

Ocotillo Sol Project

CACA-51625

SDG&E Project Alternatives Analysis

Prepared for the Bureau of Land Management by
San Diego Gas & Electric Company
Updated October 2011

Introduction

San Diego Gas & Electric Company (SDG&E) submitted a right-of-way application to the Bureau of Land Management (BLM) in December 2009 (revised in August 2010) for the design, construction and operation of the Ocotillo Sol Project (Ocotillo Sol or the Project). Serialized as CACA-51625, Ocotillo Sol is proposed to be a 15-20 MW photovoltaic (PV) electric generating facility located on Federal land managed by the BLM. The proposed location of Ocotillo Sol is a 100 acre permanent project site and a 15 acre temporary construction lay down area adjacent to the existing SDG&E Imperial Valley Substation approximately four miles south of Interstate 8 (I-8) and nine miles southwest of El Centro in Imperial County, California.

The purpose of this report is to provide the BLM with a discussion of how Ocotillo Sol was developed and refined, and some of the alternatives SDG&E considered during that process. This Alternative Analysis describes the following five alternatives considered by SDG&E during the development process— Alternative 1 - Larger Acreage/Larger PV Project (Original Concept), Alternative 2 - Project located outside the Yuha Desert Management Area¹, Alternative 3 - Proposed Action (Refined Project), Alternative 4 - the Proposed Action with reduced construction lay down area and Alternative 5 – the No Action/No Project Alternative.

As discussed below, the Proposed Action does not reflect SDG&E's original project concept. Rather, the Proposed Action is the result of a robust evaluation of alternative configurations and characteristics based on technical, environmental and economic considerations, as well as agency input. This report summarizes the project objectives, formulation of the project concept and details, and a discussion of each alternative. Each alternative is analyzed based on feasibility and ability to advance the project objectives.

Pre-Application Consultation and Elimination of Non-Federal Land Alternative from Further Consideration

Since April 2009, SDG&E has worked closely with BLM staff during the pre-application phase to design and develop the Ocotillo Sol Project (see Attachment A, Project Development and BLM Consultation History). By August 2009, BLM and SDG&E had determined that non-Federal land alternatives were neither feasible nor consistent with BLM's purpose and need and eliminated those alternatives from further consideration.

The elimination of non-Federal land alternatives from further consideration was based on SDG&E's investigation of several potential private lands sites, which are described in more detail under "Alternative 2", below. Because SDG&E will interconnect to the Imperial Valley Substation at 12 kV, line loss and fault current considerations limit feasible project locations to within one and a half miles of the substation. Using real estate professionals, SDG&E evaluated private parcels within a two mile radius. These sites were determined to be infeasible for numerous reasons. Landowner contact confirmed that private parcels within the vicinity were

¹ The Yuha Desert Management Area is defined in the Flat-Tailed Horned Lizard Rangewide Management Strategy, 2003.

unavailable because (i) they were already owned by renewable energy developers; (ii) they were already under option by renewable developers; (iii) they were owned in fee by landowners not interested in selling the property for renewable development; or (iv) cost of acquisition was not economically feasible. In addition, County of Imperial officials at the time expressed concerns over the potential conversion of productive farmland to renewable energy projects. Thus, SDG&E was not able to identify a feasible non-Federal land alternative.

After reviewing these alternatives with BLM staff, and with BLM guidance and direction, SDG&E initiated a series of environmental studies, surveys and reports to assist in identifying a specific Project location that would avoid or minimize the potential environmental impacts associated with the Project on public lands. (See Attachment B: Environmental Studies, Surveys and Reports for the Ocotillo Sol Project.) In December 2009, SDG&E submitted a ROW application that included a 351-acre Study Area around the Imperial Valley Substation, per BLM guidance. In August 2010, SDG&E submitted a Plan of Development (POD) for a 100-acre Project located within the 351-acre Study Area described in the ROW application. The size and location of the 100-acre Project was specifically selected to avoid adverse effects to cultural resources based upon a Class III field survey of the larger 351-acre Study Area.²

In February 2011, BLM adopted various Instruction Memoranda (IM) related to the development of renewable energy projects within public lands. Instruction Memorandum No. 2011-061 outlines the requirements for Solar and Wind Energy Applications – Pre-Application and Screening. IM 2011-061 requires that “all prospective applicants schedule and participate in at least two pre-application meetings with the BLM before the BLM will accept a right-of-way application for a proposed solar or wind energy development project on the public lands.” Pre-application consultation meetings consistent with IM 2011-061 were held in April and August of 2011.

Instruction Memorandum on NEPA Compliance for Utility-Scale Renewable Energy Right-of-Way Authorizations (IM No. 2011-059 dated February 7, 2011) acknowledges that “The BLM will not typically analyze a non-Federal land alternative for a right-of-way application on public lands because such an alternative does not respond to the BLM’s purpose and need to consider an application for the authorized use of public lands for renewable energy development.” (IM No. 2011-059 at 4.) Additionally, IM No. 2011-059 states that “BLM may eliminate an alternative from detailed analysis for a variety of reasons, including for example, if the alternative does not respond to the BLM’s purpose and need, if the alternative is not technically or economically feasible (as informed by the applicant’s interests and objectives), or if the alternative is inconsistent with the existing management prescriptions for the area as set forth in the governing land use plan...” (IM No. 2011-059 at 4.)

Consistent with IM No. 2011-059, non-Federal land alternatives were appropriately eliminated from further consideration. Non-Federal lands alternatives do not meet BLM’s purpose and need under FLPMA to respond to a ROW application requesting authorized use of public lands for a

² SDG&E’s consultant, LSA, conducted a Class III field survey of approximately 351 acres on the south, east, and west sides of the Imperial Valley Substation. Within the 351 acre area, LSA identified 24 archaeological sites and recommended that 9 be evaluated for National Register eligibility. The remaining 15 sites were recommended as not eligible. The selected 100-acre site avoids the 9 potentially eligible resources and contains only isolated artifacts and one non-eligible site, thus avoiding adverse effects to historic properties and other cultural resources.

specific type of renewable development, nor BLM's authorities and management objectives with respect to renewable energy and public lands under the Energy Policy Act of 2005 and Secretarial Order 3285A1. Additionally, BLM and SDG&E concluded during pre-application consultation that non-Federal land alternatives were not feasible. The draft EIS should describe "all non-Federal land alternatives considered by the BLM and the applicant during the pre-application process, including previously disturbed lands, and the rationale why they were not pursued by the agency and/or the applicant..." consistent with IM 2011-059.

Definition of Project Objectives

SDG&E's fundamental objective for Ocotillo Sol is to develop, own and operate a renewable energy generation facility located in the Imperial Valley region of southern California and to deliver the renewable energy generated by Ocotillo Sol to its customers consistent with California laws, policies and mandates. The specific objectives for Ocotillo Sol are:

1. Increase the use of renewable energy and reduce greenhouse gas emissions in California consistent with existing California laws, orders and policies. California laws, orders, and policies require increasing the use of renewable energy and lowering greenhouse gas emissions. California's Renewable Portfolio Standard (RPS) is the most ambitious renewable energy standard in the country. California law requires electric corporations, including SDG&E, to increase eligible renewable energy resources by at least 1% of their electric retail sales annually, until they reach 20% by December 31, 2010, or effectively 2013 under flexible compliance provisions. California Senate Bill X1-2, signed into law on April 12, 2011, increases the current 20% renewable energy goal by 2010 to a 33% renewable goal by December 31, 2020. In addition to renewable legislation, California passed The Global Warming Solutions Act of 2006 (AB32) which requires the California Air Resources Board to regulate sources of greenhouse gasses to meet a state goal of reducing greenhouse gas emissions to 1990 levels by 2020. Additional greenhouse reduction requirements are contained in Former Governor Schwarzenegger's Executive Order (S-3-05) establishing California greenhouse reduction targets to: "by 2050, reduce GHG emissions to 80 percent below 1990 levels".
2. Develop and build a cost effective PV renewable generation project to be owned and operated by SDG&E.
3. Locate the PV project in the Imperial Valley area of southern California to allow access to strong solar resources.
4. Develop and refine the project concept and details with input and guidance from the BLM and Imperial County.

Formulation of the Project Concept and Details

Ocotillo Sol as proposed in the BLM right-of-way application and detailed in the Ocotillo Sol Project Plan of Development (POD) is the product of a rigorous analysis by SDG&E of key project considerations and evaluation of technical, environmental and economic feasibility. SDG&E met with BLM and Imperial County representatives while formulating the project concept prior to submitting a formal right-of-way application and POD with the proposed project details.

Starting in the second quarter of 2009, SDG&E concurrently began to critically evaluate potential public land (Alternative 1) and private land (Alternative 2) in the vicinity of SDG&E's Imperial Valley Substation with the potential to support development of a PV renewable generating facility. As the evaluation process progressed, the project concept, project details and project location were modified and refined as potential constraints and influential factors were better understood. Meetings with the BLM El Centro Field Office, BLM California State Office and Imperial County Executive Office staff further refined the Ocotillo Sol concept, project details and project location.

In the second and third quarters of 2009 SDG&E's project evaluation and feasibility assessment of private land indicated that land that might support renewable energy development had limited availability (primarily as a result of a boom in renewable development activities) and the price of land that was available was not economically feasible. Meetings with Imperial County's Executive office also indicated the County was concerned about the potential conversion of productive farmland to renewable energy projects.

SDG&E's project evaluation and feasibility assessment of public land indicated that land was available for right-of-way grants in the area around the Imperial Valley Substation. In addition, the Department of Interior and BLM policies and mandates promote renewable development on public lands. The evaluation also indicated that land development restrictions associated with the Flat-Tailed Horned Lizard Rangewide Management Strategy, 2003 (Management Strategy) might constrain the acreage available for project development. Guidance received in meetings with the BLM El Centro Field Office and BLM State Office in the third quarter of 2009 indicated that PV project development was feasible on Federal lands around the Imperial Valley Substation. In addition, the guidance from BLM suggested that a project site of approximately 100 acres would not exceed the development limitations contained in the Management Strategy. Based on this analysis and BLM guidance SDG&E moved forward with a refined project concept consisting of a 100 acre project site on Federal land around the Imperial Valley Substation.

Once the size of the proposed project site was established at approximately 100 acres of Federal land around the Imperial Valley Substation, SDG&E conducted additional evaluation in the fourth quarter of 2009 and first quarter of 2010 to determine the project site location that would be the least environmentally and technically constrained. This evaluation included SDG&E's initial right-of-way application in December 2009 and BLM's authorization to perform biological and cultural technical studies of a 351 acre study area east, south and southeast of the Imperial Valley Substation. It also included evaluation of potential jurisdictional waters that included an on-site stakeholder meeting with the U.S Army Corps of Engineers (USACE) followed by a jurisdictional determination letter from the USACE. SDG&E also evaluated potential technical considerations such as conflicts with existing and proposed transmission infrastructure, unobstructed south/southeast solar exposure to allow maximum solar energy production, utilization of existing access roads, minimization of the generation tie line/interconnection facilities and proximity to existing SDG&E operations.

Key considerations that were applied to refine the original project concept and details included:

1. The renewable technology for Ocotillo Sol should be based on conventional PV generating systems.
2. The PV project should electrically interconnect to the SDG&E's Imperial Valley Substation.
3. Although the Imperial Valley Substation contains 500 and 230 kilovolt (kV) facilities there is a 12 kV system within the substation with limited interconnection capacity. Interconnection at 12 kV offers the opportunity to minimize the amount of equipment, size of equipment, and cost of the interconnection facilities and minimize the potential to require upgrades or modifications to the existing transmission network. For this reason SDG&E chose to propose Ocotillo Sol's interconnection to the Imperial Valley Substation at 12 kV.
4. Electrical line loss and fault current technical considerations limit the feasible length of the 12 kV interconnection generation tie line to approximately one and one-half miles. Consequently, prospective alternative project sites should be located within an approximately one and one-half mile radius of the Imperial Valley Substation.
5. The 12 kV electrical system within the Imperial Valley Substation has a capacity to allow a PV project size up to approximately 60 megawatts.
6. Land for the project site must be available for long term control from construction through operation at an economically feasible cost, either through purchase in fee or lease.
7. In addition to the criteria of land availability, the project alternative must be located in an area where the existing land use designation allows for the development, construction and operation of a PV electric generating facility.
8. Environmental evaluation on a screening level basis should not reveal any fatal flaws or significant constraints. Project development was guided by the criteria to identify and pursue the project site that avoided and minimized impacts to environmental resources.

Considerable analysis and refinement of Ocotillo Sol occurred between project initiation in the second quarter of 2009 and August 2010 when the revised right-of-way application and POD were submitted to the BLM. The purpose of the revised right-of-way application was to reduce the project area from the 351 acre study area to the 100 acre permanent project site and the temporary 15 acre lay down area as detailed in the POD.

Analysis of Each Alternative

Alternative 1 – Larger Acreage/Larger Project (Original Concept)

The Original Concept for Ocotillo Sol was a project located on up to 619 acres surrounding the Imperial Valley Substation and a project capacity up to 60 MW, which is the approximate capacity of the 12 kV electrical system within the Imperial Valley Substation. Figure 1 depicts the area of approximately 619 acres surrounding the Imperial Valley Substation that has the potential to accommodate the maximum project size of up to 60 MW and allow interconnection to the Imperial Valley Substation at 12 kV.

Ocotillo Sol Project
 Figure 1
 Alternative 1
 Larger Acreage/
 Larger Project



Legend

-  Area 1
-  Area 2
-  Area 3
-  Imperial County Parcel

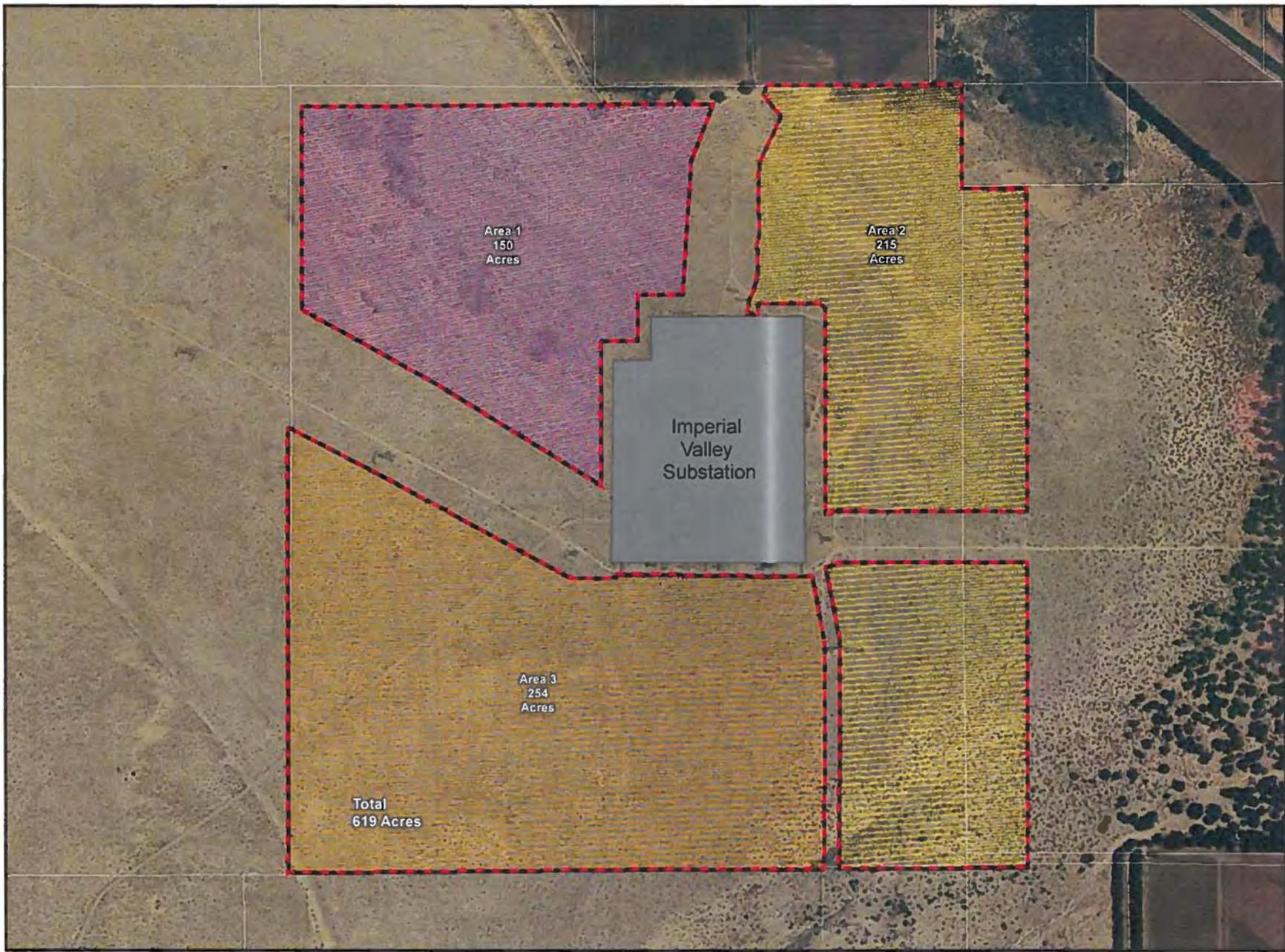


0 200 400 600 Feet
 1 inch = 700 feet



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Evaluation of Alternative 1 in the second quarter of 2009 revealed constraints that limit the potential acreage and corresponding project size in the area around the Imperial Valley Substation. First, environmental evaluation of the area around the Imperial Valley Substation indicated constraints relating to development within the FTHL Yuha Desert Management Area and potential impacts to cultural resources. The FTHL Rangewide Management Strategy limits land use authorizations within the Yuha Desert Management Area such that the cumulative new disturbance since 1997 may not exceed 1% of the total acreage on Federal land. Additionally, archeological sites were identified that appeared to meet the eligibility criteria for the National Register of Historic Places (NRHP). Also, existing (and now proposed) transmission lines and generation tie lines effectively divide the area around the Imperial Valley Substation creating several potential conflicts between a larger PV project site area and the other energy infrastructure within existing designated energy corridors. Consequently, it was concluded that a PV generation project located on the 619 acres surrounding the Imperial Valley Substation was not feasible. Through SDG&E's evaluation and pre-application discussions with the BLM it was concluded that a project site of approximately 100 acres would be more feasible considering the land use authorization limit within the FTHL Rangewide Management Strategy.

Based on a screening level analysis and input from BLM, Alternative 1 was determined not to be feasible and eliminated from further evaluation. However, the knowledge gained in the evaluation of this alternative was useful in establishing the ultimate development concept of the Proposed Action and how to proceed in determining the least environmentally constrained project site. The specific impact on the Proposed Action from the Alternative 1 evaluation was an understanding that the feasible project acreage would be approximately 100 acres or enough acreage to support a 15-20 MW PV project. In addition, Alternative 1 evaluation provided the basis for establishing a 351 acre study area to assess in detail the environmental constraints and development constraints around the Imperial Valley Substation. As a result of environmental and technical analysis within the 351 acre study area, the 100 acre project site location selected south and southeast of the Imperial Valley Substation southern fence line was the least constrained area.

Alternative 2 –Project Located Outside the Yuha Desert Management Area (Non-Federal Land Alternatives)

Alternative 2 was a project with the PV project site located outside the Yuha Desert Management Area, a generation tie line crossing the Yuha Desert Management Area and an interconnection point within the Imperial Valley Substation. Since the Imperial Valley Substation is completely surrounded by the Yuha Desert Management Area it is not feasible to interconnect to SDG&E's Imperial Valley Substation without at least a generation tie line crossing the Yuha Desert Management Area.

SDG&E evaluated the alternative of a PV project site located on private land outside the Yuha Desert Management Area at the same time Alternative 1 was evaluated. Since the project criteria includes an interconnection to the Imperial Valley Substation at 12 kV, line loss and fault current considerations limit the feasible project site location to within approximately one and one-half miles of the Imperial Valley Substation. The Alternative 2 evaluation began with identification of private parcels within a two mile radius of the Imperial Valley Substation as shown in Figure

2 (Alternative 2-Project located outside the Yuha Management Area). This two mile radius around the Imperial Valley Substation was slightly larger than the distance estimated to be technically feasible to increase the number of parcels considered.

In the spring of 2009 SDG&E conducted research and private landowner contacts through real estate professionals knowledgeable of the Imperial County area around the Imperial Valley Substation.

Site 1 – (1A & 1B)

Site 1 is approximately 560 acres in size and is comprised of approximately 320 acres of undeveloped, fallow land abutting Federal land (Site 1A) and approximately 240 acres of productive farmland west of the Westside Main Canal (Parcel 1B). SDG&E proposed written option and purchase terms for the entire 560 acres based on the market value of land in Imperial County, and local real estate professional feedback. The landowner responded that Parcel 1A was already under option to another energy project developer and that SDG&E's offer on Parcel 1B was well below their interest level. Subsequent real estate professional contact with the landowner indicated a price per acre expectation over 3 times higher than SDG&E's offer price and SDG&E concluded it was not economically feasible to continue pursuit of these parcels because the landowner expectations were well above market prices and because based on SDG&E discussions with BLM, Federal land was available for renewable development at fair market value lease rates.

Additionally, Site 1A contains desert terrain similar to the Ocotillo Sol proposed site, thus the probability this parcel would exhibit the presence of flat tailed horned lizard and burrowing owl species is high. Also, based on an archaeology records search (Imperial County CHRIS data, October 7, 2011) the potential for archaeological sites in this area is high. As illustrated on Figure 2, Pinto Wash also crosses the southeast portion of Parcel 1A creating a high potential for jurisdictional waters that could impact up to one half of Site 1A's acreage. Site 1B also borders the West Side Main Canal which has been determined eligible for the National Register of Historic Places.

Site 2

Site 2 contains two private parcels that are surrounded by Federal land approximately 1.5-2 miles northwest of the IV Substation. These two parcels are owned by two separate landowners. Through a real estate professional SDG&E contacted the two landowners with one indicating possible interest and the other no interest. SDG&E did not continue to pursue the interested landowner because the Southwest Powerlink, Sunrise Powerlink and Imperial Valley Solar Generation Tie Line would encumber the parcel, making a PV project on this site infeasible.

Site 2 are private inholdings in the Yuha Desert Management Area which is located in desert terrain similar to the Ocotillo Sol proposed site, and would therefore have a high potential for the presence of flat tailed horned lizard. Additionally, based on an archaeology records search (Imperial County CHRIS data, October 7, 2011) the potential for archaeological sites in this area is high.

Ocotillo Sol Project
 Figure 2
 Alternative 2
 Project Located Outside
 the Yuha Desert Management Area



Legend

-  2 Mile Radius of Imperial Valley Substation
-  Imperial County Parcel
-  Non Federal Alternative Sites

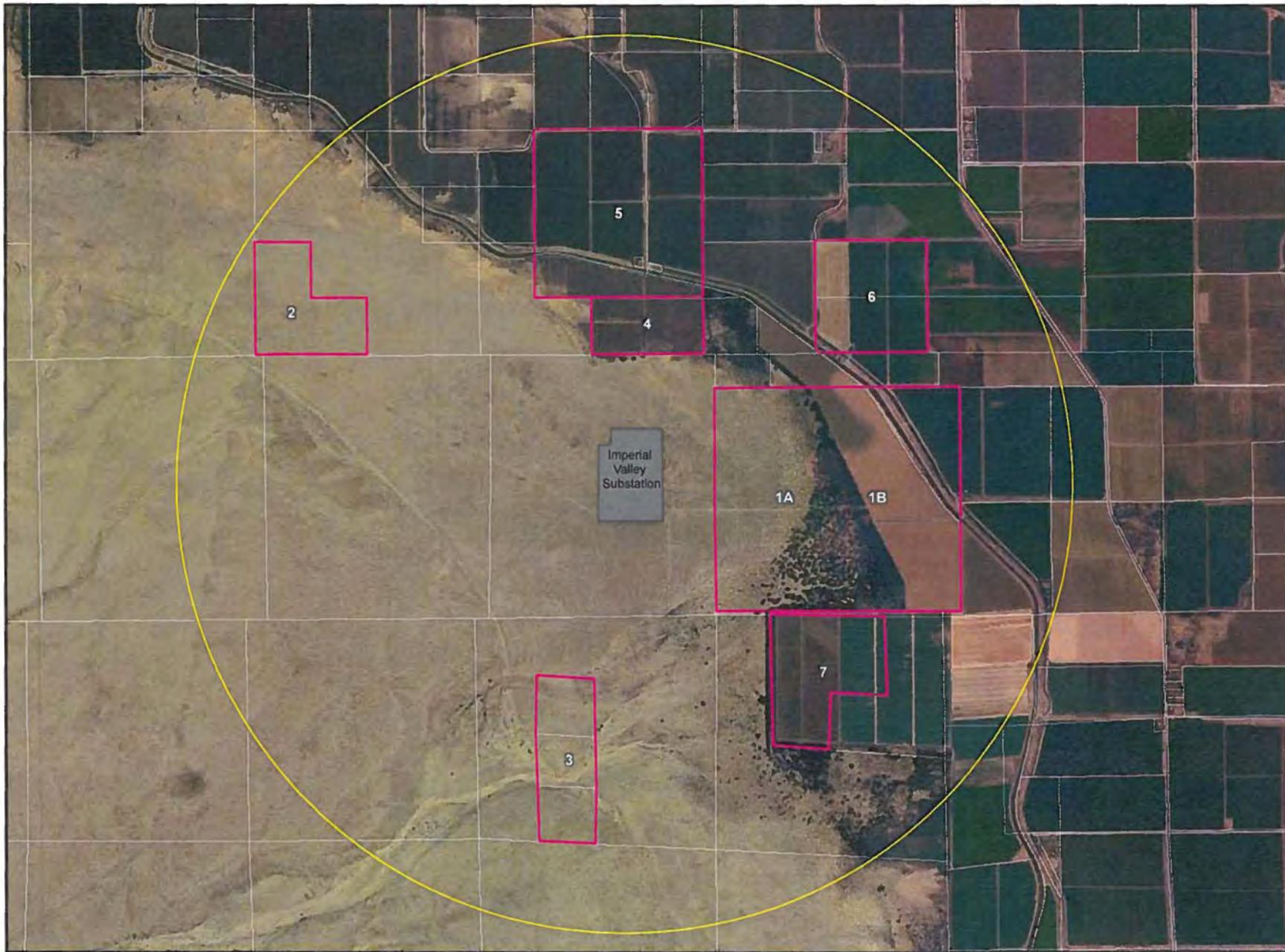


0 1000 2000 Feet
 1 inch = 2,100 feet



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Site 3

Site 3 consists of three separate parcels owned by three separate landowners with each parcel approximately 42 acres in size. The three parcels are south of the Imperial Valley Substation, they abut each other running south to north and are surrounded by Federal land. SDG&E briefly considered these three parcels but did not pursue them because to secure control of adequate land for a feasible project size would require negotiations with multiple landowners.

Site 3 are private inholdings in the YUHA Desert Management Area and should be eliminated from further review because it has desert terrain similar to the Ocotillo Sol Proposed site that indicates a high probability this parcel would exhibit the presence of the flat tailed horned lizard and burrowing owl. Also, based on an archaeology records search (Imperial County CHRIS data, October 7, 2011) the potential for archaeological sites in this area is high. As evident in Figure 2, Pinto Wash crosses all three parcels creating a high potential for impacts to jurisdictional water.

Site 4 & Site 5

Based on SDG&E and real estate professional knowledge, non-Federal parcels directly north of the IV Substation and abutting Federal land were controlled by two other energy project developers. Parcel 4 was owned by Rabley Holdings, a subsidiary of Sempra Energy Corporation. Parcel 5 was under option by Mount Signal Solar/MMR Power Solutions, LLC who had a solar energy facility power purchase agreement with SDG&E approved by the California Public Utilities Commission on September 18, 2008. (Based on SDG&E's current knowledge this parcel and other parcels west and abutting Federal land are now part of the Silverleaf Solar, LLC Project.) Therefore, neither parcel was available to SDG&E.

Site 6

Site 6 consists of approximately 196 acres of productive farmland northeast of the Imperial Valley Substation. Through a real estate professional SDG&E contacted this parcel's landowner. They indicated an interest in working with a renewable energy developer, but expressed a price per acre expectation approximately 2.5 times the market value of land in Imperial County. In addition, this parcel does not abut Federal land; therefore, in addition to a right-of-way from the BLM, a right-of-way for the generation tie line would be required from an adjoining private parcel(s) landowner. SDG&E concluded that a project located on this parcel would not be economically feasible. The tie line would also have to cross the West Side Main Canal which has been determined eligible for the National Register of Historic Places.

Site 7

Site 7 consists of approximately 781 acres of productive farmland southeast of the Imperial Valley Substation and abutting Federal land. SDG&E contacted through a real estate professional the owner of this parcel. This landowner had no interest in leasing or selling the land and SDG&E does not have condemnation rights for renewable generation projects.

In summary, this research and landowner contact indicated that private parcels within a two mile radius of the Imperial Valley Substation were in one of four categories:

1. Unavailable because they were owned in fee by renewable energy developers other than SDG&E.
2. Unavailable because they were under option by renewable energy developers other than SDG&E.
3. Unavailable because they were owned in fee by a landowner not interested in renewable energy development.
4. Potentially available, but were owned by landowners whose price per acre expectations were significantly in excess of SDG&E's evaluation of regional land market prices.

SDG&E's efforts to identify and negotiate land control agreements with existing private landowners revealed that option and land price expectations did not support feasible renewable energy development economics or private land was not available for long term control to support development, construction and operation of a PV generating facility. Furthermore, although SDG&E has not performed detailed environmental studies of the non-Federal land sites considered, the detailed environmental analysis conducted around the 351 acres surrounding the IV Substation coupled with a desktop analysis provide an overview of the potential environmental issues of a non-Federal lands alternative. Based on this screening level evaluation, SDG&E concluded that the non-Federal sites considered have a high potential to contain biological, cultural and jurisdictional water issues equal to or greater than the Ocotillo Sol proposed site.

SDG&E also conducted discussions with Imperial County executives in the first quarter of 2009 about the utilization of private farmland for the development and construction of a PV facility. Although the County's land use designations do not preclude the conversion of farmland to renewable energy development, the County expressed concern about conversion of productive farmland to renewable development and a desire that development occur on parcels that are not very productive farmland or that have been fallowed. More recently in 2011, the Imperial County Planning Commissioners have expressed these concerns in public meetings associated with the review and approval of Conditional Use Permits for other solar projects located on private farmland in Imperial County. Almost all of the private parcels SDG&E evaluated within a two mile radius of the Imperial Valley Substation were farmland in active production.

In addition, a PV project located on private land outside the Yuha Desert Management Area would not meet Department of the Interior and Bureau of Land Management objectives as defined in the Energy Policy Act 2005, which sets forth the "sense of Congress" that the Secretary of the Interior should seek to have approved non-hydropower renewable energy projects on the public lands with a generation capacity of at least 10,000 MW by 2015.

There is also Federal land outside the Yuha Desert Management Area that might be available for renewable energy development. However, the closest Federal land outside the Management Area is approximately 11 miles from the Imperial Valley Substation and is beyond the technically feasible distance for a 12 kV generation tie line to the Imperial Valley Substation. A

significant portion of the federal land outside the Yuha Desert Management Area is also under development by the Imperial Valley Solar Project and the Ocotillo Express Wind Project.

Alternative 2 was considered, but not carried forward for detailed analysis.

Alternative 3 – the Proposed Action (Refined Project)

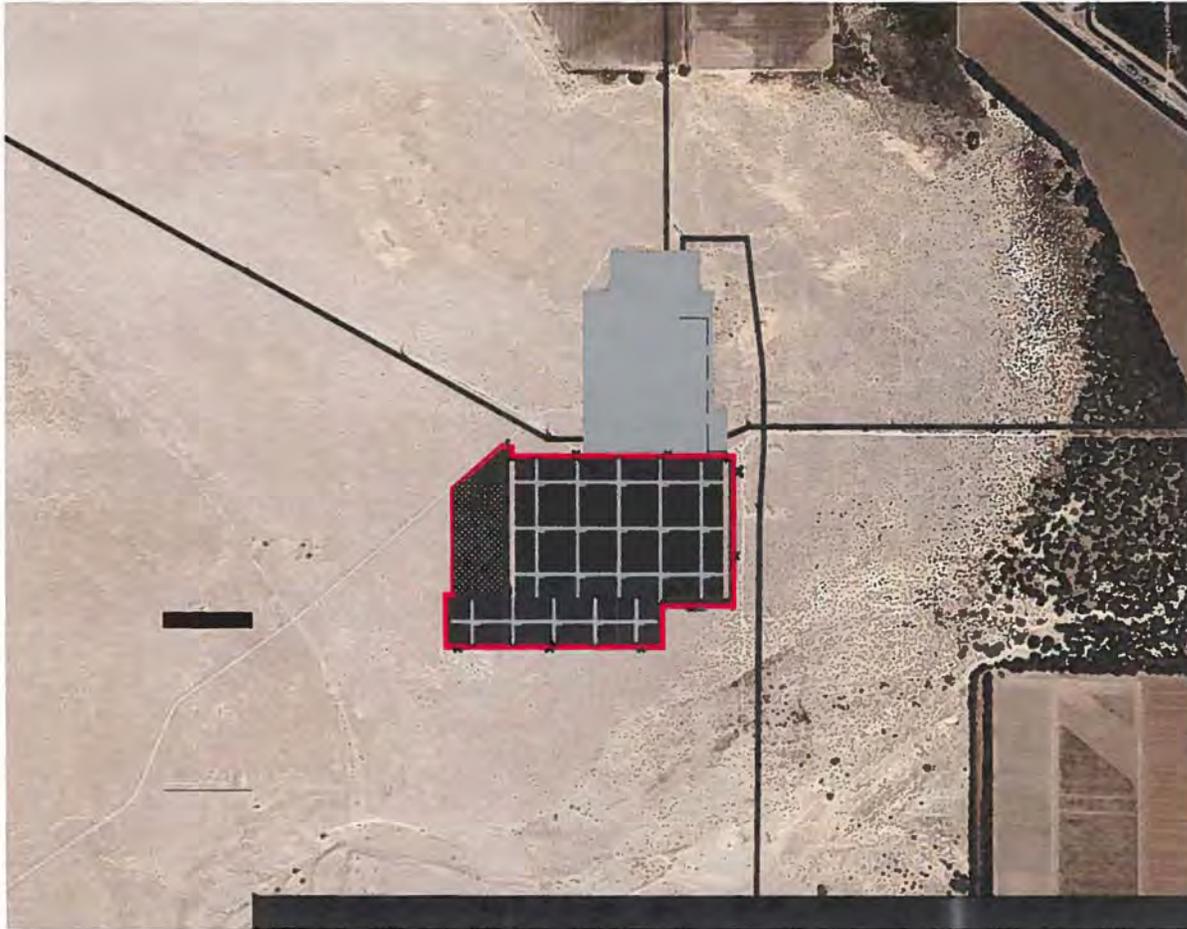
The Proposed Action was developed as an alternative to the original project concept of a larger project located on Federal land surrounding the Imperial Valley Substation. The Proposed Action has been outlined in the Ocotillo Sol revised right-of-way application (SF-299) submitted to the BLM in the August 2010 and further detailed in the Initial POD submitted to BLM in August 2010 and the Updated POD submitted to the BLM in December 2010³. The location of the proposed 100 acre permanent project site and the 15 acre temporary construction lay down area are shown in Figure 3. The 100 acre project site is anticipated to support a 15-20 MW PV generating facility.

The Proposed Action for Ocotillo Sol meets all the project objectives and is feasible. As discussed in the Ocotillo Sol POD, the Proposed Action would allow the consolidation of the proposed PV system with existing SDG&E operations (the Imperial Valley Substation) and access to Ocotillo Sol would utilize an existing access road. The Proposed Action location minimizes the length of 12 kV transmission line to approximately 1,000 feet, minimizes the amount of transmission losses and increases the feasibility of undergrounding the generation tie line connection to the Imperial Valley Substation. The Proposed Action's location adjacent to the Imperial Valley Substation would also minimize the visual impact of the PV facility, because the PV facility would meld with the existing Imperial Valley Substation and there would not be a requirement for an additional overhead transmission line. The proposed site is relatively flat and provides a fairly unobstructed south/southeast orientation.

The Proposed Action project site location is subject to the 1980 California Desert Conservation Area (CDCA) Plan. The entire project site is identified as Multiple Use Class L. Class L land "protects sensitive, natural, scenic, ecological, and cultural resource values," and is "managed to provide for generally lower intensity, carefully controlled multiple use of resources, while ensuring that sensitive values are not significantly diminished." Most land use activities are allowed in a Class L designation after NEPA requirements are met. The Proposed Action is a proposed use that would conform to the CDCA Plan after NEPA requirements are met.

Based on BLM protocol level biological, water resources and cultural surveys of approximately 351 acres around the Imperial Valley Substation (performed under the original right-of-way application submitted to the BLM in December 2009) the proposed 115 acre area directly south and southeast of the Imperial Valley Substation was identified as the least environmentally constrained. Results of the biological surveys did not identify any state or Federal listed plant or animal species and the Proposed Action was also situated to avoid impacts to Pinto Wash, a potential Federal and jurisdictional water which is located approximately 540 feet to the northwest. The Proposed Action was also designed to avoid potentially eligible cultural

³ The December 2010 update to the POD addressed BLM comments, questions and requests for additional information after BLM review of the initial POD.



LEGEND

PROJECT FEATURES

-  NEW INTERCONNECTION LINE
-  NEW CHAIN LINK FENCE
-  TEMPORARY LAYDOWN AREA
-  INVERTER / TRANSFORMER PAD
-  INDICATES 1 MW SOLAR ARRAY

EXISTING UTILITY FEATURES

-  TRANSMISSION CORRIDOR
-  IMPERIAL VALLEY SUBSTATION

RENEWABLE ENERGY ROW

-  CACA051625



Ocotillo Sol Project

FIGURE 3
PRELIMINARY SITE LAYOUT ALTERNATIVE 3
PROPOSED ACTION

resources. Of the 67 cultural resources identified within the 351 acre survey area, 13 occur within the Proposed Action site (115 acres). These include twelve prehistoric isolates and one prehistoric archeological lithic artifact scatter. Based on the results of the survey combined with a geomorphic and regional analysis of archeological resources within the area, the 13 cultural resources would not meet the eligibility criteria for the NRHP.

Alternative 4 – the Proposed Action with Reduced Construction Lay Down Acreage

Alternative 4 would reduce the 15 acre temporary lay down area shown in Figure 3 directly east of the proposed 100 acre permanent project site. SDG&E analyzed the feasibility of this alternative as a refinement to the Proposed Action by performing a detailed evaluation of the areas and acreage required to support construction activities, the sequence and timing of construction activities and equipment deliveries and a close look at areas within the proposed permanent project site that might be utilized to support construction. The result of this evaluation is shown in Figure 4. Alternative 4 would limit the space available for construction activities and constrain the construction process. It would require closer planning and coordination of construction activities by the construction contractor.

Alternative 4 reduces the temporary construction area east of the project site from 15 acres to two acres. The temporary two acre site would be utilized as a parking area for construction labor and would be reclaimed at the end of the construction period. All other construction support and lay down requirements would be contained within the 100 acre permanent project site.

Alternative 4 meets the project objectives and was determined to be feasible. Except for the reduction of the temporary lay down area, all other details of Alternative 4 would be the same as the Alternative 3 - Proposed Action.

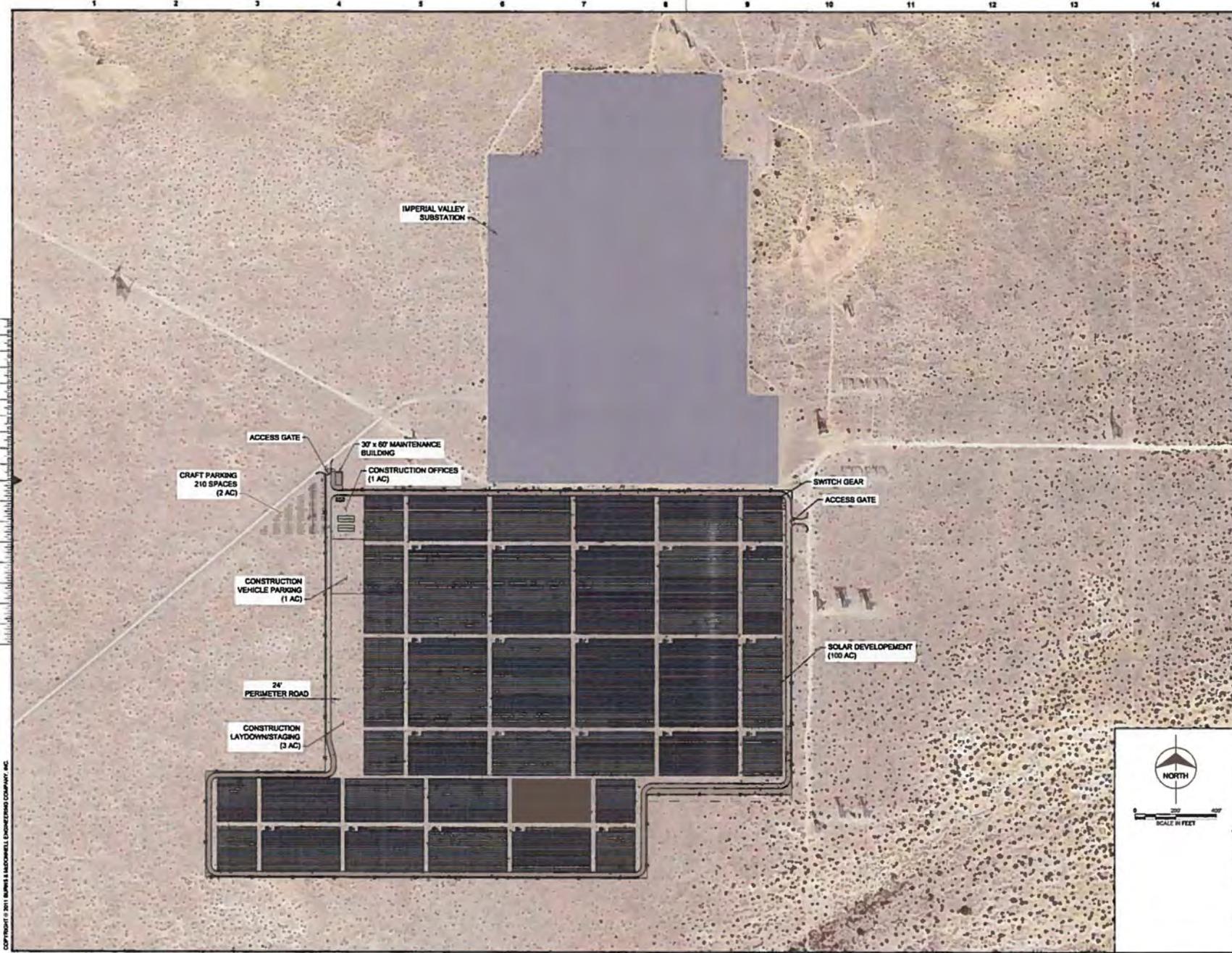
SDG&E prefers the larger temporary lay down area contained in the Alternative 3 – the Proposed Action. However, if requested by the BLM as a result of the NEPA process SDG&E will refine the Proposed Action to reduce the amount of temporary lay down area to two acres as reflected in Alternative 4.

Alternative 5 – No Action/No Project Alternative

The No Action/No Project Alternative assumes that the right-of-way grant is denied; that Ocotillo Sol is not constructed and operated; and the CDCA Plan is not amended to allow the Project to move forward.

Alternative 5 would not meet the SDG&E objectives for Ocotillo Sol as identified earlier in this Alternatives Analysis.

In addition, the No Action/No Project Alternative would not meet Department of the Interior and Bureau of Land Management objectives as defined in existing orders and policy. Department of the Interior and Bureau of Land Management objectives are defined in the Energy Policy Act 2005, which sets forth the “sense of Congress” that the Secretary of the Interior should seek to have approved non-hydropower renewable energy projects on the public lands with a generation



no.	date	by	chkd	description
A	08/24/10	TD	SP	ISSUED FOR REVIEW
B	11/10/10	TD	SP	REVISED LAYDOWN AREA

PRELIMINARY - NOT FOR CONSTRUCTION



Date	SEPTEMBER 21, 2010	Designed	T.GRAF	Detailed	R.BOHRER
Checked	T.DOWELL	Checked	T.DOWELL		



A Sempra Energy Company

OCOTILLO SOL PROJECT
 FIGURE 4 - PRELIMINARY SITE LAYOUT
 ALTERNATIVE 4 - PROPOSED ACTION WITH
 REDUCED CONSTRUCTION LAYDOWN AREA

Project	50018	Contract	
Drawing	C001	Rev.	C
Sheet		of	sheets
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capacity of at least 10,000 MW by 2015. Department of the Interior Order No. 3285, Amendment No. 1, Section 4 states, "Encouraging the production, development, and delivery of renewable energy is one of the Department's highest priorities. Agencies and bureaus within the Department will work collaboratively with each other, and with other Federal agencies, departments, local communities, and private landowners to encourage the timely and responsible development of renewable energy and associated transmission while enhancing the Nation's water, wildlife, and other natural resources." BLM Instruction Memorandum No. 2007-097 policy states, "The BLM's general policy is to facilitate environmentally responsible commercial development of solar energy projects on public lands and to use solar energy systems on BLM facilities where feasible."

Conclusion

The Proposed Action has been selected by SDG&E as the preferred alternative for several reasons. The proposed site is located directly adjacent to the southern fence line of SDG&E's Imperial Valley Substation. It is located on Federal land that has a land use designation that would allow construction of the PV generation project after NEPA requirements are met. This proposed location would allow the utilization of existing access roads, would minimize the amount of equipment, cost and complexity of interconnection infrastructure, allow integration with existing SDG&E operations and is the least environmentally constrained area surrounding the Imperial Valley Substation considering biological and cultural resources, and jurisdictional water impacts. Construction and operation of the Proposed Action would have no direct impacts to any federally listed species, state listed species, jurisdictional waters, or cultural resources that have the potential to meet NRHP eligibility criteria. Visual impacts would also be minimized because of Ocotillo Sol site's location adjacent to a major electric transmission substation facility and this close proximity would make undergrounding the interconnecting generation tie line feasible. The proposed site also has flat, south/southeast orientation to allow relatively unobstructed exposure to the solar resource.

Although the Proposed Action is located within the Yuha Desert Management Area, SDG&E's evaluation in conjunction with BLM guidance indicated that Ocotillo Sol could be developed, built and operated without exceeding the cumulative acreage disturbance limitations on Federal land imposed by the Flat Tailed Horned Lizard Rangeland Management Strategy.

The Proposed Action offers the most suitable alternative to meet SDG&E's project objectives. Although the Proposed Action in Alternative 3 would result in a smaller project than SDG&E originally proposed when Alternative 1 was conceptualized, land use and environmental constraints preclude construction of a larger project. The Proposed Action is also consistent with Department of Interior and BLM orders and policies that promote development of renewable generation on Federal lands. SDG&E considers Alternative 4 to be a feasible and workable alternative that offers the opportunity to reduce the amount of disturbance within the Yuha Desert Management Area.

Under NEPA, the BLM is required to take a "hard look" at the environmental consequences of its actions and to consider alternatives that will avoid or lessen environmental impacts. The BLM's review of potential impacts and alternatives for Ocotillo Sol began long before the POD was submitted in August 2010. Although further refinements to lessen potential impacts may

still be identified and incorporated into the Project, the Proposed Action reflects considerable focus by SDG&E and BLM to advance Federal and state renewable energy goals while minimizing the impacts to the local environment.

Attachment A

Project Development and BLM Consultation History

January 2009: SDG&E begins identification of Federal and non-Federal parcels near the Imperial Valley Substation.

April 20, 2009: SDG&E begins pre-application consultation with BLM staff to discuss Ocotillo Sol as a concept to locate a photovoltaic project near the Imperial Valley Substation. The option to develop the project adjacent to the Imperial Valley Substation is discussed. SDG&E is advised by State office to coordinate with El Centro Field Office and to analyze the potential to develop the project entirely on Federal land.

July 28, 2009: SDG&E participates in pre-application meeting with the El Centro Field Office staff to discuss the project concept and next steps.

August 5, 2009: SDG&E meets with BLM staff to discuss the findings of the preliminary environmental evaluation of approximately 600 acres surrounding the Imperial Valley Substation. BLM State Office and El Centro Field Office staffs advise SDG&E to locate Ocotillo Sol on public lands surrounding the Imperial Valley substation, in light of SDG&E's investigations of potential alternate sites within private lands and BLM's purpose and need to develop renewable energy within public lands.

August 24, 2009: SDG&E informs the BLM State and El Centro Field Office that it has re-evaluated the concepts discussed on August 5 and is ready to proceed with the detailed evaluations necessary to develop an approximately 100-acre PV project on BLM land adjacent to the Imperial Valley Substation.

August 27, 2009: BLM provides El Centro Field Office point of contact to further discuss project details and obtain fieldwork authorizations, survey protocols and other relevant information.

September 11, 2009: SDG&E's Environmental Consultant, LSA and Associates, begins coordinating fieldwork authorizations with the El Centro Field Office for required environmental studies on 351 acres adjacent to the Imperial Valley Substation.

December 17, 2009: SDG&E files a ROW application for BLM approval to conduct environmental technical studies within a 351 acre area surrounding the Imperial Valley Substation with the objective of project development within the least constrained 100 acres. The SDG&E's proposed in service date was originally December 2012.

August 16, 2010: after conducting comprehensive environmental studies as per BLM El Centro Field Office guidance, SDG&E submits a POD, which reflects a refined project of 100 acres. The refined project avoids impacts to biological resources, cultural resources, jurisdictional waters and potential conflicts with other utility infrastructure. Consistent with BLM instruction memorandum for low potential screening criteria (IM No. 2011-61 dated February 7, 2011), the Ocotillo Sol project site is located on land acceptable for solar development, is adjacent to previously disturbed or developed sites, minimizes

construction of new roads and/or transmission lines and is adjacent (but not conflicting with) designated transmission corridors.

December 1, 2010: BLM holds tribal consultation meeting at the El Centro Field Office.

December 17, 2010: SDG&E submits a revised POD to incorporate BLM El Centro Field Office comments.

March 8, 2011: BLM categorizes Ocotillo Sol as one of 19 Priority Projects; ready for environmental review and public comment; potential for approval by year end; located where impacts to environment are minimized.

March 15, 2011: EIS kickoff meeting with BLM consultant (RECON). Despite nearly two years of consultation with BLM, BLM advises SDG&E that a pre-application meeting pursuant to IM No. 2011-061 (February 7, 2011) is required.

April 12, 2011: BLM advises SDG&E that Ocotillo Sol POD is sufficient to allow BLM to publish a Notice of Intent to prepare an EIS for the Project.

April 20, 2011: First BLM stakeholder pre-application meeting pursuant to IM No. 2011-061 (February 7, 2011).

July 15, 2011: BLM publishes a Notice of Intent to prepare an EIS for Ocotillo Sol.

August 1, 2011: Second BLM stakeholder pre-application meeting pursuant to IM No. 2011-061 (February 7, 2011). Attendees include representatives and County of Imperial. Native American representatives are invited, but do not attend.

August 10, 2011: BLM hosts two public scoping meetings on the Project.

August 26, 2011: SDG&E provides BLM with a written summary of alternatives to Ocotillo Sol – including alternatives that were excluded from further consideration during the pre-application consultation process, have been incorporated into the project, or are still under investigation by SDG&E. The non-Federal land alternative was identified by SDG&E as considered, but eliminated from further consideration.

September 13, 2011: BLM staff requests detailed data and meetings to analyze a non-Federal lands alternative. Additional analysis includes identification of a “preferred alternative site location and gen-tie route”, cultural resources surveys (including archaeological, built environment, and paleontological), biological surveys (including burrowing owls, general avian point counts, plant surveys, mountain plover surveys), hydrologic jurisdictional determinations from U.S. Army Corps of Engineers and California Department of Fish and Game, and a CEQA analysis from the County (according to BLM staff, most likely an Environmental Impact Report rather than a negative declaration). BLM staff indicates that this information, including a CEQA analysis by the County, is now needed prior to the completion of a draft EIS.

October 5, 2011: BLM notifies SDG&E that a detailed analysis of a non-Federal land alternative may not be needed if additional information is provided to describe why this alternative was considered, but not carried forward for detailed analysis.

Attachment B

Environmental Studies, Surveys and Reports Prepared for Ocotillo Sol Project

The following environmental studies, surveys and reports have been prepared for the Ocotillo Sol Project and submitted to the BLM for review as part of the NEPA process:

- Paleontological Letter Report, December 2009
- Flat-tailed Horned Lizard (FTHL) Survey, February 2010
- FTHL Observation Letter Report, June 2010
- Burrowing Owl Surveys, June 2010 (included a total of six field visits to the study area. Survey visits included a preliminary burrow survey in 2009 followed by subsequent focused breeding season surveys in 2010)
- Preliminary Jurisdictional Delineation Report, July 2010
- Golden Eagle Surveys Surrounding Sunrise Powerlink, July 2010
- Phase I Environmental Site Assessment, September 2010
- Cultural Resources Class III field survey, October 2010
- Focused Rare Plant Surveys, January 2011 (Included Spring and Fall 2010 Surveys)
- Winter Avian Point Count Survey, February 2011
- Spring Avian Point Count Survey, April 2011
- Biological Resources Technical Report, May 2011
- Paleontological Assessment Report, September 2011 (Requested in June 2011)
- Historic Built Environment Report, September 2011 (Requested on April 28, 2011)