

**U.S. Department of the Interior  
Bureau of Land Management**

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**Environmental Assessment**

**DOI-BLM-CA-D060-2020-0009-EA**

**(Arica Solar)**

**DOI-BLM-CA-D060-2020-0010-EA**

**(Victory Pass Solar)**

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**Arica Solar Project and  
Victory Pass Solar Project**

**August 2021**

**Preparing Office:**

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## ACRONYMS

AC	alternating current
AF	Acre Feet
AFY	Acre Feet per Year
ACEC	Area of Critical Environmental Concern
APE	Area of Potential Effects
APM	Applicant Proposed Measure
BBCS	Bird and Bat Conservation Strategy
BLM	Bureau of Land Management
BMPs	Best Management Practices
BRTR	Biological Resources Technical Report
CDCA	California Desert Conservation Area
CDFW	California Department of Fish and Wildlife
CH <sub>4</sub>	Methane
CHU	Critical Habitat Unit
CMA	Conservation and Management Actions
CNPS	California Native Plant Society
CO	carbon monoxide
CO <sub>2</sub>	carbon dioxide
CRPR	California Rare Plant Rank
CVGB	Chuckwalla Valley Groundwater Basin
DBA	Decibels A
DC	direct current
DESCP	Drainage Erosion and Sedimentation Control Plan
DFA	Development Focus Area
DOI	Department of Interior
DPM	Diesel Particulate Matter
DPR	Department of Parks and Recreation
DRECP	Desert Renewable Energy Conservation Plan
EA	Environmental Assessment
EIS	Environmental Impact Statement
ESA	Endangered Species Act
FLPMA	Federal Land Policy and Management Act of 1976
FONNSI	Finding of No New Significant Impact
Gen-tie	Generation Tie Line
I-10	Interstate 10
JTNP	Joshua Tree National Park
KOP	Key Observation Point
kV	Kilovolt
LUPA	Land Use Plan Amendment
MDAB	Mojave Desert Air Basin

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MFTL	Mojave fringe-toed lizard
MM	Mitigation Measure
MW	Megawatt
MWh	Megawatt-hour
NECO	Northern and Eastern Colorado Desert
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
N <sub>2</sub> O	nitrous oxide
NO <sub>2</sub>	nitrogen dioxide
NHPA	National Historic Preservation Act
NRHP	National Register of Historic Places
O&M	Operations and Maintenance
OHV	Off-highway Vehicle
PA	Programmatic Agreement
Pb	Lead
PEIS	Programmatic Environmental Impact Statement
PFYC	Potential Fossil Yield Classification
PM <sub>2.5</sub>	fine particulate matter
PM <sub>10</sub>	respirable particulate matter
POD	Plan of Development
PV	Photovoltaic
ROG	reactive organic gasses
ROD	Record of Decision
ROW	Right-of-way
SCAQMD	South Coast Air Quality Management District
SCE	Southern California Edison
SO <sub>2</sub>	sulfur dioxide
SR	State Route
SRMA	Special Recreation Management Area
SWPPP	Stormwater Pollution Prevention Plan
TCP	Traditional Cultural Property
USFWS	U.S. Fish and Wildlife Service
VOC	volatile organic compounds
VRM	Visual Resource Management
WSA	Water Supply Assessment

## 1.0 INTRODUCTION

### 1.1 Background

This Environmental Assessment (EA) has been prepared by the Bureau of Land Management (BLM) Palm Springs–South Coast Field Office to consider the environmental effects of the proposed Arica Solar Project, a 265 megawatt (MW) solar photovoltaic (PV) project (CACA 56898), and the proposed Victory Pass Solar Project, a 200 MW solar PV project (CACA 56477). Together these proposed projects are considered the Proposed Action, also referred to as the Projects.

This EA assists the BLM in project planning and ensuring compliance with the National Environmental Policy Act (NEPA) and with other laws and policies affecting the alternatives. This EA is a site-specific analysis of potential impacts that could result from authorizing the proposed action or its alternatives. The EA tiers to the Desert Renewable Energy Conservation Plan (DRECP) Environmental Impact Statement (EIS). The DRECP is a collaborative, interagency landscape-scale planning effort covering 22.5 million acres in seven California counties—Imperial, Inyo, Kern, Los Angeles, Riverside, San Bernardino, and San Diego. The DRECP has two primary goals. One is to provide a streamlined process for the development of utility-scale renewable energy generation and transmission in the deserts of Southern California consistent with federal and state renewable energy targets and policies. The other is to provide for the long-term conservation and management of special-status species and desert vegetation communities, as well as other physical, cultural, scenic, and social resources within the DRECP Plan Area through the use of durable regulatory mechanisms. DRECP planning decisions are “designed to both provide effective protection and conservation of important desert ecosystems, while also facilitating the development of solar, wind and geothermal energy projects in those unique landscapes.” The DRECP Land Use Plan Amendment (LUPA) and supporting EIS, identified lands within the California desert that would be appropriate for conservation and lands that would be appropriate for renewable energy development, called Development Focus Areas (DFA). The EIS supporting the DRECP Record of Decision (ROD) comprehensively evaluated utility-scale renewable energy development in the California desert including the DFA where the Proposed Action is located. The EIS considered impacts to all resources potentially impacted by renewable development. It included Conservation and Management Actions (CMAs) designed to reduce the effects of development on sensitive resources as well as highlighting other types of mitigation that might be required to further reduce impacts.

When evaluating the Projects in this EA, if the BLM determines that the Projects or alternatives would result in any new significant impact not disclosed in the DRECP EIS, then the BLM would prepare an EIS before authorizing the projects. If the BLM determines there are no new significant impacts, then the BLM expects to issue a Finding of No New Significant Impact (FONNSI) documenting the reasons why implementation of the selected alternative would not result in significant environmental impacts that were not previously analyzed and disclosed in the DRECP EIS. As described in Section 3 of the EA, the BLM found that the conditions and environmental effects described in the DRECP EIS are still valid and the EA addresses any exceptions.

The BLM is analyzing both Projects in one EA because they are immediately adjacent to one another, are proposed by subsidiaries of the same company, would be built during the same timeframe, and have similar environmental impacts. The two solar projects would share some



infrastructure, including access road(s) and a generation tie (gen-tie) line from a shared switching station to the existing Southern California Edison (SCE) Red Bluff Substation. Although the BLM is considering the two projects as the Proposed Action, if it were to approve the Projects, the BLM intends to issue one or two separate Decision Records, and two separate right-of-way (ROW) grants, one for the Arica Solar Project and one of the Victory Pass Solar Project.

## 1.2 Project Location

The Projects are located east of Desert Center in eastern Riverside County, California. They are in an area allocated as a DFA in the California Desert Conservation Area (CDCA) Plan, as amended by the DRECP LUPA. The Projects are located within the legal descriptions summarized in Table 1-1 and shown in Figure 1-1. All figures are included in Appendix A.

**Table 1-1. Legal Description**

<b>Project Component</b>	<b>Township/Range</b>	<b>Sections</b>
<b><i>Victory Pass Solar Field (1,300 acres)</i></b> APNs: 811-190-010; 811-190-015; 811-190-016; 811-211-002; 811-222-001; 811-231-006	T. 5 S., R. 16 E	Sec. 22, E1/2SE1/4; Sec. 23, W1/2, W1/2NE1/4, and W1/2SE1/4; Sec. 25, W1/2; Sec. 26; Sec. 27, SW1/4, SE1/4NW1/4, S1/2SE1/4, and NE1/4SE1/4; Sec. 34, N1/2NE1/4; Sec. 35, N1/2NW1/4 and N1/2NE1/4.
<b><i>Arica Solar Field (1,350 acres)</i></b> APNs: 811-190-010; 811-190-015; 811-190-016; 811-211-002; 811-222-001; 811-231-006	T. 5 S., R. 16 E	Sec. 13, S1/2SW1/4 and NW1/2SW1/4; Sec. 14, SE1/4 and S1/2NE1/4; Sec. 23, E1/2; Sec. 24.
	T. 5 S., R. 17 E	Sec. 19, W1/2
<b><i>Shared Gen-Tie Line</i></b>	T. 5 S., R. 16 E	Sec. 25, N1/2NW1/4; Sec. 27, N1/2NE1/4 and N1/2NW1/4; Sec. 28N1/2NE1/4, SW1/4NE1/4, and W1/2SE1/4.
<b><i>Shared Access Road</i></b>	T. 5 S., R. 15 E	Sec. 23, S1/2SE1/4; Sec. 24, S1/2SE1/4 and S1/2SW1/4; Sec. 26, N1/2NW1/4; Sec. 27, NE1/4NE1/4.
	T. 5 S., R. 16 E	Sec. 19, S ½ lot 1 and S½ of lot 2 SW¼, and SE¼; Sec. 20, S1/2SW1/4 and S1/2SE1/4; Sec. 21, S1/2SW1/4 and S1/2SE1/4; Sec. 22, S1/2SW1/4 and S1/2SE1/4; Sec. 23, S1/2SW1/4 and S1/2SE1/4; Sec. 24, S1/2SW1/4 and S1/2SE1/4.
<b><i>Alternative Access Route 1</i></b>	T. 5 S., R. 16 E	Sec. 25, S1/2SE1/4 and NW1/4SE1/4.
	T. 5 S., R. 17 E	Sec. 30, SW1/4SW1/4; Sec. 31, N1/2NW1/4, S1/2NE1/4, NW1/4NE1/4, and E1/2SE1/4; Sec. 32, SW1/4NW1/4 and NW1/4SW1/4.
	T. 6 S., R. 17 E	Sec. 6, NE1/4NE1/4.

The Projects are surrounded by approved and proposed solar development (see Figure 1-2): the existing Desert Sunlight and Desert Harvest solar projects to the northwest; the Palen Solar Project, under construction, located a mile to the east; parcels of the approved and under construction Athos

Solar Project located immediately to the east and west; and the proposed Oberon Solar Project, under environmental review, located directly to the west. The proposed gen-tie line has been routed to parallel the gen-ties associated with other existing and proposed solar projects in the area and share the existing access road along the corridor to minimize new disturbance.

### 1.3 Purpose and Need

The BLM's purpose is to respond to the Arica Solar, LLC, and Victory Pass I, LLC (Applicants), wholly owned indirect subsidiaries of Clearway Energy Group LLC, requests under Title V of the Federal Land Policy and Management Act of 1976 (FLPMA) (43 USC Section 1761(a)(4)) for ROW grants to construct, operate, maintain, and decommission solar PV facilities on public lands, while taking into consideration BLM's multiple-use mandate and otherwise complying with FLPMA, the BLM ROW regulations, and other applicable federal laws as well as the need to promote the policy objectives (Executive Order 14008) described below. The need for this action is established by the BLM's responsibility under Section 501(a)(4) of FLPMA, which authorizes the BLM to issue ROW grants on public lands for systems for generation, transmission, and distribution of electric energy.

Executive Order 14008 issued January 27, 2021 and titled "Tackling the Climate Crisis at Home and Abroad," directs the Secretary of the Interior to identify steps that can be taken to increase renewable energy production on public lands and manage federal lands to support robust climate action (see sections 204 and 207). The BLM Authorized Officer will review the Proposed Action and other alternatives and decide whether to approve, approve with modifications, or deny ROW grants to the Applicants for the Projects. The BLM may include any terms, conditions, and stipulations it determines to be in the public interest and may modify the proposed use or change the route or location of the proposed facilities (43 CFR 2805.10(b)(1)).

### 1.4 Scoping and Issues

The Council on Environmental Quality regulations state that the BLM should focus on "issues that are truly significant to the action in question, rather than amassing needless detail" (40 CFR 1500.1).<sup>1</sup> An "issue" is a point of disagreement, debate, or dispute with the proposed action based on some anticipated environmental effect. As discussed in Section 1.4.1, the BLM interdisciplinary team identified resource concerns for the Proposed Action and alternatives through a preliminary review process and by soliciting scoping comments from the public. As part of the preliminary review pursuant to 43 CFR 2804.12(b)(4), the BLM hosted an in-person preliminary meeting in September 2019 with agencies and Tribes, which was attended by representatives from 4 agencies and 8 Tribes.

Prior to scoping and after the biological and cultural resources surveys were complete, the BLM worked with the Applicants to revise the originally proposed project boundaries to avoid biological, cultural, paleontological, and geologic resources. The avoidance was required to comply with the DRECP LUPA and avoid the need for a project specific LUPA. Because of this,

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<sup>1</sup> The CEQ regulations implementing NEPA were updated in 2020, including changes to 40 CFR 1500.1. Because the NEPA process leading to this EA began on September 25, 2019, this EA has been completed under the NEPA regulations in place prior to the 2020 update. *See* 40 CFR 1506.13 (2020).

the Proposed Action went from approximately 3,800 acres to approximately 2,700 acres. The scoping process was conducted with the reduced footprints in mind.

To comply with NEPA (40 CFR 1501.7<sup>2</sup>), the BLM published a press release on October 2, 2020, that provided notice of the BLM's initiation of the environmental review for the Projects. During the public scoping period, the BLM and the California Department of Fish and Wildlife (CDFW) held one public scoping meeting. Due to the COVID-19 pandemic, the traditional format of in-person meetings was not used. The public scoping meeting was held virtually through the online web-based platform Zoom. Federal agencies, Tribes, organizations, and members of the public provided written comments during the scoping period; see Appendix B for the Scoping Report.

Comments addressed topics including:

- the BLM's purpose and need;
- potential visual effects to wilderness, dark sky, glare, and long-term visual pollution;
- impacts to cultural resources and the need for appropriate mitigation and monitoring;
- the risk of valley fever;
- consideration of environmental justice;
- impacts to biological resources including to sensitive species, avian species, microphyll woodland, wildlife connectivity, sand transport corridors and sand habitat, rare plants, and desert tortoise;
- the need for compensatory mitigation,
- the need for a Biological Assessment and consultation under Section 7 of the Endangered Species Act (ESA),
- the need to consider invasive species;
- impacts to groundwater basins and due to flooding and stormwater management;
- impacts to air quality due to dust;
- the carbon savings once carbon sequestration and the use of batteries is considered;
- use of hazardous materials;
- impacts to soils; and
- NEPA adequacy including indirect and cumulative effects; recommendations for alternatives; the appropriate NEPA document; the baseline environment; impact methodology; and appropriate mitigation measures.

#### 1.4.1 Issues for Detailed Analysis

The following resources/issues have been identified for detailed analysis:

**Table 1-2. Resources/Issues Identified for Detailed Analysis**

Issue	Section
Air Quality (including Valley Fever)/Greenhouse Gas Emissions	Impacts described in Section 3.2
Areas of Critical Environmental Concern	Impacts described in Section 3.3
Cultural Resources	Impacts described in Section 3.4
Fuels and Fire	Impacts described in Section 3.5

<sup>2</sup> For informational purposes, this is 40 CFR 1501.9 in the updated NEPA regulations.

**Table 1-2. Resources/Issues Identified for Detailed Analysis**

<b>Issue</b>	<b>Section</b>
Lands and Realty	Impacts described in Section 3.6
Palentology	Impacts described in Section 3.7
Recreation (including Special Recreation Management Areas and route closures)	Impacts described in Section 3.8
Geology, Minerals Resources, and Soils	Impacts described in Section 3.9
Socioeconomics and Environmental Justice	Impacts described in Section 3.10
Visual Resources	Impacts described in Section 3.11
Vegetation and Wildlife Resources	Impacts described in Section 3.12
Water Resources	Impacts described in Section 3.13
Wilderness	Impacts described in Section 3.14
Noise	Impacts described in Section 3.15

### 1.4.2 Issues Eliminated from Detailed Analysis

The following resources were considered but eliminated from detailed analysis:

**Table 1-3. Issues Eliminated from Detailed Analysis**

<b>Resource</b>	<b>Rationale</b>
Caves and Karst	No caves or karst areas are near the project area.
Farmlands	No farmlands are near the project area.
Fisheries	No fisheries are near the project area.
Energy	The Proposed Action is a renewable energy project and no other types of energy resources are available in th area.
Livestock Grazing	No grazing allotments are near the Proposed Action area.
National Trails	No National Scenic and Historic, or Recreational Trails are near the Proposed Action area.
Public health and safety	No meaningful effects to public health and safety are anticipated during the construction, operation, or decommissioning of the Proposed Action because it is over one mile from any residence and would abide by all federal, state, and local regulations regarding public health and safety. Unexploded ordnance training is incorporated as a Mitigation Measure and further limits effects (see Appendix E). Effects due to Valley Fever are addressed under Air Quality.
Traffic	The effects of the Proposed Action on traffic would be addressed through local and state requirements. Appendix F (Traffic and Transportation Study) includes a traffic management study which identified traffic constraints during construction. Project Design Features were included to reduce traffic constraints (see Appendix E). Travel management effects and specific route closures are addressed in the Recreation Section.

**Table 1-3. Issues Eliminated from Detailed Analysis**

<b>Resource</b>	<b>Rationale</b>
Waste (hazardous and solid)	<p>A Phase I Environmental Site Assessment (Appendix G) was completed for the Projects' sites, including to assess the presence of historical contamination. Select federal and state environmental regulatory databases were reviewed and the Proposed Action area was not listed in any of those databases. A reconnaissance visit of the Project's sites and the adjacent properties was conducted. The Phase I did not identify any Recognized Environmental Conditions (RECs) associated with the Projects sites or with the adjoining properties and their facilities. Because no RECs were identified, no additional investigations were warranted.</p> <p>Construction and operations of the Proposed Action would result in solid wastes and minor amounts of hazardous wastes that would be addressed by following existing federal and state laws, including recycling laws. Broken or otherwise damaged solar panels would be stored and recycled as noted in the Plan of Development. The BLM requires a Waste Management Plan for all construction activities on its land per Best Management Practices. See Appendix H for the laws and regulations pertinent to waste.</p>
Wild and Scenic Rivers	No wild and scenic rivers are near the Proposed Action area.
Wild Horses and Burros	No wild horses and burro management areas are near the Proposed Action area.

## 1.5 Tiering and Incorporation by Reference

Information regarding tiering procedures contained in this document is summarized from the BLM NEPA Handbook H-1790-1. Tiering is a specific method of incorporation by reference and refers to using the coverage of general matters in broader environmental analyses in subsequent, narrower statements or other environmental analyses. Tiering allows the tiered NEPA document to narrow the range of alternatives and concentrate solely on the issues not previously addressed in the existing NEPA documents. Tiering is accomplished by incorporating by reference the general discussions from the earlier NEPA documents and concentrating the analysis in the later documents on the issues specific to the action and alternatives under consideration in those documents (40 CFR 1508.28<sup>3</sup>). This EA tiers to the following environmental impact statements, all completed at the BLM state or national level. Each issue in Section 3, identifies where the resources were discussed in the appropriate EIS.

This EA tiers to the 2015 DRECP EIS. The DRECP EIS analyzed the impacts of constructing, operating, and decommissioning solar projects in the DFA in eastern Riverside County where the Proposed Action is located. The EIS considered impacts to all resources potentially impacted by renewable development. It included CMAs designed to reduce the effects of development on sensitive resources as well as highlighting other types of mitigation that might be required to further reduce impacts. The DRECP EIS presented the public with a clear understanding of the types of direct, indirect, and cumulative effects caused by solar development, including on sensitive resources found in the Projects sites. The Plan of Development (POD) for the Projects reviews all CMAs and discusses how the Proposed Action would comply with each applicable CMA (see Appendix I for a copy of the CMA table). Project Design Feature (also called Applicant Proposed Measures) DRECP-1 states that the Applicant will comply with the applicable CMAs. All Project Design Features are included in Appendix E.

<sup>3</sup> For informational purposes this is 40 CFR 1501.12 under the new NEPA regulations.

This EA also tiers to the 2007 Vegetation Treatments Using Herbicide on Bureau of Land Management Lands in 17 Western States Programmatic EIS (PEIS), as well as to the 2016 Final Vegetation Treatments Using Aminopyralid, Fluroxypyr, and Rimsulfuron on Bureau of Land Management Lands in 17 Western States PEIS. The 2007 PEIS analyzed the effects from 14 herbicide active ingredients that were identified by the BLM as effective in treating certain types of vegetation, while the 2016 PEIS analyzed an additional three herbicide active ingredients. The 2007 and 2016 Final PEIS documents address a wide range of issues, including the effect of these herbicides on the health of humans, vegetation, fish and wildlife, livestock, and wild horses and burros. The Final PEISs also consider water quality and Native American use of resources and evaluate the cumulative impact of herbicide use by the BLM and other landowners. The Final PEISs provides design features that need to be adhered to when using the herbicides.

## 1.6 Conformance with Land Use Plans, Laws, Regulations, and Policies

The actions proposed and analyzed in this EA were developed to be consistent with the management objectives and requirements for BLM-administered public lands, as identified in the following documents:

- CDCA Plan of 1980, as Amended, including:
  - DRECP LUPA and ROD (2016): Section II.2 of the DRECP LUPA identifies land allocations, including DFAs appropriate for renewable development, which include the Proposed Action sites. It also identifies Areas of Critical Environmental Concern (ACECs) and Special Recreation Management Areas (SRMAs) as areas that allow gentle lines within designated corridors. Section II.4.2 of the DRECP LUPA identified CMAs applicable to all projects within the CDCA Plan area and specifically within DFAs.
  - Northern and Eastern Colorado Desert (NECO) Management Plan (2002) which includes management of open routes and recommendations for Mojave fringe-toed lizard (MFTL).
- Section 368 Federal Energy Corridor as established by the Westwide Energy Corridor Final Programmatic EIS and Record of Decision (2009)

In addition to the Legislative, Regulatory and Policy Direction for each Management Action outlined in the CDCA Plan of 1980, as Amended (2016), the following apply:

- National Bald Eagle Management Guidelines (2007)
- Memorandum of Understanding between the BLM and the U.S. Fish and Wildlife Service (USFWS) To Promote the Conservation of Migratory Birds (2010)
- Status Assessment and Conservation Plan for the Western Burrowing Owl in the United States. USFWS Biological Technical Publication BTP-R6001-2003
- Programmatic Agreement among the BLM – California, the California Office of Historic Preservation, and the Advisory Council on Historic Preservation regarding Renewable Energy Development on a Portion of Public Lands Administered by the BLM – California (2016).



## 2.0 DESCRIPTION OF ALTERNATIVES

### 2.1 Alternative A (No Action Alternative)

Under the No Action Alternative, the BLM Authorized Officer would deny the ROW requests, and the construction of the Arica and Victory Pass Solar Projects and associated infrastructure would not occur. The land would remain undeveloped, and the site would remain an allocated DFA. The BLM would continue to manage the land under its current plan as a DFA.

### 2.2 Alternative B (Proposed Action)

The Applicants propose to construct, operate, and decommission utility-scale solar PV electrical generating and storage facilities and associated infrastructure to generate and deliver renewable electricity to the statewide electricity transmission grid.

The original ROW application was for use of approximately 3,800 acres of land administered by the BLM in the Desert Center area of Riverside County (2,000 acres for Arica and 1,800 acres for Victory Pass). After completion of biological and cultural surveys, the Projects' fence lines were revised to approximately 2,665 acres overall (1,355 acres for Arica, 1,310 acres for Victory Pass, and 50 additional acres for the shared gen-tie ROW corridor), see Figure 2-1 and Table 2-1. While the gen-tie ROW would require 50 acres, preliminary engineering indicates the ground disturbance would be approximately 10 to 15 acres.

**Table 2-1. Proposed Action Impacts in Acres**

Proposed Action Component	Arica	Victory Pass*	Total
Solar Project (Permanent)	1,355	1,310	2,665
Gen-tie (Permanent)	*0	15	15
Gen-tie (Temporary or avoided)	0	35	35
Access Road (Permanent)	0	7	7
<b>Total</b>	<b>1355</b>	<b>1367</b>	<b>2,722</b>

\* Although the Arica and Victory Pass Projects would use the gen-tie and access road, the impacts associated with this infrastructure are addressed as part of the Victory Pass Project.

The boundaries of the disturbance areas were designed to avoid desert dry wash woodland and sensitive plant species to comply with the BLM CDCA Plan, as Amended.<sup>4</sup> The Arica facility would generate up to 265 MW of renewable energy and would include up to 200 MW of battery storage, and the Victory Pass facility would generate up to 200 MW of renewable energy and include up to 200 MW of battery storage. The power produced by the Projects would be conveyed to the statewide power grid via a 3.2-mile shared overhead 230 kilovolt (kV) gen-tie transmission line interconnecting from a shared switchyard to the SCE Red Bluff Substation, an existing substation located south of Interstate 10 (I-10). The Proposed Action is located entirely on BLM-managed land.

<sup>4</sup> The DRECP amendment to the CDCA Plan includes CMAs that require avoidance of some special plant species and certain types of habitat.

### 2.2.1 Solar Facilities

Both Projects would include the following components:

- **Solar PV panels.** Types of panels that may be installed include thin-film panels (including cadmium telluride and copper indium gallium diselenide technologies), crystalline silicon panels, bifacial panels, or any other commercially available PV technology. The panels would be dark blue or black in color.
- **Mounting systems.** Panels would be arranged on the sites in solar arrays mounted on either fixed-tilt or tracking technology. Structures supporting the PV modules would consist of steel piles (e.g., cylindrical pipes, H-beams, or similar), which would be driven into the soil using pneumatic techniques, such as a hydraulic rock hammer attachment on the boom of a rubber-tired or tracked equipment. The piles would be spaced 10-15 feet apart. For a single-axis tracking system, piles typically would be installed to approximately 4 feet above grade but which could be higher or lower in certain areas depending on site topography. The fixed-tilt system height would vary based on the racking configuration specified in the final design. Panels would be arranged in strings with a maximum height of 14 feet.
- **Inverter Stations and Transformers.** The Projects would be designed and laid out primarily in increments which would include an inverter equipment area and transformers.
- **Electrical Collection System.** Panels would be electrically connected into panel strings using wiring secured to the panel racking system. Underground or above ground cables would be installed to convey the direct current (DC) electricity from the panels via combiner boxes located throughout the PV arrays, to inverters to convert the DC to alternating current (AC) electricity. The output voltage of the inverters would be stepped up to the collection system voltage via transformers located close to the inverters. The collector lines would be 34.5 kV.
- **Battery Storage Component.** Each Project may include the installation of up to 200 MW of battery storage. The system is expected to be either located adjacent to the Project substations discussed below, or distributed throughout the solar array at the inverter equipment pads or tracker rows. If centrally located, the battery system would consist of batteries housed in storage containers. Subject to final design, the containers themselves would be approximately 8 feet wide by 4 feet long by 10 feet high with approximately 6.5 feet of clearance on all sides. The battery storage component would have a footprint of up to 8 acres. The battery storage pad is a flat cement or concrete foundation that would cover approximately 2 acres of the battery storage component.
- **Temporary Construction Facilities.** Each Project site would have temporary construction staging areas and an area for construction worker parking on site that would be used during the 16- to 18-month construction period and then decommissioned and/or replaced by solar arrays. Graded, compacted, and potentially graveled roads would be required in selected locations during construction to bring equipment and materials from the staging areas to the construction work areas, and for long-term operation. Some staging areas may also require compaction and gravel, in particular the main material storage areas. Long-term operations and maintenance (O&M) roads would be built to Riverside County Fire Department specifications. During construction, the area near the location of the O&M facility (discussed below) would potentially



contain a guard shack, construction trailers, construction worker parking and portable toilet facilities. Temporary construction fencing would surround this area, and the guard shack would be manned to provide security during construction.

- **Substations.** The Proposed Action substations are anticipated to be in the north section of the Victory Pass Project Area as depicted in Figure 2-1; the final selected substation locations are subject to final design and engineering. The substations would include transformers, breakers, switches, meters, and related equipment. All interconnection equipment, including the control room if required, would be installed aboveground and within the footprint of each substation. The footprint of each substation is anticipated to be 300 by 300 feet with poles up to 100 feet in height. The substations may include a 100-kW emergency generator for use if the regional transmission system fails. If necessary, the substations would contain a control room building approximately 15 by 30 feet with an overall height up to 20 feet. The substations would be surrounded by a barbed wire chain-link fence and comply with electrical codes.
- **Ancillary Facilities.** The O&M facility for each Project would be 3,500 square feet and located near that Project's substation. The facility would be monitored by onsite O&M personnel and/or remotely. The O&M facility may consist of offices, a restroom, and a storage area. A septic system and leach field would be located at the O&M building to serve the sanitary wastewater treatment needs.
- **Telecommunications.** The Projects may require redundant telecommunications connections. The primary telecommunication line would consist of either a microwave tower or fiber optic cable and/or copper telecommunication line, installed above and/or below ground located outside of the Project Areas. The telecommunication route may use a combination of existing poles, new poles, and/or below ground installations between the point of connection to existing telecommunications infrastructure and the Projects' substations and may include rooftop transmission equipment. The Applicants would determine the exact locations and connection points at a later time, but the telecommunications system would likely build off of the existing infrastructure working directly with the utility providers. Telecommunication lines may be attached to the new gen-tie line. A digital radio system may also be used. A secondary (backup) internet connection would be provided using a point-to-point microwave wireless link.
- **Solar Facility Fencing, Site Security, and Lighting.** The boundary of the Projects' sites would be secured by six-foot-tall chain-link perimeter fences, topped by three strands of barbed wire that would add an additional foot to the fence height. The security fence would be collocated with a desert tortoise fence at its base, if required. The sites would be accessed via a locked remote gate. Motion sensitive, directional security lights would be installed to provide adequate illumination around the substation areas, each inverter cluster, at gates, and along perimeter fencing. All lighting would be shielded and directed downward to minimize the potential for glare or spillover onto adjacent properties. Off-site security personnel could be dispatched during nighttime hours or could be on-site, depending on security risks and operating needs.
- **Erosion Control and Stormwater Drainage.** The solar field development would maintain sheet flow where possible, with water exiting the site in existing natural contours and flows. The solar field requires minimal grading and concrete pads as described for the O&M facility, battery storage, inverters, and substations/switchyard. The Proposed Action avoids the largest washes that cross the sites as shown on Figure 2-1. A Stormwater Pollution Prevention Plan (SWPPP)

would be prepared by a qualified engineer or erosion control specialist and implemented before construction. It would include best management practices (BMPs). The BMPs would include dewatering procedures, stormwater runoff quality control measures, concrete waste management, watering for dust control, and construction of perimeter silt fences, as needed.

- **Shared Switchyard and 230 kV Gen-tie Transmission Line.** A 230 kV shared gen-tie line would interconnect the shared switchyard with the existing Red Bluff Substation. The footprint of the switchyard is estimated to be 300 feet by 300 feet. The gen-tie line would exit the shared switchyard near the western end of the Victory Pass site and head west for two miles and then south for one mile to reach the Red Bluff Substation's 230 kV bus at its western end. The gen-tie line ROW would be 150 feet wide and approximately 3.2 miles long. It would share the existing access road within the gen-tie corridor. Between 10 and 15 acres of ground disturbance would be required for spur roads from the existing access road to the pole locations, the poles themselves, and pull sites. New poles would be constructed of steel and would be between 100 to 140 feet tall. Because the structures would be less than 200 feet tall, they would not require lighting. Within the Red Bluff substation, SCE will install equipment supporting a new 230kV switchrack position to terminate the Project gen-tie. All work would occur within the existing substation fenceline. SCE will also install 230 kV transmission tower structures between the Projects' last structure and the substation and telecommunications infrastructure, including fiber optic cable, as appropriate, into the substation.
- **Access Roads.** Access to the sites would be from I-10. The Projects' construction and operation traffic would exit I-10 at State Route (SR) 177, then take SR 177 to Ragsdale Road, to BLM route DC425, to BLM route DC379. Route DC379 would reach the site boundaries. It is shared with numerous other ROW holders and ranges between 16 and 24 feet wide. Some improvements such as grading and widening may be required in areas where it has not been improved previously. The proposed access roads (portions of DC425 and DC379) would be widened up to 24 feet wide.

## Water Requirements

**Construction.** Construction water usage rates and total requirements would vary depending on the length and intensity of construction activities but are estimated at a total of 650 acre-feet for each Project. The construction timeframe is estimated to be 16 months for Victory Pass and 18 months for Arica, with most of the water (369 acre-feet for Victory Pass and 397 acre-feet for Arica) being used in the second year of construction. Water would be needed primarily for dust control and soil compaction, with small amounts used for sanitary and other purposes. Water for dust control would be obtained from several potential sources including an on-site or off-site groundwater well or trucked from an offsite water purveyor. Regardless of the source, it would be drawn from the Chuckwalla groundwater basin. During construction, restroom facilities would be provided by portable units to be serviced by licensed providers.

**Operation and Maintenance.** During the operation and maintenance phase, water would be required for panel washing and maintenance and for substation restroom facilities. Operation and maintenance would likely require between 15 to 25 acre-feet per year per Project. One or two small, above ground portable sanitary waste facilities may be installed to retain wastewater for employee use. If installed, these facilities would remain on-site for the duration of the Projects.

These facilities would be installed in accordance with state requirements and emptied as needed by a contracted wastewater service vehicle.

Water would be used for cleaning of the solar PV panels. It is anticipated that the solar PV panels would be washed up to three times per year to ensure optimum solar absorption by removing dust particles and other buildup. No wastewater would be generated during panel washing as water would be absorbed into the surrounding soil or evaporate.

Water required for O&M may be provided by on-site wells, purchased and trucked in from off-site and stored in storage tanks, or a combination of these sources. Water storage tanks would be installed if required by the Riverside County Fire Department. A septic system would be constructed to serve the O&M building.

### **Waste Generation**

Construction of the Projects would involve the use of hazardous materials such as fuels and greases for construction equipment. Such substances may be stored in temporary aboveground storage tanks or sheds located on the sites. The fuels stored on-site would be in a locked container within a fenced and secure temporary staging area.

The small quantities of chemicals stored at the Projects' sites during construction include equipment and facilities maintenance chemicals. These materials would be stored in their appropriate containers in an enclosed and secured location such as portable outdoor hazardous materials storage cabinets in accordance with state and federal regulations. Disposal of excess materials and wastes would be performed in accordance with local, State and Federal regulations; materials/waste would be recycled or reused to the extent practicable.

The Projects would ensure that storage is undertaken in compliance with the Spill Prevention, Control, and Countermeasure Rule and a Hazardous Materials Business Plan, which would be developed prior to construction. No extremely hazardous substances are anticipated to be produced, used, stored, transported, or disposed of during construction. Relevant Material Safety Data Sheets would be made readily available to on-site personnel. Construction materials would be sorted on-site throughout construction and transported to appropriate waste management facilities. Recyclable materials would be separated from non-recyclable items and stored until they could be transported to a designated recycling facility.

It is anticipated that at least 75 percent of construction waste would be recyclable. Wooden construction waste (such as wood from pallets) would be sold, recycled, or chipped and composted. Non-hazardous construction materials that cannot be reused or recycled would likely be disposed of at municipal county landfills. Hazardous and electronic waste would be transported to an appropriate waste handling facility. All contractors and workers would be educated about waste sorting, appropriate recycling storage areas, and how to reduce landfill waste.

### **Fire Safety**

There is limited potential for wildfire at the sites because vegetation is sparse. The Applicants would coordinate with BLM, Riverside County Fire Department, and other applicable jurisdictions, to define measures to control the risk of fire. During operations, one or more aboveground water storage tank(s) would be installed adjacent to the O&M facility if required by Riverside

County Fire Department. Additional fire protection measures would include sprinkler systems in the O&M building; a FM200 fire suppression system, or equivalent, in the facility control room at the O&M building; and portable carbon dioxide (CO<sub>2</sub>) fire extinguishers mounted at the power conversion system units. Project facilities, including access roads, would be designed, constructed, and operated in accordance with applicable fire protection and other environmental, health, and safety requirements.

Each Project would have a Project Fire Plan in place for construction and operation. The plans would comply with applicable BLM and Riverside County regulations and would be coordinated with the Riverside County Fire Department.

### 2.2.2 Construction Activities

The construction of the Proposed Action would begin once all applicable approvals and permits have been obtained. It would take approximately 16 months for Victory Pass and 18 months for Arica from the start of construction to completion of the Projects. The bulk of the construction schedule for each Project is expected to overlap.

The construction schedule would have overlapping stages. Stage 1 would include mobilization, site preparation, fencing, preparation of laydown areas, and trenching. Stage 2 would include installation of cables, piles, racking systems, inverters, and modules. Stage 3 would include installation of modules and commissioning and testing. For both Projects, Stage 1 would be completed in months 1 to 8, and Stage 2 would be from months 4 to 12. For Arica Stage 3 would be from months 10 to 18, and for Victory Pass it would be from months 10 to 16.

The typical daily construction work schedule is expected to be from 7:00 a.m. to 5:00 p.m., Monday through Friday. To meet schedule demands or to reduce impacts, it may be necessary to work early morning, evening, or nights and on weekends. The work schedule may be modified throughout the year to account for changing weather conditions (e.g., starting the workday earlier in the summer months to avoid work during the hottest part of the day). If construction work takes place outside these typical hours, activities would comply with Riverside County standards for construction noise levels. For safety reasons, certain construction tasks, including final electrical terminations, must be performed after dark when no energy is being produced. The Projects would use restricted nighttime task lighting during construction. Lighting would include what is needed to provide a safe workplace, and lights would be focused downward, shielded, and directed toward the interior of the site to minimize exposure outside the construction area.

The construction workforce would average 468 employees for both Projects with a peak of 1,016 during month 7 of construction. The construction workforce would be recruited from within Riverside County and elsewhere in the surrounding region to the extent practicable.

**Pre-construction Survey Activities.** Surveying includes two main objectives: (1) obtaining detailed topographic information for supporting the stormwater modeling and grading design, and (2) construction layout surveying with staking. The Projects would develop detailed topographic information for the ROWs using photogrammetry and field cross sections. The final site plans for the Projects would be based on the detailed topographic survey of the site that is performed as a part of the permitting and engineering design process.

Preconstruction survey work would consist of staking and flagging the following: (1) ROW and construction area boundaries, (2) work areas (permanent and short term), (3) cut and fill, (4) access and roads, (5) transmission structure centers, (6) foundation structure, (7) desert tortoise or other sensitive avoidance areas, if any, and (8) any additional pre-construction surveys for sensitive resources such as paleontological resources. Staking and flagging would be maintained until final cleanup.

**Geotechnical Testing.** A detailed geotechnical study is planned to support design for each project. The study would include survey work, drilling geotechnical borings, soil sampling, and electrical resistivity testing. Numerous bores would be drilled throughout the sites up to a depth of 20 feet. The study would provide input with respect to soil conditions and needed stabilization measures.

**Site Preparation.** Site preparation activities include installation of desert tortoise fencing and completion of pre-construction surveys, preparing and constructing site access roads, establishing temporary construction trailers and sanitary facilities, and preparing construction staging areas. Mobilization would include bringing equipment to the sites prior to start of construction.

To comply with the DRECP LUPA and avoid the most valuable plants on the sites, the Projects were reduced from 3,800 acres to approximately 2,700 acres. This avoided the vegetation of highest quality with the best habitat value for sensitive wildlife and plant species. Because of the reduced footprint, the panels were placed closer together and the applicant is considering bifacial panels to increase energy production. The density of panels and operation of bifacial panels would require removal of vegetation instead of vegetation mowing techniques. Vegetation would not be removed from the Projects sites until the onset of a given construction activity. In some areas to be graded outside of the solar field, native vegetation may be harvested for replanting to augment soil stabilization. Vegetation would be cleared for construction of the drainage controls, including berms. Organic matter would be mulched and redistributed within the construction area (except in trenches and under equipment foundations). Plant root systems would be left in place to provide soil stability except where grading and trenching are required for placement of solar module foundations, underground electric lines, inverter and transformer pads, road and access ways, and other facilities.

The sites are flat, nearly level, and require minimal grading to allow for installation of the PV panels although it is anticipated that the bulk of the solar arrays would experience some ground disturbance due to drive and crush. Grading would be required only for the inverter pads, substation, driveways, and other improvements, including potentially the access roads. Access driveways may be constructed by placing two to four inches of decomposed granite or comparable material directly on the existing soil. Compaction may also be required for the construction of inverter pads, substation, control rooms, and driveways.

Areas comprising the solar fields would be prepared using conventional farming equipment including tractors with disking equipment and vibratory rollers, with limited use of scrapers to perform micrograding within sections of the solar array field. The sites would be contour graded level; the macro level topography and stormwater drainage would remain unchanged, but within each solar array 'high spots' would be graded, and the soil cut from these limited areas used to fill 'low spots' within the same array. Limited use of scrapers for micrograding would be employed where needed to produce a more level surface than can be produced by the disc and roll technique.



**Solar Array Assembly and Construction.** Construction activities would include the installation of civil infrastructure (e.g., driveways, utilities, fencing), mechanical infrastructure (e.g., piles, tracking components), and electrical infrastructure (e.g., PV panels, cable harnesses). The following would be included:

### **Civil Infrastructure**

- Survey and Project layout, including road, panel, substations, switchyard, and support buildings;
- Driveway construction, including placement of aggregate;
- Temporary facilities, parking, and staging areas;
- Installation of the chain-link fence and gates;
- Watering for dust control and soil compaction; and
- Switchyard, skid/inverter, and control room pads.

### **Mechanical & Electrical Infrastructure**

- Installation of tubular steel foundations and placement of a racking system;
- Placement of PV solar modules and DC collection system;
- Installation of a wire harness, fuses, and wire grounding;
- Trenching for buried wires;
- Installation of buried wiring;
- Inverter/transformer structures;
- Wiring and interconnection;
- AC collection system;
- Trenching and overhead installation of the medium-voltage collector lines from inverters/transformers to the Project substations;
- Construction of the Project substations;
- Construction of the switchyard and interconnection to the transmission/distribution system;
- Telecommunications installation;
- Installation of meteorological equipment;
- Water storage tanks; and
- On-site well for operations water.

**Solar Module Electrical Construction Activities.** Underground cables to connect panel strings would be installed using ordinary trenching techniques, which typically include a rubber-tired backhoe excavator or trencher. Wire depths would likely be buried at a minimum of 18 inches below grade, by excavating a trench approximately 3 to 6 feet wide to accommodate the conduits or direct buried cables. After excavation, cable rated for direct burial or cables installed inside a conduit would be installed in the trench, and the excavated soil would likely be used to fill the trench and lightly compressed. All cabling excavations would be to a maximum depth of 10 feet.

All electrical inverters and the transformer would be placed on concrete foundation structures or steel skids. Commissioning of equipment would include testing, calibration of equipment, and troubleshooting. The substation equipment, inverters, collector system, and PV array systems would be tested prior to commencement of commercial operations. Upon completion of successful testing, the equipment would be energized.

Certified electricians in the construction workforce would perform appropriate electrical construction activities starting with combiner box connections. Utility journeymen may be required to perform or supervise the higher-voltage electrical construction activities for the on-site substation and gen-tie line.

### **230-kV Gen-Tie Line Construction**

The Projects' gen-tie line structures would be constructed on a single set of double circuit poles of either tubular steel monopoles or lattice structures. Construction of the gen-tie line would cause temporary disturbance within a construction corridor estimated at a width of 150 feet. Long-term disturbance associated with the gen-tie line would be the foundations of the transmission structures and the footprint of the access roads. Existing access roads would be used except for new spur roads from the existing road to each individual tower.

Pre-construction activities for the gen-tie line would consist of surveying and marking the ROW and structure locations and mobilization of equipment and materials. Access or spur roads, if not existing, would be developed to access the gen-tie line facilities. This would include the permanent roads to the new transmission structure locations and temporary roads for construction. Temporary work areas around the transmission structures would be necessary during construction to accommodate pole assembly and erection. Clearing and grading would be needed for wire setup sites. Puller and tensioner sites require a relatively level area to safely accommodate the equipment required on a wire stringing operation. These sites would be determined once the wire pulls have been planned. Permanent disturbance would be limited to areas within the gen-tie corridor.

Structures would be assembled in sections on cribbing that provide for the proper alignment of the steel members. Steel sections would be laid out with hydraulic cranes. The pole base and top sections would be assembled at each structure site. Insulators and hardware may be placed on the structure prior to erection.

Foundations would be constructed at each transmission structure location. Various foundation types are being considered. A crane would be used for pole erection to set the pole base sections on foundations.

Conventional wire stringing using tension stringing equipment has been assumed. After stringing, wires would be sagged in accordance with specified sagging data, corrections, and offsets. After sagging, the wires would be dead-ended on the dead-end structures and clipped-in on the tangent and angle structures. Final inspection and testing would need to be coordinated with functional checkout and commissioning of the substation equipment at each end of the line.

### **Construction Access and Traffic**

All materials for the construction would be delivered by truck. Most truck traffic would occur on designated truck routes and major streets. Construction traffic would include periodic truck deliveries of materials and supplies, recyclables, trash and other truck shipments, and construction worker commuting vehicles. Most construction equipment and vehicles would be brought to the sites at the beginning of the construction process during construction mobilization and remain on-site throughout the duration of the construction activities for which they were needed. Generally, the equipment and vehicles would not be driven on public roads while in use for each Project.

The number of truck deliveries expected over the construction period would be between 10 and 65 per week. Peak truck deliveries (65 per week) would likely occur between month 6 and month 10. Construction truck deliveries and shipments would typically avoid the peak traffic hours in the morning and evening. Materials would typically be delivered starting a few weeks before the start of the associated task apart from electrical gear which would be shipped prior to installation. Materials deliveries during construction would travel up to 150 miles one way from the source to the sites. During construction, an average of 468 workers per day would commute to the sites with a maximum of 1,016 workers during peak construction.

### 2.2.3 Operation and Maintenance

Maintenance activities generally include road maintenance; vegetation restoration and management; scheduled maintenance of inverters, transformers, and other electrical equipment; and occasional replacement of faulty modules or other site electrical equipment. The access roads would be regularly inspected, and any degradation due to weather or wear and tear would be repaired. The Projects may apply a dust palliative on dirt access roads if indicated.

It is anticipated that maintenance of each Project would require up to six workers to perform daily visual inspections and minor repairs. Typical work schedules are expected to be in two 12-hour shifts. During operations, potable water would be trucked into the site (one truck a week from Blythe), or on-site groundwater would be used, including treatment, as necessary. The O&M workforce would generate small amounts of sanitary wastewater that would be handled by an on-site septic system and leach field. Only limited deliveries would be necessary for replacement PV modules and equipment during operations.

On intermittent occasions, 10 to 15 workers may be required for repairs or replacement of equipment and panel cleaning. Overall, minimal maintenance requirements are anticipated. Maintenance and other operational staff would use standard size pickup trucks and vehicles.

**Site Security.** Each Project facility would have an on-site O&M building, and the Projects would be monitored by on-site O&M personnel and/or remotely by the Applicants or an affiliated company. Security would be maintained through installation of a six-foot tall wire fence topped by one-foot-tall three-strands of barbed wire. The fencing would be designed for appropriate wildlife protection, based on consultation with state and federal wildlife agencies. Should the security system detect the presence of unauthorized personnel, a security representative would be dispatched to the facility, and appropriate local authorities would be notified. A Knox-Box containing keys for each Project would be installed to permit emergency access to the sites.

**Vegetation Treatment.** The Projects would develop a plan for vegetation management at the sites. An Integrated Weed Management Plan was developed and included in the POD and would be implemented to control invasive exotic weeds. The plan would comply with existing BLM EISs including the *Vegetation Treatments Using Herbicides* (2007) and *Vegetation Treatment Using Aminopyralid, Fluroxypyr, and Rimsulfuron* (2016).

Weed control activities would include non-mechanical, mechanical, and herbicide control methods. Manual non-mechanical means of vegetation management would be limited to the use of hand-operated power tools and hand tools to cut, clear, or prune species. Hand-operated tools such as hoes, shovels, and hand saws could be used under the program, as well as hand-pulling of plants.



Mechanical control activities, such as chaining, disking, grubbing, and mowing using tractors or other heavy equipment may also be used.

If herbicides or pesticides are required, they would be BLM-approved herbicides to control weed populations when manual control methods are not successful in managing the spread of invasive plants. Use of herbicides and pesticides, if required, to control weed populations when manual control methods are not successful in managing the spread of invasive plants, would be limited to those analyzed and approved by BLM in the 2007 Vegetation Treatments Using Herbicide on BLM Lands in 17 Western States PEIS and the 2016 Final Vegetation Treatments Using Aminopyralid, Fluroxypyr, and Rimsulfuron on BLM Lands in 17 Western States PEIS. To be consistent with those PEISs, herbicide use would adhere to certain design features. The process for treatments would be characterized in a Pesticide Use Proposal approved by the BLM. Additionally, contractors applying herbicides must possess required permits from the state and Riverside County Agricultural Commissioner (as applicable). Permits may contain terms and conditions in addition to those described in the Integrated Weed Management Plan. Herbicides would likely be necessary to control the spread of invasive weeds following construction disturbance as part of an integrated pest management strategy.

As described in the Integrated Weed Management Plan, herbicides can be characterized as pre-emergent, post-emergent, selective, and non-selective. A pre-emergent herbicide is one that generally controls un-germinated seeds by inhibiting germination. Post-emergent herbicides are generally lethal to plants after germination, but not to seeds. A few herbicides have both pre- and post-emergent activity. Herbicides can be selective or nonselective. If an herbicide is selective, it will affect some species of plants and not others, e.g., monocots (grasses) vs. dicots (broadleaf plants). A non-selective herbicide is one that is lethal to any plant species to which it is applied.

Herbicides kill plants through contact or systemic action. Contact herbicides are most effective against annual weeds and kill only the plant parts to which the chemical is applied. Systemic herbicides are absorbed either by roots or foliar parts of a plant and are then translocated within the plant. Although systemic herbicides can be effective against annual and perennial weeds, they are particularly effective against established perennial weeds. Pre-emergent herbicides inhibit germination of annuals from seed, but generally do not control perennial plants that germinate from bulbs, corms, rhizomes, stolons, or other vegetative structures. Common herbicide classes include the following:

**Pyridine (Picolinic Acid):** Examples of this class are clopyralid (Transline™) and triclopyr (Garlon 4™). These herbicides provide for post-emergence control of annual and perennial woody and herbaceous broadleaf weeds, particularly plants in the Asteraceae (sunflower family), Fabaceae (legume family), Solanaceae (nightshade family), Polygonaceae (knotweed family), and Viola-ceae (violet family). These herbicides are degraded primarily by microbial action in the soil and are moderately persistent in soils.

**Sulfonylurea:** Examples include chlorsulfuron (Telar XP™). These selective broad-leaf herbicides are pre-emergent or early post-emergent herbicides used in non-cropland areas.

**Imidazolinone:** Examples include Imazapyr (Polaris™). Non-selective herbicide used for the control of a broad range of weeds including terrestrial annual and perennial grasses and broadleaved herbs, woody species, and riparian and emergent aquatic species. It breaks down slowly in the soil via microbial metabolism and photolysis.

**Glyphosates:** The most used post-emergent, non-selective herbicides are in a group called glyphosates. Glyphosate (e.g., Roundup™) is a nonselective, systemic herbicide that is effective on many annual and perennial plants. Glyphosate is most effective if the entire plant is covered. Glyphosate should not be applied when the temperature exceeds 90°F. Glyphosate has a low toxicity to humans, is no more than slightly toxic to birds, and is practically nontoxic to fish, aquatic invertebrates, and honeybees.

Common herbicides that might be used include those with the active ingredients clopyralid, triclopyr, chlorsulfuron, imazapyr, and glyphosate. The amount use would be in line with industry standards (10-44 gallons per acre) and are detailed for each herbicide in the Integrated Weed Management Plan. All applications would follow EPA approved instruction from the labels.

#### **2.2.4 Decommissioning and Repower**

At the end of the BLM ROW, the Projects would be decommissioned and dismantled. If at the end of the BLM ROW grant term there is an option for extension of the power purchase agreement, the Applicants may apply to the BLM to repower the Projects, and if approved would remove and upgrade some or all infrastructure as technologies improve, including solar panels, inverters, or new battery storage.

Whenever decommissioning occurs, a detailed Decommissioning and Reclamation Plan would be developed in a manner that both protects public health and safety and is environmentally acceptable. The decommissioning and restoration process involves the removal of aboveground and belowground structures, restoration of topsoil, revegetation, and seeding. Temporary erosion and sedimentation control BMPs would be used during each Project's decommissioning phase. Removal of belowground structures will depend on the agency preference at that time, with an option to leave them in place if that is preferred.

Solar panels would be removed and placed in secure transport crates or container boxes for storage, and transported to another facility for reuse, material recycling, or disposal. The bolts and reusable fasteners that had attached each module to the racks would be removed and saved for reuse. Once the solar modules are removed, the racks would be disassembled, and the structures supporting the racks would be removed and salvaged or recycled.

Electrical equipment would be de-energized prior to removal, salvaged (where possible), placed in appropriate shipping containers, and secured in a truck transport trailer for shipment offsite. Electrical equipment and all above ground electrical wiring would be removed and recycled or disposed of.

All other aboveground site infrastructure—including fences, awnings, the concrete pads that supported the inverters, and related equipment—would be removed. All materials would be recycled to the greatest extent possible in appropriate recycling facilities. Debris would be removed from the area.

The sites would be restored to approximate pre-project conditions, including removal of specified improvements, removal of buried infrastructure if preferable for agencies, restoration of compacted soil, and revegetation and mulching, according to a BLM-approved reclamation measures.

After closure, measures would be taken to stabilize disturbed areas once equipment and structures are decommissioned and removed. These measures would be outlined fully in the Decommissioning

Plan. Disturbed soil would be stabilized using erosion control BMPs (e.g., use of mulch, fiber rolls, silt fences, reseeding, etc., as applicable) until final reclamation measures may be implemented. Only a small portion of each Project site contains structures that are in direct contact with the ground and thus would create surface disturbance during removal; these include access roads, the O&M facility, and associated parking areas. Removal of the solar arrays would create minimal ground disturbance due to the small footprint of their pile foundation design. Final reclamation measures would be implemented as soon as practicable after facility closure.

### **2.2.5 Project Design Features**

Project Design Features (PDFs) are measures incorporated into the site-specific design of the project to eliminate or minimize adverse impacts on the environment. These design features would be implemented as part of all alternatives, except the No Action. The PDFs (called Applicant Proposed Measures in the POD) are included in Appendix E.1. Additionally, the Applicants have incorporated the applicable DRECP CMAs into all action alternatives thus the CMAs (as described in Appendix I) are also PDFs.

### **2.2.6 Monitoring**

Monitoring for certain sensitive resources would be required during construction as detailed in the mitigation measures and required plans (see Appendix E). Monitoring during operations would also be required during certain periods of the Proposed Action. The Projects would include adaptive management to ensure monitoring is appropriate throughout the life of the Projects, consistent with recommendations in the BLM CDCA Plan, as amended.

## **2.3 Alternative C (Gen-tie Alignment 1)**

An alternative alignment for the gen-tie line has been developed as an option should the proposed alignment be constrained by the existing Palen, Athos, and Desert Sunlight gen-ties adjacent to the proposed alignment. Under this alternative the gen-tie alignment would exit the shared switchyard heading southwest for 1.15 miles as shown on Figure 2-3. At this point, the gen-tie would head northwest for 0.45 miles parallel to I-10. When reaching the westernmost boundary of the Victory Pass fenceline, it would head west northwest for 0.62 miles, still parallel to I-10, until turning due south to cross the I-10 freeway parallel to the existing Desert Sunlight crossing. The line would head south for 0.15 miles before entering the existing Red Bluff Substation.

Alternative C would be approximately 0.6 miles shorter than the proposed gen-tie line. Based on preliminary engineering by the Applicants it would require the same number of transmission poles because it requires one additional turn compared with the proposed gen-tie route. It is assumed that the gen-tie alignment within the Victory Pass ROW could use the solar facility exterior road to access the transmission towers during construction and operations and would not require entirely new access roads. It would require an estimated 0.6 miles of new access routes after exiting the Victory Pass site as there is no existing access road north of I-10. The construction and operations for Gen-tie Alignment 1 would otherwise be the same as the proposed gen-tie alignment under Alternative B, the Proposed Action.

## 2.4 Alternative D (Gen-tie Alignment 2)

Alternative D has been developed as an option should the proposed alignment be constrained by the existing Palen, Athos, and Desert Sunlight gen-ties adjacent to the proposed alignment and by the proposed Oberon gen-tie alignment adjacent to I-10. Gen-tie Alignment 2 would exit the shared switchyard heading north for 300 feet, then turn west for an estimated 0.28 miles parallel to the Palen gen-tie line. Alternative D would then turn southwest for 1 mile. At this point, the gen-tie would head northwest for 0.48 miles, north of but parallel to I-10. Alternative D would head west, northwest for 0.5 miles until turning due south to cross the I-10 freeway parallel to the existing Desert Sunlight crossing. The line would head south for 0.29 miles before entering the existing Red Bluff Substation.

Alternative D would be approximately 0.5 miles shorter than the proposed gen-tie line. Based on preliminary engineering by the Applicants, it would require the same number of transmission poles because it requires one additional turn compared with the proposed gen-tie route. It would require an estimated 2 miles of new access routes for construction because there is no existing access road along the bulk of gen-tie alignment except where it overlaps the Palen gen-tie ROW and the westernmost portion of the Victory Pass Project. The construction and operations of the Gen-tie Alignment 2 would otherwise be the same as the proposed gen-tie alignment under Alternative B, the Proposed Action.

## 2.5 Alternative E (Access Road Option 1)

Alternative E was recommended by the developer to potentially reduce impacts of the proposed access road by reducing the length of travel on unpaved roads and avoiding the Desert Center area population. It would use the Corn Springs exit off I-10 instead of the proposed Desert Center exit. After exiting at Corn Springs Road, Access Road Option 1 would follow an existing BLM road DC950 north for 0.7 miles to reach the existing BLM road DC511. The access route would head northwest on DC511 for an estimated 1.9 miles to reach the boundaries of the Victory Pass Solar Project. Both DC950 and DC511 are open BLM routes that are used by holders of other BLM solar generation ROW for construction and operations of the projects.

As with the proposed access road, this route could require some improvements including grading and potentially widening. Because the road is constrained to the north by the existing SCE transmission line, widening would likely occur south of the existing road boundary.

## 2.6 Alternative F (Access Road Option 2)

Alternative F was recommended by the developer to potentially reduce impacts of the proposed access road by sharing the existing improved Athos access road off I-10 which may reduce required ground disturbance. After exiting at Desert Center, this route would head northeast on SR 177 for 2.2 miles, then turn east for 2.7 miles using agriculture roads. The route would turn south for 1 mile, then east for 0.85 miles to travel around a portion of the Athos Project. It would turn due south for 0.25 miles, west for 0.1 miles, then south again for 0.3 miles. At this point the route would be south of the existing BLM route DC379. Alternative F would then head east for 2 miles, the first 0.35 miles would be south of DC379, and then it would jog north of DC379 for the remainder of the route.

Because this road has been improved for the Athos solar project, no improvements would be required. The Athos Environmental Impact Report Project Description states that all new and improved access roads would be 24 feet wide with a two-foot-wide shoulder on each side, for a total width of approximately 30 feet. Construction of the access road segments on private land would include compacting subsurface soils and placing a four-inch-thick layer of asphalt concrete over a six-inch-thick layer of compacted aggregate base. Design of all access roads would be consistent with County Transportation Department requirements, such as County Ordinance 461 (Road Improvement Standards and Specifications) (Riverside County, 2019).

## **2.7 Alternatives Considered but Eliminated from Detailed Study**

During scoping, commenters recommended alternatives that consider using private land, meeting all the DRECP LUPA CMAs, replacing the proposed Projects with distributed generation, and using mowing and regrowth instead of blading. The Proposed Action has been revised to meet all the DRECP CMAs, so a separate alternative was not needed to meet this recommendation; however, the original proposal is described as it was eliminated from consideration to meet the DRECP CMAs. Mowing is addressed under Section 2.2.2, Construction Activities.

### **2.7.1 Private Land Alternative**

Scoping comments recommended use of private land for solar development. The Applicants investigated the potential for use of private lands in and around the Desert Center area. The Applicants did not pursue private land for their solar projects because private lands would be located closer to residences and would require additional gen-tie interconnections due to the discontinuous nature of the parcels. Multiple gen-tie lines would increase impacts associated with their construction and introduce more widespread visual impacts. Using nearby private lands would not reduce the effects of the Proposed Action because such lands are within the same vicinity as and, in fact, nearer to SR 177 and residences. Using nearby private lands, therefore, would neither reduce the visual impacts from certain viewpoints nor reduce effects to the community.

One scoping comment recommended use of brownfields or unused agriculture land as an alternative. The primary constraint with using the limited brownfields and unused agriculture land available for solar projects is the ability to interconnect into the State's electricity grid. The scoping comment identified the Westlands Solar Park as an appropriate area for utility-scale solar. The Westlands Solar Park began construction of the first phase of solar development in 2020 and this area will likely continue to develop additional solar projects (Misbrener, 2020). While this region could develop up to two thousand MW of solar energy over a 12-year time horizon for a total of approximately 5 million megawatt hours (5,000 gigawatt hours) per year (WWD, 2017), it would not develop sufficient renewable energy to meet all the State's renewable needs. The California 2020 Integrated Energy Policy Report Update estimated the current generation from solar PV to be 15,800 gigawatt hours and projected it to increase to between 34,900 to 47,300 gigawatt hours by 2030 (CEC, 2021). This projected demand is more than Westlands could produce. Additionally, a solar project at Westlands is not feasible for the Arica and Victory Pass developers because it would not meet their interconnection requirements at the Red Bluff Substation, where they hold queue positions and additional capacity remains. Considering a private land alternative goes beyond the purpose and need of this NEPA document, which is to respond to the Applicants' proposal to develop solar energy projects on public lands. This alternative was not considered further.



### 2.7.2 Full Build Alternative

Most often, when an agency is considering a utility solar project, the agency reviews the location proposed for the project, identifies the most substantial impacts, and develops a reduced footprint alternative to avoid these locations. To meet the requirements of the CDCA Plan, as amended by the DRECP, this process was completed prior to defining the Proposed Action and resulted in the removal of approximately 1,000 acres from the original ROW applications. The Arica Solar, LLC, and Victory Pass I, LLC, original ROW request was for 2,000 acres for Arica and 1,800 acres for Victory Pass. The larger sized projects would have allowed for additional flexibility when siting the 265 MW and 200 MW Projects within the project sites or could have accommodated more MW. While the amount of MW proposed for construction at the Projects' sites has not changed with the smaller footprint, the MW hours are fewer than originally proposed. This is because the proximity of the solar panels under the smaller footprint increases shading and other technical constraints compared with a more widespread layout.

The full build alternative would have increased the following impacts:

- Increased impacts to sand transport and sensitive plant species, including the Harwood's eriastrium within the full build of the Arica Project;
- Increased impacts to desert dry wash woodland, including many hundreds of acres within the Victory Pass Project full build footprint;
- An additional 1,000 acres of desert tortoise habitat loss, including additional wildlife connectivity habitat; and
- Increased impacts to paleontological resources because of development in some sensitive areas along the sand transport corridors.

### 2.7.3 Alternative Renewable Energy Technologies

Alternative renewable energy technologies, such as wind, geothermal, biomass, tidal and wave power technologies, have been eliminated from consideration, because they are not within the Applicants' area of expertise or are not technically or economically feasible to implement at this location. The following alternative solar technologies have been screened and are eliminated from detailed analysis since they are considered infeasible and would have similar or greater impacts to the environment.

**Solar Power Tower Technology.** Solar power tower technology is a concentrating solar power (CSP) technology that uses a flat mirror "heliostat" system that tracks the sun and focuses solar energy on a central receiver on top of a high tower. The focused energy is used to heat a transfer fluid (to 800 to 1,000 degrees Fahrenheit). The transfer fluid is pumped to heat exchangers that use the heat to boil water and run a conventional steam turbine to produce electricity. Solar power systems can store heated fluids to deliver electricity even when the sun is not shining. In areas of high solar insolation potential (i.e., desert environments), the land required to develop a CSP power tower facility is comparable to that required for a PV project. This alternative was eliminated from consideration because no substantial reduction in impacts would occur under this alternative technology and visual impact would be greater due to the height of the towers. It has also been suggested that due to a phenomenon known as "solar flux," power tower projects pose a greater risk to avian species by creating an invisible zone where the concentrated solar power can singe feathers and interfere with flight.

**Solar Parabolic Trough Technology.** Parabolic trough technology is another CSP technology that uses large, U-shaped (parabolic) reflectors (focusing mirrors) that have fluid-filled pipes running along their center, or focal point. The reflectors are tilted toward the sun and focus sunlight on the pipes to heat the heat transfer fluid inside. The hot fluid is used to boil water, which makes steam to run conventional steam turbines and generators. Solar trough fields have stringent grading requirements, as parabolic troughs must be almost level along their troughs and are generally graded to 2 percent or less. Therefore, most of the solar facility site would need to be graded and scraped free of vegetation. Use of trough technology would likely require engineered drainage channels along the facility boundary to intercept any modeled offsite surface flows and convey them around and through the site for discharge. Parabolic trough technology has been eliminated from consideration because it would have the potential for more severe impacts than the proposed PV technology. These impacts would include more dramatic degradation of visual resources (due to use of mirrors), more extensive ground disturbance due to extensive grading, increased industrial construction for the power blocks, and use of potentially hazardous heat transfer fluids.

**Distributed Solar Technology.** There is no single accepted definition of distributed solar technology. The 2011 Integrated Energy Policy Report defines distributed generation resources as “(1) fuels and technologies accepted as renewable for purposes of the Renewables Portfolio Standard; (2) sized up to 20 MW; and (3) located within the low-voltage distribution grid or supplying power directly to a consumer.” Distributed solar facilities vary in size from kilowatts to tens of MWs but do not require transmission to get to the areas in which the generation is used. A distributed solar alternative would consist of PV panels installed on residential, commercial, or industrial building rooftops or in other disturbed areas like parking lots or areas adjacent to existing structures such as substations. To create a viable alternative to the proposed projects, there would have to be sufficient newly installed panels to generate up to 465 MW of capacity. The cost and environmental impact of retrofitting rooftops not designed to accommodate significant electrical infrastructure further contribute to feasibility issues. Further, the BLM has jurisdiction over only those public lands managed by the BLM.

Although there is potential to achieve up to 465 MW of additional distributed solar energy throughout the greater California area, it would not directly replace the energy provided by the Projects. Rooftop systems typically consist of less efficient fixed-tilt systems that may not be oriented optimally towards the sun, meaning that developers would need to obtain more surface area if constructed on a rooftop instead of on the ground. The transaction costs of obtaining multiple rooftops, the complexity of mobilizing construction crews across multiple projects including the transporting and deployment of construction materials in a less efficient manner, and the need to develop the deals to secure the same amount of PV-produced electricity can make this type of alternative infeasible.

Distributed generation projects cannot meet one of the fundamental objectives of a utility-scale solar project: to provide renewable energy to utility off-takers and their customers. Rooftop systems that are not connected to the utility side of the electric grid generate power for on-site consumption. At the same time, as renewable energy becomes a larger portion of California’s energy mix, and the need for battery or other storage for reliability becomes greater. For this reason, the California legislature has authorized energy agencies to establish energy storage procurement targets. While it is technically feasible to include storage in distributed solar technologies, it is still

very expensive at the rooftop scale and most rooftop projects do not include storage. A distributed solar alternative would not provide the same reliability benefits that the Projects would.

The challenges associated with the implementation of a distributed solar technology include widely varying codes, standards, and fees; environmental requirements and permitting concerns; interconnection of distributed generation; inefficiencies and lack of storage; and integration of distributed generation. As a result, this technology was eliminated from detailed analysis as an alternative to the proposed Projects.

### **3.0 AFFECTED ENVIRONMENT AND ENVIRONMENTAL IMPACTS**

#### **3.1 Introduction to the Analysis**

This section describes the affected environment—the condition and trend of those elements of the human environment that may be impacted by implementing one of the alternatives. This section also describes the environmental consequences to each such resource from the analyzed alternatives. It describes the present conditions, which provide a baseline for analyzing effects, and describes the direct, indirect, and cumulative effects.<sup>5</sup> The effects analysis considers use of PDFs (APMs and CMAs) to reduce the effects. Where the PDFs themselves do not reduce the effects and other mitigation measures that would avoid or reduce adverse effects are considered.

The following list of past, present, and reasonably foreseeable future actions is used to evaluate cumulative effects for all alternatives, and for all resource impacts discussed below. Tables 3.11 and 3.12 include the list of all foreseeable projects in the Desert Center and Blythe region. These projects are shown on Figure 3.1-1.

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<sup>5</sup> Direct effects are those that are caused by the action and occur at the same time and place. Indirect effects are those that are caused by the action and occur later or in a different location, but are still reasonably foreseeable. Cumulative effects result from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions.



**Table 3.1-1. Past and Present Projects or Programs in the Project Area**

ID	Project Name; Agency ID	Location	Ownership	Status	Acres	Project Description
1	West-wide Section 368 Energy Corridors	Riverside County, parallel to I-10	BLM, DOE, U.S. Forest Service	Approved by BLM & USFS, additional review of Region 1 ongoing	N/A	Designated energy corridors on federal land in the 11 western states, including California, for oil, gas, and hydrogen pipelines and electricity transmission facilities. One corridor runs within the southern portion of the Victory Pass Project.
2	Blythe PV Project	Blythe	Clearway Energy	Operational	200	21 MW solar PV project located on 200 acres outside of Blythe, California, 30 miles east of the Projects.
3	McCoy Solar Project	Blythe	NextEra	Partially operational	8,100	Up to 750 MW solar PV project located primarily on BLM-administered land about 13 miles north of Blythe, 30 miles east of the Projects. Includes a 16-mile gen-tie line. 250 MW began operation in 2016.
4	Genesis Solar Energy Project	North of I-10, 25 miles west of Blythe and 27 miles east of Desert Center	NextEra	Operational	1,950	250 MW solar trough project including six-mile natural gas pipeline and a 5.5-mile gen-tie line located 15 miles east of the Projects.
5	Blythe Solar Power Project	Blythe	NextEra	Operational	4,100	485 MW solar PV project located 2 miles north of I-10 and 8 miles west of the City of Blythe, 30 miles east of the Projects. A 230 kV gen-tie line connects the solar energy generating facility to the SCE Colorado River Substation.
6	Desert Sunlight Solar Project	6 miles north of Desert Center	NextEra	Operational	4,400	550 MW solar PV project located on BLM land 6 miles northwest of the Projects. Includes a 230 kV gen-tie line that interconnects with the Red Bluff Substation.
7	SCE Red Bluff Substation	Southeast of Desert Center	SCE	Operational	75	220/500 kV substation to interconnect renewable projects near Desert Center to the Devers–Palo Verde (DPV) transmission line. 1,000 feet south-west of the Projects.

**Table 3.1-1. Past and Present Projects or Programs in the Project Area**

ID	Project Name; Agency ID	Location	Ownership	Status	Acres	Project Description
8	Devers–Palo Verde No. 1 Transmission Line	Palo Verde, Arizona, to Devers Substation near Palm Springs	SCE	Operational	N/A	Existing 500 kV transmission line parallel to I-10 from Arizona to the SCE Devers Substation, near Palm Springs. Approximately 0.5 miles south of the Projects.
9	Devers-Colorado River Transmission Line	From Blythe to Devers Substation near Palm Springs	SCE	Operational	N/A	Existing 500 kV transmission line parallel to I-10 from the SCE Colorado River Substation to the Devers Substation. Approximately 0.5 miles south of the Projects.
10	Blythe Energy Project Transmission Line	From Blythe to Julian Hinds Substation	Blythe Energy, LLC	Operational	N/A	Existing 230 kV transmission line. Approximately 0.5 miles south of the Projects.
11	SCE Colorado River Substation	Blythe	SCE	Operational	90	500/230 kV substation located east of Blythe. 30 miles east of the Projects.
13	NRG Blythe II	Blythe	Clearway Energy	Operational	150	20 MW solar PV facility that came online in spring 2017. 30 miles east of the Projects.
14	Desert Harvest Solar Project	North of Desert Center	EDF-RE	Operational	1,208	150 MW solar PV project. The gen-tie route parallels the proposed gen-tie line to interconnect with the Red Bluff Substation.
15	Palen Solar Project	East of Desert Center	EDF-RE	Operational and under construction	3,400	500 MW PV project located 1 mile east of the projects on BLM land. Includes a 6-mile gen-tie line into the Red Bluff Substation.

The data shown on Figure 3.1-1 for the Development Focus Areas, ACECs, and NLCS was taken from the DRECP Final EIS.  
Source: Riverside County, 2018; BLM, 2021a.

**Table 3.1-2. Probable Future Projects in the Project Area**

<b>ID</b>	<b>Project Name; Agency ID</b>	<b>Location</b>	<b>Ownership</b>	<b>Status</b>	<b>Acres</b>	<b>Project Description</b>
A	Desert Southwest Transmission Line	118 miles primarily parallel to the Devers–Palo Verde 500 kV line	Imperial Irrigation District	Final EIR/EIS prepared in 2005, approved by the BLM in 2006	N/A	118-mile 500 kV transmission line from a new substation near Blythe to the existing Devers Substation north of Palm Springs, California. Approximately 0.5 miles south of the Projects.
B	Palo Verde Mesa Solar Project	East of Blythe, near the Neighbors Boulevard	Renewable Resources Group	Approved by Riverside County in August 2017	3,250	465 MW PV solar plant on 50 parcels totaling 3,250 acres, 30 miles east of the Projects. Gen-tie line is 11.8 miles to the Colorado River Substation.
C	Eagle Mountain Pumped Storage Project	Eagle Mountain iron ore mine, north of Desert Center	Eagle Crest Energy Company	License issued June 2014. Project approved by BLM in August 2018.	90	1,300 MW pumped storage project 14 miles northwest of the Projects. Off-peak energy would be used to pump water to an upper reservoir. The water is released to a lower reservoir through an underground electrical generating facility.
D	Ten West Link Transmission Line	Colorado River Substation in Blythe California, west to Tonopah Arizona	Abengoa Transmission & Infrastructure, LLC, and Starwood Energy Group Global, Inc.	Approved by BLM in November 2019. Under review by the California Public Utilities Commission.	N/A	500 kV transmission line from Tonopah, Arizona, to Blythe, California. 114 miles, with all but 17 miles in Arizona with the remainder in Riverside County, California, 30 miles east of the Projects.
E	Desert Quartzite Solar	South of I-10, 8 miles southwest of Blythe	Desert Quartzite LLC (First Solar)	Approved by BLM and Riverside County in October 2019.	3,770	450 MW solar PV facility with a project substation, access road, and transmission line, all located on BLM land, 30 miles east of the Projects.
F	Crimson Solar	South of I-10, 8 miles southwest of Blythe	Sonoran West Solar Holdings, LLC (Recurrent Energy)	Final EIS published February 2021, Final EIR published May 2021.	2,500	Up to 350 MW solar PV project located on BLM land. The project would interconnect to the SCE Colorado River Substation, 30 miles east of the Projects.
G	Blythe Mesa Solar Project	East of Blythe	Blythe Mesa Solar II, LLC	Approved by Riverside County in May 2015. Updated gen-tie approved by BLM in August 2020.	3,600	Up to 485 MW solar PV project located outside Blythe on private land. The gen-tie line would cross BLM land to reach the SCE Colorado River Substation, 30 miles east of the Projects.

**Table 3.1-2. Probable Future Projects in the Project Area**

<b>ID</b>	<b>Project Name; Agency ID</b>	<b>Location</b>	<b>Ownership</b>	<b>Status</b>	<b>Acres</b>	<b>Project Description</b>
H	Athos Solar Project	Desert Center	Soft Bank Energy	Under construction	3,400	A 500 MW solar PV project located on private land in unincorporated Riverside County. Portions of the gen-tie line would cross public land to reach the SCE Red Bluff Substation. Portions of the solar project would be adjacent to the Arica Project.
I	Oberon Solar Project	East of Desert Center	IP Land Holdings, LLC	Under environmental review	3,000 – 4,000	A 500 MW solar PV project located on BLM land. Project includes battery storage and a gen-tie line into the SCE Red Bluff Substation. Located 1,000 miles west of the Projects.

Source: Riverside County, 2019; BLM, 2021a; BLM, 2021b; BLM, 2021c.

## 3.2 Issue 1: Air Quality/Greenhouse Gas Emissions

### 3.2.1 Affected Environment

The Projects would be located within the jurisdiction of the South Coast Air Quality Management District (SCAQMD) in the Riverside County portion of the Mojave Desert Air Basin (MDAB). The Air Quality Technical Report provides input regarding the air basin, regulations, thresholds of significance, and impacts (see Appendix J).

**Criteria Air Pollutants.** Air quality is determined by measuring ambient concentrations of certain criteria air pollutants. Criteria pollutants are those for which acceptable levels of exposure can be determined and for which health-based standards have been set. The criteria pollutants are ozone, respirable particulate matter (PM<sub>10</sub>), fine particulate matter (PM<sub>2.5</sub>), carbon monoxide (CO), nitrogen dioxide (NO<sub>2</sub>), sulfur dioxide (SO<sub>2</sub>), and lead (Pb). Reactive organic gasses (ROG), including volatile organic compounds (VOC), are regulated as precursors to ozone formation. California and federal agencies established different levels for ambient air quality standards that represent the maximum levels of background pollution considered to be safe, with an adequate margin of safety. The Riverside County portion of the MDAB is a non-attainment area for ozone and PM<sub>10</sub>, under the State-level standards. Under the National Ambient Air Quality Standards, the Riverside County portion of the MDAB is in attainment for all criteria pollutants (see AQTR, Section 3).

**Greenhouse Gas Emissions:** The global climate depends on the presence of naturally occurring greenhouse gases (GHG) to provide what is commonly known as the “greenhouse effect” that allows heat radiated from the Earth’s surface to warm the atmosphere. The greenhouse effect is driven mainly by water vapor, aerosols, CO<sub>2</sub>, methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), and other constituents. Globally, the presence of GHG affects temperatures, precipitation, sea levels, ocean currents, wind patterns, and storm activity. Human activity directly contributes to emissions of six primary anthropogenic GHGs. The primary observed changes in California’s climate include increase annual average air temperatures, more frequent extremely hot days and nights, and increased severity of drought. Impacts to physical systems affected by warming temperatures and changing precipitation patterns show decreasing snowmelt runoff, shrinking glaciers, and rising sea levels. Impacts to terrestrial, marine, and freshwater biological systems, with resulting changes in habitat, architecture, and food supply, are occurring with the potential to impact human well-being (OEHHA, 2015). Modeling shown by Cal-Adapt, from the Geospatial Innovation Facility at University of California, Berkeley indicates that the Project area could experience higher annual average maximum temperatures, greater numbers of extreme heat days, and longer dry spells in the mid-century to end-of-century periods.

**Valley Fever.** Valley Fever (coccidioidomycosis) is an illness caused by the inhalation of soil dwelling *Coccidioides* fungus spores. The *Coccidioides* fungus lives in the top 2 to 12 inches of soil and dirt. The fungus is common in many parts of California, mainly in the Central Valley and in desert or dry areas (CDPH, 2013). There was an average of under 6 cases of reported Valley Fever in Riverside County during the period from 2011 to 2017 (CDC, 2020). The spores are released into the air by soil disturbing activities where they are available to be inhaled. Valley Fever is not transmitted directly from person to person. Valley Fever is potentially serious; in California more than 1,000 people are hospitalized and around 80 die from Valley Fever every year (CDPH, 2020).

### 3.2.2 Environmental Effects

#### Alternative A (No Action):

##### *Direct, Indirect, and Cumulative Impacts*

Under the No Action Alternative, construction and operation of the solar facilities, gen-tie line, and associated infrastructure would not occur and therefore no air emissions would be generated through construction, operation, or decommissioning. Because soil disturbance would not occur, there would be not increased risk of Valley Fever spores being released and associated illness. It would not result in any direct, indirect, or cumulative impacts to air quality or GHG emissions. If the energy needs that would otherwise be met by the development of these Projects are not met by comparable renewable energy supplies, however, the development of other conventional energy resources could result in greater emissions from, for example, the burning of fossil fuels.

#### Alternative B (Proposed Action):

##### **Air Quality**

General conformity de minimis thresholds (40 CFR Part 93, Subpart B, et seq.) may be used in the characterization of an air quality impact for NEPA purposes. Because the Riverside County portion of the MDAB has federal designations of unclassifiable/attainment for all pollutants, including ozone (with NO<sub>x</sub> and VOC as precursors) and PM<sub>10</sub>, federal agency actions are not subject to Clean Air Act general conformity review requirements. Because no general conformity emissions thresholds specifically apply in the Riverside County portion of the MDAB, this analysis instead compares the emissions of implementing the Proposed Action to the de minimis thresholds for NO<sub>x</sub>, VOC, and PM<sub>10</sub> that would apply in the nearby Salton Sea Air Basin that is also under SCAQMD jurisdiction. These criteria air pollutant rate thresholds are: 25 tons per year of NO<sub>x</sub> or VOC; 70 tons per year of PM<sub>10</sub> or PM<sub>2.5</sub>; and 100 tons per year for CO and SO<sub>x</sub>. This meets DRECP CMA LUPA-AIR-3 and -4.

Levels of emissions of criteria air pollutants from the development of the Proposed Action would not exceed any annual emissions thresholds. Construction equipment and on-road vehicle traffic associated with construction would create exhaust emissions from fuel combustion and particulate matter from ground disturbing activities. Wind erosion of surfaces exposed during ground disturbance and activities on paved or unpaved surfaces can cause fugitive dust emissions.

During construction, the emissions created would be intermittent and variable because construction would occur in phases. Criteria air pollutants and diesel particulate matter, which is recognized as a toxic air contaminant in California, would be emitted from several individual pieces of equipment widespread over the site.

Table 3.2-1 summarizes the overall annual emissions within each of the calendar years of anticipated construction, with and without mitigation. Peak annual emissions of the Projects would not exceed the thresholds and are unlikely to cause any new violation of the ambient air quality standards.

**Table 3.2-1. Arica and Victory Pass Projects: Construction, Annual Emissions**

Construction Year	Annual Emissions, per calendar year (ton/year)					
	VOC	NOx	CO	SOx	PM10	PM2.5
2022, without Mitigation	3.37	19.33	27.70	0.09	46.88	6.22
2023, without Mitigation	2.19	9.16	18.97	0.07	45.70	5.61
2022, with Mitigation	2.27	6.73	31.63	0.09	10.79	2.08
2023, with Mitigation	1.74	4.68	21.83	0.07	9.98	1.84
<b>Peak Annual Emissions, Mitigated</b>	<b>2.27</b>	<b>6.73</b>	<b>31.63</b>	<b>0.09</b>	<b>10.79</b>	<b>2.08</b>
<b>Annual Emissions Thresholds</b>	<b>25</b>	<b>25</b>	<b>100</b>	<b>100</b>	<b>70</b>	<b>70</b>

Concentrations of hazardous air pollutants and toxic diesel particulate matter (DPM) emissions from mobile sources and equipment are greatly reduced by distance, such that a separation of 1,000 feet normally allows sensitive land uses to avoid high levels of DPM concentrations (ARB, 2005). There are no inhabited residences or other air quality sensitive land uses within a mile of the Projects. Due to this, substantial or adverse levels of localized ground-level concentrations of hazardous air pollutants would not be likely to occur for sensitive receptors. To reduce these impacts, all activities would comply with Mitigation Measures (MM) AQ-1 (Fugitive Dust Control Plan) and MM AQ-2 (Control On-Site Off-Road Equipment Emissions) to meet SCAQMD Rule 402 (Nuisance) and Rule 403 (Fugitive Dust). Since there are a small number of workers during operation for ongoing maintenance (up to 6 for each project), operation-related emissions would be minor and limited. MM AQ-1 would also meet CMA LUPA-AIR-5.

The boundary of the nearest federal Class I area, Joshua Tree National Park (JTNP), is approximately 4 miles (6.4 km) away from the nearest boundary of the Arica Solar Project site. Temporary and potentially adverse impacts to visibility at the Class I area could occur due to construction related emissions. Table 3.2-1 shows that the Proposed Action would not exceed any annual emissions thresholds derived from general conformity regulations which also serves to meet CMA LUPA-AIR-1. The emissions shown in Table 3.2-1 are well within the assumptions of estimated construction-phase emissions included in the analysis in the DRECP EIR Section IV.2.3.2.1, Table IV.2-3. Additionally, the Proposed Action would not trigger any requirements in the federal Prevention of Significant Deterioration permitting program, which addresses visibility impairment due to stationary sources in the region. Data from the Federal Land Manager Environmental Database indicate that visibility in the JTNP Class I area improved between 2001 and 2010 then remained steady through 2016 (CIRA, 2016; CIRA, 2020). The source of emissions during construction would occur near the ground level, so dust emissions would have a limited ability to affect distant vistas, and emission would be dispersed across each project site so impacts to Class I areas would be minimal. MM AQ-1 would further reduce any fugitive dust.

There is a potential that construction activities such as grading, excavation, and construction vehicle traffic, could loosen and stir up soil containing *Coccidioides* fungus spores, exposing workers and the public to contracting Valley Fever. Ways to reduce the risk of Valley Fever include avoiding exposure to dusty air or dust storms, preventing dirt or dust from becoming airborne by wetting or use of palliatives, and if working at a dusty site, use of an N95 or equivalent mask or respirator (CDPH, 2013). Construction activities for the Projects would be subject to stringent dust control requirements (including SCAQMD Rules 402 and 403) and APM AQ-1. Implementation of Mitigation Measures AQ-1 (Fugitive Dust Control Plan) and HAZ-2, (Worker Environmental



Awareness Program) would reduce the potential for workers and the public to contract Valley Fever due to exposure to substantial concentrations of dust which may contain *Coccidioides* fungus spores.

### Greenhouse Gas Emissions.

The Projects would cause GHG emissions due to fossil-fuel consumption during construction, operation, and decommissioning, and due to the effects of land use conversion. The operation of the Projects would produce electricity from renewable resources, which could displace the need to produce electricity from fossil fuel resources. If the electricity from the Projects displaces electricity produced from fossil fuels, then the GHG emissions avoided as a result will be far greater than the amount of GHGs emitted over the 30-year life of the Projects from construction, operation, and decommissioning, and loss of carbon sequestration due to land use conversion.

Table 3.2-2 quantifies the GHG emissions over the 30-year life of the Projects.

**Table 3.2-2. Arica and Victory Pass Projects: GHG Emissions**

Activity	One-Time During Construction (MTCO <sub>2</sub> e)	Construction and Operations Combined (MTCO <sub>2</sub> e per year)	Proposed Projects GHG Emissions (MTCO <sub>2</sub> e per year)
<b>Total, Duration of Construction</b>	<b>13,751</b>	—	—
Construction Total, 30-year Amortized	—	458.4	458.4
Operations, Area Sources and Motor Vehicle Trips	—	1,544.9	1,544.9
Operations, Standby Generators, Routine Testing			10.5
Development Activities: Construction and Operations Combined Related to Land Use Conversion			2,014
Avoided by Producing Electricity			17,240
<b>Total GHG, Construction and Operations</b>			<b>-448,000</b>
			<b>-428,746</b>

The proposed Arica and Victory Pass Projects combined would produce up to about 1.2 million megawatt-hours (MWh) each year for end-use by California's customers. The volume of production is based on the combined generating capacity of 465 MW for Arica and Victory Pass at a capacity factor of 30 percent, which is typical for a solar PV system in eastern Riverside County. The electricity produced by the Projects avoids the need to produce electricity from California's flexible natural gas-fired resources or the need to otherwise import electricity to California. This would avoid GHG that could otherwise be emitted by fuel-burning generators at a rate of approximately 448,000 MT per year, after accounting for line losses based on an avoided emissions displacement factor of 0.379 MT of CO<sub>2</sub> per MWh (Appendix J, Air Quality Technical Report).

The amount of GHGs emitted over the 30-year life of the project from construction, plus the loss of carbon sequestration due to land use conversion, would be far less than the GHGs from power production by conventional fossil fuel resources. Accordingly, the Projects would contribute towards achieving GHG emissions reduction targets.

### *Cumulative Impacts*

For air quality, the geographic scope of cumulative effects includes consideration of regional air emissions across the entire MDAB. The incremental contribution of the proposed solar facility to



the cumulative impact would be reduced through implementing Mitigation Measures AQ-1 (Fugitive Dust Control Plan), AQ-2 (Control On-Site Off-Road Equipment Emissions), and Applicant Proposed Measure (APM) AIR-3 (Construction Activity Management Plan). Long-term operation-related emissions would be minor and limited. Construction emissions would not cause substantial long-term cumulative impacts because the incremental contribution of the construction related criteria air pollutant emissions would be mitigated to the extent feasible, and the construction emissions would cease with completion of the 18-month duration of work.

GHG emissions are inherently a cumulative concern with a cumulatively global scope. The evaluation of GHG impacts demonstrated that the Projects would contribute to achieving GHG emissions reduction targets.

### **Alternative C (Gen-tie Alignment 1)**

#### ***Direct, Indirect, and Cumulative Impacts***

Under Alternative C, the alternative gen-tie ROW would be approximately 0.83 miles shorter than that of the proposed gen-tie ROW and would closely follow the western boundary of the Victory Pass facility and I-10. It would require the same number of poles and new access roads. The overall criteria pollutant and GHG emissions generated through the construction of Alternative C and associated direct, indirect, and cumulative effects would be similar to those of the Proposed Action.

### **Alternative D (Gen-tie Alignment 2)**

#### ***Direct, Indirect, and Cumulative Impacts***

Alternative D would construct a slightly shorter gen-tie by approximately 0.6 miles than the proposed gen-tie route. The Applicants anticipate that it would require the same or a similar number of transmission poles and additional access roads. The overall criteria pollutant and GHG emissions generated through the construction of Alternative D and associated direct, indirect, and cumulative effects would be similar to those of the Proposed Action.

### **Alternative E (Access Road Option 1)**

#### ***Direct, Indirect, and Cumulative Impacts***

Alternative E would employ the Corn Springs Road exit off I-10 to access the Projects, so the distances traveled by vehicles on unpaved roads would be less than the Projects' sites (2 miles instead of 6 miles). The overall and average trip lengths traveled, and the criteria pollutant and GHG emissions generated through the construction of Alternative E and associated direct, indirect, and cumulative effects would be similar to those of the Proposed Action, but the dust emissions would be reduced due to the reduced travel on unpaved roads.

### **Alternative F (Access Road Option 2)**

#### ***Direct and Indirect Impacts***

The distance to the Projects' sites would increase slightly under the Alternative F access route (7.4 miles as opposed to 6 miles). The overall criteria pollutant and GHG emissions generated through the construction of Alternative F and associated direct, indirect, and cumulative effects would be similar to those of the Proposed Action.

### 3.3 Issue 2: Areas of Critical Environmental Concern

#### 3.3.1 Affected Environment

The Projects are located on BLM-administered land designated as a DFA by the DRECP LUPA, see Section II.3, Figure 8. The solar facilities are not within an ACEC, but the gen-tie portion of the Projects would enter the Chuckwalla ACEC, and there are five other BLM-designated ACECs near the Projects; see Table 3.3-1 and Figure 2-2 (BLM, 2016).

**Table 3.3-1. Areas of Critical Environmental Concern**

ACEC	Direction from Proposed Action	Distance from Proposed Action	Approximate Size (acres)	Relevant and Important Values
Palen-Ford Playa Dunes	West, east, and southeast	1.5 miles	41,370	Playa/dune system, wildlife resources, and cultural values
Chuckwalla	South	Gen-tie enters the ACEC; solar facilities are 300 feet away from the ACEC	514,400	Cultural values, scenic values, vegetative and wildlife resources.
Palen Dry Lake	Southeast	3.8 miles	3,630	Cultural values and wildlife resources
Corn Springs	South	5 miles	2,470	Cultural values, hydrologic features, and wildlife and vegetation resources.
Alligator Rock	Southwest	2 miles	7,750	Cultural values.
Desert Lily Preserve	North	2.25 miles	2,060	Vegetative resources.

ACECs were established to address the special management needs for natural and cultural resources (BLM, 2016) and each ACEC Special Unit Management Plan outlines why it was established and what activities are allowed.

- Palen-Ford Play Dunes ACEC (DRECP LUPA Appendix B page 208) management goals are to maintain the integrity of critical fringe-toed lizard habitat and critical ecological processes, the sand transport system and sand sources in the ACEC; prevent excessive groundwater removal that could threaten dune and playa dependent vegetation alliances; protect cultural resources related to the Palen and Ford playas; and ban activities that may result in adverse effects to landscapes or to National Register Eligible sites or artifacts.
- Chuckwalla ACEC (DRECP LUPA Appendix B page 144) management goals are to protect and improve habitat for sensitive and rare ecological resources, consider and respond to climate changes and opportunities to increase ecological resilience to climate changes, reduce hazards to public safety, provide appropriate compatible public uses, maintain habitat connectivity between the Chuckwalla National Conservation Lands and Joshua Tree National Park, and protect the cultural values of the site.
- Palen Dry Lake ACEC (DRECP LUPA Appendix B page 202) management goals are to protect archeological sites and provide appropriate compatible public uses.

- Corn Springs ACEC (DRECP LUPA Appendix B page 165) management goals are to protect the integrity of Native American, scenic, hydrological, recreational, and ecological resources of the area and to provide appropriate compatible public uses.
- Alligator Rock ACEC (DRECP LUPA Appendix B page 132) management goals are to protect and preserve cultural and spiritually important resources and provide appropriate compatible public uses and includes National Register sites for cultural resources.
- Desert Lily Preserve ACEC (DRECP LUPA Appendix B page 173) management goals are to protect vegetation from impacts from anthropogenic activity and to provide appropriate compatible public uses.

Approximately 500 feet of the shared gen-tie line would be located within the Chuckwalla ACEC, south of I-10 within an existing utility corridor. The Chuckwalla ACEC allows for limited off-highway vehicle (OHV) use on designated routes and for the portion of the ACEC that overlaps the utility corridor, priority will be placed on land use authorizations that are consistent with the purpose of the utility corridor (DRECP LUPA Appendix B page 151).

Under the CDCA, as amended by the DRECP LUPA, the BLM manages ACECs using CMAs, ACEC-specific management disturbance caps, and ACEC Special Unit Management Plans. The ground disturbance cap is a limitation on ground disturbing activities within the ACEC and precludes approval of future discretionary ground-disturbing activities above the cap without mitigation. If new disturbance would not exceed the specified disturbance caps, no disturbance-cap mitigation is required. The portion of the Chuckwalla ACEC which the gen-tie goes through has a 0.5% disturbance cap. The Chuckwalla ACEC is above the disturbance cap, which means that disturbance mitigation would be triggered (BLM DRECP LUPA, Section II.2, 2016).

Portions of the Chuckwalla ACEC near I-10 are classified as VRM Class III, therefore the portion of the gen-tie line, which crosses the Chuckwalla ACEC, is subject to Class III management objectives.

### **3.3.2 Environmental Effects**

#### **Alternative A (No Action):**

##### ***Direct, Indirect, and Cumulative Impacts***

The No Action Alternative would not develop the solar facilities and would not require any construction or operational activities. This option would not conflict with any ACECs; therefore, there would be no impacts to ACECs.

#### **Alternative B (Proposed Action):**

##### ***Direct and Indirect Impacts***

The solar facilities are not located within an ACEC; the Chuckwalla ACEC is nearest to the Project and is located approximately 300 feet from the fencelines, south of I-10. The other five ACECs are at least 1.5 or more miles from the Proposed Action. There would be no direct impacts from the solar facilities on ACECs due to the distance between them. The solar facilities would be visible from portions the ACECs but would not conflict with the Management Plans for the ACECs outlined in Appendix B of the DRECP LUPA (BLM, 2016). This is because, except for the Chuckwalla ACEC, the rest of the ACECs are sufficiently far from the Proposed Action that the visual resources would be minimal, and the Proposed Action would introduce infrastructure similar

to what is already within the viewsheds of the ACECs. For the Chuckwalla ACEC, the ACEC Management Plan specifically manages the areas near I-10 as VRM Class III (Appendix B page 150). The Projects would meet this objective given the existing visual context which includes several solar projects and numerous existing transmission lines and the Red Bluff Substation in this area. See Section 3.11, Visual Resources for more discussion. No mitigation is required.

The 230 kV gen-tie line would cross through approximately 500 feet of the Chuckwalla ACEC. As noted above, the unit that the Proposed Action gen-tie would cross is above the specified ground disturbance cap (BLM, 2019a). The portion of the gen-tie ROW within the ACEC unit is 1.5 acres, but construction of the Projects' shared gen-tie line would result in an estimated 0.25 acres of ground disturbance for one pole installation within this ACEC. This is consistent with the analysis in the DRECP EIS Section IV.4.2.1.1 (page IV.14-4) which notes that renewable energy and associated transmission could also conflict with BLM management goals and objectives to categorize, protect, and manage special designation areas. However, the magnitude of the impacts is minimal given the small amount of ground disturbance, that it is within an existing utility corridor, and that it would be surrounded by existing gen-tie lines within the utility corridor. In accordance with CMA ACEC-DIST-2, specific ground disturbance mitigation for the acres of impacts to the ACEC unit would be required. The acreage of mitigation would depend on the acres that are already disturbed and the acres that would require new ground disturbance but would likely result in about 1 acre of mitigation lands. Given the disturbance within the existing transmission corridor and the compensation for this new ground disturbance, the effects would be insignificant. As noted in the DRECP LUPA, Section II.2.1, this mitigation would provide a restoration mechanism that will, over time, improve the condition of the unit(s) and take them below their cap (BLM, 2016). The proposed gen-tie line would run parallel to the Palen, Desert Sunlight, and Athos gen-tie lines that connect to the existing Red Bluff Substation in the Chuckwalla ACEC. The gen-tie line would follow existing corridors, would have minimal ground disturbance, and views of the gen-tie line from within the ACEC would be limited, therefore, it would not interfere with management goals of the ACEC described in Section 3.3.1. Section 3.11, Visual Resources describes the gen-tie line as visible but not visibly prominent, which is consistent with Class III objective. As noted, for ROWs within the Chuckwalla ACEC, priority will be placed on land use authorizations that are consistent with the purposes of the Utility Corridor, which includes the Arica and Victory Pass Gen-tie Line.

### ***Cumulative Impacts***

There are multiple solar projects in the Desert Center area that are developed, proposed, or under-construction. These projects are located on private or BLM-administered land, and none are within an ACEC, except for the gen-tie lines within existing transmission corridors. The gen-tie line would result in approximately 0.25 acres of ground disturbance within the ACEC. The Projects would mitigate for this new disturbance within the ACEC at a ratio of 1:1 or higher. Any gen-ties line associated with cumulative resources would also be required to mitigate new disturbance. The solar facilities would result in visual impacts to the ACECs, but these would not impact the relevant and important values and management objectives of the ACECs, due to the three existing gen-tie lines and industrial development already present in this area and because the management objective of the Chuckwalla ACEC is to allow appropriate development within the utility corridor. Visual impacts are addressed in Section 3.11.

**Alternative C (Gen-tie Alignment 1)*****Direct, Indirect, and Cumulative Impacts***

Alternative C would adjust the route taken by the gen-tie but would not change the portion of the gen-tie line that enters the Chuckwalla ACEC. The impacts to ACECs would be the same as with the Proposed Action.

**Alternative D (Gen-tie Alignment 2)*****Direct, Indirect, and Cumulative Impacts***

Alternative D would adjust the route taken by the gen-tie but would not change the portion of the gen-tie line that enters the Chuckwalla ACEC. The impacts to ACECs would be the same as with the Proposed Action.

**Alternative E (Access Road Option 1)*****Direct, Indirect, and Cumulative Impacts***

Alternative E would use BLM open routes off the Corn Springs exit on I-10 to access the Project sites. This would not change the impacts to ACECs, and they would be the same as with the Proposed Action.

**Alternative F (Access Road Option 2)*****Direct, Indirect, and Cumulative Impacts***

Alternative F would share the proposed Athos access road to access the Project sites. This would not change the impacts to ACECs, and they would be the same as with the Proposed Action.

**3.4 Issue 3: Cultural Resources****3.4.1 Affected Environment**

The following discussion is based on the confidential cultural resources technical reports, indirect effects analysis, and an ethnographic assessment, titled Class III Cultural Resource Inventory for the Arica Solar Project, Riverside County, California (Thomas et al., 2021a); Class III Cultural Resource Inventory for the Victory Pass Solar Project, Riverside County, California (Thomas et al., 2021b); Indirect Effects Assessment for the Arica Solar Project, Riverside County, California (Knabb et al., 2020a); Indirect Effects Assessment for the Victory Pass Solar Project, Riverside County, California (Knabb et al., 2020b); and Summary of Results For the Arica, Victory Pass, and Oberon Ethnographic Assessment (Bengston and Fuller, 2020). The indirect effects analysis focuses on auditory, visual, and atmospheric effects to historic properties that could occur during the various phases of the Projects, including site preparation, construction, operation and maintenance, and decommissioning. This section also relies on the Cultural Resources Sections for the Desert Harvest Solar Project EIS and the IP Athos Renewable Energy Project Final EIR (BLM, 2012 and Riverside County, 2019).

The BLM defined the Area of Potential Effects (APE) for direct and indirect effects to historic properties and cultural resource identification efforts with consulting parties, consistent with Stipulation IV(A) of the DRECP Programmatic Agreement. The Direct APE for the Arica Solar Project includes the electrical generating and storage facility; preferred and alternative gen-tie lines, all pull and tensioning sites; 150-foot-wide corridor for the preferred gen-tie plus a 100 foot-



wide buffer; all access roads; and all laydown and staging areas. The BLM defined the Indirect APE for Arica Solar Project to be a 1-mile buffer around the Direct APE.

The BLM determined a one-mile indirect APE radius is sufficient because the area of the Proposed Action is surrounded by similar development that is approved or under construction. As shown in the Visual Resources Technical Study Figure 1A, the Projects area is within the viewshed of the four ACECs, but project components would be difficult to see. Because similar industrial infrastructure already exists within the viewshed of these resources, the contribution of similar projects would not be apparent past 1 mile from the Direct APE.

A BLM Class III cultural resources inventory was conducted for both Projects, which included a record search and literature review to gather existing information about all previously recorded cultural resources within both APEs. The BLM defined the Records Search Area to be a 1-mile-wide area surrounding both solar arrays and around the gen-tie corridors which is consistent with Record Searches for linear infrastructure. The following record search and survey results are separated by project for a clearer understanding of where resources are located.

For the Arica Solar Project, the records search results indicate that at least 21 previous investigations have been conducted and documented within 1 mile of the Arica Solar Direct APE since 1977. Sixteen of these studies appear to include portions of or intersect the Arica Solar Direct APE, equaling 22.2% of the Direct APE. The most recent studies were conducted for the nearby Palen Solar Project. The only portion of the Palen Solar Project that intersects the Arica Solar Direct APE is within the portion of the gen-tie corridor, which connects the Palen Solar Project to SCE's Red Bluff Substation. The records search results also indicated that 85 cultural resources have been previously recorded within the Arica Solar Direct APE and buffer areas. These resources include four prehistoric archaeological sites, 28 historic period archaeological sites, two multicomponent sites, five prehistoric isolated artifacts, 43 historic period isolated artifacts, and three historic period built-environment resources. Two of these resources (P-33-017766 [U.S. Highway 60/70] and P-33-018393 [18<sup>th</sup> Battalion Campsite]) have previously been determined eligible with State Historic Preservation Office (SHPO) concurrence. Thirty-eight of these previously recorded resources are mapped within the Direct APE. These include nine historic period archaeological sites, one multicomponent site (ceramic scatter with historic period refuse deposit), two prehistoric isolated artifacts (single flake and ceramic sherd), 23 historic period isolated artifacts (metal cans, rock pile, glass bottle fragments), and three historic period built-environment resources (Blythe-Eagle Transmission Line, U.S. Highway 60/70, and Mecca-Blythe Highway). Additionally, the technical studies conducted for Desert Harvest Solar Project (DHSP) identified several resources around the shared access road. Seven previously recorded sites that have been determined eligible or are listed on the NRHP fall within the Arica Solar Indirect APE. These sites could be indirectly affected by construction of the Arica Solar Project. The seven sites include San Pasqual Well, North Chuckwalla Petroglyph District, Coco-Maricopa Trail Segment D, Palen Dunes/Palen Dry Lake Traditional Cultural Property (TCP) U.S. Highway 60/70, 18<sup>th</sup> Ordinance Battalion Campsite, and AE-3752-064H which includes 42 distinct Desert Training Center/California-Arizona Maneuvers Area (DTC/C-AMA) features.

For the Victory Pass Solar Project, the records search results indicate that at least 24 previous investigations have been conducted and documented within 1 mile of the Victory Pass Direct APE. Twelve of these studies appear to include portions of or intersect the Victory Pass Direct APE, equaling 13.5% of the Direct APE. The records search results indicated that 162 cultural resources



have been previously recorded within the Direct APE and buffer areas. These resources include 10 prehistoric archaeological sites, 62 historic period archaeological sites, 3 multi-component sites, 16 prehistoric isolated artifacts, 66 historic period isolated artifacts, and 5 historic period built-environment resources. Two of these resources (P-33-017766 [U.S. Highway 60/70] and P-33-018393 [18<sup>th</sup> Battalion Campsite]) have been determined eligible with SHPO concurrence. Forty-two of these previously recorded resources are mapped within the Direct APE. These include 4 prehistoric archaeological sites (lithic scatters and a low earthen berm), 15 historic period archaeological sites (refuse scatters and military-related sites), 20 historic period isolated artifacts (metal cans, glass bottle fragments, a wash basin), and 3 historic period built-environment resources (Blythe-Eagle Transmission Line, U.S. Highway 60/70, and Mecca-Blythe Highway). Additionally, the technical studies conducted for DHSP identified several resources within the shared access road. Five previously recorded sites that have been previously determined eligible or are listed on the NRHP, fall within the Victory Pass Solar Indirect APE. These sites could be indirectly affected by construction of the Victory Pass Solar Project. The five sites include North Chuckwalla Petroglyph District, Coco-Maricopa Trail Segment D, U.S. Highway 60/70, 18th Ordinance Battalion Campsite, and AE-3752-064H which includes 42 distinct DTC/C-AMA features.

After the Class III cultural surveys were complete, the Projects' fencelines were revised as described in Section 2.2 to meet the DRECP LUPA. The resources reported in the text below are for the Direct APE. Those resources that fall within the smaller fencelines are specified in the subsequent tables.

After completion of the Class III intensive pedestrian surveys of the Arica Solar Direct APE, the survey crews re-located and updated Department of Parks and Recreation (DPR) 523 site forms for 15 previously recorded resources (10 sites and 5 isolated occurrences). The remaining resources were not relocated, and all consisted of isolated occurrences, which were generally composed of single or small numbers of historic period artifacts (e.g., metal cans, shell casings, and bottle glass) or prehistoric lithics or ceramic sherds. In addition to re-identifying 15 previously documented archaeological resources, the survey crew also documented a total of 63 new archaeological resources (14 sites and 49 isolates) within the Arica Solar Direct APE. Of these 63 newly identified resources, 12 archaeological sites and 33 isolated occurrences fall within the smaller fenceline (Table 3.4-1) and were recommended not eligible for the NRHP due to their lack of association with a specific time-period, important event, or person. These sites and isolates are common and do not represent the work of a master or exhibit a distinctive type, period, or method of construction, nor is there any additional research potential. Only one eligible resource, P-33-017766, U.S. Highway 60/70 that was previously determined NRHP eligible (Criterion A) with concurrence from the SHPO, was identified within the Arica Solar Direct APE, specifically in the gen-tie corridor.

**Table 3.4-1. Newly Recorded Resources within the Arica Solar Direct APE**

Resource Number	Type	Age	Description	NRHP Recommendation
19-386-KJ-002H	Site	Historic	Refuse scatter	Not Eligible
19-386-KJ-005H	Site	Historic	Refuse scatter	Not Eligible
19-386-KJ-006H	Site	Historic	Refuse scatter	Not Eligible
19-386-KJ-007H	Site	Historic	Refuse scatter	Not Eligible
19-386-KJ-008H	Site	Historic	Refuse scatter	Not Eligible

**Table 3.4-1. Newly Recorded Resources within the Arica Solar Direct APE**

Resource Number	Type	Age	Description	NRHP Recommendation
19-386-KJ-011	Site	Prehistoric	Lithic scatter	Not Eligible
19-386-WH-004H	Site	Historic	Refuse scatter	Not Eligible
19-386-WH-005H	Site	Historic	Fence remnant	Not Eligible
19-386-WH-006H	Site	Historic	Refuse scatter	Not Eligible
19-386-WH-008H	Site	Historic	Refuse scatter	Not Eligible
19-386-WH-009/H	Site	Multi-component	Prehistoric lithic with historic refuse scatter and possible hearth	Not Eligible
19-386-WH-063H	Site	Historic	Refuse scatter	Not Eligible
19-386-KJ-IO-001H	Isolate	Historic	One flat-top beverage can	Not Eligible
19-386-KJ-IO-002H	Isolate	Historic	Church key opened flat top beverage can	Not Eligible
19-386-KJ-IO-003H	Isolate	Historic	Screw top jar and lid with a Knox Glass Bottle Company (1932–1952)	Not Eligible
19-386-KJ-IO-004H	Isolate	Historic	Key-wound single-serve can	Not Eligible
19-386-KJ-IO-005H	Isolate	Historic	Knife opened oval can, possibly for sardines	Not Eligible
19-386-KJ-IO-006H	Isolate	Historic	Broken aqua bottle base with an embossed makers mark that reads “A.B. Co. / E 1”	Not Eligible
19-386-KJ-IO-013H	Isolate	Historic	Gas/oil can with a soldered spout and a handle	Not Eligible
19-386-KJ-IO-014H	Isolate	Historic	Flat top beverage can with two church-key punches at the top	Not Eligible
19-386-KJ-IO-015H	Isolate	Historic	Complete amber glass bottle with Owens-Illinois Glass Company maker’s mark (1943)	Not Eligible
19-386-KJ-IO-016H	Isolate	Historic	Iron eyeglass case	Not Eligible
19-386-KJ-IO-017H	Isolate	Historic	Flat-top beverage can with two church-key punches	Not Eligible
19-386-KJ-IO-018H	Isolate	Historic	One multiple serving sanitary can with a P38 can opener and one screw top can	Not Eligible
19-386-KJ-IO-019H	Isolate	Historic	Multi-serving sanitary can with P38 can opener.	Not Eligible
19-386-KJ-IO-020H	Isolate	Historic	Flat-top beverage can with two church key punches	Not Eligible
19-386-KJ-IO-021H	Isolate	Historic	Small knife-opened sanitary can and the lower half of a C-ration key wound can	Not Eligible
19-386-KJ-IO-027H	Isolate	Historic	Quart-sized oil can embossed with “SAE / 30” with two punches in the top	Not Eligible
19-386-KJ-IO-029H	Isolate	Historic	Single-serve church key opened sanitary can	Not Eligible
19-386-KJ-IO-030H	Isolate	Historic	Five iron horseshoes with nails	Not Eligible
19-386-KJ-IO-034H	Isolate	Historic	Aqua glass crown bottle finish and a P38 opened sanitary can	Not Eligible
19-386-KJ-IO-035H	Isolate	Historic	Amber beverage bottle with an Obear-Nester Glass Company maker’s mark (1915–1978)	Not Eligible
19-386-KJ-IO-036H	Isolate	Historic	Clear glass bottle with Diamond Glass Company maker’s mark (1924–1940) and rectangular meat can	Not Eligible

**Table 3.4-1. Newly Recorded Resources within the Arica Solar Direct APE**

Resource Number	Type	Age	Description	NRHP Recommendation
19-386-KJ-IO-039H	Isolate	Historic	Amber glass bottle with an Owen-Illinois Glass Company maker's mark (1943)	Not Eligible
19-386-KJ-IO-040H	Isolate	Historic	Clear glass paneled medicine bottle with an Owen-Illinois Glass Company maker's mark	Not Eligible
19-386-WH-IO-001	Isolate	Prehistoric	Basalt proximal biface fragment (possible Western Stemmed)	Not Eligible
19-386-WH-IO-005H	Isolate	Historic	Single church key open beverage can	Not Eligible
19-386-WH-IO-006H	Isolate	Historic	Rusted, oval meat container	Not Eligible
19-386-WH-IO-007	Isolate	Prehistoric	One Colorado Beige body sherd	Not Eligible
19-386-WH-IO-008H	Isolate	Historic	Complete amber/brown glass bottle with a purple patina	Not Eligible
19-386-WH-IO-009	Isolate	Prehistoric	Seven ceramic sherds from a single vessel	Not Eligible
19-386-WH-IO-010H	Isolate	Historic	One large, crumpled rectangular can	Not Eligible
19-386-WH-IO-011H	Isolate	Historic	One broken glass bottle base and associated fragments	Not Eligible
19-386-WH-IO-012H	Isolate	Historic	Colorless, frosted glass bottle embossed with "Lankershim Fruit Product Co."	Not Eligible
19-386-WH-IO-013H	Isolate	Historic	A clear, rectangular glass ink bottle	Not Eligible

After completion of the Class III intensive pedestrian surveys of the Victory Pass Direct APE, the survey crew re-identified 37 resources (19 sites and 18 isolated artifacts). In addition to re-identifying previously documented archaeological resources, the survey crew also documented 57 new archaeological resources within the Victory Pass Solar Direct APE. These include 18 archaeological sites and 40 isolated occurrences, of which 10 sites and 23 isolates fall within the smaller fence line (Table 3.4-2). The resources are commonly found and were recommended not eligible for the NRHP due to their lack of association with a specific time-period, important event, or person. These sites and isolates do not represent the work of a master or exhibit a distinctive type, period, or method of construction, nor is there any additional research potential. Only one previously documented resource, P-33-017766, was previously determined NRHP eligible, with concurrence from the SHPO, was identified within the Victory Pass Direct APE, specifically within the gen-tie corridor.

**Table 3.4-2. Newly Recorded Resources within the Victory Pass Solar Direct APE**

Resource Number	Type	Age	Description	NRHP/CRHR Recommendation
19-386-KJ-010H	Site	Historical	Refuse scatter	Not Eligible
19-386-KJ-019H	Site	Historical	Military tank tracks	Not Eligible
19-386-KM-001H	Site	Historical	Prospect pit	Not Eligible
19-386-KM-002H	Site	Historical	Refuse scatter	Not Eligible
19-386-WH-010H	Site	Historical	Refuse scatter	Not Eligible
19-386-WH-011H	Site	Historical	Refuse scatter	Not Eligible
19-386-WH-012H	Site	Historical	Refuse scatter	Not Eligible
19-386-WH-013H	Site	Historical	Refuse scatter	Not Eligible

**Table 3.4-2. Newly Recorded Resources within the Victory Pass Solar Direct APE**

Resource Number	Type	Age	Description	NRHP/CRHR Recommendation
19-386-WH-017H	Site	Historical	Refuse scatter	Not Eligible
19-386-WH-063H	Site	Historical	Refuse scatter	Not Eligible
19-386-KJ-IO-007H	Isolate	Historical	Punch top can	Not Eligible
19-386-KJ-IO-008H	Isolate	Historical	Flat top can	Not Eligible
19-386-KJ-IO-009H	Isolate	Historical	Large can; no lid	Not Eligible
19-386-KJ-IO-010H	Isolate	Historical	Bottle glass neck	Not Eligible
19-386-KJ-IO-011H	Isolate	Historical	Flat top crushed can on surface, one can only partially visible	Not Eligible
19-386-KJ-IO-012H	Isolate	Historical	Round can with lid	Not Eligible
19-386-KJ-IO-023H	Isolate	Historical	Hole-in-top. Knife-punch	Not Eligible
19-386-KJ-IO-024H	Isolate	Historical	Hole-in-top can	Not Eligible
19-386-KJ-IO-041H	Isolate	Historical	C-Ration can	Not Eligible
19-386-KJ-IO-044H	Isolate	Historical	Aluminum hub cap	Not Eligible
19-386-KJ-IO-049H	Isolate	Historical	Hole-in-cap can	Not Eligible
19-386-KJ-IO-050H	Isolate	Historical	Clear glass milk bottle	Not Eligible
19-386-KJ-IO-051H	Isolate	Historical	Friction lid tin and C-Ration lid and key	Not Eligible
19-386-KJ-IO-052H	Isolate	Historical	Two sanitary cans	Not Eligible
19-386-KJ-IO-053H	Isolate	Historical	Iron needle bearing	Not Eligible
19-386-KJ-IO-060H	Isolate	Historical	Clear glass shoulder and finish with non-screw top friction lid	Not Eligible
19-386-WH-IO-002	Isolate	Prehistoric	Granitic mano and flake	Not Eligible
19-386-WH-IO-003	Isolate	Prehistoric	Ceramic rim sherd	Not Eligible
19-386-WH-IO-004H	Isolate	Historical	Glass base and bottle fragments	Not Eligible
19-386-WH-IO-015H	Isolate	Historical	Green glass bottle base (New Canada Dry Ginger Ale)	Not Eligible
19-386-WH-IO-016H	Isolate	Historical	Can with screw top opening and wire handle	Not Eligible
19-386-WH-IO-017H	Isolate	Historical	Rectangular meat can	Not Eligible
19-386-WH-IO-021	Isolate	Prehistoric	Weathered granitic primary flake	Not Eligible

In addition, the following sites were identified along the proposed access road: CA-RIV-9385 (33-009385), CA-RIV-10915 (33-010915), CA-RIV-10916 (33-010916), CA-RIV-10917 (33-010917), CA-RIV-10918 (33-010918), CA-RIV-10919 (33-010919), CA-RIV-10920 (33-010920), CA-RIV-10921 (33-010921), CA-RIV-10922 (33-010922), CA-RIV-10923 (33-010923), CA-RIV-10924 (33-010924), CA-RIV-10925 (33-010925), and CA-RIV-10928 (33-010928). These included cleared circles and were assumed eligible in the Desert Harvest EIS (BLM, 2012; Section 3.06 page 3.6-33).

An ethnographic assessment was conducted by Applied Cultural Ecology, LLC, in 2020 and 2021 to identify any TCPs in or around the proposed Projects and to discuss any potential impacts. The ethnographic study area covers the Chuckwalla Valley, and the surrounding Eagle, Chuckwalla, Phalen, and Coxcomb mountains. The ethnographic study included a literature review of ethnographic overviews and previous assessments as well as interviews with and questionnaires submitted to local tribes.

The literature review indicated 13 previously identified places of cultural or religious importance in the ethnographic study area. A brief description of these previously identified places is presented below.

**Alligator Rock.** Located within the Alligator Rock ACEC. The boundary of Alligator Rock ACEC contains multiple trails and archaeological sites that are said to be associated with Alligator Rock and are contributing elements to its significance.

**Chuckwalla Spring.** First documented in 1948 as a habitation site with possible petroglyphs, ceramics, lithics, trails, and hearths at Chuckwalla Spring. The spring, associated trails, petroglyphs, and additional archaeological features are considered contributing elements to the site's significance.

**Coco-Maricopa Trail.** A well-traveled trade and travel corridor that connected the Colorado River areas to the California Coastal area in the Los Angeles Basin. The trail was used by ancient indigenous people through the Spanish occupation into modern time as a paved highway system.

**Corn Spring.** First recorded as an archaeological site in 1927 and was listed on the NRHP in 1998 as a Native American ceremonial site. The site consists of Corn Spring itself as well as multiple archaeological features such as petroglyphs, trails, corn horticultural, and associated artifacts.

**Dragon Wash.** First recorded as a petroglyph site in 1948. Contributing elements of this site consist of the wash, prayer seat, petroglyphs, and associated artifacts.

**Ford Dry Lake.** Encompasses about 20,350 acres that include an ephemeral lake, trails, possible cremations, temporary camps, resource processing sites, and numerous archaeological artifacts and features.

**Long Tank Locality.** A natural feature where an unnamed wash from the Chuckwalla Mountains cuts through a granite outcrop creating an 82-foot-long crevice with four deep depressions called tanks. Long Tank Locality is located within the Alligator Rock ACEC.

**McCoy Spring.** Consists of extensive petroglyphs, trails, cleared rock circles, rock rings, and various artifacts and features.

**North Chuckwalla Mountain Quarry District.** Consists of associated trails, archaeological artifacts, and features. The site was listed on the NRHP in 1981.

**North Chuckwalla Mountains Petroglyph District.** Located north of Corn Spring and southwest of San Pascual Well Locality. The site was originally listed on the NRHP in 1981 and was revised in 2007. The site consists of 158 petroglyphs panels in five loci. Associated features include temporary camps, rock rings, cleared circles, trails, bedrock milling features, flaked lithics, groundstone, and ceramic artifacts.

**Palen Dunes/Palen Lake.** Located within an ACEC and includes an ephemeral lake, trails, possible cremations, and various archaeological artifacts and features.

**Salt Song Trail.** Path that leads to the afterlife which is traveled by some of the tribes native to the region it travels through, including the Chemehuevi and Southern Paiute. This trail is metaphysical, but it is associated with specific topographic features as well as spiritual places.

**San Pascual Well Locality.** First documented during the Romero-Estudio expedition across the Colorado Desert in 1823-1824. It is culturally important to Native Americans and thought to be located on private land and has not been relocated during field verification attempts.



A total of 14 tribes were contacted in December of 2020 and asked to participate in the ethnographic assessment. Those contacted included the Agua Caliente Band of Cahuilla Indians, Augustine Band of Cahuilla Indians, Cabazon Band of Mission Indians, Cahuilla Band of Mission Indians, Chemehuevi Indian Tribe, Cocopah Indian Tribe, Colorado River Indian Tribes, Fort Mojave Indian Tribe, Fort Yuma Quechan Indian Tribe, Morongo Band of Mission Indians, San Manuel Band of Mission Indians, Soboba Band of Luiseño Indians, Torres-Martinez Desert Cahuilla Indians, and Twenty-Nine Palms Band of Mission Indians. Of the 14 tribes contacted, eight agreed to participate in the ethnographic assessment, including the Agua Caliente Band of Cahuilla Indians, Cahuilla Band of Mission Indians, Chemehuevi Indian Tribe, Cocopah Indian Tribe, Colorado River Indian Tribes, Fort Mojave Indian Tribe, Fort Yuma Quechan Indian Tribe, and Soboba Band of Luiseño Indians. Two additional places were identified by the participating tribes which include Eagle Mountain and the Chuckwalla Valley Cultural Landscape. These two places are briefly described below.

**Eagle Mountain.** A Cocopah Indian Tribal elder said that Eagle Mountain figured prominently in their oral traditions about the afterlife.

**Chuckwalla Valley Cultural Landscape.** Tribal members from two of the contacted tribes, the Cocopah Indian Tribe and Soboba Band of Luiseño Indians, described the vicinity as being culturally significant. The information provided did not describe specific places with boundaries within the study area.

### **Traditional Cultural Properties (TCPs)**

The National Historic Preservation Act (NHPA) and its implementing regulations do not use the term TCP but do define the term “historic property” to include “properties of traditional religious and cultural importance to an Indian tribe or Native Hawaiian organization and that meet the National Register criteria.” (36 CFR § 800.16(l)(1).) Borrowing the definition of a TCP from the National Parks Service Bulletin 38, the term refers to a property “that is eligible for inclusion in the National Register because of its association with cultural practices or beliefs of a living community that (a) are rooted in that community’s history, and (b) are important in maintaining the continuing cultural identity of the community.” The ethnographic assessment was the attempt to gain additional information on TCPs and potential impacts to any identified TCPs. At the conclusion of the ethnographic assessment, none of the participating tribes provided new information or identified any new TCPs within the APE (i.e., properties within the direct or indirect effects area of the Projects that “are important in maintaining the continuing cultural identity of the community”).

The BLM has a specific policy on TCPs and their identification (BLM Manual 8110 .22 D). According to this policy, TCPs can be found to meet NRHP eligibility criteria and thus should be located, described, and evaluated at the same stage in the Section 106 compliance process as the field inventory for historic properties. TCPs must meet one or more National Register criteria in order to be determined eligible for the National Register (BLM Manual 8110 .31). According to BLM policy, TCPs are specific, definite places that figure directly and prominently in a particular group’s cultural practices, beliefs, or values, when those practices, beliefs, or values (i) are widely shared within the group, (ii) have been passed down through the generations, and (iii) have served a recognized role in maintaining the group’s cultural identity for at least 50 years. The BLM has made a reasonable and good faith effort to identify TCPs potentially affected by the Proposed Action. Two resources identified within the indirect APE described above appear to be culturally sensitive to Tribes, based on previous studies and ongoing consultations; however, the BLM has



not found sufficient information through tribal consultation or through relevant ethnographic, historical studies and identification efforts to evaluate whether any the cultural resources within the APE meet the BLM Manual 8110 .22D criteria to qualify as traditional cultural properties.

The BLM acknowledges that tribes have expressed their views and concerns about the importance and sensitivity of specific cultural resources to which they attach religious and cultural significance. Tribes have also expressed the view that these resources are connected to the broader landscape within and near the proposed Projects area. However, the cultural landscape discussed in project consultation is not sufficiently defined at this point in time for the BLM to analyze it as a cultural property under Section 106 NHPA or as cultural resources under NEPA for the Proposed Action.

The Council for Environmental Quality's NEPA regulations require the BLM to obtain information if it is "relevant to reasonably foreseeable significant adverse effects," if it is "essential to a reasoned choice among alternatives," and if "the overall cost of obtaining it is not exorbitant" (40 CFR 1502.21(b)). As noted above, the ethnographic assessment was the attempt to gain additional information on TCPs and potential impacts to any identified TCPs including the broader landscape. The BLM has determined that, for the current Proposed Action, the cost of obtaining the information required to attempt to identify a landscape-level TCP in accordance with Department of the Interior (DOI)/BLM Section 106 NRHP and NEPA policy and standards would be exorbitant. The cost and effort also go beyond the reasonable-and-good-faith-effort standard under the Section 106 regulations at 36 CFR 800.4(b)(1). The proposed cultural landscape is geographically massive in scale, encompassing millions of acres of federal and nonfederal lands. The Pacific to Rio Grande Trails Landscape spans portions of six states (from the southern California coast to the Rio Grande River in New Mexico) as well as a portion of northern Mexico. The BLM has determined that, for the current Proposed Action, the cost would be exorbitant to conduct field archaeological inventories, ethnographic and historical studies, and tribal consultation required to attempt to identify this geographically massive proposed landscape including defining its legal boundaries; classifying it as a district, sites or another recognized cultural property type; identifying and describing contributing elements; and taking other steps to evaluate and assess effects to the landscape, in accordance with DOI/BLM policy and standards. Furthermore, the BLM believes that this information is not relevant to reasonably foreseeable significant adverse impacts on the human environment, nor is it essential to a reasoned choice among alternatives.

### **3.4.2 Environmental Effects**

This section describes and evaluates the direct effects to historic properties under Section 106 of the NHPA and direct impacts to more broadly defined cultural resources under NEPA, related to the Proposed Action, the Gen-Tie Alignment 1 Alternative, the Gen-Tie Alignment 2 Alternative, Access Road Option 1 Alternative, Access Road Option 2 Alternative, and the No Action Alternative.

#### **Alternative A (No Action):**

##### ***Direct, Indirect, and Cumulative Impacts***

The No Action Alternative would not result in any new construction and/or operational activities or any new associated ground-disturbing activities. The impacts to historic properties and significant cultural resources associated with the Proposed Action would not occur under the No Action Alternative. Additionally, cumulative impacts to historic properties and significant cultural resources associated with the Proposed Action would not occur under the No Action Alternative.

**Alternative B (Proposed Action):*****Direct and Indirect Impacts***

**Direct Impacts.** As described in the Affected Environment section above, the archaeological surveys for both Direct APEs resulted in the identification of one NRHP eligible resource, U.S. Highway 60/70 (P-33-017766), within the 230kV gen-tie line corridor that could be directly affected by the Proposed Action. Based on the current design, the gen-tie corridor will span the historic property, avoiding direct effects. Additionally, the shared access road runs through several resources identified during the Desert Harvest NEPA review. These resources were assumed eligible and required avoidance during construction of the Desert Harvest gen-tie alignment. The Proposed Action would avoid direct adverse effects and direct impacts to these cultural resources by avoiding these same resources. This is consistent with the DRECP EIS which notes that solar projects can potentially impact all types of cultural resources (DRECP EIS Section IV.8.2.1 page IV.8-4).

The BLM may must follow 43 CFR 7.33 et seq. (Subpart B) to determine that certain materials are not or are no longer of archaeological interest and therefore not considered archaeological resources. For those materials that are determined to not be archaeological resources under 43 CFR 7.33, the BLM land manager may determine appropriate conservation measures for those resources.

There is the potential for unknown buried archaeological resources to be encountered during ground disturbing activity that would be required for construction of the Proposed Action. Inadvertent disturbance or destruction of an unidentified archaeological resource could damage or destroy the resource or change its context. If the currently unidentified archaeological resource were determined to be eligible for listing in the NRHP, the Proposed Action activities could result in an adverse effect. Implementation of Mitigation Measures CUL-1 (Retain a Cultural Resources Specialist), CUL-2 (Prepare and Implement a Plan for Archaeological Monitoring, Post-Review Discovery and Unanticipated Effects Plan), CUL-3 (Develop and Implement a Cultural Resources Environmental Awareness Training), CUL-4 (Archaeological Monitoring), CUL-5 (Unanticipated Discovery), and CUL-6 (Cultural Resources Monitoring Report and Cultural Resources Report [CRR]), CUL-7 (Long-Term Management Plan), and CUL-8 (Identification of Human Remains) would reduce impacts on BLM administered lands.

The Tribes consulted by BLM have consistently placed a high value on the entire Projects landscape and the resources, including resources that are not individually eligible for inclusion on the NRHP, that make up Tribes' cultural footprint on the land. As noted, at the end of the Ethnographic Assessment, none of the participating tribes provided information with specific places with boundaries within the study area or identified any new TCPs within the study area; therefore, the Projects will not directly or indirectly impact TCPs. However, defining the geographic scope of these resources and further assessing the impact of development within that scope under existing legal frameworks that require evidence of significance has been elusive. This is consistent with the DRECP EIS which notes that while renewable projects may impact TCPs and landscapes, but the BLM lacks data on cultural landscapes or TCPs, so the EIS addressed them qualitatively (DRECP EIS Section IV.8.1.1 page IV.8-2). Mitigation Measure CUL-2 includes a Tribal Participation Plan that while not directly addressing TCPs, would invite the Tribes to observe the Projects' construction and attempt to limit effects to resources.

**Indirect Impacts.** Seven historic properties were identified within the Arica Solar Project Indirect APE, and five historic properties were identified within the Victory Pass Solar Project Indirect APE. All these historic properties are subject to indirect effects from the Proposed Action.

An indirect effects assessment was conducted for Arica Solar Project and Victory Pass Solar Project, using key observation points (KOPs), onto which a simulation of both projects' designs was added (Knabb et al., 2020a; Knabb et al., 2020b). The indirect effects assessment focuses on indirect visual impacts, since auditory (noise) and atmospheric (dust and other air pollution) impacts are limited to the construction phase and are temporary. The assessment found that no significant indirect visual impacts would occur to any of the historic properties identified in either of the Indirect APEs because construction of the Proposed Action would add in-kind intrusions (solar infrastructure and transmission lines) to an already highly developed and modified setting along the I-10 corridor that crosses the valley floor, and/or the setting is not a critical element of the integrity of the historic properties.

Based on the above information, the Proposed Action would have no adverse indirect effects to historic properties.

### ***Cumulative Impacts***

The regulations implementing Section 106 of the NHPA contemplate close coordination between the NEPA and NHPA processes (36 CFR 800.8), and expressly integrate consideration of cumulative concerns within the analysis of a proposed action's potential direct and indirect effects by defining "adverse effect" to include "reasonably foreseeable effects caused by the undertaking that may occur later in time, be farther removed in distance or be cumulative" (36 CFR 800.5(a)(1)). As discussed above, the record search and intensive pedestrian survey of both Projects' Direct APEs identified one historic property within the shared gen-tie corridor, which is not subject to direct adverse effects or significant direct impacts by the Proposed Action.

Approximately 34 historic-era resources, primarily consisting of possible military tank tracks and refuse scatters which are common, were identified within the Direct APEs of the proposed Projects that are associated, or thought to be associated, with DTC/C-AMA, a historic district. While these resources are not eligible for listing on the NRHP individually, their destruction due to the Projects contributes in a small but measurable way to cumulative impacts to the DTC/C-AMA. This is consistent with the DRECP EIS Section IV.25.3.8 (page IV.25-79) which noted that there would be cumulative effects to known resources, and specifically called out the military camps associated with the DTC/C-AMA. Cumulative impacts to the DTC/C-AMA would be addressed through MM CUL-9 (Cumulative Effects), which would address the loss of data potential through cumulative impacts following the guidance of the DRECP LUPA CMA DFA-VPL-CUL-2 and the DRECP Programmatic Agreement. Implementation of this mitigation measure would reduce cumulative impacts to the DTC/C-AMA.

The Proposed Action, in conjunction with the other solar projects in the area, would also contribute to cumulative indirect effects on prehistoric sites North Chuckwalla Petroglyph District, Coco-Maricopa Trail Segment D, and Palen dunes/Palen Dry Lake TCP. While no significant indirect effects were identified for the Projects, they nonetheless contribute in a small but measurable way to the cumulative impacts to the integrity of these historic properties, through visual intrusions. This is consistent with the DRECP EIS which identified cumulative impacts to prehistoric resources and noted impacts to prehistoric trails and sacred sites (DRECP EIS Section IV.25.3.8, page IV.25-80). Cumulative impacts to these resources would be addressed through MM CUL-10

(Cumulative Effects), by continuing to document specific features which would further the work begun as mitigation for cumulative impacts of prior renewable energy projects in the Desert Center area.

### **Alternative C (Gen-Tie Alignment 1)**

#### ***Direct, Indirect, and Cumulative Impacts***

Alternative C would adjust the route of the gen-tie to be located east of the proposed gen-tie. This alternative would still span U.S. Highway 60/70 (P-33-01766), which is an NRHP-eligible resource, thus avoiding direct adverse effects. The presence of a gen-tie line, regardless of its location, would not cause adverse indirect effects to historic properties since setting is not a critical element of the integrity of the historic properties identified in either of the Indirect APEs. Therefore, the direct, indirect, and cumulative impacts of this alternative would be the same as the Proposed Action, and the same mitigation measures for the Proposed Action would be applicable to Alternative C.

### **Alternative D (Gen-tie Alignment 2)**

#### ***Direct, Indirect, and Cumulative Impacts***

Alternative D would be located east of the proposed gen-tie. This alternative would still span U.S. Highway 60/70 (P-33-01766), which is an NRHP eligible resource, thus avoiding direct adverse effects. The presence of a gen-tie line, regardless of its location, would not cause adverse indirect effects to historic properties since setting is not a critical element of the integrity of the historic properties identified in either of the Indirect APEs. Therefore, the direct, indirect, and cumulative impacts of this alternative would be the same as the Proposed Action, and the same mitigation measures for the Proposed Action would be applicable to Alternative D.

### **Alternative E (Access Road Option 1)**

#### ***Direct, Indirect, and Cumulative Impacts***

Alternative E would be located on existing BLM roads east of the proposed access road and would be approximately 4.4 miles shorter than the proposed access route. Alternative E is associated with one known built environment resource, P-33-019415, commonly known as the Blythe-Eagle Mountain Transmission Line. This resource, and its associated access road, has been previously determined not eligible for NRHP by the BLM with SHPO concurrence. As such, this resource and its access road is not considered a historic property. Use of this existing access road will not result in direct or indirect adverse effects to known historic properties. Therefore, the direct, indirect, and cumulative impacts of this alternative would be the same as the Proposed Action, and the same mitigation measures for the Proposed Action would be applicable to Alternative E.

### **Alternative F (Access Road Option 2)**

#### ***Direct, Indirect, and Cumulative Impacts***

Alternative F would be located on existing BLM roads north of the proposed access road, a portion of which would be shared by the Athos Renewable Energy Project and would be approximately 2.4 miles longer than the proposed access route. Both the proposed access road and Alternative F are along existing BLM roads. The southeasternmost portion of Alternative F appears to be previously documented as Segment 3 of P-33-019419, known as the Mecca-Blythe Highway, a historic period two-track dirt automobile road. This resource was previously determined as not eligible for the NRHP with SHPO concurrence in 2019, and thus is not considered a historic property. Use of

this existing road will not result in direct or indirect adverse effects to known historic properties. Therefore, the direct, indirect, and cumulative impacts of this alternative would be the same as the Proposed Action, and the same mitigation measures for the Proposed Action would be applicable to Alternative F.

### **3.5 Issue 4: Fuels and Fire**

#### **3.5.1 Affected Environment**

The presence of dense, dry fuels and a warm, arid climate characterizes southern California as having one of the most fire-prone landscapes in the world. Factors influencing wildfire behavior and magnitude include forest structure, fuel conditions, climate, and the source of ignition. Weather is one of the most significant biophysical factors of wildfire behavior. The summer months of California are arid and warm, with very little precipitation. Drought and Santa Ana Occurrences (SAOs) are conditions native to southern California that drive wildfires. Because of vegetation conditions and SAOs, the fire danger for Riverside County is considered extremely high.

The Proposed Action area is rural, open space with sparse population and vegetation. Vegetation communities at the sites are generally limited to scattered creosote bush scrub and desert dry wash woodland. The vegetation-fuel types in the Proposed Action area, primarily Sonoran creosote bush scrub, are not fire-adapted. Fire, particularly repeated wildfire, is harmful to these plant communities and tends to deplete the native woody shrubs that characterize and dominate these communities, allowing their replacement by exotic weedy annual plants (BLM, 2018).

According to the California Department of Forestry and Fire Protection, the Projects are not located within any Fire Hazard Severity Zones (FHSZ) due to the lack of dense flammable vegetation and steep slopes (CAL FIRE, 2020). The Riverside County General Plan Safety Element identifies areas with rugged topography and flammable vegetation as being susceptible to fire hazards; however, it maps very high FHSZ in Local, State, and Federal Responsibility Areas within the western portions of the County only (Riverside County, 2019). The Project sites are mapped in Moderate FHSZ in Local and Federal Responsibility Areas. Riverside County Fire Department and BLM Fire and Aviation Program would provide wildfire protection to the Proposed Action.

#### **3.5.2 Environmental Effects**

##### **Alternative A (No Action):**

##### ***Direct, Indirect, and Cumulative Impacts***

There would be no construction or operational activities under the No Action Alternative. Therefore, there would be no new or increased risks related to fuels and fire and no direct, indirect, or cumulative impacts from the alternative.

##### **Alternative B (Proposed Action):**

##### ***Direct and Indirect Impacts***

Construction activities required for the Proposed Action would create the potential for wildfire. Wildfires could be caused by construction workers smoking, refueling, and operating vehicles and other equipment, or spilled fuels on paved roadways. There is also a potential for a wildfire to start during operation and maintenance activities from similar activities. A Project-related fire could



escape initial containment and pose a hazard to life and property for personnel and nearby land-owners. Other direct impacts of wildfire include mortality of plants and wildlife and loss of forage and cover. Post-fire recovery is highly variable depending on factors such as burn location, intensity, and post-fire plant succession. The Projects will implement fire safety measures and a FIRE Plan for each site that complies with BLM and County of Riverside fire regulations (Appendix H). Implementation of Mitigation Measure Fire-1 specifies what elements would need to be included in the Fire Plans to ensure the impact is less than significant. See Appendix E for the full text of the mitigation measure.

Vegetation on the sites is already scarce, and complete vegetation clearance would not be required. Vegetation would be disced under, mulched or composted, and retained on site within the solar fields, roadways, and areas around the O&M building. Reduction of vegetation would further reduce the availability of flammable fuels around the Proposed Action.

Each Project may include operation of an up to 200 MW energy storage system that would consist of batteries housed in storage containers. The major components of the battery system include the inverter, cells, modules, enclosure, and safety system. The inverter converts DC electricity produced by the solar system into AC electricity that can safely be transferred into the electrical grid. The inverter contains no liquids or chemicals. The battery cell and modules for the Projects would use lithium ion technology which would be housed in an enclosure that contains integrated fire suppression technology and controls. The proposed battery energy storage system would be designed, constructed, operated and maintained in accordance with applicable industry best practices and regulatory requirements, including fire safety standards. If applicable, the system would be certified to UL 9540, the standard associated with control, protection, power conversion, communication, controlling the system environment, air, fire detection and suppression system related to the functioning of the energy storage system. The system would be tested to UL 9540A, a test method intended to document the fire characteristics associated with a thermal event or fire, which would confirm that the system will self-extinguish without active fire-fighting measures. The system would be designed, such that, during a fire event, any internal fire is contained within the enclosure and not spread to the other parts of the facility. The results of this test are used to inform facility safety system design and emergency response plans which would be shared with first responders. If applicable, the system would use a chemical agent suppressant-based system to detect and suppress fires. If smoke or heat were detected, or if the system were manually triggered, an alarm would sound, horn strobes would flash, and the system would release suppressant, typically FM-200, NOVEC 1230 or similar from pressurized storage cylinders. However, final safety design would follow applicable standards and would be specific to the battery technology chosen, including, but not limited to, National Fire Protection Association 855 (standard for the Installation of Stationary Energy Storage Systems) and Section 1206 of the California Fire Code. Implementation and compliance with these design and safety regulations would reduce the effects such that they would be insignificant.

### ***Cumulative Impacts***

Given the sparsely vegetated landscape and its low potential to ignite and facilitate wildfires, the greatest potential for cumulative impacts relating to wildfire hazards would primarily be from projects in their construction phase in close vicinity to the Proposed Action. The available CalFire Incident Data (2013-2020) was reviewed for the Desert Center region and no incidents were noted in the region. This supports the conclusion that the risk of wildfire in the region is low. Cumulative



projects would be required to comply with fire hazard policies and include their own fire management plan. Therefore, the Proposed Action in combination with the nearby solar projects impacts would not result in cumulatively considerable effects.

### **Alternative C (Gen-tie Alignment 1)**

#### ***Direct, Indirect, and Cumulative Impacts***

Alternative C would construct a shorter gen-tie line than the Proposed Action, however the fuel and fire conditions along the gen-tie line and surrounding the gen-tie line would not change. This alternative would have fuel- and fire-related impacts similar to those under the Proposed Action and would also comply with the federal and State requirements and standards and the mitigation measures applicable to the Proposed Action (Alternative B).

### **Alternative D (Gen-tie Alignment 2)**

#### ***Direct, Indirect, and Cumulative Impacts***

Under Alternative D, the gen-tie line would be shorter than the proposed gen-tie but the fuel and fire conditions along the gen-tie line and surrounding area would not change. This alternative would have fuel- and fire-related impacts similar to those under the Proposed Action. Alternative D would also comply with the federal and State requirements and standards and the mitigation measures applicable to the Proposed Action (Alternative B).

### **Alternative E (Access Road Option 1)**

#### ***Direct, Indirect, and Cumulative Impacts***

Alternative E would use an access road that would exit I-10 at the Corn Springs exit. It would require fewer miles on unpaved roads compared with the proposed access route which would minimally reduce the potential for fire risk from vehicles. Overall, the alternative would have fuel- and fire-related impacts similar to those under the Proposed Action and would require the same standards and mitigation measures.

### **Alternative F (Access Road Option 2)**

#### ***Direct, Indirect, and Cumulative Impacts***

Alternative F would use the access road constructed for the Athos Solar Project. Because this road will have already been constructed, use of it would slightly reduce a small portion of the overall construction and result in a slightly smaller risk of fire during the construction. Overall, the alternative would have fuel- and fire-related impacts similar to those under the Proposed Action and would require the same standards and mitigation measures.

## **3.6 Issue 5: Lands and Realty**

### **3.6.1 Affected Environment**

The BLM's Lands, Realty, and Cadastral Survey Program manages a variety of public land transactions, which includes ROW authorizations. A ROW grant is an authorization to use a specific piece of public land for a specific project, such as electric transmission lines, communication sites, roads, trails, fiber optic lines, canals, flumes, pipelines, and reservoirs.

The Projects are located on BLM-administered land within a designated DFA. The Projects' area is surrounded primarily by BLM land, some scattered rural residences, agricultural operations, other proposed or operational solar projects, and transmission lines. The Chuckwalla Valley Raceway is located northwest of the Projects, and the JTNP is located 6 miles north of the Proposed Action.

Nearby projects include the operating Desert Sunlight Solar Farm and Desert Harvest Solar Project; the under construction Palen Solar Project and Athos Solar Project; and the proposed Oberon Solar Project. The Federal Energy Regulatory Commission- and BLM-approved Eagle Mountain Pumped Storage Project is north of Desert Center. These projects have existing or proposed gen-tie line connections with the SCE Red Bluff Substation.

Several existing ROWs on BLM-administered land cross the Proposed Action (BLM, 2020a) including: Palen gen-tie and access route (CACA 48810); Athos gen-tie and access route (CACA 57730); the existing SCE 161 kV transmission route (LA 0149780); several drainages for I-10 (R 05498); and a Metropolitan Water District aqueduct (LA 053581). The Projects' gen-tie line would also cross the Eagle Crest Energy Gen-Tie Project ROW (CACA 49980) and be adjacent to the Desert Sunlight and Desert Harvest gen-tie line ROWs (CACA 48649 and CACA 49491, respectively).

The Projects' shared 230 kV gen-tie line would cross BLM-administered public lands designated as a DFA. The gen-tie line would cross into the Chuckwalla ACEC within the existing utility corridor, on its way to the Red Bluff Substation. Some of the gen-tie lines north and south of the I-10 corridor would also be sited within the Section 368 Federal Energy Corridor established by the Westwide Energy Corridor Final PEIS and ROD.

### **3.6.2 Environmental Effects**

#### **Alternative A (No Action):**

##### ***Direct, Indirect, and Cumulative Impacts***

The No Action Alternative would not develop the gen-tie line or require new construction and/or operational activities. It would not cross or be adjacent to any existing or proposed ROW and no direct, indirect, or cumulative impacts would occur.

#### **Alternative B (Proposed Action):**

##### ***Direct and Indirect Impacts***

The Projects are located entirely on BLM-administered land within a DFA. Conservation Measure Action DFA-LANDS-7 allows utility-scale renewable energy development and transmission facilities, including gen-tie lines, to be constructed within a DFA.

The nearby solar projects include gen-tie lines that would cross or be adjacent to the Arica and Victory Pass gen-tie line and would connect to the SCE Red Bluff Substation. The shared transmission line ROWs would be managed to meet all applicable regulations. The BLM retains the right to require common use of ROWs for compatible uses, including facilities or access routes. If subsequent ROWs are granted within the site of a proposed ROW, the BLM would be required to notify those with existing rights and would consider the potential effects prior to granting subsequent ROWs. The applicant is required to coordinate with any legally existing ROWs or conflicting uses to ensure that the Projects do not impact these uses, including coordinating the construction

of the gen-tie lines with other approved projects. The Applicants have started this coordination process by submitting documentation to the various existing and planned land users to ensure the gen-tie line does not infringe on their existing rights. The Applicants have designed the gen-tie line and solar facilities to avoid conflicts with the existing ROWs and did so by routing the gen-tie line south and west of the existing and approved gen-tie lines. The Corridor Conflict Assessment (Appendix K) details this work.

The Eagle Mountain Pumped Storage Project developer, Eagle Crest Energy, stated in a scoping comment that the Victory Pass solar array would potentially block its revised Eagle Mountain Pump Storage Project transmission interconnection to the Red Bluff Substation. However, Eagle Crest did not provide a proposed gen-tie route with the scoping letter on the Victory Pass Project and to date has not submitted a proposed route in its application to the BLM. The Corridor Conflict Assessment (Appendix K) demonstrates one potential alternative for the Eagle Crest gen-tie route that would avoid conflicts with the Victory Pass solar facility and remain within the area considered in the Eagle Crest Environmental Assessment (BLM-DOI-CA-D060-2016-0017-EA) or the existing utility corridor, and APM LS-1 is a Project Design Feature that ensures that the Applicants would work with existing ROW holders to resolve conflicts (see Appendix E). As a result, any conflict between the Proposed Action and the Eagle Crest gen-tie ROW would be resolved.

### ***Cumulative Impacts***

The cumulative scope for lands and realty for the Proposed Actions would include eastern Riverside County from Desert Center to Blythe, due to the similar uses and users of the land. Other projects in the area are primarily solar developments and transmission lines. Implementation of the Proposed Action and other renewable projects in the area would preclude other development and uses of that land until the end of the Projects' lifetimes. This presence could affect land use opportunities on lands within the eastern Riverside County portion of the CDCA plan area, including potential effects such as conflicts with various gen-tie line routes connecting with the Red Bluff Substation. DRECP EIS Section IV.13.3.2.1 (page IV.13-12) notes that utility-scale renewable development in the DFAs could interfere with or require modifications to existing BLM land use authorizations and that it could exclude other land uses, close existing open routes, and fragment large blocks of public lands. It also notes that development in the DFAs could impact non-energy users of public, state, and private lands. The analysis notes that strategies to reduce these impacts could require consolidating access and other supporting infrastructure and retaining legal access to public lands surrounding the renewable energy facilities to avoid creating areas inaccessible to the public. Because the Projects would share access routes and consolidate their gen-tie with others, they would be following these strategies. Nonetheless, the DRECP EIS notes that solar facilities could result in long-term impacts to existing BLM land use authorizations (page IV.13-13). While BLM identified impacts to other uses from renewable development in the DFAs, the DRECP LUPA still identifies these areas, as appropriate for renewable development.

### **Alternative C (Gen-tie Alignment 1)**

#### ***Direct, Indirect, and Cumulative Impacts***

Under Alternative C, the gen-tie would begin near the Victory Pass Project's fence line, then it would turn west, to run parallel to I-10 approximately 300 feet north of the interstate. The land use designations along the gen-tie line and surrounding the gen-tie line would not change. The potential conflicts with existing ROWs would be similar to the proposed gen-tie route. Alternative C would not share an existing transmission corridor with the Athos and Palen solar projects, but it would

cross and potentially share a ROW with the Oberon and Eagle Crest projects where their gen-ties are located near I-10. Where the gen-tie runs along the I-10 freeway, the Applicants would need to coordinate with the California Department of Transportation to avoid any potential conflicts with the ROW. This alternative would have similar impacts to the Proposed Action.

#### **Alternative D (Gen-tie Alignment 2)**

##### ***Direct, Indirect, and Cumulative Impacts***

Alternative D would parallel the existing Palen gen-tie for 0.28 miles, head southwest, and then turn west to parallel I-10, approximately 1,000 feet from I-10. The land use designations along the gen-tie line and surrounding the gen-tie line would not change. The potential conflicts with existing ROWs would be similar to those of the proposed gen-tie route, but potentially slightly reduced because Alternative D would only share an existing transmission corridor with the Athos and Palen solar projects for less than 0.3 miles. This alternative would have similar impacts to the Proposed Action.

#### **Alternative E (Access Road Option 1)**

##### ***Direct, Indirect, and Cumulative Impacts***

Alternative E would use Corn Springs Road and BLM routes DC950 and DC511 to access the Proposed Action. The two access roads would cross public lands administered by the BLM and private lands. The Applicant would need to secure rights to cross private lands as noted in Mitigation Measure LR-1. Furthermore, because use of DC511 requires improvements, the Applicants would need to coordinate with the private landholders whose property is crossed by approximately 1,200 feet of DC511 as noted in Mitigation Measure LR-1. Otherwise, the land use designations along the roads and surrounding the roads would not change. The Applicants would need to coordinate with existing ROW holders along the route to ensure no conflicts arise because of shared use as noted in APM LS-1. Because use of DC511 requires improvements, the Applicants would need to coordinate with the private landholders whose property is crossed by approximately 1,200 feet of DC511 as noted in Mitigation Measure LR-1. This alternative would have similar impacts to the Proposed Action.

#### **Alternative F (Access Road Option 2)**

##### ***Direct, Indirect, and Cumulative Impacts***

Alternative F would share the proposed Athos access road off SR 177. This alternative would use existing agriculture roads to connect to the Projects and would be parallel to BLM route DC379 for approximately 1.5 miles before it enters the Projects' sites. The roads used have existing ROWs for the approved Athos Solar Project and would be improved for construction and operation of that project. Because the land use designations along the roads and surrounding the roads would not change, this alternative would have impacts similar to the Proposed Action.

### **3.7 Issue 6: Paleontology**

#### **3.7.1 Affected Environment**

A Paleontology Survey Technical Report was prepared for the Proposed Action. The Paleontology Report included a review of previous studies in the area, a records review, and a field survey, and provides the information summarized here.

**Geology.** Three geologic units underlie the Projects' sites that may contain paleontological resources: Recent dune sand (Qs), Recent alluvium (Qal), and Pleistocene nonmarine sedimentary deposits (Qc). The Recent dune sand (Qs) consists of wind-blown sand, primarily in the form of dunes which sometimes have blowouts between the dunes (areas where the sand has blown away exposing the older underlying sedimentary rock unit). Recent alluvium (Qal) described as alluvial sand, silt, clay, and gravel, including locally some older alluvium; and Pleistocene nonmarine sedimentary deposits (Qc) of mostly dissected older alluvium and conglomerate that may have surficial desert pavement and desert varnish. The mapped Qc unit in this area consists primarily of Pleistocene paleosols that are known to produce Pleistocene vertebrate fossils. The Qs unit is only found in northeastern corner of the Arica site, Qal is mapped as underlying most of the Projects' sites, and the Pleistocene nonmarine sedimentary deposits (Qc) and Pleistocene paleosols identified both within mapped Qal and Qc are located near the western and southwestern boundaries of Victory Pass.

**Records Review.** A Western Science Center records search in February 2020 noted no fossil localities identified within the Proposed Action. Five localities within a mile of the sites and numerous localities within 5 to 10 miles of the sites (associated with the Desert Sunlight Solar Project) were identified from the same or similar sedimentary deposits as those in the Projects' area. The closest fossil locality included specimens of fossilized kangaroo rat and pocket mouse from Pleistocene-age Quaternary deposits.

**Previous Studies.** Five unpublished paleontological resource surveys and two published studies were reviewed for the Paleontology Report that indicated the presence of numerous vertebrate fossils, not all paleontologically significant, in the general project area within similar or the same geologic units identified at the Proposed Action. Significant vertebrate fossils identified from the previous surveys are thought to primarily have come from Pleistocene paleosols.

**Field Survey.** Pedestrian surveys for the Arica and Victory Pass Projects were conducted in June and July 2020. The survey recovered 16 identifiable vertebrate fossils that are certainly of Pleistocene age, and 138 identifiable vertebrate fossils that are of early Holocene or Pleistocene age. Specifically, the survey identified 13 specimen sites that produced fossils of Pleistocene age, and 47 specimen sites that produced fossils that are at least of early Holocene age and might be of Pleistocene age. The paleontological resources from the survey were dominated by rodents, rabbits, reptiles, tortoises, and snakes. The number of fossils recovered from other surveys conducted in the Project area ranged from 2 fossils to 1057 fossils (not all paleontologically significant).

The BLM uses the Potential Fossil Yield Classification (PFYC) system for paleontological resource assessment system. The PFYC system classifies geologic units based on the relative abundance of vertebrate fossils or scientifically significant invertebrate or plant fossils and their sensitivity to adverse impacts, with higher class numbers indicating higher potential (BLM, 2015). Based on data collected in the Paleontology Survey Technical Report, paleontological significance of the geologic units underlying the Proposed Action was assigned as follows: Recent dune sand (Qs) is rated PFYC 2 (low), but the intervening valley floor between the dunes and the "blowouts" is rated PFYC 4 (high); Recent alluvium (Qal) is rated as PFYC 3 (moderate); and Pleistocene nonmarine sedimentary deposits (Qc) in the Victory Pass Project area are rated as PFYC Class 4 (high). Based on generalized PFYC sensitivity mapping in the DRECP EIS for the Cadiz Valley and Chocolate Mountains Ecoregion Subarea, which contains the Project area, approximately 26 percent of the Subarea is underlain by geologic units with a PFYC of high or very high and approximately 52



percent of the area underlined by units with a PFYC of moderate or unknown (DRECP EIS Section III.10.3.2 page III.10-19). This is higher than the full DRECP area of which 18 percent had a high or very high PFYC and 53 percent had a PFYC of moderate or unknown (DRECP Section III.10.3.2 page III.10-17).

### **3.7.2 Environmental Effects**

Most effects on paleontological resources are direct effects, damage and destruction of paleontological resources, resulting from ground-disturbing activities. Indirect effects to paleontological resources include the unauthorized collection of fossils and other paleontological resources resulting from increased access to the resources.

#### **Alternative A (No Action):**

##### ***Direct, Indirect, and Cumulative Impacts***

The No Action Alternative would not result in any new construction and/or operational activities or any new associated ground-disturbing activities at the Projects' sites. Therefore, under the No Action Alternative there would be no direct, indirect, or cumulative impacts to paleontological resources.

#### **Alternative B (Proposed Action):**

##### ***Direct and Indirect Impacts***

The Paleontology Report for the project area indicate that sediments with PFYC 3 (moderate) and PFYC 4 (high) would be disturbed by ground disturbance associated with the construction and operation of the Proposed Action. Ground disturbing activities in areas with these paleontologically sensitive geologic rock units could potentially result in damage or destruction of significant non-renewable paleontological resources. This is consistent with the findings in the DRECP EIS which determined that an adverse impact on paleontological resources would occur if renewable energy development results in the loss, damage, or destruction of any unique or significant paleontological resource (DRECP EIS Section IV.10.2 page IV.7-10). Within DFAs in the Cadiz Valley and Chocolate Mountains Ecoregion Subarea the estimated potential paleontological resource impacts within units with a PFYC of high or very high (Class 4 or 5) and a PFYC of moderate or unknown (Class 3) would occur in approximately 28 percent and 71 percent, respectively, of the estimated disturbance area for renewable energy development (DRECP EIS Section IV.10.7.3.2.1 page IV.10-21). The DRECP EIS concludes that monitoring of construction activities using conventional earthmoving equipment allows for mitigation of potential paleontological impacts by allowing for identification and salvage of fossils consistent with LUPA-PALEO-3 and LUPA-PALEO-4 (DRECP EIS Section IV.10.7.3.2.1 page IV.10-24). Mitigation Measures GS-1 (Paleontological Resource Monitoring and Mitigation Plan), GS-2 (Preconstruction Resource Survey and Collection), GS-3 (Worker Environmental Awareness Program (WEAP)), GS-4 (Paleontological Construction Measures and Monitoring) and GS-5 (Paleontological Resources Monitoring Report), consistent with the CMA requirements, would reduce potential adverse effects on paleontological resources within the areas during construction and operation of the solar facilities by ensuring that paleontological resources are properly identified through monitoring by an approved specialist during construction, training of workers, and avoided or correctly handled and collected if identified in ground disturbance areas.



### ***Cumulative Impacts***

Cumulative actions that would be located on the same or similar geologic units within the Chuckwalla Valley as the Proposed Action are considered within the geographic scope of analysis with respect to cumulative impacts on paleontological resources. There is a potential for paleontological resources to be impacted during ground disturbing activities associated with the Proposed Action. A significant cumulative impact would occur if the impacts of multiple projects combined to result in the loss of paleontological resources that could provide information about ancient life in the Chuckwalla Valley.

As noted above, the bulk of the Chuckwalla Valley has high, very high, moderate, or unknown PFYC, and because of the high PFYC, fossils are likely to continue to be unearthed during the construction of cumulative projects in Chuckwalla Valley. This is consistent with the DRECP EIS Section IV.25.3.10 (page IV.15-85) which notes that because many of the cumulative projects are located near DFAs, comparable percentage of PFYC Class 3, 4 and 5 areas are likely and excavation activities could disturb, damage, or destroy fossils without first providing an opportunity to identify, study, and/or salvage them. Mitigation Measures GS-1 through GS-5 for the Proposed Action and similar monitoring, curation, and reporting measures that would be required to be implemented on other major projects would minimize cumulative impacts to paleontological resources. Overall, if significant fossils are uncovered and appropriately documented and curated during construction of major projects, there could be an overall net gain to the science of paleontology by allowing fossils that would not otherwise have been found to be recovered, identified, studied, and preserved.

### **Alternative C (Gen-tie Alignment 1)**

#### ***Direct, Indirect, and Cumulative Impacts***

Under Alternative C, the gen-tie would be located on the same geologic units as the proposed gen-tie line (Recent alluvium (Qal) and Pleistocene nonmarine sedimentary deposits (Qc)) which may contain significant paleontological resources and would be subject to similar potential impacts to paleontological resources as the proposed gen-tie line. While the gen-tie is shorter than the proposed alignment, preliminary engineering identified the same number of towers, and a similar amount of ground disturbance as with the proposed alignment. Mitigation measures GS-1 through GS-5 would also be applicable to Alternative C to reduce direct, indirect, and cumulative impacts.

### **Alternative D (Gen-tie Alignment 2)**

#### ***Direct, Indirect, and Cumulative Impacts***

Under Alternative D, the gen-tie would be shorter than the proposed alignment but would be located on the same geologic units as the proposed gen-tie line (Recent alluvium (Qal) and Pleistocene nonmarine sedimentary deposits (Qc)) which may contain significant paleontological resources. It would be subject to the same potential impacts to paleontological resources as the proposed gen-tie line. While shorter, preliminary engineering identified the same number of transmission poles needed and a longer amount of new access road so the ground disturbance would be the same or more as with the proposed alignment. Mitigation measures GS-1 through GS-5 would also be applicable to Alternative D to reduce direct, indirect, or cumulative impacts.

## **Alternative E (Access Road Option 1)**

### ***Direct and Indirect Impacts***

Under Alternative E, the access road would avoid geologic unit Qc which is identified as having high paleontological sensitivity. Alternative E would have the same design features as the proposed access road and would involve the same construction and maintenance methods (which have potential to cause paleontological resources impacts) as the proposed access road. As the Alternative E access road is shorter and would not cross a geologic unit identified as high paleontological sensitivity it would have slightly less potential to damage or destroy paleontological resources. However, because both the proposed road and the access road option would use existing roads which require only minor new ground disturbance to widen the roads, the effects to paleontological resources would be minimal and likely similar. Mitigation measures GS-1 through GS-5 would also be applicable to Alternative E to reduce direct, indirect, and cumulative impacts.

## **Alternative F (Access Road Option 2)**

### ***Direct and Indirect Impacts***

Under Alternative F the access road constructed for the Athos Solar Project would be used and would not require additional improvement. However, overall, the effects of the alternative would be similar to the proposed access road. Mitigation measures GS-1 through GS-5 would also be applicable to Alternative F to reduce direct, indirect, and cumulative impacts.

## **3.8 Issue 7: Recreation**

### **3.8.1 Affected Environment**

The Proposed Action is in eastern Riverside County near lands that are frequently used for recreation. The types of recreation are varied as described below and shown in Figure 3.8-1.

Recreational resources near the Projects area include a range of BLM-administered resources such as wilderness areas, campgrounds, and OHV routes. Dispersed recreation opportunities are available in ACECs, wilderness areas, and SRMAs. ACECs and wilderness areas are discussed in greater detail in Section 3.3, and Section 3.14, respectively. The use of BLM lands for recreation is typically concentrated in the cooler months from September to May because the California desert is considered too hot for recreation in the summer months. Nearby recreation on private land is primarily on the 1,000-acre Chuckwalla Valley Raceway, 2 miles northwest of the Proposed Action.

For the year of October 2019 to September 2020<sup>6</sup>, BLM lands within the whole of eastern Riverside County received 318,700 visits for an estimated over 402,000 visitor days. The bulk of these visits

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<sup>6</sup> The BLM Palm Springs Field Office Provided this use data. Portions of the recreational use data for 2019 to 2020 presented here was taken during the COVID-19 pandemic which is not considered a typical year. To have a better understanding of the overall recreational use trends of eastern Riverside County and Corn Springs Campground and Desert Lily Preserve, use data from the previous 5 years was reviewed. While this data varied from year to year, the general visit numbers for eastern Riverside and dispersed recreation were similar for most years except 2015-2016, where substantially more visits were recorded (BLM, 2020b). Visits to the Corn Springs Campground and Desert Lily Preserve were similar for all years except 2015-2016 where the Desert Lily Preserve received substantially fewer visits compared with the most recent year (BLM, 2020b). Because the overall use trend shown in the previous 5 years did not vary widely, the most recent data was presented in this report.

(303,588) were for dispersed use. The two special use areas near the Projects, Corn Springs Campground and Desert Lily Preserve ACEC, received 3,850 and 2,392 visits, respectively (BLM, 2020b).

**Joshua Tree National Park.** The JTNP is located approximately 6 miles north of the Project Area. The main recreational activities offered include camping, hiking, wildlife viewing, and stargazing, especially in the eastern part of the park. The JTNP has some of the darkest nights in Southern California and was designated an International Dark Sky Park in 2017 (NPS, 2020). The JTNP had over 2 million visitors in 2019 (NPS, 2020).

**Special Recreation Management Areas.** A SRMA is a BLM administered area where existing or proposed recreation opportunities and recreation setting characteristics are recognized for their importance. The Chuckwalla SRMA is over 228,000 acres and overlays the Chuckwalla Mountains Wilderness and the Corn Springs Campground. The shared gen-tie line goes into the Chuckwalla SRMA for approximately 500 feet, south of I-10 and the Victory Pass Solar Project is 500 feet north of the SRMA boundary, on the other side of the I-10. Portions of the Victory Pass Solar Project would be visible from within portions the Chuckwalla SRMA. The primary uses for this area include recreational activities that rely on motorized vehicles to access public land and uses that are compatible with resource values and recovery efforts for desert tortoise (DRECP LUPA, Appendix C: Chuckwalla SRMA, page 51).

**Off-Highway Vehicle Routes.** According to the CDCA Plan and the NECO Plan Amendment, vehicle access is among the most important recreational uses in the desert. In Riverside County, OHV use on BLM-administered land is limited to designated routes. The BLM designates roads and trails as Tier 1 (high values for commercial, recreational, casual uses, and/or to provide access to other recreation activities), Tier 2 (high values for recreation and other motorized access (i.e., important through routes), and Tier 3 (high value for motorized and nonmotorized recreational pursuits (i.e., spur routes) (DRECP EIS Section III.19.2.5, page III.19-14). The BLM defines OHV open routes as allowing access by all types of motorized vehicles, generally without restriction, and limited routes allowing access with various limitations. According to local Law Enforcement Rangers and BLM staff, use is relatively low on routes near the Projects, not exceeding 300 visits per year (BLM, 2018). The Proposed Action area overlaps portions of BLM routes: DC514; DC515; DC516; DC517; DC518; and DC378 (see Figure 3.8-1). DC514; DC515; DC516; DC517; DC518; and DC378 do not meet the definitions of the Tier 1 to 3 routes as they are rarely used and do not lead to other important recreation areas as they dead-end on the Arica site. DC379 and DC425 would be used to access the site and are used by numerous ROW holders.

### 3.8.2 Environmental Effects

#### Alternative A (No Action):

##### *Direct, Indirect, and Cumulative Impacts*

The No Action Alternative would not develop the solar facilities and gen-tie line or require new construction and/or operational activities. It would not result in any direct, indirect, or cumulative impacts to recreation and would not result in the closure or isolation of designated OHV routes.

**Alternative B (Proposed Action):*****Direct and Indirect Impacts***

During the construction and decommissioning of the Proposed Action, recreational users of specially designated land could be disturbed by noise, dust, lighting, or traffic. These effects would be noticed within portions of the Chuckwalla SRMA nearest to the Projects, i.e., within 1,000 feet of I-10, for the duration of construction and decommissioning, especially construction of the southern portions of Victory Pass and of the gen-tie. The bulk of the Chuckwalla SRMA is further from the Projects and the closest open route within the Chuckwalla SRMA is over 1,500 feet from the Victory Pass site. At a distance of 1,500 feet noise, traffic, and dust are much diminished. Because the SRMA is south of the I-10 and all infrastructure except one or two gen-tie towers would be north of the I-10, noise and traffic impacts would be limited within the SRMA. The DRECP EIS Section IV.18.2.1.2 (page IV.18-3) notes that construction results in noise, dust, and traffic that impacts recreationists such as hikers, campers, rock climbers, hunters, or birders. The DRECP LUPA includes numerous CMAs to reduce impacts to SRMAs and dispersed recreation (CMA DFA-REC-1 through -9). These CMAs are addressed in Appendix I but in summary, the Projects are located in areas that have substantial solar development, are not near Level 3 Recreation Facilities, would not develop renewable energy in a SRMA, and would not have residual effects to a SRMA.

The JTNP has the highest visitation of the areas listed, but the visitation is generally concentrated in the western half of the park, an estimated 20 miles from the Projects area, that is more accessible. For example, the nearest JTNP campground (Cottonwood Campground) is 30 miles west of the Projects area. The portions of the JTNP nearest to the Proposed Action are 6 miles away and are unlikely to be disturbed by noise or traffic which are most limited to 1,000 feet. Construction activities, including dust and night lighting, would be visible at 6 miles from some portions of JTNP as described in Visual Resources.

Neither Corn Springs and Desert Lily are immediately adjacent to the Proposed Action area and so would be less susceptible to indirect impacts. The bulk of the Projects would not be visible from Corn Springs and would be far away enough such that noise and traffic would not be a concern. Desert Lily would have direct views of the Projects at a distance of several miles. The recreation at Desert Lily is typically primitive, low-impact wildflower viewing (DRECP LUPA Appendix B, page 174), such that recreationists would be concentrating mostly on the Preserve itself, rather than on the distant landscape. Construction effects would be further reduced by mitigation measures, discussed in Section 3.2, Air Quality and Section 3.11, Visual Resources.

There are many BLM open routes in the Projects' area. DC511 would cross Victory Pass diagonally, but the Project footprint avoids the route, and it would remain open. DC379 runs between the two Projects and would be avoided by the Proposed Action. Both DC379 and DC425 would be used to access the Projects. Because DC379 and DC425 are already used for nearby ROW (Palen Solar Project, SCE existing transmission line, Athos Solar Project, Desert Harvest and Desert Sunlight Solar Projects), the recreation experience for these routes would not change.

DC514, DC515, DC516, DC517, DC518, and DC378 are within the footprint of the Arica Solar Project, as shown on Figure 3.8-1, and 3.2 miles of open routes would be closed. These routes are not frequently used and do not appear to serve unique recreation areas as they do not lead to any specific recreation area or specific recreational activity. None of these routes meet the qualifications for Tier 1, 2, or 3 routes due to their lack of use. As shown on Figure 3.8-1, there are

306.5 miles of OHV routes in the area outside of the Proposed Action that would continue to be available to the public and that serve specific camping locations or more popular recreational activities such as rock hounding. DRECP CMA DFA-REC-7 requires mitigation if a project would directly impact vehicle routes, such as is the case for the Proposed Action. Mitigation includes the development of alternative routes to allow for continued vehicular access with proper signage or a “touring route” that circumvents the area with appropriate signage if determined appropriate by the BLM. Given the existing and proposed development in the DFA, alternative routes in the DFA would not enhance the recreation experience but the Applicants could support enhancement of a “touring route” within the Chuckwalla SRMA through enhanced signage as determined appropriate by the BLM.

The Proposed Action would result in the loss of undeveloped areas not managed for recreation, consistent with the analysis in the DRECP EIR Section IV.18.2.1.3 (page IV.18-3) that notes that operations of renewable energy would preclude recreational use of those areas. Given the size of nearby areas managed for recreation (over 288,000 acres in the Chuckwalla SRMA) and the minor use, if any, of the Proposed Action sites for recreation, development of the Proposed Action would not result in the increased use of other designated recreational facilities.

During operation, the presence of the Projects would cause a visual change that could indirectly affect recreationists who are seeking a natural setting. This is of particular concern from wilderness areas or the JTNP. DRECP Section IV.18.3.1 (page IV.18-14) notes that renewable energy facilities would substantially impact recreational areas that are destinations for solitary or backcountry recreation and specifically lists JTNP as one of those areas, including impacts to star gazing due to night lighting. The Desert Center area has experienced an influx of solar developments starting in 2010 and now includes over 10,000 acres solar projects either built or under construction. The change in character from undisturbed desert to developed energy modified the views from nearby sensitive areas before the Projects were proposed. The Projects would require use of some lighting during the night for security purposes. They would use controlled night lighting to reduce the effect of the Projects on the dark sky and star gazing (see the Visual Section for additional discussion of night lighting).

### ***Cumulative Impacts***

The cumulative geographic scope would be the Desert Center area in the Chuckwalla Valley. The cumulative effects would be additive in this area, in that they would result in direct loss of dispersed recreation and indirect impacts to the same resources. The direct loss of recreational lands by development of cumulative projects would be minimal compared with the many millions of acres available for and dedicated to recreation.

Almost 22 miles of cumulative loss of local desert OHV routes could occur because in addition to the closure associated with the Proposed Action, the Palen Project required 5.5 miles of closure (DC 950, DC 948, and DC 949); Palen was considered a pending project in the DRECP LUPA and not subject to its requirements (BLM, 2017). If approved, the Oberon Project would require 13 miles of route closures (DC372, DC425, DC377, and DC378). The total miles of routes that would be closed (22 miles) is less than 10 percent of the overall 306 miles of open routes in the Desert Center Area. The cumulative loss of OHV routes would be to routes that do not meet the descriptions for Tier I, II, or III. The closure of BLM-designated routes was considered in the DRECP EIS (see Section IV.19.3.2.2, page IV.19-15) which noted that closure of large areas for renewable development would decrease the number of BLM-designated routes and impede travel and noted



that mitigation could include providing alternate replacement routes that ensure continued access to previously accessible public lands. For example, a realignment of Open Route 952 was included part of the Palen Solar Project consistent with the mitigations (BLM, 2019b). The CDCA Plan, as amended by the DRECP LUPA specifies CMAs for the loss of dispersed recreation, changes to recreation character, and loss of designated routes in DFAs in DFA-REC-1, DFA-REC-2, DFA-REC-4, DFA-REC-5, DFA-REC-6, and DFA-REC-7.

As noted above, the Desert Center area already includes 10,000 acres of solar development and if all the new solar projects proposed in the Desert Center area were developed, it would continue this trend and continue to change the region and the vistas from nearby recreational areas. As noted in the DRECP Section IV.25.3.18 (IV.25-97), cumulative renewable projects would substantially impact recreational areas that are destinations for solitary or backcountry recreation, in particular to the visual experience. The DRECP EIS notes this is not only true for renewable projects but also for large infrastructure projects and specifically references the Eagle Crest Pumped Storage Project in the JTNP area and that such projects would be in the viewscape of the JTNP. It notes that if cumulative projects require night lighting, which this could cumulatively impact night skies and stargazing. It points out that if the Devers-Palo Verde project required lighting it could combine with Palen and other future renewable energy in this region and cumulatively effect stargazing from the JTNP. Use of controlled night lighting would reduce the contribution of the Proposed Action to this effect.

### **Alternative C (Gen-tie Alignment 1)**

#### ***Direct, Indirect, and Cumulative Impacts***

Alternative C would take a route that stays within the Projects' boundary for a greater length than the proposed route. There is little difference between the proposed gen-tie and Alternative C from a recreation perspective, and the impacts of the alternative are the same as those of the proposed gen-tie.

### **Alternative D (Gen-tie Alignment 2)**

#### ***Direct, Indirect, and Cumulative Impacts***

Alternative D would impact the same recreational uses as the Proposed Action. There is little difference between the proposed gen-tie and Alternative D from a recreation perspective, and the impacts of the alternative are the same as those of the proposed gen-tie.

### **Alternative E (Access Road Option 1)**

#### ***Direct, Indirect, and Cumulative Impacts***

Alternative E would use Corn Springs Road and BLM routes DC950 and DC511 to access the Projects instead of the Desert Center exit. There is little difference between the Proposed Alternative access road and Alternative E from a recreation perspective, and the impacts of the alternative are the same as those of the Proposed Action.

### **Alternative F (Access Road Option 2)**

#### ***Direct, Indirect, and Cumulative Impacts***

Alternative F would share the proposed Athos access road off the Desert Center exit off SR 177, then use existing agriculture roads to connect to the Projects. There is little difference between the



Proposed Action access road route and Alternative F from a recreation perspective, and the impacts of the alternative are the same as those of the Proposed Action.

### 3.9 Issue 8: Geology, Mineral Resources, and Soils

#### 3.9.1 Affected Environment

**Geologic Hazards.** A desktop geotechnical report was completed by Terracon Consultants, Inc. for the Project sites in July 2020 (See Appendix C) that identified geotechnical hazards related to earthquake induced ground shaking and unsuitable soils (hydro-collapse settlement of soils and corrosive soil). The DRECP EIS identified ground shaking at the principal geologic hazard in the project area (DRECP EIS Section IV.4.2.1.3, page IV.4-5).

**Subsidence.** Land subsidence is a gradual settling or sudden sinking of the ground surface, generally due to petroleum or groundwater withdrawal; the largest cause of subsidence in California is from excessive groundwater pumping. Documented historic subsidence has occurred in western Riverside County due to increased groundwater pumping for agricultural and increased urbanization, however there are no areas of documented current or historic subsidence in eastern Riverside County at or near to the project area (County of Riverside, 2019; USGS, 2020). No petroleum or natural gas withdrawals are taking place in the project area that would trigger or contribute to subsidence.

**Mineral Resources.** The DRECP EIS indicates that this area does not have any known significant locations of critical minerals (DRECP EIS Section III.15.2.2, Figure III.15-2 and II.15-4), but these lands are currently open to mineral leasing, geothermal leasing, or mineral material sales. A review of the BLM Mineral and Land Records System and the BLM Land and Records System Reports (LR2000) indicate that there are no active mining claims, mineral use authorizations, or mineral leases within the project site (BLM, 2021a and 2021b).

**Soils.** The Proposed Action sites are underlain by two soil associations: the Rositas-Dune land-Carsitas underlies the northeastern half of the Arica site, and the Vaiva-Quilotosa-Hyder-Cipriano-Cherioni underlies the southwestern half of the Arica site and all of the Victory Pass site (NRCS, 2016). The Rositas-Dune land-Carsitas soils consist of very deep, excessively drained, gravelly sand and sand formed in alluvium and sandy eolian material (NRCS, 2020). The Vaiva-Quilotosa-Hyder-Cipriano-Cherioni soils consist of very shallow to shallow, somewhat excessively drained, gravelly to sandy loam (loam contains approximately equal amounts of sand, silt, and clay) formed in alluvium over shallow bedrock or hardpan (NRCS, 2020). The soils underlying the Project sites typically have high percentages of sand and are prone to erosion. The County of Riverside General Plan Safety Element (2019) maps the Project area as having moderate to high wind erosion susceptibility.

The geotechnical report for the Project sites (Appendix C) indicates that soils in the area may be susceptible to hydro-collapse settlement, are likely corrosive, and are not likely to be expansive. Soft, loose, granular soils that would result in excessive hydro-collapse settlement may be encountered at the sites.

**Desert Pavement.** Desert pavement is a surface covered with closely packed, interlocking angular or rounded rock fragments of pebble and cobble size that protects the underlying finer grained material from erosion (NRCS, 2016). It is sparsely vegetated and may also have areas of cryptogamic crust (a biologic soils crust). On many desert pavements, the stones are covered with a dark

patina known as desert varnish. Desert varnish is the thin red to black coating found on exposed rock surfaces in arid regions and is composed of clay minerals, oxides and hydroxides of manganese and/or iron, as well as other particles such as sand grains and trace elements (NPS, 2018). The biological survey for the Projects mapped approximately 59 acres of small, isolated areas of desert pavement within the Victory Pass property boundary and along the shared gen-tie ROW, as presented in Figure 3.9-1; no desert pavement was mapped within the Arica property boundary. The paleontological survey confirmed the presence of desert varnish on portions of the desert pavement. Approximately 20 acres of desert pavement, 34 percent of the Projects' mapped desert pavement, are within areas where Project ground disturbance could occur.

**Sand Migration and Transport.** A Sand Transport Corridor Review technical memorandum ("Sand Transport Memo" – Appendix L) was prepared for the Proposed Action. As noted in the technical memorandum, the Projects' sites are located within the Palen Sand Dunes system in the Chuckwalla Valley, a region of active eolian sand migration and deposition. Within this system, active eolian sand migration occurs in migration corridors, such as Palen Lake sand migration zone. Active sand migration zones are identified across the northern and eastern portions of the Arica site, as shown in Figure 3.9-2 and 3.9-3. Eolian deposits mapped outside the sand migration zones are present along and primarily outside of the Arica northeastern boundary. Active eolian sand migration was not noted within the Victory Pass site. Active washes crossing the eastern portion of the Arica and Victory Pass sites are eolian sand sources and provide stabilizing moisture. The washes in the western portion of the Victory Pass site are farther from the sand migration zone and have not been mapped as an eolian sand source. The remainder of the Projects' sites and the shared gen-tie line are not located on any eolian geomorphic zones.

### 3.9.2 Environmental Effects

#### Alternative A (No Action)

##### *Direct, Indirect, and Cumulative Impacts*

The No Action Alternative would not result in any new construction and/or operational activities or any new associated ground-disturbing activities. The No Action Alternative would not expose people or structures to adverse effects involving collapsible, corrosive, nor expansive soils. It would not result in increased erosion and sediment runoff, nor would it effect active sand migration and deposition. There would be no direct, indirect, or cumulative effects.

#### Alternative B (Proposed Action)

##### *Direct and Indirect Impacts*

The engineering and design of the Proposed Action would consider the regional and site-specific geotechnical hazards (unsuitable soils, ground shaking) to ensure project viability. The presence of unsuitable corrosive or hydro-collapsible soils could potentially cause damage to Project structures. Additionally, ground shaking due to seismic events could result in damage to infrastructure through inertial effects and ground displacements. Compliance with existing regulatory requirements and implementation of geotechnical recommendations from the required geotechnical investigation, including accounting for seismic loads in designs, and report in final engineering and design would reduce impacts related to unsuitable soils and groundshaking. This is consistent with the DRECP EIS Section IV.4.3.2.1 (page IV.4-18 and -19) which notes that the faults in the area could result in potential geologic hazard that could damage renewable energy facilities.

Implementation of the Proposed Action would temporarily restrict mineral exploration or extraction on this land for the life of the project, but it would not change the mineral content of the area and mining or mineral content sales could resume after completion of the Proposed Action. Public Land Order 7818 withdrew land encumbered by the solar application from location and entry under the United States mining laws. The effects to mineral resources would be minor. This is consistent with the DRECP EIS Section IV.15.2.1.2 (page IV.15-2) which notes that solar development would be incompatible with and preclude most mineral development activities.

Most of the Proposed Action site has nearly level to gently sloping topography, so no mass grading would be required. However, much of the solar sites would be impacted by some form of ground disturbance, either from compaction, micro-grading, or disc-and-roll grading. Some of the areas where facilities and arrays would be located would require grubbing for leveling and trenching. The DRECP EIS identifies approximately 210,000 acres of soils with moderate to high wind erosion potential and 107,000 acres of soils with moderate to high water erosion potential within the DRECP area (DRECP EIS Section IV.4.3.2.1 page IV.4-19). Ground disturbing activities would expose soil and increase the potential for wind and water erosion. Mitigation Measures AQ-1 (Fugitive Dust Control Plan), MM-BIO 5 (Vegetation Resources Management Plan), HWQ-1 (Drainage Erosion and Sedimentation Control Plan [DESCP]), and HWQ-4 (Project Drainage Plan) would reduce impacts related to soil erosion by requiring stabilization of disturbed areas and unpaved roads during construction and operation, revegetation plans to stabilize soils in disturbed areas, provide erosion control and bmp plans, and plans that prevent changed to site drainage that could increase water erosion. See Appendix E for the full text of the Mitigation Measures. In addition, the SWPPP would include BMPs that would reduce potential erosion.

Once constructed, the Proposed Action O&M activities would not alter the drainage patterns on site because it would avoid the primary washes through the site and would allow sheetflow of water through the site. It would not lead to a substantial increase in erosion or loss of topsoil because they would be limited to use of the roads and would not result in additional ground disturbance. Mitigation Measure AQ-1 requires a Site Operations Dust Control Plan that would restrict vehicular access to established unpaved travel paths and ensure the paths remain stabilized, and Mitigation Measure HWQ-3 (Project Drainage Plan) requires a Project Drainage Plan that shows how water would traverse the Projects without altering drainage patterns and leading to erosion or loss of topsoil. At the end of the Projects' operational lifetime, the structures and improvements would be dismantled and removed from the site. Impacts to soil erosion during that process would be similar to those anticipated during construction, and similar mitigation would be required to reduce erosion.

**Desert Pavement.** Disturbance of desert pavement, and associated desert varnish in the Victory Pass site and along the shared gen-tie would result in exposure of the underlying erodible fine-grained material and would increase the potential for wind and water erosion, and the ecological loss of this soil characteristic. Undisturbed desert pavements have been found to be the lowest emitters of dust in a study of Mojave Desert soil surfaces, but when the underlying soil's particles are exposed due to mechanical disturbance, the fine soils below desert pavements can become the highest emitters of dust in desert landscapes (Potter, 2016). The DRECP EIS notes that renewable energy development in the DRECP area may damage desert pavement and that specific locations of desert pavement should be mapped (DRECP EIS Section III.4.2.2.4, page III.4-19). Desert pavement was mapped at the Project sites during the biological surveys. Approximately 20 acres of desert pavement would be impacted or 33 percent of the 60 acres of total desert pavement within the original ROW request (see Section 2.7.2 for the original full ROW request). Because the

disturbance of the desert pavement is above the 10 percent threshold identified in DRECP CMA LUPA SW-9, the erosional and ecological impacts must be considered. As noted, the primary concern would be dust control and erosion as desert pavements are substantially devoid of vegetation. Implementation of Mitigation Measures AQ-1 (Fugitive Dust Control Plan), HWQ-1 (DESCP), HWQ-4 (Project Drainage Plan) and compliance with the required SWPPP would reduce erosion impacts related to disturbance of desert pavement such that this effect would be insignificant. MM BIO-5 (Vegetation Resources Management Plan) would require revegetation of disturbed areas which would reduce the potential for soil erosion in areas of desert pavement during Project operation. Additionally, MM BIO-6a (Compensation for Desert Dry Wash Woodland and Desert Pavement Impacts) would require a 1:1 acre compensation for this resource. With the mitigation measures, the effects to desert pavement would be minimal and meet CMA LUPA SW-9.

**Sand Migration and Transport.** The Proposed Action is located within an important sand transport corridor within the Chuckwalla Valley and construction of the solar projects could impede sand transport to the Palen Dunes (DRECP EIS Section III.4.2.2.1.1, page III.4-16). The Arica Solar Project site includes active sand migration zones with low to moderate sand transport importance and fluvially dominated sand sources (i.e., washes), while the eastern portion of both the Arica and Victory Pass Solar Project sites are crossed by washes that are important for aeolian systems as a sand source, sand transport, and stabilizing moisture (see Figure 3.9-2). Constructing a solar project on these sites may reduce the sand source and sand transport. The Sand Transport Memo (Appendix L) provides more information about the sand migration and transport corridor in this region. Based on studies of the sand corridor, the Sand Transport Memo concludes that the site does not interfere with eolian (wind-driven) geomorphic zones dominated by dunes and all dune geomorphology is avoided by the Projects' design. There would be impacts to zones with mixed eolian and fluvial (water-driven) geomorphology, approximately 55 acres within areas with low to moderate sand migration and 330 acres within areas with fluvially dominated geomorphology (see Figure 3.9-3). Design of the solar facilities to avoid development in sand transport zones, such as washes, and to allow sheet flow to continue transporting water and sand sources across the sites reduces potential impacts to sand migration and transport such that the projects would not substantially affect sand sources in the Projects' area.

### ***Cumulative Impacts***

Impacts resulting from erosion are localized in nature and unlikely to extend much beyond the Proposed Action area boundaries and adjacent areas of other projects unless an extreme event results in substantial downstream/downwind soil erosion. The geographic area considered for impacts to sand transport is the Palen Lake sand migration zone because primary sources of aeolian sands for the Palen Lake sand migration zone include the sand migration system along the western flank of the Coxcomb Mountains and alluvial washes moving northward from the Chuckwalla Mountains.

With respect to soil resources and the potential for erosion and loss of topsoil, impacts from the Proposed Action could combine with the effects of adjacent projects that would require substantial ground disturbance. The Proposed Action is adjacent to the Athos solar project which would require substantial ground disturbance. While each project's soil disturbance could result in offsite water and wind erosion, they would be required, like the Projects under consideration here, to abide by existing regulations, including requirements to maintain a DESCP, Drainage Plan, and SWPPP that would reduce wind and water erosion. Additionally, the Athos Project is under construction

so is likely to have finished ground disturbance prior to the start of the Proposed Action. Because disturbed soil from wind and water erosion would be minimized and each cumulative project would implement site specific plans to reduce erosion, potential erosion resulting from the Proposed Action would be unlikely to combine with the erosion from nearby projects to create cumulatively substantial effects. This is consistent with the DRECP EIS Section IV.25.3.4 (page IV.25-38), which identifies potential cumulative additive effects related to wind and water erosion for projects that are in very close proximity and undergoing ground-disturbing activities at the same time.

The Desert Sunlight Solar Farm, the Desert Harvest Solar Project, the Athos Renewable Energy Project, and the Palen Solar Project have impacted or could impact the Palen Lake sand migration zone through directly or indirectly impeding sand transport, reducing the amount of sand that flows through the Chuckwalla Valley, or reducing the amount of water available for sand stabilization. Fencing and other infrastructure associated with the Projects would impede sand transport and affect valuable habitat within the sand transport corridor for plants and animals, including the Mojave fringe-toes lizard (see Appendix N.1), resulting in a cumulative blocking of the corridor along the western sides. This is consistent with the DRECP EIS Section IV.25.3.4 (page IV.25-38) which highlights the DFAs in the Project area that are within an important sand transport corridor and calls out the cumulative effects from the Palen Solar Project and other infrastructure in this area. While mitigation for existing projects and CMAs from the DRECP LUPA for future projects would reduce the effects of each individual renewable project permitted to the extent practicable, there could still be a cumulative effect. The design of the Arica solar facility to avoid the sand migration zone in its northern areas and the design of both the Arica and Victory Pass solar facilities to avoid development in the primary washes across the sites and allow continued sheet flow to transport water and sand sources that feed the sand migration zone, would reduce the Projects' contribution to the cumulative effect and ensure that sand transport can still occur in a natural and appropriate manner.

### **Alternative C (Gen-tie Alignment 1)**

#### ***Direct, Indirect, and Cumulative Impacts***

Under Alternative C, potential for soil erosion, unsuitable soils, disturbance of desert pavement, and effects on sand migration and transport are similar to the proposed gen-tie route. The federal and State requirements and mitigation measures applicable to the Proposed Action would also be applicable to Alternative C to reduce direct, indirect, and cumulative soils impacts.

### **Alternative D (Gen-tie Alignment 2)**

#### ***Direct, Indirect, and Cumulative Impacts***

Under Alternative D, potential for soil erosion, unsuitable soils, disturbance of desert pavement, and effects on sand migration and transport are similar to the proposed gen-tie route. The federal and State requirements and mitigation measures applicable to the Proposed Action would also be applicable to Alternative C to reduce direct, indirect, and cumulative soils impacts.

### **Alternative E (Access Road Option 1)**

#### ***Direct, Indirect, and Cumulative Impacts***

Under Alternative E, potential for soil erosion, unsuitable soils, and disturbance of desert pavement would be similar as under the proposed access road. Unlike the proposed access route, the



Alternative E access road would cross the south end of a mapped eolian geomorphic zone. This would be along an existing road and no structures would be constructed along the access road to impede sand migration or water flow, so Alternative E would not impact sand transport beyond those impacts discussed above in the context of the Proposed Action. The federal and State requirements and mitigation measures applicable to the Proposed Action would also be applicable to Alternative E to reduce direct, indirect, and cumulative soils impacts.

### Alternative F (Access Road Option 2)

#### *Direct, Indirect, and Cumulative Impacts*

Under Alternative F, potential for soil erosion, unsuitable soils, disturbance of desert pavement, and sand transport would be similar as under the proposed access road. The federal and State requirements and mitigation measures applicable to the Proposed Action would also be applicable to Alternative F to reduce direct, indirect, and cumulative soils impacts.

## 3.10 Issue 9: Socioeconomics and Environmental Justice

### 3.10.1 Affected Environment

This section discusses whether implementation of the Proposed Action and alternatives would promote population growth, affect existing housing availability, alter local economic trends and employment, and/or generate social change or disruption. The geographic area of analysis would be areas within a 2-hour commute of the Proposed Action, as that would be the typical distance that temporary workers may commute during construction.

The Proposed Action is in Riverside County, the fourth most populous county in California (CA DOF, 2020). Table 3.10-1 provides a summary of the existing socioeconomic conditions for Desert Center, CA (the general location of the Proposed Action) and Riverside County and San Bernardino County (counties where the construction workforce would largely be recruited).

**Table 3.10-1. Existing Conditions<sup>1</sup> – Population, Housing, and Employment: Desert Center, Riverside County, and San Bernardino County**

Location	Population	Median Household Income (\$)	Housing Units		Employment <sup>2</sup>	
			Total Units	Vacancy Rate	Total Employed	Unemployment Rate
Desert Center	264	37,188	239	60.3%	58	0%
Riverside County	2,442,304	63,948	856,124	12.8%	969,900	10.5%
San Bernardino County	2,180,537	60,164	726,680	11.1%	853,800	10.3%

1 - Housing unit and employment data for Desert Center, and median income data are from 2018. All other data is from 2020.

2 - Accounts for population greater than 16 years of age and in Labor Force.

Source: CA DOF, 2020a; CA EDD, 2020a; CA EDD, 2020b; U.S. Census Bureau 2018a, 2018b, 2018c.

As shown in Table 3.10-1, the Desert Center area has a high vacancy rate, which correlates with the area providing transient and temporary housing for seasonal residents. While the immediately local labor force provides limited construction trade workers, Riverside and San Bernardino Counties provide a strong construction labor force<sup>7</sup>.

<sup>7</sup> Riverside and San Bernardino Counties have over 100,000 people in the construction industry (EDD, 2021).



In 2019, Riverside County had a higher percentage of Hispanic (50 percent) and Black or African American (7.3 percent) minority populations than the State average for that same year (US Census Bureau, 2019). The 2019 combined minority percentage for Riverside County was 66 percent versus 64 percent for the State. The census designated location of Desert Center is predominantly White with approximately 10 percent Hispanic, 2.7 percent American Indian, and 1.5 percent Black or African American so would not represent an environmental justice population (US Census Bureau, 2018d). Riverside County as a whole would be considered an environmental justice population because it is above 50 percent minority.

In 2018 the median household income in California was \$71,228, which is higher than the median incomes for Desert Center and Counties of Riverside and San Bernardino (see Table 3.10-1) (US Census Bureau, 2018e). Median income data shows that incomes in Desert Center are significantly lower than Riverside County as a whole. The U.S. Census Bureau also reports that in 2018, 14.3 percent of the state, 14.7 percent of Riverside County, 17.3 percent of San Bernardino County, and 7.1 percent of Desert Center were below the national poverty level.

### **3.10.2 Environmental Effects**

#### **Alternative A (No Action):**

##### ***Direct, Indirect, and Cumulative Impacts***

The Proposed Action would not be constructed or operated under the No Action Alternative. This alternative would result in no direct, indirect, and cumulative impacts to socioeconomics or environmental justice compared to the Proposed Action. It would also not provide any increased work opportunities or tax income compared with the Proposed Action which at peak labor would include over 1,000 construction jobs.

#### **Alternative B (Proposed Action):**

##### ***Direct and Indirect Impacts***

Construction of both Projects would occur concurrently within the span of approximately 18 months. The construction workforce would average about 468 employees with a maximum of approximately 1,016 employees during peak construction. Many temporary workers needed for construction of the Projects would be drawn from populations living within a 2 hour-commute of the Proposed Action. This assumption is based on observations regarding worker commute habits during construction monitoring efforts for recent similar renewable energy and transmission projects in the California desert (Tennyson, 2021). Riverside County contains a significant construction and trades workforce (EDD, 2021a); however, it is likely that some construction workers would come from outside a reasonable commute area and seek temporary housing proximate to the work area. There are sufficient vacant housing units within the local communities (considered a 2-hour commute distance) to support the number of construction workers such that the Projects' workforce would not be considered a substantial sudden growth and pose a burden on surrounding communities. The Projects would not cause a shortage in available housing for existing residents in the Riverside or San Bernardino Counties. This is consistent with the DRECP EIS Section IV.23.3.2.1 (page IV.23-25), which found that given the existing numbers of available housing units and vacancy rates within the DRECP area (see Section III.23, Table III.23-2) rental housing is available throughout the DRECP area. They would not trigger the need for new housing and would not induce a substantial permanent growth to the regional population levels. An increased

demand from construction workers could affect transient housing availability for typical seasonal residents within these areas. Impacts from such a temporary change are difficult to predict given that supply and demand are based on seasonal and other unpredictable variables. The DRECP EIS Section IV.23.3.2.1 (page IV.23-25) did note that construction workforce may affect the availability of transient accommodations (hotels, motels, mobile home parks and recreational vehicle parks) near smaller desert communities such as Desert Center.

During operations, up to six permanent workers would be part of the regular O&M workforce for each Project and approximately 10 to 15 intermittent workers may be on-call for additional repairs. The small number of operational staff would not significantly increase the population in surrounding communities or substantially deplete available housing. Decommissioning activities would require similar equipment and workforce as construction but would be less intensive.

Beneficial economic effects would occur from construction and operation of the Proposed Action. Local (within a 2-hour commute) spending (for example at the Chiriaco Summit) from the workforce, especially during construction, would be an economic stimulator for businesses. Additionally, local procurement of goods and services during construction and operation and an increase in tax revenues are considered beneficial to the local communities. Public benefits include short-term increases in local expenditures, payrolls, and sales tax revenues. These would positively affect the economy at both local and regional levels.

Impacts associated with the solar facility that could disproportionately affect minority or low-income populations primarily include short-term noise and air quality degradation during construction and long-term visual impacts to the overall desert landscape of the area. This is consistent with the list of potential effects noted in the DRECP EIS Section IV.23.2.1.2 (page IV.23-10) which highlights typical environmental effects associated with construction as noise and air quality degradation. DRECP EIS Section IV.23.3.2.1 also notes that in addition to disproportionate effects from construction, much of the electricity generated by these projects would be delivered to populations outside these areas. Noise and air quality degradation are very local, within 1 mile, and there are no residences within 1 mile of the Projects. Visual resource impacts can be seen from greater distance but become less prominent from beyond 5 miles (see Visual Resources Section). These impacts are not considered to directly result in adverse impacts to environmental justice populations. This determination includes the consideration of proposed mitigation measures and the absence of significant numbers of minority or low-income population within the 1-to-5-mile range (the distance at which most environmental effects would occur). The Projects location was chosen due to its availability and location within the SEZ and DFA, and proximity to a substation with available capacity to deliver the energy. The solar facility would not result in any disproportionate adverse impacts on low-income or minority populations. Additionally, the Proposed Action would bring jobs and other increased economic activity to the area.

The nature and magnitude of social impacts from temporary construction worker in-migration and construction activities on smaller rural communities are difficult to predict. While some degree of social disruption is likely to accompany short-term construction worker in-migration, there is insufficient evidence to predict the extent to which rural communities are likely to be affected, which population groups within each community are likely to be most affected, and the extent to which the social disruption is likely to persist beyond facility construction. The presence of construction workers and activities is expected to be most noticeable within the Desert Center area. However, it is not expected to create adverse long-term demographic shifts or social change. While

local (within a 2-hour commute) small communities (like Desert Center) host a rural lifestyle in low-populated, isolated, homogenous communities, construction would be temporary with many workers expected to commute from within the 2-hour distance workforce.

### ***Cumulative Impacts***

The geographic scope for the cumulative analysis for the Proposed Action includes the surrounding cities and census designated places that are within a reasonable commute time, up to 2 hours. This geographic scope includes all the cumulative projects in eastern Riverside County. The temporal scope is the life of the Projects.

Construction of the Arica and Victory Pass Projects could overlap with construction of other projects in the area, most likely the Oberon Project, resulting in an even higher demand for workers that may not be met by the local (2-hour commute) labor force resulting in in-migration of non-local labor and their households. As the vacancy rates for housing units are moderately high in the nearby Riverside communities, there would be an ample supply of housing units to accommodate workers drawn from outside the two-hour commute area.

Because the operational workforce is minor, the Projects would not contribute to any cumulative impacts during operations because such operations would not result in a substantial increase in population in an area that would lead to demand for housing.

Cumulative impacts associated with solar facilities that could disproportionately affect minority or low-income populations primarily include short-term noise and air quality degradation during construction and long-term visual impacts to the overall desert landscape of the area. Except for visual impacts, these effects are localized and short-term in nature during construction. Low-income populations affected by visual impacts include the Desert Center community. Visual impacts of the Proposed Action to the Desert Center area are minimal and would not contribute to the cumulative visual impacts because of the distance to the sites (see Section 3.11, Visual Resources). Overall cumulative visual impacts from renewable energy development in the area would not be borne disproportionately by the census designated area of Desert Center, because the viewers from nearby KOPs (I-10 and nearby recreational areas) come from all over California. The Lake Tamarisk KOP (which represented the rural populations in and around the SR 177) experienced minimal visual change by the Projects. While there are no significant numbers of minority or low-income populations in Desert Center where the Projects impacts would primarily occur (0 to 5 miles range), there are minority and low-income populations in the greater eastern Riverside County that are near (within 2-hours) to a large number of solar projects. It should also be noted that while the energy generated by the Projects would tie into the nearby substation, it would be delivered to populations outside of these areas. As noted in the DRECP Final EIS Section IV.25.3.23, several individual census tracts containing minority and low-income populations within the DRECP area, some of which are in the Eastern Riverside County, disproportionately bear the acreage where projects would be potentially permitted under the DRECP, and cumulative impacts of the Projects would result in impacts disproportionately borne by minority and low-income communities.

### **Alternative C (Gen-tie Alignment 1)**

#### ***Direct, Indirect, and Cumulative Impacts***

Alternative C would not change the number of workers required for construction or operation of the Projects and would not change population growth, demand for housing, or demographics as

compared to the Proposed Action. Therefore, Alternative C would result in the same direct, indirect, and cumulative impacts as the Proposed Action (Alternative B).

#### **Alternative D (Gen-tie Alignment 2)**

##### ***Direct, Indirect, and Cumulative Impacts***

Alternative D would not change the number of workers required for construction or operation of the Projects and would not change population growth, demand for housing, or demographics as compared to the Proposed Action. Therefore, Alternative D would result in the same direct, indirect, and cumulative impacts as the Proposed Action (Alternative B).

#### **Alternative E (Access Road Option 1)**

##### ***Direct, Indirect, and Cumulative Impacts***

Alternative E would not change the number of workers required for construction or operation of the Projects and would not change population growth, demand for housing, or demographics as compared to the Proposed Action. Therefore, Alternative E would result in the same direct, indirect, and cumulative impacts as the Proposed Action (Alternative B).

#### **Alternative F (Access Road Option 2)**

##### ***Direct and Indirect Impacts***

Alternative F would not change the number of workers required for construction or operation of the Projects and would not change population growth, demand for housing, or demographics as compared to the Proposed Action. Therefore, Alternative F would result in the same direct, indirect, and cumulative impacts as the Proposed Action (Alternative B).

### **3.11 Issue 10: Visual Resources**

#### **3.11.1 Affected Environment**

The Proposed Action landscape is part of the Great Basin section of the Basin and Range physiographic province, a vast desert area of the western U.S. extending from eastern Oregon to western Texas. The Projects' region marks the transition zone between the high elevation Mojave Desert and the lower elevation Sonoran Desert. The Chuckwalla Valley is a broad, flat desert plain with scattered dry lakes and rolling sand dunes bordered by rugged mountain ranges. The rugged ridges, angular forms, and bluish hue of the mountains provide a contrast of visual interest to the flat, light-colored, horizontal landform of the Chuckwalla Valley floor. Views within Chuckwalla Valley tend to be expansive and capture a landscape that appears relatively visually intact, though dispersed energy facilities are visible.

The viewshed (the area where the Projects could potentially be seen) encompasses much of Chuckwalla Valley and the project-facing slopes and ridgelines of the surrounding mountains, including areas within JTNP. Figure 1A, in Appendix M, illustrates the visibility of the Arica and Victory Pass projects according to a "line-of-sight" terrain model that does not account for possible vegetation or structural screening.

A notable feature of the flat desert landscape is the potential for large projects to be seen over great distances. However, due to the relatively low profile of the solar panels, most viewers would be at similar elevations to that of the Proposed Action, and the views would typically be limited to those

of the solar field edges. More precisely, the typical viewing distance zone that most viewers would experience is foreground/midground (0 to 5 miles away) due to the proximity of I-10 and other viewpoints. The exception would be for more elevated views from portions of JTNP and other surrounding mountains that would have the potential to see “into” the solar field arrays.

There are several sensitive uses and protected areas within the Projects’ viewshed including: ACECs, wilderness, Desert Center, the Lake Tamarisk Desert Resort, and JTNP. Potentially affected viewers within the area include residential viewers in Lake Tamarisk Desert Resort and dispersed rural residences in and around Desert Center; recreational visitors to ACECs, wilderness areas, and open public lands; and travelers along the main transportation corridors (I-10 and SR 177).

The presently undeveloped Project sites are situated north of I-10 and east of SR 177, approximately 6.5 miles east of the intersection of I-10 and SR 177 in Desert Center. The area surrounding the sites is lightly populated and consists mainly of desert scrub (largely scattered creosote bushes), lakebed, and dune landscapes that are predominantly intact on the Chuckwalla Valley floor. The relatively flat desert landscape has a low level of variety and distinctiveness, exhibiting limited variation in form, line, color palette, and texture that is common to the region. Although the distant mountain ranges that surround the Chuckwalla Valley provide backdrops of visual interest, the Projects’ landscape is generally lacking in visual variety and scenic quality and is substantially influenced by cultural modifications in the area including multiple electric transmission lines, Red Bluff Substation, and I-10; the Desert Sunlight gen-tie line with its Corten tubular steel poles; the Lake Tamarisk Desert Resort and SR 177; the Desert Sunlight and Desert Harvest solar projects; the Palen and Genesis solar projects; scattered residences and built structures, 4-wheel drive tracks, and access roads. Overall, the existing scenic quality of the Projects’ sites appears common to the region and would correspond to the BLM Visual Resource Management (VRM) Scenic Quality Classification C (low scenic value). The Proposed Action area is classified in the CDCA Plan, as amended, as VRM Class IV (see CMA LUPA-VRM-1).

### **3.11.2 Environmental Effects**

#### **Alternative A (No Action):**

##### ***Direct, Indirect, and Cumulative Impacts***

Under the No Action Alternative, construction of the Proposed Action and associated infrastructure would not occur. Because no projects would be built and no ground disturbance would occur, the No Action Alternative would have no direct, indirect, or cumulative impacts on Visual Resources.

#### **Alternative B (Proposed Action):**

##### ***Direct and Indirect Impacts***

**Construction of the Proposed Action.** Direct effects of construction would result from the short-term visual intrusion of equipment, materials, vehicles, and construction activities at the sites of the solar facilities and along the access road and new gen-tie ROW. Construction would involve the use of heavy equipment and would include site clearing and grading, assembly of solar arrays, erection of transmission structures, conductor stringing and pulling, and site cleanup and restoration. These activities would be prominently visible from I-10, SR 177, Desert Center, the Lake Tamarisk Desert Resort residential area, the few rural residences in the area, and the surrounding wilderness areas. Throughout the short-term construction period, substantial visual contrast and



visual change, which would be adverse, would occur from (1) the large scale of the surface disturbance (including vegetation removal) and the associated color, line, and texture contrasts and (2) the industrial character of the construction activities (described above). However, the construction activities and associated adverse effects would be temporary and, therefore, would not result in substantial long-term visual effects.

While most areas of surface disturbance would be occupied by permanent facilities, some disturbed areas not occupied by permanent facilities could remain visible from various vantage points for an extended period of time, potentially 3 to 5 years. However, most foreground/midground views of these disturbed areas would be at similar elevations (at grade). Therefore, much of the contrast would be screened from view by intervening vegetation and new facilities. Although this longer-term visual contrast could appear prominent from some viewing locations, the resulting moderate to high levels of visual change would be consistent with the BLM's VRM Class IV management objective, which applies in the area of the Proposed Action. The Class IV objective anticipates the potential for high levels of change to the existing landscape character in order to facilitate management activities. The indirect visual effect associated with increased construction vehicle traffic on regional roads (I-10 and SR 177) is not expected to be noticed by the casual observer. To the extent that a casual observer or local resident perceives any increase in traffic, the duration of the effects would be short-term.

The visual impacts of the construction of the Projects are consistent with the DRECP EIS analysis, in Section IV.20.3.2.1 (page IV.20-27) which noted that during construction, activities and equipment visible from residences, public roads, and public preserves would result in short-term diminished scenic quality for viewers.

**Operation & Maintenance of the Proposed Action.** The Visual Resources effects associated with operation and maintenance are typically direct. VRM Contrast Rating forms for each Key Observation Point (KOP) are presented in Appendix M along with a detailed discussion of each KOP, existing view photographs, and simulations of the Proposed Action.

Six KOPs were selected to provide a range of viewpoints that represent potential viewers (see Figure 1B). KOPs were located based on their usefulness in evaluating existing landscapes and potential impacts on various viewing populations. KOP locations include: (1) sensitive residential communities in close proximity to the Projects (Lake Tamarisk Desert Resort); (2) important recreation facilities (Desert Lily Preserve ACEC and Corn Springs Road); and (3) important travel routes (eastbound and westbound I-10). For most KOPs, the visual simulations depict the addition of a medium- to dark-gray, linear mass along the floor of the Chuckwalla Valley. The visual prominence of the facilities would depend on the distance of the viewers, the extent of visual screening by intervening vegetation, and the viewpoint position (at-grade or superior [elevated]).

Figure 1C illustrates the frame of view captured at each KOP. At-grade and edge-on views of the array fields (most typical and including KOPs 1, 3, 4, and 5) generally limit the view to the array field edge facing the viewer that presents as a narrow, horizontal band along the valley floor. In these cases, the form, line, and color contrasts trend toward moderate or moderate-to-strong with levels of visual change ranging from moderate to moderate-to-strong. KOP 2 on I-10, immediately adjacent to the Victory Pass solar fields, captures a more proximal and prominent view of the solar facilities, which exhibit strong degrees of form, line, and color contrasts and a high degree of visual change. This is consistent with the analysis presented in the DRECP EIS (page IV.20-28) which notes that the structure, size, and industrial character of utility-scale renewable energy and



transmission facilities during their operation and maintenance—as well as any associated glare, reflectivity, and lighting—would visually contrast with surrounding undeveloped land and result in long-term diminished scenic quality.

In all cases, the resulting levels of visual change would be consistent with the applicable VRM Class IV management objective. The solar facilities would not be visible from KOP 6 at the Lake Tamarisk Desert Resort due to screening by intervening vegetation. The gen-tie line would be visible but not visually prominent. The resulting form and line contrasts would be weak, and there would be no color or texture contrasts. The resulting low level of visual change would also be consistent with the applicable VRM Class IV management objective. While the Proposed Action would be consistent with the VRM Class IV management objective, Mitigation Measures MM VIS-1 and VIS-2 would be recommended to treat project structures and buildings and use proper design features, thereby reducing effects and ensuring the Projects meet the DRECP CMAs regarding visual resources.

It is unlikely that daytime glare from the facilities would adversely affect travelers on I-10 and SR 177, a low number of residents at Desert Center and Lake Tamarisk, and users of nearby designated wilderness and ACECs. The Projects would use darkly colored matte PV solar panels featuring an anti-reflective coating. Photovoltaic solar panels are designed to be highly absorptive of light that strikes the panel surfaces, generating electricity rather than reflecting light. The solar panels are also designed to track the sun to maximize panel exposure to the sun, which would direct most reflected light back toward the sun in a skyward direction. The glare and reflectance levels from a given PV system are lower than the glare and reflectance levels of steel, snow, standard glass, plexiglass, and smooth water (Shields, 2010) and are further reduced with the application of anti-reflective coatings. PV suppliers typically use stippled glass for panels as the “texturing” of the glass to allow more light energy to be channeled/transmitted through the glass while weakening the reflected light. With the application of anti-reflective coatings and use of modern glass technology, project PV panels would display overall low reflectivity.

The greatest potential for light reflection to reach viewer locations would occur with a tracking system when the panels would be angled toward the horizon at sunrise and sunset. During these periods, the solar panels would be tilted approximately 10 degrees below a horizontal plane in the direction of the sun. Unabsorbed incoming light would reflect at approximately 20 degrees above the opposite horizon. The solar power facility would be in a broad flat valley. Potential viewers of the facility, including motorists on I-10, would be less than 20 degrees above the facility. Motorists would not be exposed to the glare at sunrise or sunset due to the low viewing angle. Residents and motorists may perceive indirect glare as an increase in color contrast in the early morning hours when the darkly colored PV panels could appear as lightly colored or white (Sullivan and Abplanalp, 2013). This indirect glare would be brief (a few minutes in the morning and evening hours) and would not cause a nuisance to residents or motorists.

**Visible Night Lighting.** Lighting at the facilities would be of the minimum necessary and restricted to areas required for safety, security, and operation. Given the relatively sparse development in the surrounding area and the general lack of stationary nighttime lighting (there is considerable transient [vehicles] lighting along the adjacent I-10), the introduction of nighttime lighting would constitute a potentially significant impact. Thus, motion sensitive, directional security lights would be installed to provide adequate but controlled illumination around the substation areas, each inverter cluster, at gates, and along perimeter fencing. All lighting would be shielded and directed

downward to minimize the potential for glare or spillover onto adjacent properties. Additionally, a Night Lighting Management Plan (MM VIS-3) would be implemented to mitigate any potential night lighting impacts and includes methods to reduce lighting beyond the Projects sites and consultation with the National Park Service (NPS) Night Sky Program Manager.

### ***Cumulative Impacts***

The Proposed Action, in combination with the 14 identified local energy projects, would contribute to significant cumulative visual impacts when viewed by sensitive viewing populations along I-10 and SR 177, from nearby residences, from portions of JTNP, and in the surrounding mountains and wilderness. The DRECP EIS identifies JTNP as a Visually Important Management Unit in the DFA in Riverside County (DRECP Section III.20.3.1 page III.20-22) and highlights the existing highly visible projects in the DFA in eastern Riverside, specifically the Desert Sunlight Project (page III.20-22). The Projects' contribution to the impacts would be from the introduction of substantial visual contrast associated with discordant geometric patterns in the landscape; the creation of unnatural lines of demarcation in the valley floor and inconsistent color contrasts; and the addition of visible night lighting within Chuckwalla Valley. For many travelers along I-10, the scenic experience would be substantially degraded due to the perceived "industrialization" of the landscape. This was noted in the DRECP EIS (Section IV.25.3.20 page IV.25-102) which states that the area near Desert Center would experience a substantial introduction of industrial projects due to the introduction of numerous projects in the area. As with the individual projects, the cumulative levels of visual change would be consistent with the applicable VRM Class IV management objective per DRECP CMA DFA-VRM-1 ("Manage all DFAs as VRM Class IV to allow for industrial scale development"). The DRECP EIS also notes the potential for a considerable cumulative night lighting effect, and specifically notes the impact to JTNP (DRECP Section IV.25.18 page IV.25-97).

### **Alternative C (Gen-tie Alignment 1)**

#### ***Direct, Indirect, and Cumulative Impacts***

The Gen-tie Alignment 1 alternative would parallel the I-10 freeway for just over one mile and would cross the I-10 corridor at the same location as the proposed gen-tie route. There would be no change to the amount or type of solar infrastructure constructed and operated compared to the proposed Projects. Because Gen-tie Alignment 1 is in the same vicinity as the proposed gen-tie line and would require the same construction and operation activities, the visual impacts from both the solar facilities and gen-tie line would be similar to the Proposed Action. Alignment 1 would be more visible than the proposed gen-tie alignment from a one-mile segment of I-10 where Alignment 1 would run parallel to I-10 at a roughly 150-foot distance. The views of the solar arrays during operation (with Alignment 1) would be similar to those described for the proposed Project (for KOPs 1 to 6) though Alignment 1 would present greater visual contrast when viewed from I-10 in the immediate vicinity of the one-mile segment parallel to I-10. However, it should be noted that a majority of the one-mile segment would be located within the immediate vicinity and visual context of the structurally complex (highly contrasting) and visually dominant Red Bluff Substation adjacent to the south side of I-10 and existing gen-tie lines spanning I-10 from north to south. Also, Alignment 1 would not change the perception of the strong degree of visual contrast associated with the solar arrays adjacent to I-10 in the vicinity of Alignment 1. Further, the high level of change associated with Alignment 1 would still be consistent with the VRM Class IV management objectives, and mitigation required for the Proposed Action would also be required for Alignment 1.

The cumulative impacts for Alternative C (Alignment 1) would be the same as those described for the Proposed Action.

#### **Alternative D (Gen-tie Alignment 2)**

##### *Direct, Indirect, and Cumulative Impacts*

The Gen-tie Alignment 2 alternative would be in the same area as Alternative C (Gen-tie Alignment 1) with impacts similar to those described for Alternative C.

#### **Alternative E (Access Road Option 1)**

##### *Direct, Indirect, and Cumulative Impacts*

Visual impacts under the Access Road Option 1 alternative would differ from those under Alternative B primarily with respect to ground disturbance due to improvements or workforce use. While this alternative would require improvement along a shorter length of road compared to the proposed access road and would change the overall distance traveled to reach the site based on the direction of travel, the direct, indirect, and cumulative impacts for Visual Resources would be essentially the same as for the Proposed Action.

#### **Alternative F (Access Road Option 2)**

##### *Direct, Indirect, and Cumulative Impacts*

There would be no additional visual impacts associated with the Access Road Option 2 alternative because Access Road Option 2 is an existing road and would not require additional improvements prior to use.

### **3.12 Issue 11: Vegetation and Wildlife Resources**

#### **3.12.1 Affected Environment**

This section of the EA summarizes the vegetation and wildlife resources at the Project sites. Full-coverage wildlife surveys and focused special-status plant surveys were performed on the solar fields in fall of 2019 and spring of 2020 (see Appendix N.1, N.2, and N.3 for the Biological Resources Technical Reports). The survey area is larger than the Proposed Action boundaries because the boundaries were revised to meet the BLM CDCA Plan, As Amended.<sup>8</sup> Additional surveys of the gen-tie alignment, access road, and alternatives were completed during field work for the Arica and Victory Pass Projects (2020) and for adjacent solar projects sharing the same routes (2011 through 2020). Impacts are discussed in Section 3.12.2, including impacts in the solar field and along the gen-tie line. While the entire gen-tie ROW is considered impacted, the actual impact will be at discreet sites along the route.

**Vegetation and Habitat.** The following vegetation types were located on the Projects sites and provide suitable habitat for many common wildlife species as well as special-status wildlife (Figure 3.12-1).

- Sonoran creosote bush scrub is the most abundant vegetation on the sites (1,331 acres on the Arica site and 1,291 acres on the Victory Pass site). It is widespread and characteristic

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<sup>8</sup> The DRECP amendment to the CDCA Plan includes CMAs that require avoidance of some special plant species and certain types of habitat. See Appendix I (CMA consistency).

throughout the Colorado Desert, found on well drained, secondary soils of slopes, fans, and valleys.

- Desert dry wash woodland is a sensitive vegetation community primarily within the Victory Pass survey area and along the gen-tie ROW. It is a drought-deciduous, microphyll (small compound leaves) scrub woodland found among ephemeral wash channels. It supports greater food, nesting, cover, and wildlife diversity than the surrounding desert.
- Desert saltbush scrub is dominated by fourwing saltbush (*Atriplex canescens*) with sparse creosote bush and *Cryptantha* species within the understory. Twenty-three acres of Desert Saltbush Scrub is found near the Arica site's northern and western boundaries.
- Desert Pavement is a soil and substrate condition, composed of gravelly mixed alluvium with various rocks and gravel, with extremely sparse creosote bush. It is located on the Victory Pass survey area and along the gen-tie line.

Dry desert washes and channels on the sites are located within a closed surface hydrology basin that drains to Ford Dry Lake.

**Threatened and Endangered Plants.** No State or federally listed threatened or endangered plant species were observed or have the potential to occur on the Projects sites or in the vicinity.

**Other special-status plants.** The BLM maintains a list of sensitive species (BLMS<sup>9</sup>) and manages these species to provide protections comparable to species that may become listed as threatened or endangered. The California Native Plant Society (CNPS) compiles and ranks plant species of conservation concern using the CNPS Rare Plant Ranking system in its Inventory of Rare and Endangered Plants of California (online edition, 2021).

One BLM sensitive plant, Harwood's eriastrum (California Rare Plant Rank (CRPR) 1B.2, BLMS), was observed in the Arica area. Three additional CNPS-ranked species were observed in the Arica Project area: Emory's crucifixion thorn (CRPR 2B.2), Harwood's milkvetch (CRPR 2B.2), and ribbed cryptantha (CRPR 4.3). Suitable habitat for Emory's crucifixion thorn is present on the Victory Pass Project site, but it was not observed. See Figure 3.12-2 and the Biological Resources Technical Reports (BRTRs) (Appendix N.1 through N.3) for information on all special-status plants.

**Threatened and Endangered Wildlife.** The desert tortoise (FT, ST) occurs on the Project sites. Desert tortoises and their sign (burrows, pellets, scat, and tracks) were observed during the biological surveys in the western portion of the Victory Pass site, north and south of the gen-tie line. On the Arica site, the only desert tortoise sign observed was a Class 4 burrow (good condition, possibly desert tortoise) on the western boundary. No desert tortoises or sign were observed within

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<sup>9</sup> **Conservation Status**

**Federal**

FE = Federally listed endangered: species in danger of extinction throughout a significant portion of its range  
 FT = Federally listed, threatened: species likely to become endangered within the foreseeable future  
 FCT = Proposed for federal listing as a threatened species  
 BCC = Fish and Wildlife Service: Birds of Conservation Concern  
 BLMS = BLM Sensitive

**State**

SSC = State Species of Special Concern  
 CFP = California Fully Protected  
 SE = State listed as endangered  
 ST = State listed as threatened  
 WL = State watch list  
 CPF = California Protected Furbearing Mammal  
 CPGS = California Protected Game Species

the gen-tie ROW. The Proposed Action would avoid the portions of dry desert wash woodland where all the live desert tortoises and most of their sign were observed.

On the 1,310 acre Victory Pass site, 118 acres (solar portion) and 26.7 acres (gen-tie ROW) are within critical habitat for the desert tortoise in the Chuckwalla Critical Habitat Unit (CHU). This is a minor portion of the 1.02 million acre Chuckwalla CHU. The critical habitat impacted by the project is separated from the bulk of the Chuckwalla CHU by the I-10 Freeway. Please refer to Figure 3.12-3 and the BRTRs for a detailed discussion of desert tortoise occurrence.

The DRECP's Biological Opinion (BO) (USFWS, 2016) describes a fragmentation effect due to the location of the I-10, and notes that the critical habitat boundaries follow section lines rather than habitat features and describes that the Nussear et al. (2009) habitat model does not consider the spatial needs of the desert tortoise or the anthropogenic impacts to habitat. The BO concludes, "because of the nature of the habitat in this area, the minor overlap of portions of the East Riverside DFA and the Chuckwalla critical habitat unit would not have a measurable effect on the ability of the critical habitat to support viable populations or to provide for movement, dispersal, and gene flow" (USFWS, 2016).

Two state listed birds, Gila woodpecker (SE, BLMS) and elf owl (SE, BLMS), were not observed; however, there is suitable habitat in the desert dry wash woodland. The Proposed Action would avoid these areas.

Several state and federally listed birds, including Swainson's hawk (ST, BCC), Yuma Ridgway's rail (FE, ST, CPF), yellow-billed cuckoo (FT, SE, BLMS), and least Bell's vireo (FE, SE), may migrate through the region during spring or fall or may spend winters in the vicinity but would not nest on or near the Projects sites due to the absence of suitable nesting habitat. Potential for occurrence of the aforementioned birds on the Projects sites is minimal, except for brief overflight or migratory stopovers.

**Other Special-status Wildlife.** The BRTR provides a compilation of special-status wildlife with potential to occur in the vicinity, and evaluates probability of occurrence for each species, based on vegetation, elevational and geographic ranges, and field survey results. In addition to the species identified above, the BLM Sensitive Species that are present or have potential to occur in the Project sites are Mojave fringe-toed lizard (MFTL) (SSC, BLMS), golden eagle (foraging only) (CFP, WL, BCC, BLMS), western burrowing owl (SSC, BLMS), and foraging bats including Townsend's big-eared bat (SSC, BLM S), California leaf-nosed bat (SSC, BLM S), pallid bat (SSC, BLM S), western mastiff bat (SSC, BLM S), western yellow bat (SSC) (also marginal roosting), big free-tailed bat (SSC) (also marginal roosting), and pocketed free-tailed bat (SSC).

Mojave fringe-toed lizard are present in the northern and eastern portions of the Arica Project area, in sandy habitat, consistent with the DRECP MFTL species distribution model.

Bat roosts occur in the vicinity of the Project site in the McCoy Mountains approximately 20 miles east, Eagles Nest Mine within the Little Maria Mountains approximately 20 miles northeast, and Paymaster Mine within the Pinto Mountains approximately 30 miles to the northwest.

Additional notable special-status wildlife present in the Project sites include burro deer (CPGS) and desert kit fox (CPF). Suitable burrows for American badger were identified, but no badgers were observed (SSC).



**Wildlife Movement.** Accessibility between habitat areas (i.e., connectivity) is important to long-term genetic diversity and demography of wildlife populations. In largely undeveloped areas, including the Chuckwalla Valley, wildlife habitat is available in open space areas throughout much of the region, but specific barriers may impede or prevent movement, such as existing solar projects and the I-10 freeway. The landscape impediments identified in the Proposed Action vicinity are the Palen–McCoy Mountains to the northeast and the Chocolate Mountains to the southwest. These landscape impediments are connected by broad habitat linkages.

Potential landscape-level habitat linkages and wildlife movement corridors in the DRECP Plan area were identified (see Section III.7.8, page III.7-228 and III.7-229). As noted in the DRECP EIS, the location of linkages is based on several studies including the California Desert Connectivity Project, the California Essential Habitat Connectivity Project, the South Coast Missing Linkages Project, and A Linkage Design for the Joshua Tree–Twentynine Palms Connection.

Within the Cadiz Valley and Chocolate Mountains ecoregion subarea, where the Project areas are located, landscape-level habitat linkages cover approximately 905,000 acres as noted in the DRECP EIS Section III.7.8 (page III.7-231). These linkage areas are primarily located along the desert valleys, providing connectivity between isolated mountain ranges within the ecoregion subarea. The Projects are located within the Palen McCoy Mountains–Chocolate Mountains linkage (see DRECP EIS Figure III.7-26). Approximately 59 acres of the western portion of the Victory Pass Project overlaps with the easternmost edge of the multiple-species linkage area identified in the DRECP (BLM, 2016). Please refer to Figure 3.12-5 and the BRTRs for further discussion.

### 3.12.2 Environmental Effects

#### **Alternative A (No Action):**

##### *Direct, Indirect, and Cumulative Impacts*

Under the No Action Alternative, the Projects would not be constructed. The BLM would continue to manage the proposed Project sites according to the existing land use designations. There would be no effects to vegetation and wildlife resources.

#### **Alternative B (Proposed Action):**

##### *Direct and Indirect Impacts*

The Proposed Action would result in direct removal of habitat and indirect effects to vegetation and wildlife during construction and operation of the Projects. The direct and indirect effects would be avoided, minimized, or offset through habitat compensation and a series of APMs and CMAs provided in full in Appendix E. This section of the EA identifies MMs to ensure effective mitigation of each potential impact. The full text of the mitigation measures (MM) appears in Appendix E.

**Vegetation and Habitat.** The Proposed Action would result in approximately 2,750 acres of direct, permanent disturbance to soils and vegetation as shown in Table 3.12-1.



**Table 3.12-1. Impacts to Vegetation Communities**

<b>Cover Type</b>	<b>Arica Solar Project (acres)</b>	<b>Victory Pass Solar Project (acres)</b>	<b>Shared Gen-tie Line (acres)*</b>	<b>Total (acres)</b>
Desert Pavement	0.0	17.5	2.6	<b>20.1</b>
Developed/Disturbed	0.0	0.0	2.0	<b>2.0</b>
Dry Desert Wash Woodland	0.0	0.3	29.2	<b>29.4</b>
Saltbush Scrub	23.0	0.0	0.0	<b>23.0</b>
Sonoran Creosote Bush Scrub	1331.2	1291.4	17.7	<b>2640.2</b>
<b>Grand Total</b>	<b>1354.2</b>	<b>1309.0</b>	<b>51.4</b>	<b>2714.7</b>

\* The acres associated with the shared gen-tie line are for the entire ROW. Preliminary engineering indicates that the actual ground disturbance would be approximately 10 to 15 acres.

This is consistent with the DRECP EIS Section IV.7.3.2.1 (page IV.7-114) which notes that approximately 52,000 acres of desert scrubs would be anticipated to be impacted by renewable development and notes that CMAs would help avoid and minimize the effects.

Noise, dust, and activity during Project construction and operation could indirectly affect surrounding vegetation and habitat, potentially causing wildlife to avoid the area. These direct and indirect impacts to habitat would be minimized through vegetation APMs and habitat mitigation, pre-construction surveys, implementation of management plans, and construction crew training identified in MM BIO-1 through BIO-6.

Impacts to desert dry wash woodland would be limited to minor incursion due to access roads and transmission crossings in accordance with CMA LUPA-BIO-RIPWET-1 and the definition of minor incursion in the DRECP glossary. While the gen-tie ROW is located within 29.3 acres of desert dry wash woodland, preliminary engineering indicates that less than 5 acres of desert dry wash woodland would be disturbed because of use of the existing access road. This is consistent with the analysis in the DRECP EIS Section IV.7.3.2.1 (page IV.7-116) which notes that impacts to riparian vegetation would be avoided through application of CMAs including setbacks. Alterations (e.g., fill material for access roads) to dry washes are subject to authorization by the CDFW under the California Fish and Game Code and would require a Lake and Streambed Alteration Agreement (see Appendix N.4 and N.5 for the Jurisdictional Delineations). Because dry desert washes and channels on the sites are located within a closed surface hydrology basin that drains to Ford Dry Lake, no CWA permit is required (see Appendix N.6). Care will be taken to ensure banks are stabilized on all crossings and that the path through the wash is composed of natural materials. When floods come, little to no erosion of the banks is expected. Minimizing disturbance to the vegetation will help stabilize the floodplain of the wash.

**Special-status Plants.** Construction of the Projects would remove vegetation and alter soil conditions in impact areas. No effects to listed threatened or endangered plants would occur, as they do not occur in the Project sites.

One BLM sensitive plant, Harwood's eriastrum, was documented during surveys of the Arica Solar Project. To meet CMA LUPA-BIO-PLANT-2, the Arica footprint was redesigned to avoid impacts to the plants by providing a 0.25-mile setback from the Harwood's eriastrum. This setback would also avoid occurrences of ribbed cryptantha (CRPR 4.3) in the Arica Project area.

Direct impacts to Harwood's milkvetch and its suitable habitat would occur in the Arica footprint but would be minimized by avoiding the setback areas defined for Harwood's eriastrum. This is consistent with the analysis in DRECP EIS Section IV.7.3.2 (page IV.7-142), which notes that there are a number of CMAs for DRECP Non-Focus Species which would be expected to minimize and avoid impacts to other Non-Focus BLM species.

Emory's crucifixion thorn was observed at two locations within the Proposed Action area and would be removed during construction. This is consistent with the analysis in the DRECP EIS Section IV.7.3.2.1 (page IV.7-120). While some suitable habitat would be impacted, additional habitat is present in wash areas that will be largely avoided because of the requirements to avoid the desert dry wash woodland. By avoiding wash areas, impacts to suitable habitat in the Proposed Action area would be minimized. Because the crucifixion thorn strands were not large (did not have over 100 individuals) they did not have to be avoided per CMA LUPA-BIO-SVF-7. MM BIO-7 (Emory's Crucifixion Thorn Mitigation) would reduce this impact by one or more of several approaches, including horticultural propagation and off-site introduction.

### **Special-status Wildlife**

**Desert tortoise.** Without DRECP CMAs LUPA-BIO-IFS-4, LUPA-BIO-IFS-5, LUPA-BIO-IFS-8, and LUPA-BIO-IFS-9, the Proposed Action could cause mortality or injury to desert tortoises present in the area during construction, O&M, and decommissioning activities. Desert tortoises or eggs could be harmed during clearing or grading activities, or tortoises could become entrapped within open trenches and pipes. Construction or O&M activities could also result in direct mortality or injury of tortoises or eggs from vehicle strikes. Other direct effects could include individual tortoises or eggs being crushed or entombed in their burrows and disturbance by noise or vibrations from heavy equipment. Desert tortoises may be attracted to the construction area by shade beneath vehicles or equipment, or the application of water to control dust, placing them at higher risk of injury or mortality. This is consistent with the analysis in the DRECP EIS Section IV.7.3 (page IV.7-24 for general impacts to desert tortoise from renewable development and page IV.7-127 for impacts in the specific area of the Proposed Action) regarding impacts to desert tortoise in the Cadiz Valley and Chocolate Mountains area.

Construction and operation could create "subsidies" such as food, water, or nest sites, for common ravens or other opportunistic predators. Ravens prey on juvenile desert tortoises, contributing to the overall decline in tortoise recruitment. Other effects could include the introduction and spread of invasive weeds and increased human presence. This is consistent with the analysis in the DRECP EIS Section IV.7.3.2.1 (page IV.7-155) which highlights the increased predation of listed and sensitive wildlife species, including ravens.

Direct and indirect impacts to desert tortoises would be minimized or avoided through implementation of MM BIO-9 (Desert Tortoise Protection) which is consistent with CMA LUPA-BIO-IFS-4 and -5 and requires a USFWS Authorized Biologist during construction to conduct or direct pre-construction clearance surveys for each work area, direct Biological Monitors to watch for tortoises wandering into the construction areas, check under vehicles, and examine excavations and other potential pitfalls for entrapped animals. The Authorized Biologist will be responsible for overseeing compliance with desert tortoise protective measures and for coordination with the Project's Lead Biologist. The Authorized Biologist shall have the authority to halt all Project activities that are in violation of these measures or that may result in take of a desert tortoise. Desert tortoise

fencing for both Victory Pass and Arica and worker training would further minimize direct impacts to desert tortoise during construction and O&M.

No desert tortoise would be handled or relocated without authorization from USFWS and CDFW. An incidental take authorization from both agencies would be obtained to address any potential take of desert tortoise, including authorization to handle or translocate desert tortoise. Desert tortoises would be handled or translocated according to a Desert Tortoise Relocation Plan, pending approval by both agencies.

MM BIO-9 also requires a Raven Management Plan and mitigation for all desert tortoise habitat impacts, as detailed in MM BIO-6 (Compensation for Special-Status Species Habitat Impacts).

The Victory Pass Project overlaps with 118 acres of the Chuckwalla CHU and the gen-tie ROW would span 27 acres of this CHU. This impact is consistent with the DRECP EIS Section IV.7.3.2.1 (page IV.7-134) which notes that approximately 8,000 acres of impacts to desert tortoise critical habitat could result from development of renewable energy and transmission including in the Chuckwalla CHU. MM BIO-6 would require habitat compensation, also required by the DRECP LUPA, at a 5:1 ratio and/or desert tortoise exclusion fencing to mitigate road-effect zones which would offset the effects of the Project.

Due to potential for incidental take of desert tortoise from activities, including handling a tortoise to remove it from harm's way, the BLM will initiate formal consultation with USFWS under the Endangered Species Act (ESA) Section 7 and specifically the DRECP Biological Opinion and the Applicants will apply to the CDFW for incidental take authorization under CESA Section 2081. The BLM will follow all Reasonable and Prudent Measures and Terms and Conditions that are detailed in the Biological Opinion issued to BLM for the DRECP by the USFWS.

**Protected birds and bats.** The Proposed Action would directly remove foraging and nesting habitat and indirectly impact protected birds and bats due to increased noise, dust, activity, and disturbance during Project construction and operation. Impacts to raptors and golden eagles would include loss of foraging habitat. Collision and electrocution are discussed further below. This is consistent with the DRECP EIS Section IV.7.3.2.1 (page IV.7-127) which notes birds and suitable habitat. Implementation of MM BIO-1 through BIO-6, would minimize and offset adverse impacts to native vegetation minimizing impacts to bird and bat habitat. Wildlife APMs and MM BIO-8 (Wildlife Protection) would minimize impacts to nesting birds through site inspections, prevention of attractants such as trash or water, hazardous material avoidance, and vehicle speed limits.

*Collision.* After construction and throughout the life of the Projects, the solar facilities and other components may present a collision or electrocution risk to birds. Collisions typically occur when the structures are not visible (e.g., bare power lines or guy wires at night), are deceptive (e.g., glazing and reflective glare), or are confusing (e.g., light refraction or reflection from mist). Impacts to collision are consistent with the analysis in the DRECP EIS Section IV.7.3.2.1 (page IV.7-158) which notes that the highest anticipated collision risk was in the Cadiz Valley and Chocolate Mountain area where the Projects are located.

While individual impacts to birds may be expected due to collisions with project facilities and equipment, the risk to avian populations is minimal. A collection of monitoring studies at PV solar facilities in three bird conservation regions in California and Nevada have documented 669 fatalities, with 54.71% being common songbirds. In contrast to new wind turbines, skyscrapers, and other tower-like structures, where hundreds of birds have died shortly after the start of

operations and sometimes within a single day or night, no large mortality events have been documented at PV solar facilities (Appendix N.7, WEST, 2020). The structures that have been empirically demonstrated to result in elevated collision risk at various types of facilities (e.g., tall buildings, communication towers, wind turbines, or concentrating solar thermal towers) are not present at the Project sites.

Post-construction monitoring data was collected from regional Sonoran and Mojave Deserts projects. The Sonoran and Mojave Deserts projects annual fatality rates range from 0.08 to 2.99 birds per MW per year, with a mean of 1.31 birds per MW per year. Based on studies of the gen-ties associated with Blythe, McCoy, and Desert Sunlight Solar projects, it is estimated approximately 60 birds per km per year may collide with the lines (Appendix N.7, WEST, 2020).

Using these average values, approximately 261 bird fatalities are predicted annually in the solar arrays at Arica, and 346 bird fatalities are predicted annually at Victory Pass. An additional 300 bird fatalities (60 x 5 km) are predicted annually along the gen-tie in an average year (Appendix N.7, WEST, 2020).

*Electrocution.* Large birds can be electrocuted by transmission lines if the bird's wings simultaneously contact conductors, or a conductor and a ground. Configurations less than 1 kV or greater than 69 kV, such as the gen-tie line, typically do not present an electrocution potential, based on conductor placement and orientation (APLIC, 2006).

MM BIO-10 requires a Bird and Bat Conservation Strategy (BBCS) that will identify potential hazards to birds and bats during construction and O&M and implement nesting bird surveys and monitoring, avoidance of nesting season, and documentation of bird and bat mortality during O&M. CMA LUPA-BIO-17 also requires a BBCS. MM BIO-11 (Gen-tie Lines) would require design and construction of the gen-tie lines to avoid potential for electrocution and minimize potential for roosting on the structures or colliding with them. These measures would effectively minimize impacts to birds near the proposed gen-tie routes. Monitoring the project for multiple years after construction will confirm whether collisions with solar and electrical infrastructure are consistent with the avian mortality numbers recorded at similar projects.

**Mojave fringe-toed lizard.** Impacts from construction of the solar arrays would directly impact habitat occupied by the MFTL in the northern and eastern portions of the Arica site. By avoiding Harwood's eriastrum (BLM S) per CMA LUPA-BIO-PLANT-2, impacts to the windblown sand habitat that is also occupied by MFTL would be minimized. This is consistent with the DRECP EIS Section IV.7.3.2.1 (page IV.7-114) which notes impacts to desert scrubs and dune habitat and highlights that they provide habitat for MFTL and (page IV.7-127) notes direct impacts to MFTL in the area of the Proposed Action.

To comply with CMA LUPA-BIO-1, dune and dune habitat was studied and surveys were conducted during the NEPA process. To comply with CMAs LUPA-BIO-DUNE-2 through DUNE-4, the Project was designed to follow the sand transport corridor and was pulled back from the active dunes. The only areas with sand dune-like formations on the Arica Project were areas occupied by Harwood's eriastrum, which will be entirely avoided. The remainder of the site would be considered sand fields or sandy creosote scrub areas; see Section 3.9, for a discussion of the sand dune system in this area.

Approximately 794 acres of Mojave fringe-toed lizard modeled habitat would be impacted by construction of the solar fields. This is consistent with the DRECP EIS Table IV.7-20 (page

IV.7-130) which estimated 6,000 acres of impacts to MFTL habitat. The Proposed Action incorporates LUPA-BIO-DUNE-5 which requires clearance surveys in suitable habitat. Sand would continue to move through the developed Project site under the solar arrays, and moisture, required for dune stability, would continue to cross the site as sheet flow. The Mojave fringe-toed lizard could continue to occupy the site in suitable habitat following construction. While suitable habitat for MFTL may be available at the solar arrays after construction, direct impacts to habitat would be compensated for at a ratio of 1:1 as required in MM BIO-6 (Compensation for Special-Status Species Habitat Impacts). MM BIO-6 further requires that compensation lands provide habitat value that is comparable to the habitat impacted.

Injury or mortality that may result from site preparation for construction or vehicle traffic during O&M would be minimized through MM BIO-8 (Wildlife Protection), which identifies requirements including, but not limited to, traffic speed limits; use of night lighting; securing water sources, trash, and construction materials; training workers; and monitoring for wildlife entrapment.

**Other Special-status Wildlife.** Other special-status wildlife are identified in Section 3.12.1 and the BRTR and include BLM Sensitive and State protected species including western burrowing owl (SSC, BLMS), burro deer (CPGS), and desert kit fox (CPF). Suitable burrows for American badger were identified, but no badgers were observed (SSC).

Burrowing owls, desert kit fox, and American badger would be directly and indirectly impacted by mechanical crushing of individuals or burrows by vehicles and construction equipment, habitat loss, and noise and disturbance to surrounding habitat. Impacts to burro deer would include loss of seasonal foraging or cover habitat. This is consistent with the DRECP EIS Section IV.7.3.2.1 (page IV.7-114 and -127) which notes impacts to desert scrubs and dune habitat and highlights that they provide habitat for burrowing owl, desert kit fox and burro deer.

Direct and indirect impacts to wildlife habitat would be minimized and compensated for through implementation of MM BIO-1 to BIO-6. Impacts to wildlife would be minimized through implementation of MM BIO-8, which requires site inspections, prevention of attractants such as trash or water, hazardous material avoidance, and vehicle speed limits, and MM BIO-12 (Burrowing Owl Avoidance and Relocation) and BIO-13 (Desert Kit Fox and American Badger Relocation), which require a relocation plan for these species.

**Wildlife Movement.** Construction activities could temporarily dissuade wildlife from approaching the area due to noise and disturbance. After construction, the Proposed Action would interrupt potential wildlife movement routes through the area. CMA LUPA-BIO-13 notes that projects along the edges of the biological linkages must maximize the retention of microphyll woodlands in order to maintain the function of the connectivity area. To meet this CMA, the Proposed Action eliminated use of approximately 450 acres of desert dry wash woodland that fell within the biological linkage. Development within the linkage area would reduce the movement habitat for many species, including desert tortoise and burro deer. The Project maximizes retention of microphyll woodlands by avoiding desert dry wash woodland vegetation that leads to the freeway underpasses.

However, the Victory Pass project would permanently impact 59 acres of the easternmost edge of the 3,480 acre multiple-species linkage. This is consistent with the DRECP EIS Section IV.7.3.2.1 (page IV.7-150) which notes that up to 6,000 acres of desert linkage network could be impacted by solar development in the Cadiz Valley and Chocolate Mountains area. MM BIO-6 would require acquisition and management of off-site vegetation and habitat in perpetuity to offset the permanent loss of natural vegetation and habitat on the Projects' site. Once completed, the gen-tie lines would



have minimal effects on terrestrial wildlife movement. However, the gen-tie towers and conductors would present a collision hazard for birds, including special-status species. MM BIO-10 and MM BIO-11, previously discussed, would minimize impacts to wildlife movement across the proposed gen-tie routes.

**Herbicides.** Herbicides pose risks to terrestrial and aquatic vegetation. Most aquatic herbicides, and several terrestrial herbicides, are non-selective and could adversely impact non-target vegetation. Accidental spills and herbicide drift from treatment areas could be particularly damaging to non-target vegetation on BLM land, and crop plants or other vegetation found on privately-owned lands near treatment areas. Herbicides may also pose risks to terrestrial or aquatic animal species. Herbicides that persist on site could adversely affect animals that feed on target plants or are exposed to the herbicides (e.g., by digging or rolling in treated soil). Accidental spills and herbicide drift from treatment areas could reach non-target vegetation or habitat on public or private lands near treatment areas. Herbicides will not be utilized within or adjacent to any undisturbed native vegetation, e.g., buffer areas beyond the perimeter of the Project sites or disturbed work areas, or margins of work sites on the gen-tie line. Herbicide treatments conducted at any other location outside the Project's desert tortoise exclusion fence would use only the herbicide Glyphosate, which has been shown to have low toxicity to test animals. Herbicide application would comply with EPA regulations and instructions and measures identified in BLM's 2007 Vegetation Treatments Using Herbicides on Bureau of Land Management Lands in 17 Western PEIS and 2016 Final Vegetation Treatments Using Aminopyralid, Fluroxypyr, and Rimsulfuron on Bureau of Land Management Lands in 17 Western States PEIS. Ground applications of herbicides approved for use in California such as Glyphosate-, Imazapyr- or Clopyralid-based herbicides would be used at application rates consistent with the label and the 2007 PEIS.

### *Cumulative Impacts*

The geographic extent for this cumulative analysis includes the desert portion of Riverside County because it consists of similar habitat over large areas and encompasses regional populations of species that could be directly or indirectly affected by the Proposed Action.

As the number of solar projects and other developments increase in the region, the cumulative effects to wildlife and vegetation resources increase. This analysis considers the current and foreseeable future projects identified in Tables 3.1-1 and 3.1-2. Individually, these projects would contribute to reduced habitat availability and result in increased habitat fragmentation for both wide-ranging (e.g., desert tortoise) and localized habitat niche special-status species (i.e., Mojave fringe-toed lizards, Harwood's eriastrum).

Cumulatively, these projects would total more than 30,000 acres of development if constructed and include many miles of transmission lines. Additionally, both the Victory Pass and Oberon Projects would be sited in the multi-species linkage area. They would both avoid the microphyll woodlands and avoid the underpasses, allowing the function of the connectivity area to continue.

The DRECP is a regional planning effort that includes conservation within proposed BLM land designations as well as implementation of biological resource CMAs to reduce potential cumulative effects to natural communities. Cumulative impacts to biological resources from projects in the DRECP Plan area are analyzed in the DRECP Section IV.25.3.7 (page IV.25-53) and includes impacts to native vegetation, sensitive wildlife and their habitat. Table IV.25-5 identifies cumulative impacts to desert tortoise (less than 1 percent of habitat in DFAs and 88 percent in conservation) and MFTL (less than 1 percent of habitat in DFAs and 83 percent in conservation).

Implementation of the CMAs as part of the overall conservation strategy would reduce the adverse effects from the loss of native vegetation and impacts to sensitive plants and wildlife resulting from renewable energy development activities within DFAs.

For the Proposed Action, this analysis presumes that meeting the applicable CMAs and MMs BIO-1 through BIO-14 identified in the sections above would be implemented to minimize and compensate for its project-specific impacts as well as its contribution to regional cumulative effects to vegetation and wildlife resources. These measures, along with conservation within proposed BLM land designations and biological resource CMAs per the DRECP LUPA and FEIS, would reduce the cumulative effect to biological resources.

### **Alternative C (Gen-tie Alignment 1)**

#### ***Direct, Indirect, and Cumulative Impacts***

Because the Gen-tie Alignment 1 remains in proximity to and would use the same construction techniques as the proposed alignment, the impacts to biological resources would be qualitatively similar. Gen-tie Alignment 1 ROW would cross 15.8 acres of desert tortoise critical habitat (compared with 26.7 from the proposed gen-tie ROW) and 5.12 acres of desert dry wash woodland roads after exiting the Victory Pass ROW which would increase the ground disturbance to desert dry wash woodland along this portion of the route as they could not be spanned. The proposed gen-tie route would not require new access roads, and the bulk of the desert dry wash woodland would be spanned with direct loss only at the spur roads and tower poles. Preliminary engineering for the proposed gen-tie indicates less than 5 acres of disturbance to desert dry wash woodland would occur.

Gen-tie Alignment 1 would not be co-located with existing transmission lines, in the same way as the proposed alignment. Clustering or co-locating linear obstacles can reduce collision risk due to the increased visibility and that the birds need to complete only one ascent and descent flight to cross the co-located obstacles (WEST, 2020). Overall, the impacts to biological resources of the Gen-tie Alignment 1 would be slightly greater than the proposed alignment.

### **Alternative D (Gen-tie Alignment 2)**

#### ***Direct, Indirect, and Cumulative Impacts***

Gen-tie Alignment 2 would require additional access roads compared with the proposed alignment and would not be collocated with existing gen-tie lines. The ROW would cross 16.7 acres of desert tortoise critical habitat (compared with 26.7 from the proposed gen-tie ROW) and 12.05 of desert dry wash woodland (compared with 29 acres from the proposed gen-tie ROW). The effects of Alternative D would be qualitatively similar to those for Alternative C, and overall, the impacts to biological resources of the Gen-tie Alignment 2 would be slightly greater than the proposed alignment.

### **Alternative E (Access Road Option 1)**

#### ***Direct, Indirect, and Cumulative Impacts***

Under Alternative E, the access road would encompass existing BLM roadways to the east of the Victory Pass site and would be shorter than the proposed road. Impacts to special-status species habitat would be qualitatively similar to those under the Proposed Action. Quantitatively, impacts to habitat would be somewhat less due to the shorter access road. Other potential direct and indirect

impacts to special-status species, including construction and O&M impacts, would be the same as described above for the Proposed Action. Mitigation Measures BIO-1 through BIO-14 identified for the Proposed Action would also apply under Alternative E.

### **Alternative F (Access Road Option 2)**

#### ***Direct, Indirect, and Cumulative Impacts***

Under Alternative F, the access road would be of similar length to the proposed road and would use existing roadways through agricultural areas and other adjacent solar projects. Impacts to special-status species habitat would be qualitatively similar to those under the Proposed Action. Other potential direct and indirect impacts to special-status species, including construction and O&M impacts, would be the same as described above for the Proposed Action. MM BIO-1 through BIO-14 identified for the proposed Project would also apply under Alternative F.

## **3.13 Issue 12: Water Resources**

### **3.13.1 Affected Environment**

The Proposed Action is in the Chuckwalla Valley which is characterized by high aridity, low precipitation, hot summers, and cool winters. It is an interior enclosed drainage system, meaning there is no outlet to the ocean. In the Chuckwalla Valley all the surface drainage flows to the Palen and Ford dry lakes. There are no perennial streams in the Chuckwalla Valley. There are several springs in the surrounding mountains outside the Chuckwalla Valley Groundwater Basin (CVGB). Groundwater accounts for approximately 100 percent of the basin's water supply. The Chuckwalla Basin has a very low priority under the California Sustainable Groundwater Management Act.

The Proposed Action overlies the CVGB which covers an area of 940 square miles. Total groundwater storage in the CVGB estimated by the California Department of Water Resources is 15,000,000 acre-feet (af) (Aspen, 2020). The Water Supply Assessment (WSA) prepared by Aspen (2020) (see Appendix O.1) estimated a CVGB surplus of 2,390 acre-feet per year (afy) for a normal (average) year using moderate estimates of precipitation and inflow recharge and concluded that the basin would have an overall additive surplus of 76,480 af over a 32-year period (see Appendix O.1). The WSA concluded that in normal year conditions the Proposed Action water use would reduce the 32-year additive surplus by approximately 3 percent. The WSA also analyzed single dry year and multiple dry year scenarios for the Proposed Action and concluded that a worst case single dry year scenario would result in a deficit, however when normal rainfall resumes this deficit would be recovered within 2 to 3 years and under the multiple dry year scenario a deficit would occur over the life of the Projects and could represent approximately 0.2 to 0.6 percent of the total groundwater within the basin. Calculations in the WSA based on conservative NPS estimates of inflow recharge and reduced precipitation recharge indicate that in this scenario there would be a deficit at the end of the Projects' life representing approximately 1.4 percent of the total groundwater within the basin (see Appendix O.1).

Stormwater flows in the Projects' area are from a series of desert washes originating from the nearby mountains. All the unnamed ephemeral watercourses crossing the site exhibit characteristics of alluvial fans on which unconsolidated flow can inundate wide areas. Flood depths are generally (though not always) shallow resulting from the inability of the small, braided drainage channels to contain large flows. A preliminary hydrology study has been performed for the Projects (Appendix O.2 and O.3, Westwood, 2021a and 2021b) and indicated that both sites would be subject

to 100-year flooding of up to 1 foot in some areas near the avoided desert washes but most of the Projects' sites would be subject to less than 0.5 feet of flow (Westwood, 2021a and 2021b).

### 3.13.2 Environmental Effects

#### **Alternative A (No Action):**

##### ***Direct, Indirect, and Cumulative Impacts***

There would be no construction under the No Action Alternative. Therefore, there would be no impacts to water resources.

#### **Alternative B (Proposed Action):**

##### ***Direct and Indirect Impacts***

**Surface Water and Water Quality.** Construction of the Proposed Action would require excavation and grading for the solar panels and other features. Grading will be limited given the flat topography of the area and the proposed grading plan, which will minimize the required volume of earth movement. Access roads would be grubbed, graded, and compacted along sections not already improved, resulting in minimal disturbance to topography. Existing drainage patterns will not be substantially altered. Compliance with DRECP objectives for surface water resources requires maintenance of dry wash morphology and function.

Disturbance of soil during construction could result in soil erosion and lowered water quality through increased turbidity and sediment deposition into local streams. Accidental spills or disposal of harmful materials used during construction could wash into and pollute surface waters or groundwater. The dry nature of the surface streams is such that should spills occur during construction, they could easily be cleaned up prior to water being contaminated. Groundwater is well below the maximum depth of excavation, resulting in little likelihood that groundwater could be affected from spills onto the surface during construction. Fuel and greases for construction equipment would be stored in a locked container within a fenced and secure temporary staging area. Hazardous materials will be stored in segregated storage with secondary containment. In addition, spill kits will be maintained on site to ensure that waters of the state are not polluted by accidental spills in washes.

Potential threats to surface water quality during operation and maintenance include potential increases in erosion and associated sediment loads to adjacent washes, and accidental spills of hazardous materials associated with operation of equipment on site. Spills of hazardous materials onsite could have the potential to contaminate surface or ground water. Compliance with regulatory requirements during project construction and operation (see Appendix H Regulatory Framework) and implementation of Mitigation Measure HWQ-1 (Drainage Erosion and Sedimentation Control Plan) would minimize these impacts.

Development and adherence to SWPPPs will require BMPs to prevent and control erosion and siltation, prevent, contain and mitigate accidental spills, and prevent violation of water quality objectives or damaging beneficial uses during construction and operation. Mitigation Measure HWQ-1 requires the development of a DESC that would address and minimize erosion impacts during construction and operation. Spill kits on site and other means to mop up spills will ensure that the washes will not retain fuels or chemicals that can pollute water.

Decommissioning of the Projects is expected to result in adverse impacts to water resources similar to construction impacts. A Closure, Decommissioning, and Reclamation Plan is proposed to ensure public health and safety, environmental protection and compliance with all applicable laws, ordinances, regulations, and standards, including those related to water quality.

**Flooding.** The Projects will be subject to minor 100-year flooding with depth estimated at up to 1 foot across the sites. Perimeter fencing for the Proposed Action could divert flood flows and increase the flood potential on other property if clogged with debris normally carried by natural flood flows in the desert. Mitigation Measure HWQ-3 (Project Drainage Plan) would minimize fence-related diversions of flow by creating fence openings sufficient to allow pass-through flow in places where there are no demonstrable existing flood diversions.

Any structures placed in areas of potential 100-year flooding with depths estimated at up to 1 foot would be subject to flood damage. The solar panels will be on posts at least 4 feet above the ground. If the internal power lines are installed on poles, they could be subject to flood-related scour. The access roads, being at-grade, would require maintenance after a flood event. Mitigation Measures HWQ-1 (DESCP) and HWQ-3 (Project Drainage Plan) would ensure that the site designs include consideration of flood flows. Mitigation Measure HWQ-4 (Flood Protection) would ensure that all structures be protected from flooding and flood-related scour.

**Groundwater Supply and Quality.** The Proposed Action could use water from onsite wells, truck water from nearby sources, or a combination of both. Regardless of the water supply, water would come from the CVGB because the nearby water sources all use groundwater. Based on the WSA, use of water from the CVGB for the Proposed Action would be well below the estimated CVGB annual calculated surplus of 2,390 af and the additive 32-year surplus for the life of the project of using the California Department of Water Resources groundwater storage estimates. Dry year scenarios for the Proposed Action water use indicate a short-term recoverable deficit for a worst case single dry year and a minimal deficit of 0.2 to 0.6 percent of the basin storage over the life of the Proposed Action for a worst case multiple dry year scenario. However, based on the lower National Park Service estimates of baseline recharge, the CVGB is already in overdraft and the Proposed Action would contribute about 1 percent to the groundwater overdraft after the 30-year life. Although the Proposed Action may result in a deficit in the CVGB, the projected worst-case scenario would not be a substantial increase to a deficit in the basing and would not be a substantial increase in groundwater use. This is consistent with the DRECP EIS Section IV.6.3.2 (page IV.6-20) basins in the Proposed Action area can be characterized as stressed and groundwater use for proposed renewable energy projects would likely exacerbate depletion of water supply. A detailed discussion of the CVGB groundwater budget and groundwater use by the Projects is presented in the WSA (Appendix O.1).

Given the distance of the Projects from the Colorado River, and the pumping elevation, it is unlikely that Project-related groundwater extraction could affect the adjacent Palo Verde Mesa Groundwater Basin and cause withdrawal of groundwater from below the Colorado River Accounting Surface. Nonetheless, because there is uncertainty regarding an induced flow from the Colorado River, Mitigation Measure HWQ-2a (Mitigation of Impacts to the Palo Verde Mesa Groundwater Basin) would reduce the possibility of impacts to Colorado River water by developing a plan to monitor groundwater extractions and prevent, replace, or mitigate any Project-related groundwater extraction impacts to the Palo Verde Mesa Groundwater Basin. Groundwater use during the Projects' construction, operation, and decommissioning would cause drawdown in the



immediate vicinity of the Projects' supply well(s) and may adversely affect operation of nearby wells. Implementation of Mitigation Measure HWQ-2b (Groundwater Monitoring, Reporting, and Mitigation Plan) would provide requirements for monitoring groundwater levels and quality and measures to mitigate adverse effects of the groundwater pumping which could include stopping water pumping until levels regulate or compensating nearby well owners if damaged or inoperable. Water monitoring reports from nearby solar projects (Desert Sunlight, Desert Harvest, and Palen) were reviewed and the monitoring reports did not find declines in groundwater levels such that additional measures were required. Impacts to nearby riparian communities (desert dry wash woodland) are not anticipated because the nearby wetlands are found primarily along the areas where water is fed by the existing I-10 berms and drainages. These areas are avoided by the construction of the Proposed Action.

Groundwater quality impacts could occur during construction or operation if contaminated or hazardous materials were accidentally released and allowed to migrate to the groundwater table. With adherence to the Hazardous Materials Business Plan and a SWPPP, the potential for such impacts to groundwater quality are low. Groundwater quality could be affected by sanitary wastewater from the O&M buildings, treated and disposed at the sites using a proposed septic system and leach field. Construction and design of the Projects' septic systems per Riverside County Department of Environmental Health permit and design requirements for wastewater treatment systems would minimize any potential impact to groundwater quality.

### ***Cumulative Impacts***

The Chuckwalla Hydrologic Unit, being a self-contained drainage area, comprises the geographic scope for the water resources cumulative analysis. The majority (81 percent) of the groundwater basin is BLM administered land, with an additional 7 percent in NPS and State land. Twelve percent of the groundwater basin overlays undefined/private land of which a portion is the Athos solar project which would also use groundwater during construction. The private land in and around Desert Center and the associated water use is primarily for private use or some small amounts of agriculture. This amount of private water use was assumed in the WSA. The cumulative projects within the Chuckwalla Hydrologic Unit are mainly solar energy projects in Desert Center and their associated transmission lines with impacts similar to those described for the Proposed Action. The exception is the Eagle Crest Pumped Storage Project that would use substantially more water than the remaining projects combined over its lifetime. There is no foreseeable residential, recreational, or industrial development that would increase the groundwater use. These cumulative projects have the potential to contribute to cumulative water resource impacts in the Chuckwalla Valley Hydrologic Unit. These impacts include potential flood diversions and damage, contamination of surface waters from construction over a far greater area, contamination of surface waters through operation of power-generating facilities, and higher groundwater use. The Proposed Action's contribution to the cumulative impact would be minor. The cumulative groundwater use is described in the WSA (Appendix O.1). This is consistent with DRECP EIS Section IV.25.3.6 (page IV.25-44) which notes that use of groundwater for the renewable energy facilities permitted under the DRECP would combine with the use of groundwater for the cumulative projects to result in a cumulative lowering of groundwater levels affecting basin water supplies and groundwater discharge. This section specifically calls out the potential for cumulative impacts due to the Eagle Crest Pumped Storage Project but notes that because the groundwater basin is potentially in overdraft, and the large use of water by this project, the impacts would remain cumulatively adverse. Further, each of the cumulative projects would be subject to DRECP CMAs (for projects on BLM

land) and/or mitigation measures as part of their environmental reviews, and all would be subject to the regulations described in the regulatory framework (Appendix H). All would be required to demonstrate a sustainable water supply and to implement BMPs to reduce impacts to water quality.

### **Alternative C (Gen-tie Alignment 1)**

#### ***Direct, Indirect, and Cumulative Impacts***

Because the Alternative C gen-tie is in the same general vicinity as the proposed gen-tie line and would require the same construction and operation activities, the water resources impacts would be similar to the Proposed Action.

### **Alternative D (Gen-tie Alignment 2)**

#### ***Direct, Indirect, and Cumulative Impacts***

Because the Alternative D gen-tie is in the same general vicinity as the proposed gen-tie line and would require the same construction and operation activities, the water resources impacts would be similar to the Proposed Action.

### **Alternative E (Access Road Option 1)**

#### ***Direct, Indirect, and Cumulative Impacts***

Because there would be no change to the amount of solar infrastructure constructed and operated compared to the Proposed Action and both the proposed access road and Alternative E access road would require some improvements, the water resources impact from Alternative E would be the same as for the Proposed Action.

### **Alternative F (Access Road Option 2)**

#### ***Direct, Indirect, and Cumulative Impacts***

Because there would be no change to the amount of solar infrastructure constructed and operated compared to the Proposed Action and both the proposed access road and Alternative F access road would be on existing BLM roads that would require some improvements, the hydrology and water quality impacts would be the same.

## **3.14 Issue 13: Wilderness**

### **3.14.1 Affected Environment**

The nearest wilderness areas are the BLM Chuckwalla Mountains Wilderness (1.1 mile south), BLM Palen-McCoy Wilderness (4.5 miles east), and the NPS Joshua Tree Wilderness (4.4 miles north). All other wilderness areas are over 15 miles away. These areas have no developed trails, parking, or trailheads, and are generally steep, rugged mountains, with no permanent natural water sources, thus limiting extensive hiking or backpacking opportunities. BLM has no visitor counts for these areas. There are five nearby mountain peaks within wilderness which are occasionally used by the Desert Peaks Section of the Sierra Club's Angeles Chapter (BLM, 2018). Views of the Proposed Action from these peaks would be limited (see Figure 1A in Appendix M) and would be viewed in the context of existing renewable development.

Staff and Law Enforcement Rangers estimate about 100 to 200 hikers per year within all the wilderness areas near the Proposed Action. Vehicle camping along roads that are adjacent to the

wilderness areas is more popular than hiking. BLM states that up to 2,000 visitors per year use the area to RV, car, and tent camp near wilderness areas, with associated hiking, OHV use, photography, sightseeing, and other activities (BLM, 2018).

Recreation on wilderness lands is limited by the Wilderness Act to activities that are primitive and unconfined, depend on a wilderness setting, and do not degrade the wilderness character of the area. Mechanized or motorized vehicles are not permitted in wilderness (16 USC 1133(c)). The BLM regulates recreation on lands within its jurisdiction in accordance with the policies, procedures and technologies set forth in the Code of Federal Regulations (43 CFR 6300), BLM Manual 6340 (Management of Designated Wilderness Areas), and BLM's Principles for Wilderness Management in the California Desert.

### 3.14.2 Environmental Effects

#### Alternative A (No Action):

##### *Direct, Indirect, and Cumulative Impacts*

The No Project Alternative would not develop the solar facilities and gen-tie line. It would not result in any direct, indirect, or cumulative impacts to wilderness areas.

#### Alternative B (Proposed Action):

##### *Direct and Indirect Impacts*

**Disturbance of Recreation Users.** Recreational users of wilderness areas could be disturbed by noise, dust, or traffic associated with construction activities during initial construction and eventual decommissioning. These effects may be experienced in the wilderness areas but at a distance. The Wilderness Area in the JTNP has much lower visitation than other more accessible parts of the JTNP that contain visitor-serving facilities. Visitor use within the wilderness areas around the Projects is very light, though BLM has no visitor use counts (BLM, 2018). The construction effects would be reduced by mitigation measures pertaining to dust, MM-AQ-1.

**Change in the Character of Wilderness Areas.** The Proposed Action is located entirely on BLM-administered land, designated as a DFA. There would be no direct loss of wilderness areas. During operation, the presence of the Projects would present a visual change that could affect visitors of the wilderness areas by changing the natural landscape. The BLM measures the attributes of wilderness character and tracks the changes to that character from development near wilderness.<sup>10</sup> Since 2010, the Desert Center area has been transformed by the development of utility-scale solar projects such as Desert Sunlight, Palen, and Desert Harvest, and increased transmission infrastructure. The Proposed Action would continue this trend by increasing development by over 2,750 acres. This would be consistent with the BLM management plan for this area and consistent with the analysis in the DRECP EIS Section IV.14.3.2.1 regarding wilderness which identified 320,000 acres of wilderness within 5 miles of DFAs and noted that development in the DFAs may result in an indirect adverse effect on the viewshed, air quality, values of solitude, or other features of scenic value in wilderness areas. The DRECP EIS noted that such impacts would reduce the quality of the lands with special designation and change the nature of the location. The EIS also notes that the impacts would be minor to moderate, depending on the distance from the DFA, but that CMAs

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<sup>10</sup> Measuring Attributes of Wilderness Character: BLM Implementation Guide, Version 1.3 ([https://www.blm.gov/sites/blm.gov/files/uploads/IM2010-190\\_att2.pdf](https://www.blm.gov/sites/blm.gov/files/uploads/IM2010-190_att2.pdf)) page 30.

for BLM land designations would reduce impacts. The Proposed Action would use controlled night lighting to reduce the effect of the Project on the dark sky and star gazing, both of which are important factors in a wilderness area.

### ***Cumulative Impacts***

As discussed above, there are multiple existing, proposed, or under-construction solar projects in the area, the bulk of which are in the DFA. Each of these projects would result in similar impacts to wilderness areas as those described for the Proposed Action, indirect adverse effect on the viewshed, air quality, values of solitude, or other features of scenic value in wilderness areas. The cumulative amount of development in the Desert Center area would substantially change the character of the DFA by changing the landscape from natural to industrial. Wilderness areas are valued for their solitude and isolation, and the change in viewshed may cause a reduction in visitation to some portions of wilderness areas, but as shown on Figure 1A of Appendix M, the bulk of the wilderness areas surrounding the Projects. DRECP EIS Section IV.25.3.14 (page IV.25-92) discusses the development on DFA lands adjacent to or near designated conservation areas, such as wilderness. The DRECP EIS states that the development would indirectly affect the existing management goals and objectives, particularly scenic resources. Direct impacts would be minimal because the BLM works closely with developers to identify the most appropriate location of renewable energy. Since there is a large amount of wilderness and otherwise solitary recreational resources in Eastern Riverside County and the California Desert, it is unlikely that increased recreational use at another wilderness area or solitary area would change that area's character.

### **Alternative C (Gen-tie Alignment 1)**

#### ***Direct, Indirect, and Cumulative Impacts***

Alternative C would take a route that stays within the Projects' boundary for a greater length than the proposed alternative route. The impacts to wilderness would be the same as those of the Proposed Action.

### **Alternative D (Gen-tie Alignment 2)**

#### ***Direct, Indirect, and Cumulative Impacts***

Alternative D would take a route that stays within the Projects' boundary for a greater length than the proposed alternative route. The impacts to wilderness would be the same as those of the Proposed Action.

### **Alternative E (Access Road Option 1)**

#### ***Direct and Indirect Impacts***

Alternative E would use Corn Springs Road and BLM routes DC 950 and DC 511 to access the Projects instead of the Desert Center exit. The impacts to wilderness would be similar to the Proposed Action.

### **Alternative F (Access Road Option 2)**

#### ***Direct and Indirect Impacts***

Alternative F would share the proposed Athos access road off the Desert Center exit off SR 177, then use existing agriculture roads to connect to the Projects. The impacts to wilderness would be similar to the Proposed Action.

### 3.15 Issue 13: Noise

#### 3.15.1 Affected Environment

**Existing Noise Environment.** Historically, noise surveys conducted for the Riverside County General Plan found locations along I-10 to be exposed to noise over 60 decibels A (dBA) day-night average sound level (Ldn), for any location within approximately 750 feet of the I-10 centerline, and over 65 dBA Ldn, for locations within approximately 350 feet of the I-10 centerline. For other major highways, the 60 dBA traffic noise contour was projected to be approximately 410 feet from the centerline (Riverside County, 2008). Locations along SR 177 are exposed to lower noise levels. Data collected for SR 177 in the Desert Center area shows roughly 2,800 vehicles daily and 7.5 percent of the baseline traffic as trucks (Caltrans, 2016); with this mix of baseline traffic the existing 60 dBA Ldn contour is approximately 230 feet from the centerline of SR 177 (Riverside County, 2019).

The setting for noise also includes the private Desert Center Airport and Chuckwalla Raceway, which offers use of the track for a fee and hosts motor sports events primarily on weekends. The raceway is located with the Desert Center Airport, which is infrequently used. The Riverside County Airport Land Use Compatibility Plan Policy Document (2004) showed an average of fewer than one aircraft operation per day at the Desert Center Airport, and the 55 dBA CNEL noise contour is limited to the immediate vicinity of the runway (Riverside County, 2004).

Because few human-induced sources of noise occur around the project aside from those noted above, the noise environment is generally serene and quiet. In 2009, ambient noise levels were measured at two isolated locations east of the proposed project. For these residences more than 1.5 miles from I-10, the daytime average noise levels were found to be 43 dBA Leq, and nighttime average noise levels were 34 dBA Leq (CEC, 2010).

**Noise Sensitive Receptors.** In the Riverside County Noise Ordinance and Noise Element, “noise-sensitive” land uses include but are not limited to residences, passive recreation areas, schools, hospitals, rest homes, places of worship and cemeteries (Riverside County, 2015). In addition, wildlife management areas where breeding could be disturbed are considered sensitive receptors to noise.

There are no noise sensitive land uses or inhabited dwellings within a quarter mile of the Arica and Victory Pass Project sites and gen-tie line, and therefore the noise from construction of the Projects would be exempt from Riverside County noise standards (per Section 2 of Ordinance No. 847 described in Appendix D). The sites are surrounded by uninhabited open space and agriculture.

The BLM administers a range of recreational resources near the Projects, and the nearest recreation allocations are the Chuckwalla SRMA and Chuckwalla Desert Wildlife Management Area ACEC, whose boundaries are approximately 500 feet south of the nearest Victory Pass boundary, on the opposite side of the I-10 corridor. Prior to the 2019 Riverside County approval of the nearby Athos Solar Project, the nearest residence was located 0.75 miles (3,880 feet) east of Arica, but this residence is now part of the Athos Solar Project that is approved for construction and operation. There are no other residences within a mile of either the Arica or the Victory Pass Projects and the nearest communities (Lake Tamarisk and Desert Center) are about 5.5 miles and 4.75 miles west of the site, respectively. The nearest school is the Eagle Mountain School, over 12 miles northwest of the sites. Project-related traffic would travel along Ragsdale Road, where a mobile home park is located at 43551 Ragsdale Road, in Desert Center. These residences would be within 500 feet (150 meters) of vehicle access to the sites.



### 3.15.2 Environmental Effects

#### Alternative A (No Action):

##### *Direct, Indirect, and Cumulative Impacts*

The No Action Alternative would not develop the solar facility and gen-tie line, and it would avoid all new construction and/or operational activities. It would not result in any change in ambient noise levels or generate noise from any new sources. Therefore, the No Action Alternative would have no noise impacts.

#### Alternative B (Proposed Action):

##### *Direct and Indirect Impacts*

**During Construction.** Construction of the Proposed Action would use equipment such as trucks, small pile drivers, scrapers, dozers, graders, forklifts, cranes, loaders, and compactors. The source of highest noise levels at the site would be the impact pile driver if necessary to install steel piles for PV panel structural supports. The maximum intermittent noise levels at the site would be up to 94 dBA Leq at 50 feet from work areas where impact pile driving occurs. Use of a small, light-duty mounted impact hammer, where geotechnical conditions allow, would reduce these highest noise levels to 84 dBA Leq at 50 feet. Similarly, work activities without a pile driver would typically cause up to 84 dBA Leq at 50 feet.

The noise levels caused by typical work activities within the site would be substantially lower when experienced at locations distant from the site boundaries. Because sound fades over distance, onsite noise would diminish over the additional distances separating noise sensitive receptors from the sites. Assuming the standard spherical spreading loss (–6 dB per doubling of distance) and the highest unmitigated construction noise level of 94 dBA Leq at 50 feet, construction noise levels would be no more than 62 dBA Leq at a distance of 2,000 feet.

Construction noise would result in a perceptible, but temporary, increase in daytime environmental noise, especially along the traffic route. This is consistent with DRECP EIS Section IV.21.3.2 (page IV.21-21) which notes that construction renewable energy technologies and transmission would result in increases in short-term noise levels in the vicinity of the developments and that receptors around these lands would be exposed to short-term noise impacts from construction activities. Mitigation Measures (MM) N-1 (Construction Restrictions) is required to ensure that any construction activities within 0.25 miles of a sensitive receptor outside of the schedule of the Noise Ordinance would be limited to light-duty equipment and vehicles. Mitigation Measures N-2 (Public Notification Process) and N-3 (Noise Complaint Process) are also required to ensure that residents near Ragsdale Road and the access driveway are provided advance notification of potentially adverse noise conditions and to ensure that complaints are resolved. With the required mitigation measures, construction would not result in a substantial increase in noise levels in excess of standards established in the local general plan or noise ordinance or applicable standards of other agencies. With mitigation, the impact of construction noise relative to applicable community noise standards would be negligible.

**During Operation.** The Proposed Action would require operations-related activities that could cause minor levels of noise in the areas of the Projects. The Proposed Action would also include stationary sources of noise in the form of PV panel tracking system motors, inverters and transformers that operate during the daytime when energy is produced, and the battery storage

component. The solar generating facilities would be primarily active and operational during daytime hours. However, the pad-mounted inverters and transformers, and the battery storage equipment could operate outside of daylight hours. The dominant stationary source of noise could be air conditioning units if necessary for the battery storage component. The overall noise levels caused by these units would be subject to the 45 dBA-Lmax standard of the Noise Ordinance that applies at the boundary of any nearby occupied property.

No occupied properties or residences are within a mile of either the Arica or the Victory Pass Projects. At the location of the nearest communities, at least 4.75 miles from the boundaries of the solar fields, the overall noise levels caused by all stationary sources on the Projects would not be discernable in the background conditions. The proposed Projects would comply with that target the Noise Ordinance because no residential receiving land use would be near any of the proposed noise sources. No mitigation would be required for noise associated with operation of the proposed Projects.

### ***Cumulative Impacts***

Noise sources attributable to cumulative projects may cause adverse effects within approximately one mile of a construction site including truck routes, but the region of greatest influence is typically within 0.5 miles. The Proposed Action would be built near cumulative projects that occur in the geographic scope for noise and vibration. The noise and vibration effects of the equipment used for construction of the proposed solar facility, gen-tie line and the cumulative projects may overlap spatially and temporally, most likely with the Oberon Project which, if approved, would likely have an overlapping construction schedule. This is consistent with the analysis in DRECP EIS Section IV.25.3.21 (page IV.25-103) which notes that cumulative projects, in particular in the Desert Center region, could result in cumulative noise during construction. Cumulative noise impacts would be reduced due to other projects in the area complying with local laws and regulations to protect sensitive receptors from noise and implement feasible noise controls.

### **Alternative C (Gen-tie Alignment 1)**

#### ***Direct, Indirect, and Cumulative Impacts***

Alternative C would take a route that stays within the Projects' boundary for a greater length than the proposed alternative route. The gen-tie line doesn't create noise or vibration during operation, and construction impacts would be similar, therefore, the impacts to noise would be similar to the Proposed Action.

### **Alternative D (Gen-tie Alignment 2)**

#### ***Direct, Indirect, and Cumulative Impacts***

Alternative D would take a route that stays within the Projects' boundary for a greater length than the proposed alternative route. The gen-tie line doesn't create noise or vibration during operation, and construction impacts would be similar, therefore, the impacts to noise would be similar to the Proposed Action.

### **Alternative E (Access Road Option 1)**

#### ***Direct and Indirect Impacts***

Alternative E would use Corn Springs Road and BLM routes DC 950 and DC 511 to access the Projects on the east side instead of the Desert Center exit. Compared to the Proposed Action, the

route of the gen-tie line would reduce effects of noise to sensitive receptors because there are no residences along the Corn Springs Road exit, whereas there are residences along Ragsdale Road. Because there are no noise sensitive receptors along this route, there would be no noise effects.

### **Alternative F (Access Road Option 2)**

#### ***Direct and Indirect Impacts***

Alternative F would share the proposed Athos access road off the Desert Center exit off SR 177 and Comanche Trail Road, then use existing agriculture roads to connect to the Projects. Compared to the Proposed Action, the route would bring construction noise closer to residences near Comanche Trail Road. Overall noise impacts from this alternative would be similar to those of the Proposed Action, and mitigation identified for the Proposed Action would be applicable to this alternative.

## **4.0 CONSULTATION AND COORDINATION**

### **4.1 Public**

To comply with NEPA (40 CFR 1501.7), the BLM published a press released on October 2, 2020, that provided notice of the BLM's initiation of the environmental review for the Proposed Action (see Scoping Report for full details). The press release served as the official legal notice that a federal agency was commencing preparation of an EA. See Section 1.4 for more details regarding the scoping process.

This EA will be posted on the BLM's ePlanning website for a 30-day public review period. The BLM will issue a press release and send notifications of the availability of this EA and its review period to local governments, individuals, non-governmental organizations, ROW holders, and other stakeholders on the Project mailing list.

### **4.2 U.S. Fish and Wildlife Service Consultation/Endangered Species Act (ESA) Section 7 Consultation**

The ESA protects threatened and endangered species by prohibiting federal actions that would jeopardize the continued existence of such species or result in destruction or adverse modification of their critical habitat. If adverse impacts to listed species are anticipated, Section 7 of the Act requires consultation regarding protection of such species be conducted with the USFWS prior to project implementation. The BLM is initiating formal consultation with the USFWS under the DRECP Biological Opinion to evaluate potential Project specific impacts of all aspects of the Proposed Action on threatened or endangered species. The USFWS will determine whether the Project effects and minimization measures are in keeping with those analyzed in the DRECP Biological Opinion which concluded that projects consistent with the DRECP LUPA would not jeopardize the continued existence of threatened or endangered species or modify critical habitat. The USFWS will also determine whether any adverse effects will result in the incidental taking of a threatened or endangered animal. If incidental take is reasonably certain to occur, the USFWS will prepare a Biological Opinion tiered to the DRECP Biological Opinion that contains a Project specific incidental take statement that may include reasonable and prudent measures to minimize incidental take caused by the Project.

### 4.3 National Historic Preservation Act (NHPA) Section 106 Consultation

The Project APE encompasses federally administered lands, thus requiring compliance with Section 106 of the NHPA of 1966, as amended, (54 USC 306108) and its implementing regulations (36 CFR 800).

The NHPA established the National Register of Historic Places (NRHP) and the President's Advisory Council on Historic Preservation, and provided that states may establish State Historic Preservation Officers to consult with federal agencies on undertakings that may affect historic properties. Section 106 of the NHPA directs that "[t]he head of any Federal agency having direct or indirect jurisdiction over a proposed Federal or federally assisted undertaking in any State and the head of any Federal department or independent agency having authority to license any undertaking shall, prior to the approval of the expenditure of any Federal funds on the undertaking or prior to the issuance of any license, as the case may be, take into account the effect of the undertaking on any district, site, building, structure, or object that is included in or eligible for inclusion in the NRHP." Section 106 also affords the Advisory Council on Historic Preservation a reasonable opportunity to comment on the undertaking (54 USC 306108).

36 Code of Federal Regulations, Part 800 (36 CFR 800), implements Section 106 of the NHPA. It defines the steps necessary to identify historic properties (those cultural resources listed in or eligible for listing in the NRHP), including consultation with federally recognized Indian tribes to identify resources of concern to them; to determine whether the identified properties may be adversely affected by a proposed undertaking; and to avoid, minimize, or mitigate adverse effects. The content of 36 CFR 60.4 also defines criteria for determining eligibility for listing in the NRHP. The BLM evaluated the significance of cultural resources identified during inventory phases in consultation with the California State Historic Preservation Office to determine if the resources are eligible for inclusion in the NRHP. Cultural resources may be considered eligible for listing if they possess integrity of location, design, setting, materials, workmanship, feeling, and association. A resource may be considered historically significant and eligible for NRHP listing if it is found to meet one of the following criteria:

- A. It is associated with events that have made a significant contribution to the broad patterns of local or regional history;
- B. It is associated with the lives of persons significant to our past;
- C. It embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity whose components may lack individual distinction;  
or
- D. It has yielded, or has the potential to yield, information important to the prehistory or history.

BLM standards for identifying and evaluating resources are provided in the BLM Manual 8110 Guidance: Identifying and Evaluating Cultural Resources.

The DRECP Programmatic Agreement (PA) (DRECP BLM ROD, Appendix 4) establishes the process the BLM will follow to fulfill its responsibilities under Section 106 of the NHPA for site-specific, renewable energy project application decisions within the DRECP LUPA area [Stipulation I(A)(2)]. The DRECP PA process was adhered to for the Proposed Action.

Key aspects of the Section 106 and DRECP PA processes include the following components: Consultation and Pre-Application Meeting; Area of Potential Effect; Identification Efforts; and Evaluations of Eligibility and Findings of Effect.

#### **4.3.1 Area of Potential Effect and Identification Efforts**

The APE is the geographical area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties. The determination of the APE and identification efforts for historic properties for the Proposed Action were consistent with DRECP PA Stipulation IV(A)(1). After the APE and identification efforts were approved, a Class I Inventory, Ethnographic Literature Review, Ethnographic Assessment, Indirect Effects Report, and a Class III Inventory were completed pursuant to DRECP PA Stipulation IV(B). Some of these reports are in draft form.

#### **4.3.2 Consultation and Pre-Application Meeting**

In addition to consulting parties defined under Section 106 and its implementing regulations (36 CFR 800.2(c)), the DRECP PA section II E governs the project's Tribal Consultation procedures. The BLM formally initiated consultation with Indian Tribes, other potential consulting parties, and members of the public for the Proposed Action by certified mail on September 5, 2019. Fourteen tribes were identified and invited to consult on this Project. These letters include an invitation to attend the pre-application meetings for the Proposed Action on September 25, 2019. Tribal participants at the meeting included representatives from the Fort Mojave Indian Tribe, Fort Yuma Quechan Indian Tribe, Soboba Tribe of Luiseño Indians, Torres Martinez Desert Cahuilla Indians, Agua Caliente Band of Cahuilla Indians, Morongo Band of Mission Indians, Twenty-Nine Palms Band of Mission Indians, and the Colorado River Indian Tribes. Concerns raised by Tribal members included tribal access to the area, interest in effects to biological resources and the lead agency under the California Environmental Qualities Act, questions regarding Tribal involvement in the DRECP, a request to participate in surveys, frustration when consulting with the BLM, tribal preference for avoiding impacts rather than ground disturbance to study a resource, and a request for the confidential cultural reports. All tribes concurred that biological information was important to them.

DRECP PA section II A stipulates that the BLM will invite the Advisory Council on Historic Preservation (ACHP) to participate in consultation on the project due to the controversial nature of solar projects in the area. The BLM submitted an Electronic 106 Documentation Submittal System (e106) form informing the ACHP of the project and providing the consultation information to date on February 18, 2020. Bill Marzella, ACHP Program Analyst/BLM Liaison, responded by email on March 2, 2020, indicating the ACHP would like to be informed of the findings of effect to determine if formal participation was warranted.

The BLM had begun its review to comply with Section 106 of the NHPA following the provisions of the DRECP PA.

#### **4.3.3 Evaluations of Eligibility and Findings of Effect**

The BLM applies the National Register of Historic Places criteria (36 CFR part 63) to make proposed eligibility determinations of all properties identified within the APE that have not been previously evaluated for NRHP eligibility. The evaluations are based on the results of the cultural



resources studies. If the BLM determines any of the NRHP criteria are met and the SHPO/Consulting Parties concurs, the property is considered eligible for the NRHP for Section 106 purposes. The NRHP eligibility criteria (Criteria A through D) are described in EA Section 4.3.

After the cultural resources are evaluated for NRHP eligibility, the BLM will apply the criteria of adverse effect. An adverse effect is found when an undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the NRHP in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association (36 CFR §800.5).

#### 4.4 Tribal Consultation

Mandates for the federal government's unique policies and relationship with Native American tribal governments are codified in several Executive Orders:

- **Executive Order 13007, Indian Sacred Sites**, issued by President Clinton in 1996, directed federal agencies to accommodate access to and ceremonial use of Native American sacred sites by Native American religious practitioners, as well as avoid adversely affecting the physical integrity of such sacred sites.
- **Executive Order 13175, Consultation and Coordination with Indian Tribal Governments**, issued by President Clinton in 2000, recognized tribal rights of self-government and tribal sovereignty, and affirmed and committed the federal government to work with Native American tribal governments on a government-to-government basis.

The BLM is also required under NEPA to invite the participation of any affected Native American tribe in the environmental review process. (NEPA Section 102; BLM Handbook H-1780-1 Section IV.A.2)

The BLM has consulted and continues to consult with Indian tribes about this undertaking. These tribes include the Agua Caliente Band of Cahuilla Indians, Augustine Band of Cahuilla Indians, Cabazon Band of Mission Indians, Cahuilla Band of Mission Indians, Chemehuevi Indian Tribe, Cocopah Indian Tribe, Colorado River Indian Tribes, Fort Mojave Indian Tribe, Fort Yuma Quechan Indian Tribe, Morongo Band of Mission Indians, San Manuel Band of Serrano Mission Indians, Soboba Band of Luiseno Indians, Torres-Martinez Desert Cahuilla Indians, and Twenty-Nine Palms Band of Mission Indians.

The BLM notified tribes and requested government-to-government consultation by letter on September 5, 2019, with an invitation to attend a meeting on the Project with an accompanying site visit on September 25, 2019. The letter included a request that the Tribes identify any areas to which they attach cultural or religious significance so that these sites may be considered in the environmental review of the Project.

The BLM has received written responses from six tribes, Agua Caliente Band of Cahuilla Indians, Cahuilla Band of Indians, Colorado River Indian Tribes, Fort Mojave Indian Tribe, Fort Yuma Quechan Tribe and Soboba Band of Luiseno Indians. The BLM held in person government to government consultation meetings with Agua Caliente Band of Cahuilla Indians and Soboba Band of Luiseno Indians. Due to the COVID-19 pandemic the BLM held government to government consultation meetings with the Colorado River Indian Tribes via Zoom conference. The Tribes raised issues related to cumulative effects, data sharing, artifact treatment, inclusion of the Tribes in construction monitoring, insufficient ethnographic research, and cultural landscapes.

The BLM has considered cumulative effects in its analysis and found cumulative impacts to prehistoric resources would be addressed through MM CUL-9 (Cumulative Effects). The BLM believes that the analysis of cumulative effects included in this EA addresses the comments provided by the Tribes, and looks forward to considering any additional comments provided by the Tribes on this EA.

The BLM will provide the Tribes non-confidential versions of the cultural resource study reports for the proposed Projects. The BLM requested that the Tribes enter into a formal data sharing agreement for the proposed Projects prior to the BLM releasing the confidential data. Data sharing agreements have so far been executed with three Tribes. The BLM would send confidential information to Tribes with data sharing agreement upon request of necessary information. Some of the Tribes have also commented that they would like to see prehistoric artifacts subject to grading and other disturbance during Projects' construction relocated to other nearby BLM-administered lands for long-term protection. The BLM is taking tribal concerns about prehistoric artifact treatment into consideration and will require an archaeological monitoring and discovery plan and Tribal Participation Plan, should the proposed Projects be approved and move to the construction phase. The BLM will develop this plan in consultation with all parties including the Tribes.

To address the Tribes' concerns with the sufficiency of the ethnographic research in the area, the BLM required an Ethnographic Assessment be completed for the Projects. On October 9, 2020, the BLM solicited input from the tribes on the ethnographic assessment workplan. Eight tribes responded to the request to participate in the Ethnographic Assessment. Ethnographic assessment work was completed April 30, 2021. On July 1, 2021, the BLM sent the draft Ethnographic Assessment to the eight participating tribes.

The Tribes have commented that the proposed Projects' area and surroundings are part of a much larger landscape of great importance to tribal culture and identity. These landscapes include cultural resources as considered under the NHPA and environmental resources such as plants, animals, and geographic features. Several Tribes consider impacts to any of these resources as detrimental to the landscape as a whole. The BLM acknowledges the importance of BLM-administered lands within the lower Colorado River landscape to the tribes' history and contemporary culture and identity, and has endeavored to address any potential impacts to the landscape and its related resources in this EA. The BLM looks forward to considering any additional comments provided by the Tribes on this EA.

BLM is continuing government-to-government consultation. The BLM will send letters to the tribes providing the agency's determinations of eligibility and findings of effect for all historical resources located in the Project APE, and a request for review pursuant to 36 CFR 800.4(d)(1).

The BLM continues to request that the Tribes identify any issues or concerns regarding the Proposed Action, including places of religious and cultural significance that might be affected. BLM's government-to-government consultation on this Project is ongoing. Several tribes have expressed concerns regarding development of solar projects near Desert Center due to potential impacts to resources of tribal concern.

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