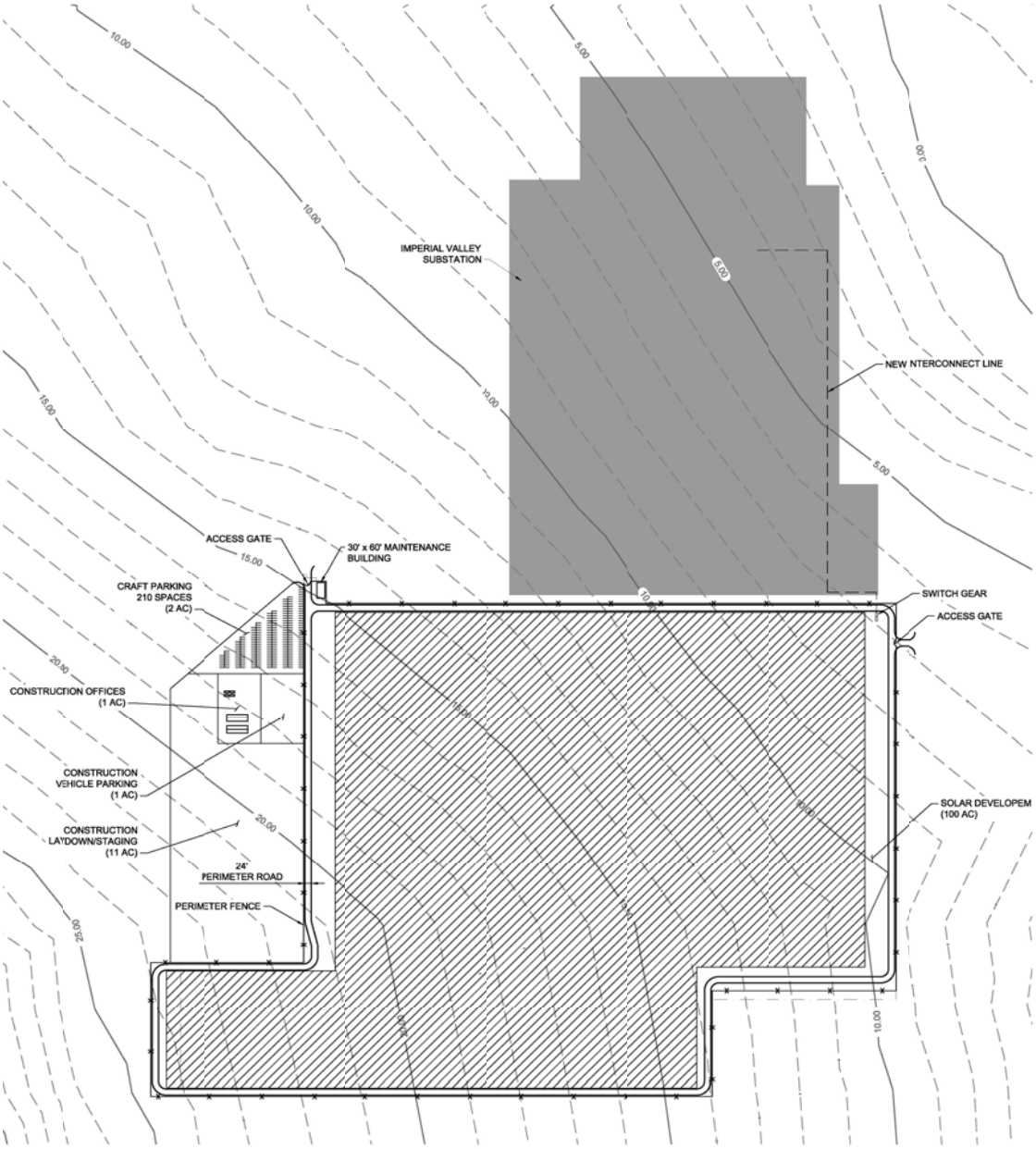


Figure 6: Preliminary Site Layout with Aerial Plan

ix. Temporary Laydown Area: Construction Workspace, Yards, Staging Areas

Construction workspace will consist of fifteen acres adjacent to the 100-acre Project site and will house construction offices, parking for the construction workforce and a temporary staging area for construction materials (refer to Figure 6). The term "laydown" is used herein to generally refer to these temporary activities collectively. The exact location of attributes is not known and will be a function of the construction approach undertaken by the construction contractor.

The laydown area would be directly east and adjacent to the existing site access road with temporary construction power provided from the Imperial Valley Substation. The site will be fenced and secured during non-construction hours. Temporary restroom facilities will be provided during construction, with water being trucked in and waste being trucked out.

x. Ancillary Facilities

An O&M building will be constructed on the north west end of the site adjacent to the existing access road. The building will have a gravel parking area suitable for up to 15 vehicles, and will house maintenance equipment, spare parts, and the electronic plant monitoring system. This pre-engineered, metal building is approximately 60 feet by 30 feet.

Underground 12.47 kV lines will be installed to transmit AC power from the step-up transformer arrays back to the combining switchgear at the northern property line adjacent to the substation.

An underground 12.47 kV interconnection line will be installed to bring the generated power to the existing substation for distribution on the combining switchgear.

xi. Waste and Hazardous Materials Management

During the life of the project, hazardous materials will not be drained onto the ground, or into streams or drainage areas. Totally enclosed containment will be provided for all trash. All construction, operation, and maintenance waste, including trash and litter, other solid waste, petroleum products, and other potentially hazardous materials, will be removed and transported to the nearest Type II landfill or to a nearby transfer station authorized to accept such materials. Spills are not expected, but, should they occur SDG&E will implement standard spill cleanup procedures, recycling and disposal at an approved facility. So, during final dismantling and reclamation of the site, handling hazardous materials will be minimal and spills will not be an issue.

Project-related hazardous materials will generally be limited to those uses occurring during construction. Operation, and maintenance activities will involve periodic and routine transport, use, storage, and disposal of minor amounts of chemicals routinely associated with these activities, such as petroleum products, gasoline, diesel fuel, lubricants, hydraulic fluid, and transmission fluid. These products will be used to fuel and lubricate vehicles and equipment but will be contained within fuel trucks or in approved containers...

A PV module technology that may be utilized for the proposed Project may contain encapsulated cadmium telluride (CdTe). Though CdTe release to the environment is highly unlikely since it is

manufactured into a stable material that is sealed in glass, care will be taken during final disassembly and recycling so as not to break modules, and SDG&E will prepare a fire safety plan to address potential exposure to hazardous materials.

Most PV technology uses silicon, and other inert, non-hazardous materials. Many companies also have a take-back policy after their 25 year warranty is up. SDG&E will choose a solar module vendor which provides this take-back policy.

xii. Site Security and Fencing

The Project site will be surrounded with an eight foot high security fence including three-strand barbed wire or razor wire. During operations, the Project will be equipped with a security system to monitor the facility. These features will be taken down and either salvaged or disposed of.

CHAPTER II. TEMPORARY LAYDOWN SITE RESTORATION PLAN

II. TEMPORARY LAYDOWN SITE RESTORATION APPROACH

Purpose

Once the Project is ready for commercial operation, the temporary construction area will be returned to near pre-construction conditions. This chapter describes the details of the efforts that will be undertaken to return this area to a condition similar to pre-construction conditions. Once completed, the area will be maintained and monitored for five years or until the BLM has agreed that the site has met its established success criteria.

Pre-construction Conditions

The laydown area consists of Sonoran creosote bush scrub (Holland 1986). (Larrea tridentata – Ambrosia dumosa Alliance; CDFG 2007), the most common natural community in the region. The vegetation is somewhat disturbed as a result of various human-related activities. This community is dominated by creosote bush (Larrea tridentata), burrobush (Ambrosia dumosa), Panamint cryptantha (Cryptantha angustifolia), desert Indianwheat (Plantago ovata), and common Mediterranean grass (Schismus barbatus).

This community has very low species diversity and cover values when established, and is expected to develop very slowly within reclamation sites. The xeric nature of this community results in slow growth, so the community is anticipated to remain extremely open with low diversity through the maintenance, monitoring, and reporting period. The seed palette for this community will contain many annual and perennial herb and shrub species.

Habitat Approach

The reclamation approach for desert scrub vegetation community will focus on coordination with the BLM reclamation staff to achieve the goals for desert reclamation on BLM lands, and achieving consistency with the desert bioregion revegetation/reclamation guidance. This includes decompaction of soils, recontouring impact areas to pre-impact topography and pitting or imprinting soils to aid in seed and water retention. The primary goal of the reclamation activities in desert scrub communities is to minimize and avoid soil disturbance to the maximum extent practicable, through any means required, as well as a thorough weeding program. Crown pruning or mowing of perennial plant species within temporary impact areas in order to preserve the root system and maximize the chance of re-sprouting will also be conducted to aid in re-establishment of impacted vegetation communities. Utilization of temporary construction mats, or installation of mulch, rock, or sand to minimize machinery impacts and the resulting area requiring reclamation after construction activities have ceased will be the primary goal in these delicate communities. The native desert scrub communities exhibit variable levels of plant species diversity, and are subject to infertile soils and extremes in average precipitation and temperature. Installation of suitable erosion control materials to control erosion during seasonal flooding events will also be important elements for successful reclamation in desert scrub communities.

A. Habitat Plan

Activities Before and During Construction

Pre-Impact Site Documentation

Data on existing biological conditions will be compiled at the temporary laydown area prior to the initiation of Project construction activities. The information will be compiled from site assessments conducted for the Project and will include but not be limited to:

- A plant species list (native and non-native plants);
- Distribution and characteristics of vegetation communities;
- Known locations and estimated size of special status plant populations;
- Weed survey results;
- Soil types, density, and conditions; and
- Site photos.

Seed Palette Design

A generalized seed palette for sonoran creosote bush scrub vegetation community is provided in Table 1 below. The palette was developed based on other desert scrub plant species observed in the general area. The seed palette is preliminary, and community-specific mixes with specified seed quantities and application rates per acre will be developed prior to completion of the project. A wide variety of native desert scrub plant species are included on the general palette to provide options for designing final seed palettes that will reflect the natural diversity, species composition, and relative abundance of species within the project area. Final seed palettes will be developed following collection of reference site data and similar undisturbed habitats adjacent to the project area.

Table 1. Sonoran Creosote Bush Scrub Generalized Seed Palette

Scientific Name	Common Name
Acacia greggii	Cat's-claw
Ambrosia dumosa	Burrowbush
Atriplex polycarpa	Allscale
Camissonia claviformis	Brown-eyed primrose
Chorizanthe rigida	Spiny chorizanthe
Cryptantha angustifolia	Narrow-leaf cryptantha
Encelia frutescens	Rayless encelia
Ephedra californica	California ephedra
Garaea canescens	Desert sunflower
Larrea tridentata[1]	Creosote
Oenothera deltoids	Desert primrose
Plantago patagonica	Desert plantain
Pleuraphis rigida	Big galleta
Tiqulia palmeri	Palmer's coldenia

Development of Performance Standards and Success Criteria

As the basis for the performance standards and success criteria in the site-specific reclamation plans, SDG&E or its reclamation contractor will work in coordination with the BLM to identify appropriate performance standards, success criteria and an appropriate reference site. Development of the standards and criteria will begin when data on the impact areas has been compiled and reference areas from which performance standards are to be based have been identified. Key issues to be considered include but are not limited to:

- Appropriate performance standards for reclamation that will not include irrigation systems; and
- Short- term and long-term standards for determining if a restored site is self-sustaining;

To provide a consistent framework for evaluating reclamation, it is recommended that the performance standards/success criteria focus on quantifiable cover attributes, including: percent bare ground, percent native cover, percent non-native cover, and overall species diversity based on the seed mix and volunteer species within the reclamation site

Seed Collection

Native plant seeds will be collected within the vicinity of the project site. All seed material will be collected by a professional contract seed-collector who is qualified and authorized to collect native seed from wild source populations. Species flowering periods, annual rainfall patterns, elevation, and general field variability of plant populations all influence the timing of seed set, so collection managers will inspect native seed sources prior to mobilizing crews to identify optimal collection times for the desired species and for efficiency, seed will be collected for multiple species concurrently when possible. Seed material will consist of locally endemic native seed to protect the regional biodiversity and evolutionary fitness of native plant populations from genetic contamination potentially introduced by seed material obtained commercially or from other bioregions.

Availability of seed may be limited by edaphic factors including drought during the collection period, so flexibility in species selection and application rates will be necessary. Actual amounts of seed necessary will ultimately be determined by the purity and germination rates of the collected seed. Seed utilized will not contain more than 0.5 percent weed (as defined by Cal-IPC, 2006) seed by volume. All seed material will be separated and clearly labeled with the date of collection, location, and species by scientific name. All seed material will also be weighed, cleaned, and tested for purity and germination values. Seed material will then be mixed for the appropriate acreage. Seeds will be stored in a cool, dry environment until delivery.

Vegetation Clearing and/or Plant Salvage

The temporary laydown area will be left in its native state to the fullest extent possible. The temporary construction workspace will only be graded, and compacted with a gravel overlay to mitigate unsuitable conditions only in the last resort. Those portions of the temporary laydown area where perennial shrubby vegetation is present will be pruned by hand, mowed, chained and/or mulched prior to the commencement of other construction activities. These activities will aid in preserving the underground biomass (roots, tubers, or caudex) of native perennial plant species as well as the mycorrhizal network and seed bank in the temporarily impacted location. These activities are of particular importance in desert scrub vegetation communities.

For the temporary laydown area, the focus will be on retaining plant nutrients around the bases of shrubs, (Soil nitrogen content decreases significantly as a function of radial distance from the center of the shrub canopy.) This type of soil material will be left in place in areas of temporary disturbance. Shrubs will be

trimmed to a low height or to the crown, and allowed to re-sprout using their existing mature root system. Additionally, annual plants should grow more quickly in the relatively undisturbed high-nutrient area under the canopy of a shrub. Sensitive plant species, if found, will be removed from an impact area prior to construction, stored onsite during construction, and transplanted into the site after construction has been completed.

Weed and Erosion/Sediment Control

During construction, control of noxious weeds within temporary impact areas will occur as prescribed in the Weed Control Plan, including use of herbicide. Erosion and sedimentation controls will occur as prescribed in the applicable SWPPP.

B. Post Construction Activities

Trash and Debris Removal

After completion of Project construction activities, the Contractor will remove any trash and debris from the temporary laydown area as well as the project site. This includes all man-made materials and construction debris (e.g., concrete washout, wire, hardware, metal, plastic, glass, ceramic, rubber, etc.) that may be left onsite. The Contractor will be responsible for removal of all trash and debris from the site to an approved waste disposal site (licensed landfill).

Weed Control

Weed control following construction will occur as prescribed in the Weed Control Plan. The temporary laydown area will be maintained in weed-free condition prior to seed installation, and the last application of weed controls will occur a minimum of 30 days before seeding activities are initiated and any weeds observed will be treated/controlled.

Soil Decompaction

Decompaction of soils following construction activities is anticipated to be required for portion of the laydown area. Decompaction of soils will improve water infiltration and allow for plant root growth in reclamation areas. Decompact will occur by ripping/cross ripping, to a depth of at least 12 inches when possible, with ripper teeth mounted to the back of a bulldozer, or disking and scarifying less compacted surfaces using farming implements including tillers and disks pulled by tractors. After the compacted soil surface is broken up, implements to smooth the rough surface and return it to its original contour (e.g., drag harrows with both spike-tines and flex-tines, or link-chain harrows) will be utilized. Care will be taken to not disturb the root systems of any resprouts.

Soil Re-contouring

Any portion of the laydown area that requires grading will be contour-graded to as close to the pre-impact condition as possible prior to the implementation of reclamation activities. Soil re-contouring will be planned and implemented so that the reshaped land matches surrounding landforms and the photos of pre-impact conditions. To return the topography of the graded laydown area to a condition that blends with the surrounding undisturbed areas the graded area will transition in a manner that appears natural (i.e., contours will be smoothed rather than end abruptly at existing contours).

Seed Application

Seed Application Timing
Seed material will be installed following the completion of all necessary soil preparation activities described above. To promote successful plant establishment, seeding will ideally occur late fall /early winter annually to take advantage of winter rains and cooler, moderate temperatures. If the area is disturbed after seed application, the SDG&E will reapply the seed mix between October 1 and March 15.

Potential Restoration Techniques

- Mycorrhizal Inoculation
- Broadcast Seeding
- Imprint Seeding
- Soil pits
- Access Restriction

C. Maintenance, Monitoring, and Reporting

Maintenance
The temporary laydown area will be maintained and monitored for a minimum of five years or until the BLM deems success which could take as much as ten years given the slow growth rate of this community. The time required to meet success criteria, and therefore the duration of the post-planting maintenance and monitoring period, will depend on the level of disturbance at the site. A specific schedule of pre- and post-planting maintenance, monitoring, and reporting activities will be included in the Final Reclamation Plan. Maintenance of the temporary laydown yard once the initial seeding has occurred will potentially include the following:

- *Weed Control*
- *Trash and Debris Removal*
- *Access Restriction*

Monitoring
Monitoring frequency will included in a schedule in the Final Reclamation Plan which will be approved by the BLM. The monitoring will consist of maintenance as well as a performance evaluation. A Restoration Specialist will conduct the monitoring to determine the effectiveness of maintenance activities on each reclamation site. The Reclamation Specialist shall prescribe any additional maintenance activities that may be required. Performance monitoring will also be completed by the Restoration Specialist to document reclamation site progress relative to the established performance criteria, and for the Reclamation Specialist to prescribe any remedial measures that may be required to ensure that each reclamation site meets the performance criteria established for the site.

Reporting
The data collected in a given year will be compiled and included in an annual monitoring report. Annual monitoring reports will be submitted to the BLM. The performance reports will describe the existing conditions of the reclamation sites derived from quantitative data collection. The reports will provide a comparison of annual success criteria with field conditions, identify any shortcomings, and recommend remedial measures necessary for the successful completion of the Plan. Each yearly report will provide a summary of the accumulated data.

Adaptive Management

Adaptive management will be implemented in the event of unforeseen or probable but unpredictable circumstances. Adaptive management is defined, for the purposes of this Plan, as a flexible, iterative approach to the long-term management of the site. It will be directed over time by the results of ongoing monitoring activities and direct observation of environmental stressors that are producing adverse results within the site. Adaptive management will include the utilization of regular quantitative assessments and rapid qualitative assessment data gathered in the field during the Plan to assess the health and vigor of all vegetation communities and reclamation sites. Following an event that causes damage to all or part of the site, these data will be used in part to drive management considerations for repair of the damaged areas. Achieving the performance criteria of the Plan through establishment of self-sustaining native vegetation communities in temporary project impact areas will be the focus of all adaptive management decisions. Individual environmental stressors such as flooding or prolonged drought could require additional measures be conducted to ensure success.

D. Completion of Habitat Reclamation

Notification to BLM

When Program performance criteria have been met, SDG&E will notify the BLM and any other applicable regulatory agencies via submitting the annual report, and request acceptance of the Program reclamation sites and release from the agency permit conditions.

Regulatory Agency Confirmation

Following receipt of the notification of completion, the BLM may have personnel visit the site to confirm the successful completion.

CHAPTER III. SOLAR FIELD DEMOLITION AND SITE RECLAMATION PLAN

III. SOLAR FIELD DEMOLITION AND SITE RECLAMATION

The following provides an overview of decommissioning and reclamation activities in concept. Refinement of these activities will be required to reflect the future best practices as improvements are discovered by the agencies and industry during the term of the lease/life of the project. The effort to update and finalize this demolition and reclamation plan should be initiated at least 2 years prior to anticipated end of commercial operation, and be in consultation with the BLM and/or other applicable agencies.

A Final Closure Strategy

The overall closure strategy shall consist of the following major elements:

- Pre-closure activities, such as final closure and reclamation planning, that identifies measures to be taken to restore the site to near pre-construction conditions or compatible with surrounding land.
- Set up and document a site specific health and safety plan and procedures to be followed; train personnel accordingly.
- Develop specifications for demolition and reclamation, which will serve as the basis for contractor bids for the decommissioning project and establish the scope of demolition and reclamation, including developing reclamation plans in compliance with local, state, and federal regulations and as may be required by the BLM lease;
- Demolishing and removing of above and below ground facilities as needed to meet the closure goals;
- Clean up of soils and site, as required, to ensure that clean closure is accomplished;
- Disposal of materials in appropriate facilities for treatment/disposal or recycling;
- Re-contouring the site to match existing grades and natural drainage patterns.
- Monitor and control the execution of the decommissioning and reclamation plan through project oversight and quality assurance; and
- Document implementation of the plan and compliance with environmental requirements.

B. Plan Summary

The useful life of Ocotillo Sol is expected to be at least 25 years or more. At the end of useful life, SDG&E will decommission the site to zero generating output, including necessary demolition and site reclamation. A portion of the demolition and reclamation costs will be offset by the salvage or scrap values of the equipment. Decommissioning will be undertaken using traditional heavy construction equipment including but not limited to front end loaders, cranes, track mounted and rubber tired excavators, bull dozers, and scrapers.

For the modules, a take back program which will collect and recycle the solar modules at the end of their useful life, will be employed. When SDG&E determines that Ocotillo Sol should be retired, the solar modules will be dismantled by SDG&E and shipped to the module

manufacturer's nearest storage facility based on module take back program. Meanwhile, all the above-grade racks and posts structures, and underground conductors, will be salvaged. Aside from dismantling the panels and all other above ground structures, SDG&E will be responsible for removal and disposal of other project facilities and for the reclamation of the site following the removal of salvageable equipment.

The combiner boxes, meteorological stations, transformers, inverters, switchgear, control equipment, and surrounding fencing will be removed and the demolition contractor will take ownership of the equipment. The salvage value of this equipment will be used to offset a portion of the demolition and reclamation costs. Transmission lines will be removed. AC and DC cabling below grade will be removed. Conductors at 4' below grade and above will be removed. Any conductors below this level will be left in place. Areas of removal will be backfilled with natural material and compacted. The salvage value of this material and equipment will be used to offset a portion of the demolition and reclamation costs.

All concrete foundations will be removed to a depth of four feet below grade. This will include the removal of the concrete foundations of the transformer and inverter skids and switchgear. The concrete will be demolished, loaded into a dump truck and hauled to a local landfill for disposal or recycling. The portions of the concrete foundations that are greater than four feet below grade will be abandoned in place. All rack posts in the ground will be removed and salvaged. Any voids left from the removal of foundations will be backfilled with surrounding subsoil and topsoil and fine graded to ensure suitable drainage and reclamation of natural grades.

To the extent required, crushed rock surfacing will be removed. Areas where crushed rock surfacing has been removed will be fine graded to ensure suitable drainage. The removed crushed rock will be loaded into a dump truck and the demolition contractor will take ownership of the crushed rock for reuse.

Finally, the site will be re-contoured using standard grading equipment to return the land to match the surrounding grade and natural drainage patterns. Grading activities would be limited to previously disturbed areas that may require recontouring. Efforts would be made to disturb as little of the natural drainage and vegetation as possible. Fills would be compacted by wheel or track rolling to avoid over-compaction of the soils.

C. Soil Management and Re-Contouring

Demolition operations will be conducted so as to minimize the surface area disturbance and implement the activities in the safest and most efficient manner. The site will be recontoured in order to leave it in smooth, regular, and natural contours – features that would create ponding or un-sightly features will be prohibited. Major earthwork is not anticipated as construction of the site will not alter the general grade across the site.

D. Reclamation and Habitat Restoration

Once the site has been completely decommissioned and the soil has been recontoured and decompacted, a Habitat Restoration Plan, developed for this specific site using the best available technologies, will be implemented. At this particular time it would seem prudent to use the restoration framework as developed for the restoration of the 15-acre laydown yard. The plan

should be updated to reflect the site conditions at the time of decommissioning. The Weed Control Plan should also be used a framework for preventing the spread of weeds during the decommissioning process

Long-term monitoring will be conducted to determine if reclamation and weed control are successful. Annual monitoring reports will document the status of the weed control and revegetation. Monitoring will include an assessment of the establishment of native versus invasive species and includes factors such as density, diversity, richness, cover, and seedling establishment. Monitoring will be conducted as required.

E. Solar Field Demolition and Site ReclamationWorkflow

The following summarizes the sequence of the main activities during decommissioning and reclamation:

- Demolition and site reclamation specifications will be developed to define the scope of the decommissioning and site reclamation activities.
- 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 completely disconnected from the substation per SDG&E safety procedures.
- The site will be surveyed and marked for demolition.
- Temporary construction fencing will be placed, if required, at the direction of biological and cultural monitors to keep construction crews out of sensitive environmental or cultural areas.
- With the combining switchgear isolated from the substation in 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 the PV manufacturer storage sites or recycling centers.
- DC string wiring from module arrays to combiner boxes that are connected to the racking will be removed and salvaged.
- Racks will be disassembled and removed from the site 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.

- Foundations will be demolished and its rubble loaded onto dump trucks and transported to nearest land fill or recycling center.

- Underground cables will be removed, and salvaged. This will include grounding cabling. Installations of underground electrical systems are typically trenched to a depth of three feet with cables directly buried, i.e., no conduit is used.

    - DC Cables from the combiner boxes to DC fuse boxes and inverters will be removed and salvaged.

    - AC cables from inverter stations to switchgear will be removed and salvaged.

    - Underground DC cabling from module arrays to combiner boxes will be removed, and salvaged.

- Areas of excavation will be backfilled and recompacted to match surrounding compaction and grades.

- SCADA will be disconnected and removed, salvaged by the electrical demolition contractor.

- Electrical and Mechanical Systems will be properly isolated and demolished in the O&M Building. Walls, doors, and windows will be removed and salvaged. The parking lot gravel will be loaded into a dump truck and re-used or disposed of into the nearest land fill. All salvageable parts and parts to be disposed of will be removed from the site. Bathroom facilities are provided through use of porta-potties which will be removed by the leasing company.

- Any top gravel remaining on the site roads will be removed and transported away from the site.

- Fuel containers, if any remain, will be disposed of properly according to requirements for the handling and disposal of such materials. Any other materials which may be deemed hazardous will be removed from the site and disposed of according to the hazardous materials handling requirements pertaining to the site.

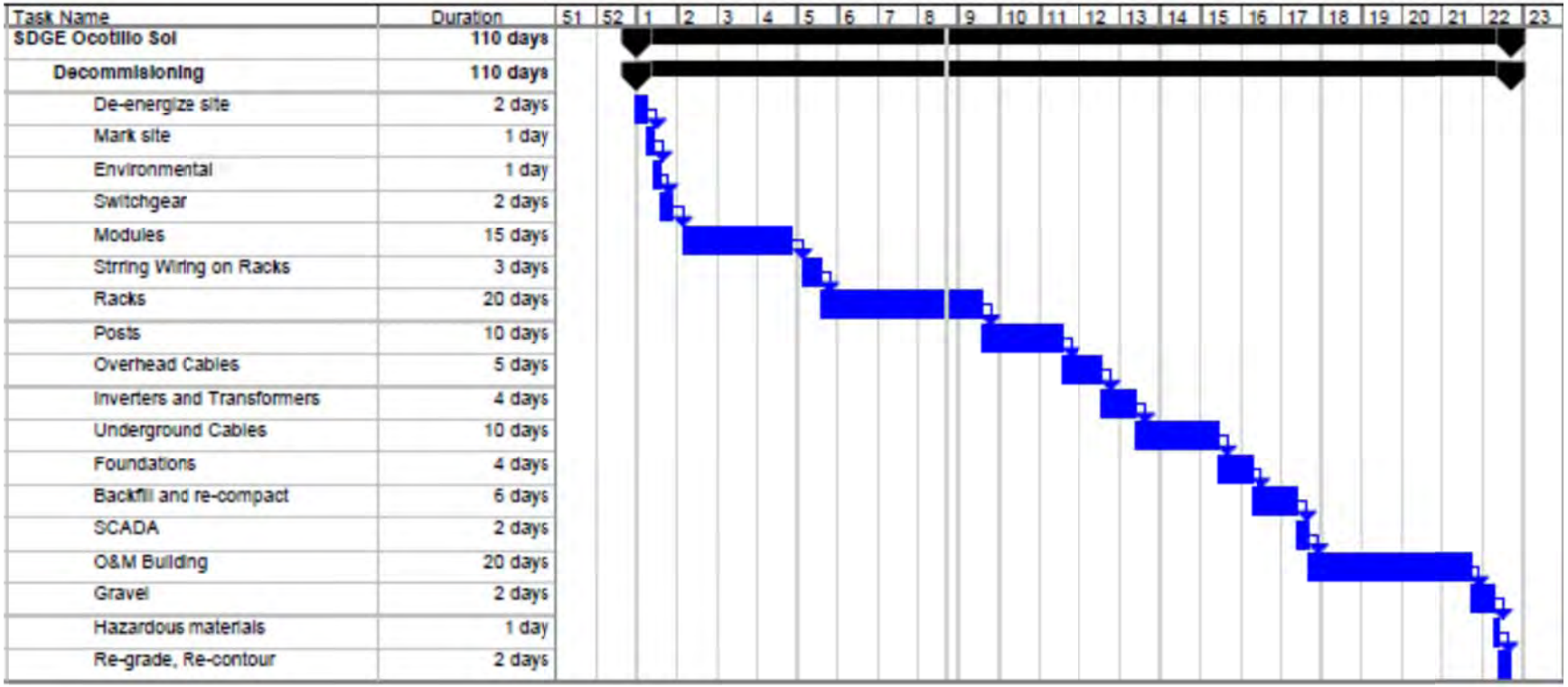
- The whole site re-graded as necessary to be compatible with surrounding land.

- Applicable areas will be re-seeded with native plant seed.

Timetable and Sequence of Demolition and Reclamation

Demolition and de-commissioning activities are anticipated to last up to four months, see Figure 7.

Figure 7: Demolition and Reclamation Schedule



Task Name	Duration
SDGE Ocotillo Sol	**110 days**
Decommisioning	**110 days**
De-energize site	2 days
Mark site	1 day
Environmental	1 day
Switchgear	2 days
Modules	15 days
Strring Wiring on Racks	3 days
Racks	20 days
Posts	10 days
Overhead Cables	5 days
Inverters and Transformers	4 days
Underground Cables	10 days
Foundations	4 days
Backfill and re-compact	6 days
SCADA	2 days
O&M Building	20 days
Gravel	2 days
Hazardous materials	1 day
Re-grade, Re-contour	2 days

CHAPTER IV. FINANCING OF DECOMMISSIONING AND RECLAMATION

IV. FINANCING OF DECOMMISSIONING AND RECLAMATION

A. Statement of Responsibility

The leasee, San Diego Gas & Electric, is a longstanding utility regulated by the California Public Utilities Commission (CPUC). The CPUC allows for the collection of funds via rates for the future decommissioning of utility assets. The CPUC mandates decommissioning at the end of an asset's useful life. As a regulated utility, SDG&E affirms its obligation to decommission and restore this site per this decommissioning plan. In the event of an assignment of the lease to a non-utility holder, SDG&E, as may be required by BLM, will require the purchase a performance bond or other similar security, which will be issued either by an insurance company or a financial institution to guarantee the satisfactory decommissioning and reclamation of the project site. The bond will be obtained as a condition precedent prior to any change in lease and will be structured so the security will be returned to the project owner upon completion of the decommissioning and reclamation activities (with an amount held in reserve until the reclamation monitoring is completed).