

Executive Summary

ES.1 Introduction/Background

On November 3, 2010, Southern California Edison (SCE) filed an Application for a Permit to Construct Electrical Facilities: Colorado River Substation Expansion Project (CPUC Application A.10-11-005). This Supplemental Environmental Impact Report (SEIR) has been prepared by the California Public Utilities Commission (CPUC) to disclose new and substantially changed impacts as a result of project modification (substation expansion).

In April 2005, SCE filed an application for a Certificate of Public Convenience and Necessity (CPCN) with the California Public Utilities Commission (CPUC) for the proposed Devers–Palo Verde 500 kilovolt (kV) No. 2 Transmission Line project (DPV2). The application was determined to be complete and in compliance with CPUC requirements on September 30, 2005. The CPUC and Bureau of Land Management (BLM) prepared a joint Environmental Impact Report/Environmental Impact Statement (EIR/EIS) in 2006, and the CPUC approved the DPV2 Project on January 25, 2007 in Decision D.07-01-040 and certified the EIR as being in compliance with the requirements of CEQA.

On May 14, 2008, SCE filed a Petition for Modification (PFM) of the existing CPCN approved in Decision D.07-01-040. SCE requested that the CPUC authorize SCE to construct DPV2 facilities in only the California portion of DPV2 starting from the Midpoint Substation–Desert Southwest (DSW) near Blythe, California, which has since been renamed the Colorado River Substation. This California only portion of DPV2 is called the Devers–Colorado River (DCR) transmission line.¹ The CPUC approved SCE’s PFM on November 20, 2009 in Decision D.09-11-007.

After the CPUC’s 2009 Decision, several large solar power projects were proposed in the Blythe area. Two of these projects, the Blythe Solar Power Project (BSPP)² and the Genesis Solar Energy Project (GSEP),³ have requested interconnection to the electricity grid at the Midpoint-DSW Substation. As a result, the solar developers and SCE developed a plan to expand the Midpoint Substation (now called Colorado River Substation) to allow the required space for generation tie (gen-tie) lines to be interconnected with the SCE 500 kV transmission system.

The Colorado River Substation would provide transmission access to potential future renewable resources in the Blythe area, so the CPUC considers the environmental impacts of these two projects as the “whole

¹ The Colorado River Substation location is analyzed as the Midpoint Substation site in the DSWTP Final EIS/EIR, published by the Imperial Irrigation District and BLM in October 2005; it is also included in the DPV2 Final EIR/EIS as part of the Desert Southwest Transmission Project Alternative.

² The BSPP is a 1,000 MW solar thermal project located approximately two miles north of I-10, eight miles west of the City of Blythe, and five miles northeast of the Colorado River Substation site. Two new 230 kV overhead generation tie lines, approximately 9.8 miles long, will connect the BSPP switchyard to Colorado River Substation. The CEC approved the project on September 15, 2010 and BLM issued its Record of Decision on October 25, 2010.

³ The GSEP is a 250 MW solar thermal project located approximately 25 miles west of the city of Blythe, north of Ford Dry Lake and I-10, and 11 miles northwest of the Colorado River Substation. A gen-tie line will connect from GSEP to the Colorado River Substation via the Blythe Energy Project Transmission Line (BEPTL). Six new transmission poles would be constructed by GSEP to connect GSEP electricity from the BEPTL into the Colorado River Substation. The CEC approved the project on September 29, 2010 and BLM issued its ROD on November 5, 2010.

of the action” under CEQA (CEQA Guidelines §15378[a]). The impacts of these two projects are considered in this SEIR in Section D.

During 2009 and 2010, the BSPP and the GSEP were evaluated under CEQA and NEPA by the California Energy Commission (CEC) and the BLM. A joint Staff Assessment/Draft EIS was released for each of these projects in March 2010. A Revised Staff Assessment for the BSPP was published in June 2010, and for the GSEP in June and July 2010. BLM published its Final EISs on the BSPP and the GSEP in August 2010. These environmental documents addressed the substation expansion, but they did not adequately cover all issues that the CPUC requires to be addressed in accordance with CEQA. Therefore, the CPUC has prepared this focused SEIR to address only the specific issues not yet covered for its purposes.

SCE has proposed a number of refinements to the DPV2 project as approved, including the locations of the construction and helicopter yards and modifying transmission line structures. The review of these project refinements is occurring as a part of the CPUC’s mitigation monitoring process for the DPV2 project. Each of these refinements has been reviewed to determine that the changes would not increase the level of environmental impact or create new significant impacts. In addition, the proposed modifications would be consistent with and/or would validate the existing environmental analysis such that additional CEQA or NEPA documentation (i.e., inclusion in this SEIR) is not required.

Table ES-1 lists the decision documents of the CPUC and BLM that have been issued to date, and the SCE applications that relate to the Midpoint or Colorado River Substations.

Table ES-1. Decision and Application Documents Addressing the Colorado River Substation Expansion

Document	Description
CPUC Decision D.07-01-040 (January 2007)	<ul style="list-style-type: none">• Approves two Midpoint Substation locations as equally environmentally superior (44 acres)
SCE Application for a Petition to Modify Decision D.07-10-040 (May 2008)	<ul style="list-style-type: none">• Requests approval of California-only transmission line, including Midpoint-DSW Substation for solar generation interconnections
CPUC Decision D.09-11-007, including Attachment 2 Addendum to Final EIR (November 2009)	<ul style="list-style-type: none">• Approves Petition, including Midpoint-DSW Substation (44 acres)
SCE Application for a Permit to Construct Electrical Facilities: Colorado River Substation Expansion Project (November 2010)	<ul style="list-style-type: none">• Requests expansion of the Midpoint-DSW Substation (now called Colorado River Substation) to 90 acres total• Incorporates biological surveys conducted for the solar projects• Incorporates cultural surveys conducted for the solar projects

1.1 Availability of the Draft SEIR

The SEIR is available for review at the repositories listed below, the CPUC’s office (San Francisco), and on the project website at:

<http://www.cpuc.ca.gov/Environment/info/aspen/dpv2/dpv2.htm>

Copies of the Draft SEIR may also be requested by e-mail to dpv2@aspenerg.com. Copies are also available at the following locations:

- BLM Palm Springs–South Coast Field Office
1201 Bird Center Drive
Palm Springs, CA 92262
(760) 833-7100
- Palo Verde Valley Library District
125 W. Chanslor Way
Blythe, CA 92225
(760) 922-5371
- Indio Public Library
200 Civic Center Mall
Indio, CA 92201
(760) 342-0185

1.2 Submitting Comments on the Draft SEIR

IMPORTANT: Comments on the Supplemental EIR are limited only to the topics included in the document. The Final SEIR will present responses to all relevant comments submitted on the Draft SEIR.

Only written comments may be submitted on the SEIR; there will be no opportunity to make oral comments. Comments must be postmarked or received by fax or e-mail no later than **April 8, 2011**. Please be sure to include your name, address, and telephone number. Written comments on the SEIR should be sent **by U.S. mail, by electronic mail, or by fax** to:

**Billie Blanchard, CPUC
c/o Aspen Environmental Group
235 Montgomery Street, Suite 935
San Francisco, CA 94104-3002**

**Fax: (800) 491-6153
E-mail: dpv2@aspeneg.com**

1.3 Purpose of the SEIR

The primary purpose of this SEIR is to satisfy California Environmental Quality Act (CEQA) requirements (CEQA Guidelines §15162) by fully disclosing new impacts or substantial changes in impacts that have been identified as a result of project modification (substation expansion). This SEIR identifies changes in impacts that result from project changes occurring after certification of the DPV2 EIR/EIS in 2006. The issuance of an SEIR is governed by CEQA Guidelines §15163.

This SEIR is focused to include a discussion only of components and impacts related to the Colorado River Substation expansion, and only those impacts that would be different with the expanded substation.

Because the proposed expanded substation location would result in significant and unmitigable effects to biological resources and cultural resources (as disclosed in Section C of this document), this SEIR also

addresses alternatives to the Colorado River Substation location. Alternative substation sites were not considered in the past CEC or BLM environmental documents. Therefore, in this SEIR, alternatives are evaluated in accordance with the following requirements:

- CEQA Section 15021(a)(2) “[a] public agency should not approve a project as proposed if there are feasible alternatives or mitigation measures available that would substantially lessen any significant effects that the project would have on the environment.”
- CEQA Guidelines Section 15126.6(a): “[a]n EIR shall describe a reasonable range of alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project...”

1.4 Scope of the SEIR

Public Scoping for the SEIR

After the release of the Notice of Preparation in October 2010, the CPUC held a 30-day public scoping period under CEQA, which ended on November 1, 2010. The comment period allowed the public and regulatory agencies an opportunity to comment on the scope of the environmental document, comment on the alternatives considered, and identify issues that should be addressed in the SEIR. The SEIR for the Colorado River Substation Expansion Project evaluates the potential environmental impacts associated with the expansion and identifies mitigation measures to reduce these impacts, where possible.

Seven comment letters from public agencies and private organizations were received during the scoping process. These letters and a discussion of scoping are included in the Scoping Report (included as Appendix 2 to this SEIR). Major issues of concern that were identified during scoping include the following:

- **Native American and Cultural Resources.** The Native American Heritage Commission (NAHC) commented that, based on its Sacred Lands File search, there are resources of value to Native Americans located in the area that could be affected by the Colorado River Substation Expansion Project. NAHC provided a list of culturally affiliated tribes and interested Native American individuals with whom they recommend consulting in order to avoid impacts to Native American cultural resources and ensure compliance with State and federal regulations.

Section D.3 of this SEIR analyzes potential impacts to the cultural resources located in the vicinity of the proposed Colorado River Substation. In response to the NAHC scoping letter, all tribes listed in the NAHC letter were mailed a copy of the Notice of Preparation in November 2010. No comments were received, and in January 2011, the tribes were contacted again regarding interest in consultation.

- **Water Resources.** The Colorado River Board of California recommended that the SEIR fully analyze groundwater use and its potential impacts on water supply for other users of Colorado River water.

Section D.4 of this SEIR discusses potential impacts to water resources and public services resulting from the expanded use of groundwater at the Colorado River Substation.

- **Potential Hazards.** The California Department of Toxic Substances Control (DTSC) commented that the SEIR should evaluate conditions in the project area that may pose a threat to human health or the environment. DTSC listed regulatory agency databases and outlined regulatory requirements for investigating, identifying, and remediating hazardous materials that may be encountered in the project area.

A database search of contaminated sites and hazardous materials records was performed in January 2011 for proposed and alternative sites, and it showed that they do not contain any known contami-

nation or hazardous materials (EDR, 2011). Mitigation measures included in the DPV2 Final EIR/EIS (2006) would ensure that the project would adhere to all regulatory requirements for investigating, identifying, and remediating hazardous materials that may be encountered in the project area.

- The **Riverside County Airport Land Use Commission** noted that if any associated transmission lines for the Colorado River Substation Expansion Project pass through the Airport Influence Area of any airport in Riverside County, the transmission lines would need to be reviewed by the Airport Land Use Commission.

The Colorado River Substation would adhere to all required permits and would not be located in an Airport Influence Area.

- **Sand Transport and Habitat Impacts.** Basin and Range Watch, Center for Biological Diversity, Western Watersheds Project, and the Sierra Club expressed concern about the potential impacts of the Colorado River Substation Expansion Project on sand transport and habitat for Mojave fringe-toed lizard. These groups argued that the CPUC should consider alternative locations for the substation.

Section D.2 of this SEIR addresses direct and indirect impacts of Colorado River Substation on sand transport and dune habitat. Eight alternative substation locations and configurations are considered in Appendix 1 (Alternatives Screening Report) and five are fully analyzed in Section D.

Issue Areas Not Addressed in the SEIR

The Colorado River Substation Expansion Project would not result in new impacts or substantial changes in impacts analyzed in the DPV2 Final EIR/EIS for several of the environmental issues areas. In accordance with CEQA Guidelines §15163(c), the Supplemental EIR need only contain the information necessary to make the previous EIR adequate for the project as revised. However, according to CEQA Guidelines §15128, “[a]n EIR shall contain a statement briefly indicating the reasons that various possible significant effects of a project were determined not to be significant and were therefore not discussed in detail in the EIR.”

In accordance with CEQA Guidelines §15128, the following issue areas were adequately addressed in the DPV2 Final EIR/EIS and the BLM and CEC documents, and the analyses have not substantially changed as a result of the Colorado River Substation Expansion Project. Therefore, additional impacts are not likely to occur with the substation expansion for ten environmental disciplines, and no additional analysis is included in this SEIR for the following reasons:

- **Visual Resources.** Given the limited public access in this area, viewer exposure to the substation site would be minimal. The incremental increase in the size of the substation would not create a new or substantially more significant impact than what was identified in Section D.3 of the DPV2 Final EIR/EIS. There are existing transmission lines in the area, including DPV1, and so the wood poles associated with the telecom facilities and distribution lines would not create a noticeable increase in industrial facilities in the area.
- **Land Use.** The Colorado River Substation would be placed on BLM land or undeveloped private land, within a BLM-designated utility corridor. There are no nearby residences. Although development of a larger substation would incrementally increase the industrial development in an otherwise open area, the Colorado River Substation would be placed adjacent to existing and future approved transmission facilities in support of the utility corridor use. The Colorado River Substation expansion project would not create a new or substantially more significant impact than what was identified in Section D.4 of the DPV2 Final EIR/EIS.
- **Wilderness and Recreation.** The Colorado River Substation Expansion Project would not be constructed across recreation or wilderness areas and so there would be no new or substantially more significant impacts than what was identified in Section D.5 of the DPV2 Final EIR/EIS.

- **Agriculture.** The Colorado River Substation Expansion Project would not be located on agricultural land and would not interfere with agricultural operations. The Colorado River Substation Expansion Project would not create a new or substantially more significant impact than what was identified in Section D.6 of the DPV2 Final EIR/EIS.
- **Noise.** There are no nearby residences that would be impacted by the substation expansion project. Thus, the expansion project would not create a new or substantially more significant impact than what was identified in Section D.8 of the DPV2 Final EIR/EIS.
- **Transportation and Traffic.** The substation and distribution facilities would be accessed mainly from I-10 and Wiley Well Road, which were analyzed previously in Section D.9 of the DPV2 Final EIR/EIS. Construction activities would be greater for the larger substation, thus generating more traffic. However, the level of service of local roads in this rural area would not be substantially affected and no new or more significant impacts would be created. The Colorado River Substation Expansion Project would not be located in a Riverside County Airport Influence Area.
- **Public Health and Safety.** The substation expansion would have greater ground disturbance, which would slightly increase the likelihood of encountering hazardous materials. However, impacts related to encountering unknown preexisting industrial contamination would not likely occur because the site does not include any industrial or commercial uses. Mitigation measures included in Section D.10 of the DPV2 Final EIR/EIS would ensure that impacts would be less than significant and no new impacts would be created. Likewise, the Colorado River Substation Expansion Project would comply with all regulatory requirements for investigating, identifying, and remediating hazardous materials that may be encountered in the project area.
- **Air Quality.** Section D.11 of the DPV2 Final EIR/EIS addresses the short-term construction emissions associated with substation construction. Although the expanded substation would create greater emissions associated with ground disturbance and construction duration, the implementation of the DPV2 air quality mitigation measures would ensure that this impact would remain less than significant and no new impacts would be created. A discussion of greenhouse gas impacts, which was not addressed for the Midpoint Substation in the DPV2 EIR/EIS because it pre-dated the CEQA requirement for greenhouse gas impact analysis, has been included in Section D of this SEIR for the Colorado River Substation expansion only because it is now a requirement under CEQA.
- **Geology, Mineral Resources, and Soils.** No known active faults or mineral resources are identified at or near the proposed Colorado River Substation site and so the expansion project would not create a new or substantially more significant impact than what was identified in Section D.13 of the DPV2 Final EIR/EIS.

ES.2 Agency Use of the SEIR

2.1 CPUC Process

Pursuant to Article XII of the Constitution of the State of California, the CPUC is charged with the regulation of investor-owned public utilities, including SCE. The CPUC is the lead State agency for CEQA compliance in evaluation of the SCE's proposed DPV2 Project. Along with BLM, the CPUC directed the preparation of the DPV2 Final EIR/EIS. This SEIR will be considered as a part of the DPV2 administrative record, and it will be considered a revision to the DPV2 Final EIR/EIS.

This SEIR will be used by the CPUC, in conjunction with other information developed in the CPUC's formal record, to act on SCE's application for a Permit to Construct (PTC) for construction and operation of the Colorado River Substation Expansion Project. Under CEQA requirements, the CPUC will determine the ade-

quacy of the SEIR and, if adequate, will certify the document as complying with CEQA. The CPUC also will act on SCE's application for a PTC. If it approves a project with significant and unmitigable impacts, it must state why in a "Statement of Overriding Considerations," which would be included in the Commission's decision on the application.

The Notice of Preparation (NOP) describing the Colorado River Substation Expansion Project was published on September 29, 2010. The CPUC expects a final decision from the Commission in the first half of 2011.

2.2 Potential BLM Use of the SEIR

BLM may determine that the information contained in this SEIR is adequate to document environmental impacts associated with the substation expansion. If so, this evaluation will be presented in the Record of Decision (ROD) for the DPV2 project.

2.3 Required Permits and Approvals

Table A-4 in Section A.3.5 of the DPV2 Final EIR/EIS (October 2006) presented a list of the federal, State, and local permits and authorizations required for the Colorado River Substation Expansion Project. No additional permits would be required for the Colorado River Substation Expansion Project.

2.4 NEPA Compliance and BLM Approval of Solar Projects

During 2009 and 2010, BSPP and GSEP were evaluated under both CEQA (by the CEC) and the National Environmental Policy Act (NEPA) by the BLM. The interconnection of these and other generators in the region to the Colorado River Substation would require the size of the substation to increase by approximately 48 acres.

The EIS process was initiated by publication of the Notice of Intent (NOI) for each project on November 23, 2009. A joint Staff Assessment/Draft EIS with the CEC was released for each of these projects in March 2010. The CEC separately published a Revised Staff Assessment for BSPP in June 2010, and for GSEP in two parts in June and July 2010 under CEQA. BLM published its proposed Plan Amendment to the California Desert Conservation Area Plan and Final EISs on BSPP and GSEP in August 2010. The Plan Amendment/Final EISs for the BSPP and GSEP were developed in accordance with NEPA and the Federal Land Policy and Management Act of 1976. While these environmental documents addressed the substation expansion, they did not consider alternatives.

BLM published RODs adopting the Approved Plan Amendments and issuing right-of-way grants for the BSPP (CACA-48811) and GSEP (CACA-48880) on October 25, 2010 and November 5, 2010, respectively.

ES.3 Description of the Proposed Project

3.1 Project Objectives

SCE's stated objectives for constructing the Colorado River Substation are to:

- Provide transmission access to potential future renewable resources in the Blythe area;
- Help enable California to meet its renewable energy goals; and
- Complete substation construction in a timely fashion to interconnect with generation tie lines from the two approved solar power projects (BSPP and GSEP) by the Large Generator Interconnection Agreements (LGIA) target dates.

The original project objectives for the DPV2 project were listed in Section A.2 (Purpose and Need for the Proposed Project) of the DPV2 Final EIR/EIS (CPUC, 2006). However, in its Petition for Modification (PFM) submitted on May 14, 2008, SCE requested modifications to CPUC Decision D.07-01-040 to permit SCE to construct the California portion of DPV2 in advance of any approval to construct the Arizona portion of DPV2. The PFM states that such a modification of the CPUC's decision regarding DPV2 is appropriate in light of the renewable resource potential in and around the California terminus of the DPV2 line, near Blythe, California. In the event that Arizona does not permit the portion of DPV2 in Arizona, DPV2 could be used to deliver renewable resources located in the Blythe area to California load centers. The PFM also requests authorization to construct the Midpoint Substation, near Blythe.

Therefore, the objectives of the project have been revised from the original DPV2 EIR/EIS. CPUC Decision D.09-11-007, which modifies D.07-01-040, states that SCE sought to access "potential new renewable and conventional gas-fired generation in the Blythe, California area" and the PFM stated that "[s]uch authorization will help enable California to meet its renewable energy goals." The PFM stated that "SCE is committed to constructing the DPV2 facilities in Arizona" notwithstanding Arizona Corporation Commission (ACC) denial, and claimed that phasing the construction "does not change the cost-effectiveness of the DPV2 project. ... DPV2 will still provide net benefits."

SCE's Application for a Permit to Construct the Colorado River Substation Expansion states that construction would be completed and commercial operation would begin in the third quarter of 2013. SCE's current schedule assumes that the substation would be operational on May 6, 2013 (SCE, 2011).

SCE has further stated that in order to have timely completion of Colorado River Substation to interconnect to GSEP and BSPP, the Colorado River Substation should be online in a timely and ready fashion by the Large Generator Interconnection Agreements (LGIA) target dates with the solar power generators (i.e., BSPP and GSEP). Solar Millennium has stated that it plans to close financing in mid-2011 and to begin commercial operation of BSPP in November 2013 (Solar Millennium, 2011). Likewise, the BSPP LGIA has been executed by Solar Millennium, SCE, and the California Independent System Operator (CAISO) with a Committed In-Service Date of November 1, 2013.

The planned operational date for GSEP is summer 2013 (CEC, 2010); however, the GSEP LGIA is still in negotiation. It is expected to be executed in the near future and the operational date will be the same as or later than the BSPP LGIA (SCE, 2011).

3.2 Project Description

The Colorado River Substation would be located on an approximately 160-acre parcel of land located approximately 1.5 miles south of Interstate 10 and 4.75 miles east of Wiley Well Road, in the County of Riverside, California, as shown on Figure ES-1. The approximate center of the Colorado River Substation area within the perimeter wall would be at 33.59 degrees north and 114.82 degrees west. However, the specific location of the substation may shift slightly as a result of final engineering. The Colorado River Substation site, including the proposed expansion, would be located on public lands managed by the BLM that would be granted to SCE for this use.

The original substation design included the loop-in of the Devers–Palo Verde No. 1 (DPV1) and DPV2 transmission lines and covered 45 acres. In order to accommodate the solar generation interconnection, the expanded substation would need to include 500/220 kV transformer banks and a 220 kV switchyard covering 90 acres. The expanded substation layout is illustrated in Figure ES-2 (Substation Layout).

Figure ES-1. Substation Location

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Figure ES-2. Substation Layout

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In addition, the temporary laydown area of the expanded substation would increase from 5 acres to 13.4 acres, and the access road would be increased from a 3-mile-long, 24-foot-wide access road to a 4.7-mile-long, 30-foot wide access road.

SCE would expand the 500 kV substation that was previously approved to cover 45 acres as part of the DPV2 CPCN, into a full 2240 MVA 500/220 kV substation on approximately 90 acres, which includes approximately 77 acres of permanent disturbance within the substation perimeter wall and approximately 13 acres of permanent disturbance associated with enhancements outside of the perimeter wall (e.g. flood protection berm and stormwater detention basin). The expanded substation perimeter would be approximately 1,530 feet by 2,200 feet surrounded by an 8-foot-high wall with barbed wire and razor wire and two gates. The substation would include the 500 kV switchrack, 500/220 kV transformer banks, and a 220 kV switchrack (SCE, 2010d). The terminating transmission towers would be the tallest structures at the substation, ranging between 190 and 220 feet tall.

In addition to the substation expansion, new components have been included in the substation design including restroom facilities, a septic system and leach field, and a water well and temporary water storage to provide water for soil conditioning and dust control during construction and for other minor non-potable uses (i.e., lavatory purposes) during long-term substation operations. The peak water draw from the well during construction is estimated at 300,000 gallons per day for an approximate period of 4 to 6 months during grading, and approximately 120,000 gallons per day for the remainder of construction (approximately 18 months). During substation operation, up to 750 gallons per month would be pumped from the water well for use at the substation (i.e., restroom facilities and day-to-day non-potable water needs).

SCE would also construct approximately 3,000 feet of 33 kV overhead distribution line and approximately 1,000 feet of underground distribution line to connect a nearby existing distribution system to the Colorado River Substation to provide substation light and power, which would require installation of approximately 20-25 new wood poles. Finally, with the approval of the California-only portion of the project, there is a need to install a telecommunication system at the Colorado River Substation. The telecom route would include two fiber optic lines, approximately 5.6 miles of optical ground wire (OPGW) and approximately 13.6 miles of All-Dielectric Self-Supporting (ADSS) fiber optic cable on new and existing overhead structures between 25 feet and 65 feet tall.

3.3 Connected Actions

The expansion of the Colorado Rivers Substation is required in order to allow interconnection generation from the Blythe and Genesis solar facilities. These facilities are approved and under construction. Due to the related nature of the solar facilities and the proposed Colorado River Substation expansion, they are considered to be part of “the whole of the action” under CEQA. Therefore, the impacts of these two solar facilities should be considered by the CPUC in its determination of whether to approve the Colorado River Substation.

The requirement to consider impacts of related projects stems from CEQA Guidelines, Section 15003(h), which states that “The lead agency must consider the whole of an action, not simply its constituent parts, when determining whether it will have a significant environmental effect.” In addition, CEQA Guidelines, Section 15378(a) defines “Project” as “the whole of an action, which has a potential for resulting in either a direct physical change in the environment, or a reasonably foreseeable indirect physical change in the environment...”

The CPUC has determined that any projects with approved Power Purchase Agreements (PPA) that require interconnection to the Colorado River Substation should be analyzed as part of the “whole of the action” in

this SEIR. The CPUC’s PPA database was used to define these projects. According to the database, the CPUC has determined that there are two projects that are so closely related to the Proposed Project as to be considered “connected actions” or part of “the whole of the action.” Those projects are the BSPP and the GSEP. Each project is briefly summarized in Section B, and the impacts of these projects are summarized in Section D for each environmental discipline.

Note that this SEIR also considers cumulative impacts (Section E). This analysis includes projects that are related to the proposed substation analysis because of their location, timing, or resources affected. The projects considered in the cumulative analysis are not contingent upon the substation for their development, but their impacts may combine with those of the expanded substation.

ES.4 Alternatives

4.1 CEQA Requirements for Alternatives

Alternatives to the proposed DPV2 Project are identified and evaluated in accordance with CEQA Guidelines. CEQA Guidelines (Section 15126(a)) state:

An EIR shall describe a reasonable range of alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project.

CEQA Guidelines (Section 15364) define feasibility as:

... capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors.

Alternatives Screening

Alternatives to the Colorado River Substation Expansion Project were suggested during the scoping period that ended on November 1, 2010. Other alternatives were developed by EIR preparers and BLM staff. In total, 9 alternatives were identified.

CEQA’s requirements have defined the alternatives screening methodology. A reasonable range of alternatives has been considered and evaluated, defining: (1) whether they would meet most of the basic project objectives; (2) whether they would be feasible considering legal, regulatory and technical constraints; and (3) whether they have the potential to substantially lessen any of the significant effects of the Colorado River Substation Expansion Project. Other factors considered, in accordance with CEQA Guidelines (CEQA Guidelines Section 15126.6(f)), were site suitability, economic viability, availability of infrastructure, general plan consistency, other regulatory limitations, jurisdictional boundaries, and proponent’s control over alternative sites.

The detailed results of the alternatives screening analysis are contained in Appendix 1 of this SEIR. A summary description of the alternatives considered and the results of screening are provided below. Figure ES-3 illustrates the geographic locations of all alternatives considered for and eliminated from SEIR analysis.

Figure ES-3. Alternatives Evaluated

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4.2 Alternatives Fully Evaluated in the SEIR

The 6 alternatives listed below have been selected for detailed analysis in this SEIR through the alternative screening process. The preliminary conclusions generated during the screening process are presented briefly below and each of these alternatives is evaluated within each environmental issue area of Part D of this SEIR. The alternatives are illustrated on Figure ES-3.

- Partial Avoidance Alternative
- Avoidance Alternative #1
- Avoidance Alternative #2
- Avoidance Alternative #3
- Southern Alternative
- No Project Alternative

The **Partial Avoidance Alternative** was developed because of its proximity to the proposed substation site and because it would minimize the modifications to approved gen-tie line routes. This alternative would reduce direct effects on occupied Mojave fringe-toed lizard habitat and would have lesser impacts to cultural resources. The site would be on BLM land, but the gen-tie lines and/or DPV1 interconnection may need to be located on private land to the southeast of the alternative site.

The **Avoidance Alternative #1** was developed and designed to move the substation site as little as possible from the proposed site while completely avoiding direct effects on the sand transport corridor of the site itself. The revised location of this alternative (except for gen-tie/transmission interconnections and access roads) would avoid the active sand transport corridor, reducing both direct and indirect impacts to Mojave fringe-toed lizard habitat to less than significant levels with incorporation of mitigation. Fewer total documented cultural resources would also be impacted; however a greater number of them have not been formally evaluated for eligibility for listing on the NRHP or the CRHR. Avoidance Alternative #1 would be located on both public (BLM) and private land.

The **Avoidance Alternative #2** was designed to avoid the sand transport corridor. The site itself would remain entirely on private land; however, the SCE transmission lines looping into the substation and gen-tie lines would likely be located on both private and public lands. The revised location of this alternative (except for gen-tie/transmission interconnections and access roads) would avoid the active sand transport corridor, reducing both direct and indirect impacts to Mojave fringe-toed lizard habitat and impacting the fewest cultural resources compared to the Proposed Project and other alternatives.

The **Avoidance Alternative #3** would rotate the substation approximately 135 degrees clockwise to a northwest-southeast orientation and would shift the site 10,000 feet southeast of the proposed substation site. The revised location of this alternative (except for gen-tie/transmission interconnections and access roads) would avoid the active sand transport corridor, reducing both direct and indirect impacts to Mojave fringe-toed lizard habitat to less than significant levels with incorporation of mitigation. This alternative would also have greater impacts to cultural resources than the proposed substation site or the other alternative sites. The substation would be on BLM land, but the gen-ties and transmission line interconnections likely would need to cross both public and private land on the northwest and southeast sides of the alternative site.

The **Southern Alternative** was designed to have the substation site remain entirely on public (BLM) land and be outside of the active sand transport corridor. The revised location of this alternative (except for gen-tie/transmission interconnections and access roads) would avoid the active sand transport corridor,

reducing both direct and indirect impacts to Mojave fringe-toed lizard habitat to less than significant levels with incorporation of mitigation. Impacts to cultural resources also likely would be reduced under this alternative.

The **No Project Alternative** is required to be evaluated in an EIR per Section 15126.6(e) of the CEQA Guidelines. As discussed in more detail in Section A, SCE is constructing the expanded Colorado River Substation to provide transmission access to potential future renewable resources in the Blythe area, in order to help enable California to meet its renewable energy goals. If the substation is not expanded, it would not be capable of interconnecting generators at 220 kV; it could accept only 500 kV lines. The solar developers with approved gen-ties to the Colorado River Substation would be able to interconnect at the substation only at the 500 kV level. It is likely that under this scenario, the solar developers would modify their approved projects to first construct a new 230/500 kV substation on the solar generation sites, and then construct 500 kV (rather than 230 kV) gen-tie lines into the Colorado River Substation.

4.3 Alternatives Eliminated from Detailed Evaluation

The alternatives listed below were eliminated from detailed evaluation in the SEIR:

- Original Midpoint Substation Alternative
- Sand Shield Alternative
- Rotation and Shield Alternative

The **Original Midpoint Substation Alternative** was eliminated from detailed evaluation because it would require approximately 9 miles of additional gen-tie lines to be constructed across both public and private lands, which would create additional ground disturbance and would highly likely affect SCE's 2013 operational timeline objective and its regulatory feasibility. This alternative also would create greater impacts to desert tortoise and cultural resources.

The **Sand Shield Alternative** would add a pointed sand deflector wall/shield to the western (upwind) side of the substation, which would encourage sand to pass around the substation boundary wall. This alternative was eliminated from detailed evaluation because it would increase the footprint of the substation, thereby increasing the amount of ground disturbance and direct loss of sand dune habitat.

The **Rotation and Shield Alternative** would rotate the Colorado River Substation layout 90 degrees clockwise so that the length of the substation would extend east-west instead of north-south, and its shorter fence line (approximately 1,530 feet long) would face the prevailing wind and the active sand transport corridor. This alternative was eliminated from detailed evaluation because rotation of the Colorado River Substation site would increase the engineering requirements compared to the proposed Colorado River Substation, because the substation equipment layout would need to be adjusted and because this alternative would increase the amount of ground disturbance and direct sand dune impacts.

ES.5 Summary of Impacts and Mitigation Measures

5.1 Biological Resources

5.1.1 Proposed Project

Substation Expansion. Biological resources impacts of the substation expansion and telecommunications system are described in detail in Section D.2 of this SEIR and are summarized here.

The presence of the expanded substation would result in direct impacts to 98 acres and indirect impacts to 1,365 acres of Mojave fringe-toed lizard⁴ habitat. Substation construction could result in mortality of individuals of this species, as well as reduction of sand transported downwind (east) of the Proposed Project area. This resultant deflation would ultimately eliminate 1,365 acres of Mojave fringe-toed lizard sand dune habitat that comprises the easternmost extent of the Chuckwalla sand transport corridor and would result in a significant and unmitigable impact.

Construction and operation of the substation expansion is not expected to result in the loss of Swainson's hawks or their nests and construction disturbance is not expected to substantially disrupt hawk foraging activities (Impact B-7), resulting in a less than significant impact to this species.

Construction of the substation expansion would result in the direct loss of 98 acres and the indirect degradation of an additional 1,365 acres of occupied sand dune habitat for various rare plants (Impact B-8) including ribbed cryptantha, Harwood's eriastrum, Harwood's milkvetch, and winged cryptantha; with implementation of new mitigation measures, impacts to rare plants would be less than significant.

Stabilized and partially stabilized sand dunes are designated as sensitive by BLM per the Northern and Eastern Colorado Desert Coordination Management Plan (NECO Plan). Construction of the substation expansion would result in the direct loss of 98 acres and the indirect degradation of an additional 1,365 acres of sand dunes (Impact B-18); with implementation of new mitigation measures, impacts to this sensitive natural community would be less than significant.

Construction and presence of the substation expansion would result in indirect or direct loss of individuals and habitat for sensitive wildlife (Impact B-9). Construction activities, including site grading and heavy equipment operation, could kill or injure desert kit foxes as a result of collisions with construction equipment or entombment in dens. Construction activities could also result in disturbance or harassment of individuals. Impacts to desert kit fox would be avoided or minimized with implementation of a revised mitigation measure that would ensure kit fox exclusion from the project area prior to construction activities.

Telecommunications Upgrades. Loss of habitat and direct loss of special-status plants (Impact B-8) resulting from the construction of the telecommunication facilities is expected to be minimal, as ground disturbance would be limited to less than 2 acres of temporary disturbance and approximately 0.06 acres of permanent disturbance. With implementation of new mitigation measures, impacts to rare plants would be less than significant. The telecommunications facilities would have adverse but less than significant impacts on northern harrier, a special-status bird, and would result in minimal temporary disturbance of Mojave fringe-toed lizard habitat (Impact B-9). The fiber optic cable proposed for the telecommunication facilities would present a collision risk to listed birds (Impact B-15); however, implementation of a revised mitigation measure would reduce this impact to a less than significant level.

Connected Actions. Construction of the BSPP and GSEP would result in impacts to foraging, cover, and/or breeding habitat for a variety of resident wildlife, including the state and federally listed desert tortoise, American badger, desert kit fox, golden eagle, various migratory birds, burrowing owl, and Mojave fringe-toed lizard. Impacts to biological resources from operation of the BSPP and GSEP include collision with project structures, electrocution by the gen-tie transmission line, and exposure to glare that is potentially hazardous to wildlife.

⁴ Mojave fringe-toed lizard is not a "listed" species, but is a California Department of Fish and Game "species of concern" and a BLM sensitive species.

5.1.2 Alternatives

Alternative Sites

The potential for desert tortoise to occur on all of the alternative sites is higher than at the proposed substation site, but impacts would be less than significant with implementation of approved mitigation measures. The Partial Avoidance Alternative would result in direct impacts to 90 acres and indirect impacts to 855 acres of Mojave fringe-toed lizard habitat; impacts would be significant and unavoidable. Avoidance Alternatives #2 and #3 would result in direct impacts to 30 acres and 50 acres, respectively, of Mojave fringe-toed lizard habitat and no indirect impacts; impacts would be less than significant with mitigation. Avoidance Alternative #1 and the Southern Alternative would eliminate impacts to Mojave fringe-toed lizards. Avoidance Alternative #3 and the Southern Alternative would affect a State-jurisdictional desert wash, which would not occur with construction and operation of the Proposed Project; however, this impact would be less than significant with implementation of approved mitigation measures from the Final EIR/EIS. Similar to the Proposed Project, all alternative sites would require widening of the existing DPV1 access road through the sand transport corridor to Wiley Well Road; impacts to stabilized and partially stabilized sand dunes, which is designated as a sensitive natural community by BLM per the NECO Plan, would be less than significant with implementation of mitigation.

No Project Alternative

In addition to the construction of the already-approved 44-acre substation at the Colorado River Substation site, the No Project scenario would require additional construction for expanded substations at the solar project sites or adjacent to existing Blythe area substations. It also would require revised and likely expanded rights-of-way for 500 kV transmission gen-tie lines (rather than the 230 kV gen-tie lines that are proposed). It is not possible to define these impacts with any specificity because no designs are available to identify the impact areas. Because additional ground disturbance could be required at multiple substation sites, and additional right-of-way would be required for the additional transmission line, habitat loss and direct impacts to special-status species would likely be more severe than for the Proposed Project.

5.1.3 Cumulative Impacts

The combined effect of the development of existing and future foreseeable projects would result in cumulatively significant impacts to Mojave fringe-toed lizard, desert kit fox, Swainson's hawk, northern harrier, special-status plants, and stabilized and partially stabilized sand dunes. The Proposed Project's contribution to these significant cumulative impacts, however, would be less than cumulatively considerable for all biological resources impacts, except to the Mojave fringe-toed lizard. Even with the implementation of mitigation, when combined with impacts of past, present, and reasonably foreseeable projects, the Proposed Project's contribution to cumulative Mojave fringe-toed lizard impacts remains significant (Class I).

The cumulative scenario pertaining to the substation alternatives is the same as for the Proposed Project, described above. Each alternative's contribution to existing significant cumulative biological resource impacts would vary with the amount of acreage directly or indirectly impacted by the alternative. All alternatives would contribute to cumulative Mojave fringe-toed lizard and special-status dune-dependent plant, and stabilized and partially stabilized sand dune habitat impacts.

5.2 Cultural and Paleontological Resources

5.2.1 Proposed Project

Substation Expansion. Cultural resources impacts of the substation expansion and telecommunications system are described in detail in Section D.3 of this SEIR and are summarized here.

Ground-disturbing activities could impact 11 known cultural resources (Impact C-1) that potentially are eligible for National Register listing and that occur within and adjacent to areas of the Proposed Project site. Four of these resources would be located within the substation site itself. Although these resources could likely be avoided during construction, impacts would be considered significant and unavoidable if an eligible resource could not be avoided during construction even with implementation of approved mitigation measures.

If construction activities were to reveal the presence of unknown significant cultural resources or Native American human remains that could not be avoided (Impact C-2), impacts to these resources would be considered significant and unavoidable even with implementation of approved mitigation measures.

Construction of the Proposed Project could cause an adverse change to Traditional Cultural Properties (Impact C-3). If Traditional Cultural Properties are identified during Native American consultation, implementation of mitigation could reduce impacts to Traditional Cultural Properties to a level that is less than significant (Class II), but in some cases impacts to Traditional Cultural Properties would remain significant (Class I), even after mitigation.

Operation and long-term presence of the Proposed Project could cause an adverse change to known historic properties (Impact C-5), but impacts would be less than significant with implementation of approved mitigation measures.

Telecommunications Upgrades. Ground-disturbing activities could impact 11 known cultural resources (Impact C-1) that potentially are eligible for National Register listing and that occur within and adjacent to areas the telecommunications facilities corridors. Although these resources could likely be avoided during construction, impacts would be considered significant and unavoidable if an eligible resource could not be avoided during construction even with implementation of approved mitigation measures.

If construction activities were to reveal the presence of unknown significant cultural resources or Native American human remains that could not be avoided (Impact C-2), impacts to these resources would be considered significant and unavoidable even with implementation of approved mitigation measures.

Construction of the telecommunications facilities could cause an adverse change to Traditional Cultural Properties (Impact C-3). If Traditional Cultural Properties are identified during Native American consultation, implementation of mitigation could reduce impacts to Traditional Cultural Properties to a level that is less than significant (Class II), but in some cases impacts to Traditional Cultural Properties would remain significant (Class I), even after mitigation.

Operation and long-term presence of the telecommunications facilities could cause an adverse change to known historic properties (Impact C-5), but impacts would be less than significant with implementation of approved mitigation measures.

Connected Actions. The BSPP project would result in direct impacts to 166 known archaeological and built environment resources eligible or assumed eligible for the California Register of Historical Resources. The proposed GSEP would result in direct impacts to 27 register-eligible archaeological resources and signifi-

cant indirect impacts on 248 contributors to a register-eligible cultural landscape. Additionally, the BSPP, in conjunction with the GSEP and the Palen Solar Power Project, would have a significant cumulatively considerable impact on two staff-identified cultural landscapes, the Prehistoric Trails Network Cultural Landscape (PTNCL), encompassing region-wide prehistoric trails and the resources and destinations they connect to, and the Desert Training Center California-Arizona Maneuver Area Cultural Landscape (DTCCCL), comprehending the archaeological remains of the U.S. Army's WWII Desert Training Center.

5.2.2 Alternatives

Alternative Sites

The Proposed Project and all of the alternative sites have the potential for significant and unmitigable impacts to Traditional Cultural Properties should they be identified during Native American consultation. Impacts to known historic properties and unknown significant buried prehistoric and historic archaeological sites or buried Native American human remains would also be potentially significant and unmitigable if encountered during project construction. The Proposed Project would impact 4 sites that have not been evaluated for eligibility for listing on the National Register of Historic Properties or the California Register of Historic Resources (7 total documented resources on the proposed Colorado River Substation).⁵ The Partial Avoidance Alternative would have a direct impact on 4 known unevaluated archaeological resources within the site and study area buffer. Avoidance Alternative #1 would have a significant direct impact on six known unevaluated archaeological resources. Avoidance Alternative #2 has a potential for causing a significant impact on 4 unevaluated archaeological resources. Avoidance Alternative #3 would have a direct impact on 15 known unevaluated archaeological resources. The Southern Alternative would have a significant direct impact on 10 known unevaluated archaeological resources. In addition to the sites described above, the Proposed Project and all alternatives would directly impact five resources located along the Wiley Well access road west of the proposed CRS site. These resources have not yet been formally evaluated for eligibility.

No Project Alternative

Although it is not possible to define the impacts of the projects under the No Project scenario with any specificity because no designs are available to identify the impact areas, the No Project Alternative would require construction of additional and higher voltage transmission lines and substation expansions with impacts similar to those described for the Proposed Project. This additional ground disturbance would increase the chance of encountering cultural resources during construction and would result in more severe cultural resources impacts than for the Proposed Project.

5.2.3 Cumulative Impacts

The previous ground disturbance from prior projects and the ground disturbance related to the future construction of the proposed Colorado River Substation expansion and other proposed solar power and utility projects in the vicinity could have a cumulatively considerable effect on subsurface archaeological deposits, both prehistoric and historic.

⁵ The areas surveyed for the Proposed Project and all alternatives include the area of potential access road expansion and gen-tie interconnection. Because the specific locations of these features have not yet been defined for alternatives, a survey results include resources within a buffer around each substation site.

It is anticipated that only one or two eligible cultural resources would be impacted by the Colorado River Substation expansion project, and that, through mitigation, impacts would be reduced to less than significant levels. No impacts to human remains or Traditional Cultural Properties have been identified nor are expected. Since the impacts from the Proposed Project would be mitigated to a less than significant level by the project's compliance with proposed mitigation measures, and since similar protocols must be applied to other projects in the area, incremental effects of the Colorado River Substation Expansion on cultural resources in the cumulative impact area are not expected to be cumulatively considerable when viewed in conjunction with other projects. For every alternative, the contribution to cumulative cultural resources impacts would be less than cumulatively considerable as well.

5.3 Water Resources

5.3.1 Proposed Project

Substation Expansion. Water resources impacts of the substation expansion and telecommunications system are described in detail in Section D.4 of this SEIR and are summarized here.

Construction of the Proposed Project would include soil-disturbing activities such as grading and excavation that could result in erosion and sedimentation (Impact H-1); however, these impacts would be less than significant and no mitigation would be required. Operation of construction vehicles and equipment would require the use of harmful and potentially hazardous materials, and accidental spills/leaks or improper disposal of these materials could result in direct or indirect water quality degradation (Impact H-2); however, these impacts would be less than significant with implementation of approved mitigation measures. Construction of the substation expansion could increase local runoff through creation of impervious areas and compaction of soils (Impact H-3); however, these impacts would be less than significant and no mitigation would be required. Oil from electrical equipment at the substation could be released accidentally and contaminate local surface water (Impact H-4); however, these impacts would be less than significant with implementation of approved mitigation measures.

Excavation activities associated with substation expansion could result in groundwater quality degradation if direct or indirect contact with groundwater resources is made, particularly if an accidental release of hazardous materials occurs (Impact H-5). This impact would be less than significant with implementation of new and approved mitigation measures. Encroachment of a project structure into a water flow path could result in erosion damage to the encroaching structure (Impact H-6); however, this impact would be less than significant with implementation of an approved mitigation measure. Groundwater pumping could result in interference with nearby wells or with groundwater recharge, or could use appropriated water from the Colorado River (Impact H-7). These impacts would be less than significant with implementation of new and modified mitigation measures.

Connected Actions. Potential impacts on water resources during construction and operation of the proposed BSPP include drawdown and related impacts, depletion of water resources, water quality impacts, erosion, and drainage impacts. Potential impacts on water resources during construction and operation of the GSEP include soil erosion, geomorphology, groundwater basin balance, groundwater levels, groundwater quality, surface water hydrology, and surface water quality impacts.

5.3.2 Alternatives

Alternative Sites

The magnitude of potential water quality impacts that may occur as a result of erosion, sedimentation, or stormwater runoff associated with site orientation and proximity to the sand transport corridor would be effectively the same for the Proposed Project and alternatives. The temporary earth-disturbing activities, new permanent infrastructure, and water supply requirements that would occur under each of the alternatives are the same as would occur under the Proposed Project. Therefore, all hydrology and water quality impacts identified for the Proposed Project (Impacts H-1 through H-7) would be the same for the alternatives.

No Project Alternative

The types of impacts occurring during substation and transmission line construction under the No Project scenario would be similar to those occurring at the Proposed Project site. Because additional ground disturbance could be required at multiple expanded substation sites, and additional right-of-way would be required for the additional GSEP transmission line, impacts to surface water quality would likely be more severe than for the Proposed Project. In addition, larger amounts of water for dust control and substation operation would be required given the larger surface areas affected.

5.3.3 Cumulative Impacts

The cumulative scenario and contribution of the Proposed Project would be the same for the site alternatives due to their proximity and similarities in the type, duration and extent of construction activities. Given the distance to the groundwater table over the Chuckwalla Valley Groundwater Basin and the implementation of plans and mitigation required as part of the other cumulative projects, cumulative impacts on water quality, erosion and flooding would be less than significant. In addition, the Proposed Project in conjunction with past present and reasonably foreseeable projects would not result in overdraft conditions. Implementation of mitigation measures would reduce construction and operational water resources impacts to a less than significant level for the Proposed Project. As a result, the Proposed Project's contribution to cumulative impacts related to soil erosion, water quality and flooding would not be cumulatively considerable.

5.4 Socioeconomics

5.4.1 Proposed Project

Substation Expansion. Socioeconomics impacts of the substation expansion and telecommunications system are described in detail in Section D.5 of this SEIR and are summarized here.

The revised water usage for the expanded substation from groundwater wells would avoid impacts to municipal water supplies, but instead water usage during construction activities would potentially deplete groundwater supplies or interfere with groundwater recharge, which in turn may affect water availability for other users in the area (Impact S-2). Impacts would be less than significant with implementation of new mitigation measures to ensure offsite users of groundwater are not affected.

Connected Actions. The BSPP would require 1,001 construction laborers and approximately 221 operational employees. The GSEP would require 1,085 laborers during construction and 40-50 permanent employees once operational. The BSPP and GSEP are not anticipated to result in any significant impacts related

to increased population within the local study area, therefore any temporary in-migration that could occur would not trigger the need for new housing, nor would these proposed projects require the need for new or expanded government facilities.

5.4.2 Alternatives

Alternative Sites

The socioeconomic water supply impacts that would occur for the alternative sites would be the same as would occur under the Proposed Project.

No Project Alternative

It is not possible to define the impacts that would occur under the No Project scenario with any specificity because no designs are available. However, because additional ground disturbance could be required at multiple substation sites, and additional right-of-way would be required for the additional GSEP transmission line, larger amounts of water would have to be acquired from local sources, and impacts to water supply would likely be more severe than for the Proposed Project.

5.4.3 Cumulative Impacts

The cumulative scenario and contribution of the Proposed Project would be the same for the site alternatives due to their proximity and similarities in the type, duration and extent of construction activities. The revised water source would avoid impacts to municipal water supplies, but instead water usage during construction activities would potentially deplete groundwater supplies or interfere with groundwater recharge, which would in turn potentially affect local users. However, the water resources section concludes that there would be an adequate groundwater supply to support the Proposed Project and other past present and reasonably foreseeable projects and existing users within the groundwater basin. With the implementation of mitigation, the Proposed Project demand on local water would be less than significant and its affect on local water supply for other users in conjunction with other past, current and reasonably foreseeable projects would not be cumulatively considerable

5.5 Greenhouse Gas Emissions

5.5.1 Proposed Project

Substation Expansion. The issue of global climate change and impacts of greenhouse gas (GHG) emissions of the substation expansion and telecommunications system are described in detail in Section D.6 of this SEIR and are summarized here.

Project-level direct and indirect greenhouse gas emissions are characterized against a preliminary screening level of 10,000 metric tonnes per year (10,000 MTCO₂e/yr). The GHG emissions would be dominated by the construction phase for Colorado River Substation, with the minor GHG emissions during routine operation and maintenance of the proposed substation, including potential sulfur hexafluoride (SF₆) escape from gas insulated switchgear, would be well below 10,000 MTCO₂e per year. The potential service life for the proposed substation would be several decades, and the direct GHG emissions from substation construction, operation, and maintenance would be less than significant for any year of the life of the substation. Therefore, while the Proposed Project would generate greenhouse gas emissions through fossil fuel use during construction activities and operation (Impact GHG-1), this impact would be less than the screening threshold with implementation of approved mitigation measures to properly tune and maintain heavy duty off-road diesel engines and minimize leaks of SF₆.

Connected Actions. Construction of the BSPP and GSEP would result in increases in greenhouse gas emissions. Almost all of the construction-related greenhouse gas emissions are from use of diesel and motor gasoline fuels by vehicles and equipment. Total construction emissions for BSPP would be 103,900 metric tonnes of carbon dioxide equivalent units (MTCO₂e) or an average of 18,070 MTCO₂e per each year, while total construction emissions for GSEP would be 52,974 metric tonnes of carbon dioxide equivalent units (MTCO₂e) or an average of 17,180 MTCO₂e per each year. While the solar project applicants would implement best practices control measures during construction to reduce greenhouse gas emissions (e.g., limiting idling times and requiring equipment that meets the latest emissions standards), construction emissions from both projects would still exceed 10,000 MTCO₂e/year for each project. Operational emission from the BSPP would exceed the threshold but those from GSEP would not. Therefore, the impacts from construction of both projects are considered to be significant, as well as the operational impacts of the BSPP.

5.5.2 Alternatives

Alternative Sites

The substation site alternatives and the proposed substation expansion would have similar peak construction and operational activities, which would generate the same level of greenhouse gas emissions through fossil fuel use.

No Project Alternative

It is not possible to define the impacts of the other projects that would occur under the No Project scenario with any specificity because no designs are available. However, more construction emissions would result from larger areas of ground disturbance that could be required to construct multiple substation sites and additional gen-tie lines, so GHG impacts would likely be more severe than for the Proposed Project. In addition, the requirement for additional substations would result in the construction of multiple facilities operating with additional SF₆, which would be a more severe impact due to its high global warming potential.

5.5.3 Cumulative Impacts

The analysis for GHG emissions for the Proposed Project is a cumulative impact assessment because GHG emissions contribute, by their nature, on a cumulative basis, to the adverse environmental impacts of global climate change (see Section 5.5.1). The Colorado River Substation expansion project alone would contribute 1,465 MTCO₂e/yr during construction and less than 100 MTCO₂e/yr during operation. With feasible control of SF₆ emissions (Mitigation Measure GHG-1), the project's impact is less than significant (see Section D.6.4). However, when combined with impacts of past, present, and reasonably foreseeable projects, including the BSPP and GSEP projects (as described in Section D.6.5), the Proposed Project's contribution would be cumulatively considerable. The cumulative scenario and contribution of the Proposed Project would be the same for the site alternatives due to their proximity and similarities in the type, duration, and extent of construction activities.

ES.6 Summary Comparison of the Proposed Project and Alternatives

This section summarizes and compares the environmental advantages and disadvantages of the proposed Colorado River Substation Expansion Project and the alternatives evaluated in this SEIR. This comparison is based on the assessment of environmental impacts of the Proposed Project and each alternative.

CEQA Guidelines require that an EIR include sufficient information about each alternative to allow meaningful evaluation, analysis, and comparison with the Proposed Project. The Guidelines also state that if an alternative would cause one or more significant effects in addition to those that would be caused by the project as proposed, the significant effects of the alternative shall be discussed, but in less detail than the significant effects of the project as proposed. If the environmentally superior alternative is the No Project Alternative, CEQA requires identification of an environmentally superior alternative among the other alternatives [CEQA Guidelines Section 15126.6(e)(2)].

The primary impact differences between the proposed Colorado River Substation site and the alternative sites result from shifting the substation site to minimize impacts to an active sand transport corridor. Therefore, for the disciplines listed below, the impacts of the alternative sites would be similar to those of the Colorado River Substation expansion, because the peak construction activities would likely be the same and because five site locations are in close geographic proximity. These disciplines are not individually analyzed in this SEIR as explained above, and no environmental preference is identified herein.

- Visual Resources
- Land Use
- Wilderness and Recreation
- Agriculture
- Geology, Mineral Resources and Soils
- Noise
- Transportation and Traffic
- Public Health and Safety
- Air Quality
- Hydrology and Water Resources
- Socioeconomics
- Greenhouse Gas

Mitigation included in the DPV2 Final EIR/EIS (2006) would be implemented at the proposed Colorado River Substation expansion or any alternative site that is approved.

Summary of Impacts

Construction of the proposed expanded Colorado River Substation would cause 90 acres of direct disturbance impacts, in addition to direct impacts caused by access roads, telecommunications facilities, well digging, and other project components. It would also cause a reduction of sand transported to 1,365 acres downwind (east) of the Proposed Project area. This resultant deflation would ultimately eliminate 1,365 acres of Mojave fringe-toed lizard sand dune habitat that comprises the easternmost extent of the Chuck-walla sand transport corridor. Therefore, the Proposed Project would have two significant and unavoidable (Class I) biological resources impacts for the Mojave fringe-toed lizard, three potentially significant and unmitigable impacts for cultural resources, and one significant and unmitigable impact from cumulative greenhouse gas emissions:

- *Impact B-9:* Construction activities would result in indirect or direct loss of individuals and/or habitat for sensitive wildlife.
- *Impact B-19:* The Proposed Project would contribute to a cumulatively considerable impact to special-status species or sensitive habitat when combined with impacts from past, present, and reasonably foreseeable future projects.
- *Impact C-1:* Construction of the project could cause an adverse change to known historic properties.
- *Impact C-2:* Construction of the project could cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains.
- *Impact C-3:* Construction of the project could cause an adverse change to Traditional Cultural Properties.
- *Impact GHG-1:* Project activities would cause a net increase of greenhouse gas emissions.

All other impacts would be less than significant with implementation of mitigation included in the DPV2 Final EIR/EIS and in Section D of this SEIR.

The **Partial Avoidance Alternative** would reduce direct and indirect impacts to Mojave fringe-toed lizard sand dune habitat to 90 acres and 855 acres, respectively. However, impacts to Mojave fringe-toed lizard (Impact B-9) would still be significant and unmitigable (Class I). The Partial Avoidance Alternative would also reduce impacts to ribbed cryptantha and Harwood's eriastrum and fewer cultural resources would be impacted as well (6 documented resources, 4 of which are unevaluated). Impacts to desert tortoise (10 acres of creosote scrub habitat) would be greater than at the proposed Colorado River Substation location where the potential for desert tortoise is low. However, impacts to desert tortoise at the Partial Avoidance Alternative site would be less than significant with standard mitigation that was included in the DPV2 Final EIR/EIS (2006).

Avoidance Alternative #1 would move the substation outside of the active sand transport corridor, eliminating direct and indirect impacts to Mojave fringe-toed lizard sand dune habitat. Access roads would be within the sand transport corridor, but impacts from access road widening would be less than significant with mitigation. Avoidance Alternative #1 would also reduce impacts to ribbed cryptantha and Harwood's eriastrum. The Avoidance Alternative #1 substation footprint itself would impact fewer cultural resources (3 unevaluated resources); however, 3 additional resources would be impacted within the study area buffer for gen-tie/transmission interconnections and the access road (6 total unevaluated documented resources). Impacts to desert tortoise would be greater (90 acres of creosote scrub habitat); however, the impacts would be less than significant with standard mitigation.

Avoidance Alternative #2 would move the substation outside of the active sand transport corridor, reducing both direct and indirect impacts to Mojave fringe-toed lizard sand dune habitat to less than significant. Access roads would be within the sand transport corridor, but direct impacts to Mojave fringe-toed lizard and sand dune habitat from access road widening would be less than significant with mitigation; indirect impacts to sand transport would not occur. Avoidance Alternative #2 would also reduce impacts to ribbed cryptantha and Harwood's eriastrum. It would also impact the fewest cultural resources compared to the Proposed Project and other alternatives (4 unevaluated documented resources). Impacts to desert tortoise would be greater (70 acres of creosote scrub habitat); however, the impacts would be less than significant with adopted mitigation.

Avoidance Alternative #3 would move the substation outside of the active sand transport corridor, reducing both direct and indirect impacts to Mojave fringe-toed lizard sand dune habitat to a less than significant level. Access roads would be within the sand transport corridor, but direct impacts to Mojave fringe-toed lizard and sand dune habitat from access road widening would be less than significant with mitigation; indirect impacts to sand transport would not occur. However, this alternative would impact desert tortoise (45 acres of creosote scrub habitat), and would impact a State-jurisdictional wash, but these impacts would be less than significant with mitigation. It would also have slightly greater impacts to cultural resources (15 unevaluated documented resources) than the proposed Colorado River Substation or the other alternative sites. Avoidance Alternative #3 would slightly reduce impacts to ribbed cryptantha and Harwood's eriastrum.

The **Southern Alternative** would move the substation outside of the active sand transport corridor, eliminating both direct and indirect impacts to Mojave fringe-toed lizard sand dune habitat. However, access roads would be within the sand transport corridor, but direct impacts to Mojave fringe-toed lizard and sand dune habitat from access road widening would be less than significant with mitigation; indirect impacts to sand transport would not occur. Impacts to rare plants would also be reduced, because this alternative would be unlikely to affect ribbed cryptantha, Harwood's eriastrum, or other sensitive dune plants. Impacts

to cultural resources would be greater (13 documented resources, 10 of which are unevaluated) than at the proposed Colorado River Substation and other alternative sites (except Avoidance Alternative #3), but would be less than significant with mitigation. Impacts to desert tortoise and creosote scrub habitat (90 acres) would be greater as well; however, the impacts would also be less than significant with standard mitigation. There would be new impacts to State-jurisdictional washes because several small highly divided sandy channels drain to the west across the site and approximately three have the potential to be jurisdictional. Therefore, the Southern Alternative would create new impacts to State-jurisdictional desert washes, which provide important habitat for wildlife and plants. In addition, an active desert kit fox den and other mammalian burrows occur onsite. With incorporation of mitigation required in the DPV2 Final EIR/EIS, these impacts would be less than significant.

Conclusion

Due to the proximity of the alternative sites and the proposed Colorado River Substation, many of the environmental impacts would be similar. All of the alternative substations sites and/or their transmission or gen-tie interconnections except for the Southern Alternative would likely be located on some private land. The Proposed Project and all of the alternative site have the potential for significant and unmitigable impacts to Traditional Cultural Properties should they be identified during Native American consultation.

All of the alternative sites except the Partial Avoidance Alternative would be located outside of the active sand transport corridor and would reduce the Proposed Project's significant and unmitigable impact on Mojave fringe-toed lizard sand dune habitat to a less than significant level. However, all alternative sites would require gen-tie/transmission interconnections as well as the widening of the existing DPV1 access road through the sand transport corridor to Wiley Well Road, which would result in less than significant impacts with implementation of mitigation.

The Partial Avoidance Alternative would reduce both direct and indirect impacts to Mojave fringe-toed lizard sand dune habitat by being located partially outside of the corridor; however, impacts to Mojave fringe-toed lizard (Impact B-9) would still be significant and unmitigable (Class I). Therefore, it is preferred to the proposed Colorado River Substation, but not the other alternative sites. Likewise, due to their proximity, all of the alternatives would have similar potential significant and unmitigable impacts to Traditional Cultural Properties as the Proposed Project.

Overall, Avoidance Alternative #1 is the environmentally superior alternative, due to its reduction of significant impacts to biological resources (Mojave fringe-toed lizard) to a less than significant level with implementation of mitigation along the gen-tie/transmission interconnections and access road. It is also preferred for rare plants. While it is found to be potentially feasible and to meet most project objectives, a portion of the substation is on private property. Therefore, decision makers will evaluate the potential for project delay based on the potential requirement for negotiations with private landowners and possible condemnation proceedings, which could affect SCE's operational timeline objective. Also, approval would be required by the Palo Verde Land and Water Company due to reservation rights on the property.

Otherwise, the Southern Alternative would also be environmentally superior should Avoidance Alternative #1 create significant delays that would affect its ability to meet project objectives and be feasible. The Southern Alternative and the transmission interconnections would be located entirely on public (BLM) land. The Southern Alternative would reduce significant impacts to biological resources to less than significant with the implementation of mitigation along the gen-tie/transmission interconnections and access road. It is less environmentally preferred than Avoidance Alternative #1 because it has the potential to impact desert washes and desert kit foxes; however, these impacts would be less than significant with mitigation. It would also impact a greater number of cultural resources.

Avoidance Alternative #2 and Avoidance Alternative #3 would also both reduce significant impacts to biological resources to less than significant with the implementation of mitigation along the gen-tie/transmission interconnections and access road. However, these sites would also still affect some lower quality MFTL sand dune habitat within the site footprints, so they are less preferred than Avoidance Alternative #1 and the Southern Alternative. Avoidance Alternative #2 is preferred to Avoidance Alternative #3, because it would impact the fewest documented cultural resources and the gen-tie interconnections would be slightly shorter creating slightly less ground disturbance. Avoidance Alternative #3 would also impact one desert wash.

ES.7 Impact Summary Tables

Tables ES-2 and ES-3 summarize the identified impacts of the Proposed Project. Impact classes in this SEIR are defined as follows: Class I (significant and unavoidable), Class II (significant but mitigable to less than significant), Class III (adverse but less than significant), Class IV (beneficial).

For each impact, the following information is presented: impact number and title, impact class (Class I and Class II impacts only), along with applicable mitigation measure titles. By definition, all Class I impacts remain significant even after mitigation and all Class II impacts are less than significant with mitigation.

The first column of the tables show whether the impact results from the Proposed Project and all alternatives, or only for certain options.

Table ES-2. Summary of Significant Unmitigable (Class I) Impacts for the Proposed Project and Alternatives

(PP: Proposed Project; PAA: Partial Avoidance Alternative; AA1: Avoidance Alternative 1; AA2: Avoidance Alternative 2; AA3: Avoidance Alternative 3; SA: Southern Alternative)

Applies to:	Impact	Mitigation Measure (if any)
Biological Resources		
PP, PAA	B-9. Construction activities would result in indirect or direct loss of individuals and/or habitat for sensitive wildlife (Mojave fringe-toed lizard)	B-9d (rev). Conduct pre-construction reptile surveys B-9j. Provide compensatory mitigation and restoration/enhancement of protected land for impacts to sand dune habitat
PP, PAA	B-19. The Proposed Project would contribute to a cumulatively considerable impact to special-status species or sensitive habitat when combined with impacts from past, present, and reasonably foreseeable future projects (Mojave fringe-toed lizard)	B-9d (rev). Conduct pre-construction reptile surveys B-9j. Provide compensatory mitigation and restoration/enhancement of protected land for impacts to sand dune habitat
Cultural Resources		
All	C-1. Construction of the project could cause an adverse change to known historic properties	C-1a. Inventory and evaluate cultural resources in Final APE C-1b. Avoid and protect potentially significant resources C-1c. Develop and implement Historic Properties Treatment Plan C-1d. Conduct data recovery to reduce adverse effects C-1e. Monitor construction C-1f. Train construction personnel
All	C-2. Construction of the project could cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains	C-1c. Develop and implement Historic Properties Treatment Plan C-1d. Conduct data recovery to reduce adverse effects C-1e. Monitor construction C-1f. Train construction personnel C-2a. Consult agencies and Native Americans
All	C-3. Construction of the project could cause an adverse change to Traditional Cultural Properties	C-3a. Complete consultation with Native American and other Traditional Groups.
Hydrology and Water Resources		
All	No Class I Impacts	n/a
Socioeconomics and Utilities		
All	No Class I Impacts	n/a
Greenhouse Gas Emissions		
All	GHG-1. Project activities would cause a net increase of greenhouse gas emissions	GHG-1. Avoid sulfur hexafluoride emissions

Table ES-3. Summary of Significant but Mitigable (Class II) Impacts and Mitigation for the Proposed Project and Alternatives

(PP: Proposed Project; PAA: Partial Avoidance Alternative; AA1: Avoidance Alternative 1; AA2: Avoidance Alternative 2; AA3: Avoidance Alternative 3; SA: Southern Alternative)

Applies to:	Impact	Mitigation Measure(s)
Biological Resources		
PAA AA1 AA2 AA3 SA	B-7: Construction activities would result in indirect or direct loss of listed wildlife or habitat (desert tortoise)	B-1a. Prepare and implement a Habitat Restoration/Compensation Plan. B-7b. Conduct pre-construction tortoise surveys. B-7c. Purchase mitigation lands for impacts to tortoise habitat.
All	B-8. Construction activities would result in indirect or direct loss of individuals and/or habitat for sensitive plants (Harwood's milk-vetch, Harwood's eriastrum, and flat-seeded spurge)	B-8b. Minimize off-site impacts to Harwood's eriastrum, Harwood's milk-vetch, and flat-seeded spurge habitat B-9j. Provide compensatory mitigation and restoration/enhancement of protected land for impacts to sand dune habitat
All	B-9. Construction activities would result in indirect or direct loss of individuals and/or habitat for sensitive wildlife (desert kit fox)	B-9g (rev). Conduct pre-construction surveys and passive relocation for American badger and desert kit fox
AA1 AA2 AA3 SA	B-9. Construction activities would result in indirect or direct loss of individuals and/or habitat for sensitive wildlife (Mojave fringe-toed lizard; access roads and gen-ties only)	B-9d (rev). Conduct pre-construction reptile surveys B-9j. Provide compensatory mitigation and restoration/enhancement of protected land for impacts to sand dune habitat
All	B-15. Operation of the transmission line and telecommunication linear facilities may result in collisions by listed bird species	B-15a (rev). Utilize collision-reducing techniques in installation of transmission lines and telecommunication linear facilities
All	B-18. Construction activities would result in indirect or direct loss of a sensitive natural community identified in local or regional plans, policies, regulations, or by CDFG, BLM, or USFWS (stabilized and partially stabilized sand dunes)	B-8b. Minimize off-site impacts to Harwood's eriastrum, Harwood's milk-vetch, and flat-seeded spurge habitat B-9j. Provide compensatory mitigation and restoration/enhancement of protected land for impacts to sand dune habitat
All	B-19. The Proposed Project would contribute to a cumulatively considerable impact to special-status species or sensitive habitat when combined with impacts from past, present, and reasonably foreseeable future projects (stabilized and partially stabilized sand dunes, desert kit fox, rare plants)	B-9g (rev). Conduct pre-construction surveys and passive relocation for American badger and desert kit fox B-8b. Minimize off-site impacts to Harwood's eriastrum, Harwood's milk-vetch, and flat-seeded spurge habitat B-9j. Provide compensatory mitigation and restoration/enhancement of protected land for impacts to sand dune habitat
Cultural Resources		
All	C-1. Construction of the project could cause an adverse change to known historic properties	C-1a. Inventory and evaluate cultural resources in Final APE C-1b. Avoid and protect potentially significant resources C-1c. Develop and implement Historic Properties Treatment Plan C-1d. Conduct data recovery to reduce adverse effects C-1e. Monitor construction C-1f. Train construction personnel
All	C-3. Construction of the project could cause an adverse change to Traditional Cultural Properties	C-3a. Complete consultation with Native American and other Traditional Groups.
All	C-5. Operation and long-term presence of the project could cause an adverse change to known historic properties	C-2a. Consult agencies and Native Americans. C-3a. Complete consultation with Native American and other Traditional Groups. C-5a (rev). Protect and monitor NRHP-eligible properties

Table ES-3. Summary of Significant but Mitigable (Class II) Impacts and Mitigation for the Proposed Project and Alternatives

(PP: Proposed Project; PAA: Partial Avoidance Alternative; AA1: Avoidance Alternative 1; AA2: Avoidance Alternative 2; AA3: Avoidance Alternative 3; SA: Southern Alternative)

Applies to:	Impact	Mitigation Measure(s)
All	C-6. The Proposed Project would contribute to a cumulatively considerable impact on cultural resources when combined with impacts from past, present, and reasonably foreseeable future projects	C-1a. Inventory and evaluate cultural resources in Final APE C-1b. Avoid and protect potentially significant resources C-1c. Develop and implement Historic Properties Treatment Plan C-1d. Conduct data recovery to reduce adverse effects C-1e. Monitor construction C-1f. Train construction personnel C-2a. Consult agencies and Native Americans
Hydrology and Water Resources		
All	H-2. Degradation of water quality through spill of potentially harmful materials used in construction	P-1a (rev). Develop Hazardous Substance Control and Emergency Response Plan P-1b. Conduct environmental training and monitoring program P-1c (rev). Ensure proper disposal of construction waste P-1d. Maintain emergency spill supplies and equipment
All	H-4. Water quality degradation caused by accidental releases of oil from project facilities	P-4a (rev). Prepare Spill Prevention, Countermeasure, and Control Plans
All	H-5. Excavation could degrade groundwater quality	P-1d. Maintain emergency spill supplies and equipment H-5a. Construction site dewatering management
All	H-6. Encroachment into a floodplain or watercourse by permanent aboveground project features resulting in flooding, flood diversions, or erosion.	H-6a. Design diversion dikes or other site remediation to avoid damage to adjacent property
All	H-7. Construction activity would deplete groundwater supplies or interfere with groundwater recharge	H-5a. Construction site dewatering management H-7a. Groundwater Well Contingency Plan H-7b. Groundwater Monitoring and Reporting H-7c. Water Supply Plan for Use of Colorado River Water
All	H-8. The Proposed Project would contribute to a cumulatively considerable impact on water resources when combined with impacts from past, present, and reasonably foreseeable future projects	P-1a (rev). Develop Hazardous Substance Control and Emergency Response Plan P-1b. Conduct environmental training and monitoring program P-1c (rev). Ensure proper disposal of construction waste P-1d. Maintain emergency spill supplies and equipment P-4a (rev). Prepare Spill Prevention, Countermeasure, and Control Plans H-5a. Construction site dewatering management H-6a. Design diversion dikes or other site remediation to avoid damage to adjacent property H-7a. Groundwater Well Contingency Plan H-7b. Groundwater Monitoring and Reporting H-7c. Water Supply Plan for Use of Colorado River Water
Socioeconomics and Utilities		
All	S-2. Project construction would place demands on local water or solid waste utilities.	H-7a. Groundwater Well Contingency Plan H-7b. Groundwater Monitoring and Reporting H-7c. Water Supply Plan for Use of Colorado River Water
All	S-5. The Proposed Project would contribute to a cumulatively considerable demand on local water when combined with impacts from past, present, and reasonably foreseeable future projects	H-7a. Groundwater Well Contingency Plan H-7b. Groundwater Monitoring and Reporting H-7c. Water Supply Plan for Use of Colorado River Water