

## Comments and Responses to Comments

During the public comment period on the Draft EIR/EIS (from August 7 to September 22, 2015), written comment were submitted by a range of agencies, Native American Tribes, individuals, and groups. In addition, the CPUC and BLM held three public workshops, and comments made at one workshop were recorded for response in this Final EIR.

This volume presents each comment letter and a response to each comment. Each comment letter is identified with a letter and number (e.g., A1), and each individual comment within each letter is defined with a bar along the side, and identified with a unique comment number (e.g., A1-1). The responses are presented following each complete letter.

The comments from Southern California Edison are divided into four parts (identified as F1 through F4). Because Comment Set F3 is extremely long, the comment letter and the responses to that comment set are divided by the EIR/EIS section to which the comments refer (i.e., the Executive Summary comments are presented first, followed by responses to those comments, then the comments on Section A are presented, followed by the responses to those comments).

Before the individual comments and responses are presented (following tabs for each comment type), this section includes a set of six General Responses. These topics relate to comments that were made by several commenters, or that required especially detailed responses.

Table 1 lists the comments received on the Draft EIR/EIS.

<b>Table 1. Comments Received on the Draft EIR/EIS</b>		
<b>Letter No.</b>	<b>Date</b>	<b>Commenter</b>
<b>Category A – Public Agencies</b>		
A1	9/16/15	San Bernardino County Department of Public Works
A2	9/18/15	U.S. Environmental Protection Agency
A3	9/14/15	California Department of Transportation
A4	9/22/15	City of Colton
A5	9/22/15	City of Redlands
A6	9/22/15	CPUC Office of Ratepayer Advocates
A7	10/9/15	U.S. Fish & Wildlife Service
<b>Category B – Groups, Organizations, and Companies</b>		
B1	8/27/15	Southern California Gas Company
B2	8/31/15	Seven Oaks Medical Center (John Steinmann)
B3	9/11/15	Arrowhead Orthopaedics
B4	9/22/15	Palen Solar Holdings LLC
B5	9/22/15	Natural Resources Defense Council
B6	9/22/15	Seven Oaks Medical Center (Tim Delinger)
B7	9/22/15	Independent Energy Producers Association
B8	9/22/15	NextEra Energy Resources LLC

<b>Table 1. Comments Received on the Draft EIR/EIS</b>		
<b>Letter No.</b>	<b>Date</b>	<b>Commenter</b>
B9	9/22/15	California Independent System Operator Corporation
<b>Category C – Tribal Governments</b>		
C1	9/22/15	Morongo Band of Mission Indians
C2	9/22/15	Colorado River Indian Tribes
<b>Category D – Public Hearings</b>		
D1	9/1/15	Public Workshop – Banning Mr. Swerdlow Mr. Kierspe
<b>Category E – Private Citizens</b>		
E1	8/11/15	Joe E. Rose
E2	8/29/15	Dennis Rice
E3	8/30/15	Regina Tierney
E4	8/30/15	Carol Doyle
E5	8/31/15	Gary M. Stoh
E6	8/31/15	John Christensen
E7	8/31/15	Bernard Dale
E8	9/2/15	Nick Gercis
E9	9/2/15	Steve Mehlman
E10	8/26/15	Michael Gilbert
E11	9/3/15	Stan Fogg
E12	9/3/15	Kathy Kelehan
E13	9/6/15	Susan and Helmuth Fritz
E14	9/7/15	Gary and Kathleen Frisbie
E15	9/7/15	Sandi Joel
E16	9/7/15	Lane Joel
E17	9/1/15	George Newlin
E18	9/4/15	John T. & Carolyn A. Washburn
E19	9/4/15	Carla Bracken
E20	9/2/15	Anthony & Frances Germana
E21	9/10/15	Ron Roy
E22	9/10/15	Linda Hall
E23	9/11/15	Rodolfo N. & Yolanda M. Velasco
E24	9/11/15	Harry Smallwood

<b>Table 1. Comments Received on the Draft EIR/EIS</b>		
<b>Letter No.</b>	<b>Date</b>	<b>Commenter</b>
E25	9/11/15	Sharon Waitman
E26	9/11/15	Corinne Slusser
E27	9/5/15	Marcia Tulledge
E28	9/12/15	Fran Zimmerman
E29	9/18/15	David Doherty #1
E30	9/19/15	Udo Kierspe
E31	9/19/15	Kathie Dyson
E32	9/20/15	Timothy J. Pavlian
E33	9/21/15	W. Elaine Morgan
E34	9/23/15	Leanne Weisskoff
E35	9/17/15	Susan Diamond
E36	9/1/15	Ann C. Hasbargen
<b>Category F – The Applicant</b>		
F1–F4	9/22/15	Southern California Edison

## Purpose of Response to Comments Volume

This Final EIR, in conjunction with the West of Devers Upgrade Project Draft EIR/EIS (August 2015), constitutes the Final EIR on the Proposed Project. The Final EIR has been prepared pursuant to CEQA Section 21000 et seq., California Public Resources Code, and in accordance with the Guidelines for the Implementation of CEQA Section 15000 et seq., California Code of Regulations, Tit. 14. The Notice of Preparation (NOP) describing the Proposed Project was published on May 12, 2014. The Final EIR will be used by the CPUC as part of its Certificate of Public Convenience and Necessity (CPCN) approval process, which includes selecting project alternatives, adopting mitigation measures, and reviewing project costs.

The BLM, as Lead Federal Agency, will publish a separate Final EIS, and BLM will be responsible for ensuring compliance with all requirements of NEPA and the Council on Environmental Quality (CEQ) regulations for implementing NEPA (40 Code of Federal Regulations [CFR] 1500-1508).

This Final EIR contains all comments on the Draft EIR/EIS and responses thereto. The focus of the responses to comments is on the disposition of significant environmental issues as raised in the comments, as specified by Section 15088(b) of the State CEQA Guidelines and 40 CFR 1503.4 under NEPA.

## Organization of this Volume

The remainder of this volume is organized as follows:

- General Responses to Frequently Made Comments
- A: Comments by Agencies; Responses to Agency Comments
- B: Comments by Organizations; Responses to Organization Comments
- C: Comments by Native American Tribes; Responses to Native American Tribe Comments

- D: Comments Made at Public Workshops; Responses to Workshop Comments
- E: Comments by Members of the Public; Responses to Comments by Members of the Public
- F1: Comments by SCE (Cover Letter); Responses to SCE’s Cover Letter Comments
- F2: Comments by SCE (Power Flow Modeling); Responses to SCE’s Power Flow Modeling Comments
- F3: Comments by SCE (EIR/EIS Details); Responses to SCE’s Detailed Comments
- F4: Comments by SCE (Project Description); Responses to SCE’s Project Description Comments

## General Responses

This section presents detailed responses to comments that were made by many commenters. General Responses address the following topics:

- GR-1. Project Need
- GR-2. Agency-defined Basic Project Objectives
- GR-3. Renewable Energy Accommodated by the Phased Build Alternative
- GR-4. Analysis of Potential Future Construction under the Phased Build Alternative
- GR-5. Property Values
- GR-6. Electric and Magnetic Fields (EMF)

### GR-1. Project Need

**Responding to comments from:** SCE (Comment F1-1, F1-5, F1-13, and Comment F2-8); CAISO (Comment B9); Independent Energy Producers Association (Comment B7-1); and others.

Some commenters stated that one alternative, the Phased Build Alternative, may not meet or satisfy the need for the Proposed Project, and that the capacity of Phased Build Alternative may restrict development of renewable energy projects located electrically upstream of the WOD corridor in eastern Riverside County or Imperial County. In contrast, comments submitted by the CPUC Office of Ratepayer Advocates (ORA) stated that the EIR should consider an additional project alternative with a reduced capacity.

These comments reflect the positions of the various commenters on the need for the West of Devers Upgrade Project. The EIR presents SCE’s Purpose and Need in Section A.2.1.1 and the CPUC Project Objectives in Section A.2.2.

This General Response focuses on the question of project need in the context of the environmental review process. The scope of the EIR is limited to satisfying the specific requirements of CEQA. The environmental review process has a narrower scope than the CPUC’s general proceeding, which considers the cost of the project along with its need.

CEQA Guidelines in Sections 15126.6(d) and (e)(2) require that an EIR identify the Environmentally Superior Alternative. The EIR concludes that the Environmentally Superior Alternative would be the Phased Build Alternative (which incorporates the transmission structure locations defined in the Tower Relocation Alternative). This General Response gives an overview of the CPUC’s general proceeding because evidence presented in the proceeding will explore how the Phased Build Alternative and other alternatives compare with the Proposed Project.

See General Response GR-2 and other individual responses to comments for discussions showing how the Phased Build Alternative would be a potentially feasible means of satisfying most or all of the objectives.

## CPUC General Proceeding

The Purpose and Need for the Proposed Project is discussed in Section A.2 of the EIR. While the EIR summarizes SCE's purpose and need for the project, the extent of the need for this project (in MW of transfer capacity) is not determined within the context of the environmental review process. The CPUC Administrative Law Judge evaluates project need as part of the CPUC general proceeding with information presented by SCE, CAISO, and other parties.<sup>1</sup> The Commission's General Order (GO) 131-D contains rules relating to the planning and construction of electric facilities. It prescribes that, prior to issuing a Certificate of Public Convenience and Necessity (CPCN), the Commission must find that the project is necessary to promote the safety, health, comfort, and convenience of the public. Specifically, the CPUC's CPCN process requires SCE to provide "A statement of facts and reasons why the public convenience and necessity require the construction and operation of the proposed transmission facilities."

The EIR is an informational document prepared in satisfaction of the requirements of CEQA. The EIR does not make a recommendation regarding approval or denial of the CPCN application, and it does not establish whether the project or an alternative is needed in the context of GO 131-D. The purpose of the EIR is to inform both the public and the decision-makers of the environmental impacts of the Proposed Project and alternatives and provide recommended mitigation measures to reduce or avoid any potentially significant impacts. The CEQA Guidelines Section 15126.6(d) requires an EIR to include sufficient information about each alternative to allow meaningful evaluation, analysis, and comparison of those alternatives to the Proposed Project. In making a final determination on the CPCN application, the CPUC will consider the information contained in the EIR as well as in the formal evidentiary record.

The CPUC Assigned Commissioner's Scoping Memo, dated August 24, 2015 indicates that the parties participating in the evidentiary hearing must address a series of questions, including:

- #1. Does the proposed project serve a present or future public convenience and necessity? This issue encompasses consideration of whether the proposed project is needed to ensure the safe and reliable function of SCE's transmission system.
- #2. What is the maximum prudent and reasonable cost of the project (if approved)?
- #6. Are the environmentally superior alternatives and/or mitigation measures infeasible?

During the CPUC evidentiary hearing, all parties in the proceeding can address the topic of the need for the Proposed Project. The list of questions also shows that the topic of the feasibility of the Phased Build Alternative and any other alternative is also within the scope of the evidentiary hearing.

## Projects Contributing to the Need for the Proposed Project and Connected Actions

Various renewable energy projects and other electric transmission projects are planned to be developed in the area that would be served by transmission within the WOD corridor (primarily east of the Devers Substation). The level of renewable energy development that may be facilitated by the Proposed Project is addressed in the EIR for the limited purpose of disclosing environmental impacts that may occur at locations outside of the project corridor. A wide range of generation and transmission projects that contribute to the need for the Proposed Project appear in the EIR (Section A.2.1.4), and some projects will drive the need for the Proposed Project more than others (Table A-4, Projects Contributing to Need for WOD Upgrade Project). However, it is not appropriate for the EIR to attempt to define the overall level of need or to speculate on the level of development that must be accommodated.

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<sup>1</sup> As of October 2015, parties to the CPUC proceeding include SCE, CAISO, ORA, Palen Solar Holdings, and NextEra Energy Resources.

The EIR, in Section B.7.1, Definition of Connected Action Projects, recognizes that some generation projects are so closely related to the Proposed Project as to be considered “connected actions” under NEPA. Accordingly, the environmental analysis discloses a range of potential impacts for the Connected Action projects because their construction and operation is directly reliant on the transmission capacity of the Proposed Project. The total generation capacity of the Connected Action projects is shown to be 1,474 MW (EIR Section A.3, Table A-6 and Table B-22).

## **GR-2. Agency-defined Basic Project Objectives**

**Responding to comments from:** SCE (Comment F1-1, F1-5, F1-7, F1-8, and Comment F2-8); CAISO (Comment B9-1, B9-3, B9-8); Palen Solar Holdings (Comment B4-1); and others.

Commenters stated that the Phased Build Alternative would not meet project objectives, and therefore it would not be a feasible alternative under CEQA. Comments from owners of power generation projects, specifically Palen Solar Holdings (Comment Set B4), also assert that the agency-defined objectives should reflect SCE’s proposal. This General Response focuses on the project objectives that are agency-defined for the environmental review process, and how the Phased Build Alternative is potentially feasible means of satisfying the objectives, with a focus on Basic Project Objective 1. Other individual responses to comments provide information on how the Phased Build Alternative would reduce or avoid environmental impacts.

This General Response reviews the CEQA requirements that an EIR evaluate a reasonable range of alternatives. It also explains how the EIR established three “Basic Project Objectives” as a means of determining whether each alternative could accomplish most or all of basic the objectives in accordance with CEQA Guidelines § 15126.6(a).

### ***Background on CEQA and NEPA Requirements***

CEQA Guidelines Section 15126.6(a) provides that alternatives should be “potentially feasible” and should meet “most” of the **basic** project objectives, while reducing or avoiding one or more the significant effects of the proposed project. Similarly, the Council on Environmental Quality’s (CEQ) NEPA Regulations (40 CFR 1502.14) requires analysis of alternatives that are “practical or feasible.”

The Phased Build Alternative was developed and analyzed in the EIR because it is potentially feasible, it substantially satisfies all three basic project objectives, and it would reduce or avoid certain significant environmental effects of the Proposed Project.

The CPUC and BLM developed the Basic Project Objectives for the purposes of environmental review, and more specifically, to ensure that the scope of alternatives was not unduly limited. The transmission alternatives originally identified by SCE in the October 2013 Proponent’s Environmental Assessment (PEA) were limited to two minor route adjustments, one of which could have resulted in closure of the Banning Airport, and two major transmission system modifications that would have substantially more severe environmental impacts than the Proposed Project (EIR Section C.5.6, Devers-Beaumont 500 kV Alternative, and Section C.5.7, Red Bluff–Valley-Serrano 500 kV Alternative). The Phased Build Alternative helps to constitute a reasonable range of potentially feasible alternatives designed to reduce the project’s environmental impacts.

### **Rationale for the CPUC and BLM Basic Project Objectives**

SCE’s PEA defined six project objectives, presented in EIR Section A.2.1. The reasons these objectives were modified are explained in Table GR-1, and in more detail following the table.

**Table GR-1. Agency-defined Basic Project Objectives and SCE Project Objectives**

SCE Objectives	EIR Basic Project Objectives
1. Allow SCE to meet its obligation to integrate and fully deliver the output of new generation projects located in the Blythe and Desert Center areas that have requested to interconnect to the electrical transmission grid.	♦ <b>Retained</b> but modified as EIR Basic Project Objective 1 to specify a minimum level of deliverability driven by specific projects defined by CAISO in 2010.
2. Consistent with prudent transmission planning, maximize the use of existing transmission line rights-of-way to the extent practicable.	♦ <b>Retained</b> as EIR Basic Project Objective 3
3. Meet project need while minimizing environmental impacts.	♦ Eliminated because this is the purpose of CEQA and NEPA; unnecessary to repeat this legal requirement
4. Facilitate progress toward achieving California’s RPS goals in a timely and cost-effective manner by SCE and other California utilities.	♦ <b>Retained</b> as EIR Basic Project Objective 2 with cost considerations to be addressed in CPUC general proceeding
5. Comply with applicable Reliability Standards and Regional Business Practice developed by NERC, WECC, and the CAISO; and design and construct the project in conformance with SCE’s approved engineering, design, and construction standards for substation, transmission, subtransmission, and distribution system projects.	♦ Eliminated because the CPUC could not permit a transmission project unless it did comply with the safety requirements of NERC and WECC
6. Construct facilities in a timely and cost-effective manner by minimizing service interruptions to the extent practicable.	♦ Eliminated because these best construction management practices principles apply to all transmission projects approved by the CPUC

As shown in Table GR-1, the EIR establishes three “Basic Project Objectives” (taken from the six objectives defined by SCE) in order to define a range of reasonable alternatives (Draft EIR, Section A.2.3). The CEQA requirement to describe a “range of reasonable alternative” guides the CPUC and BLM rationale for identifying three “Basic Project Objectives” that modify SCE’s stated Project Objectives.

To be sure that the scope of alternatives analyzed in the EIR was not unduly limited or narrow, the EIR uses a broader (agency-defined) view of the project objectives. Under CEQA Guidelines Section 15126.6(a), an EIR can examine alternatives that are “potentially feasible” and that do not necessarily attain all of the applicant’s project objectives. This means that the EIR can and does consider alternatives that do not involve achieving precisely SCE’s level of targeted corridor transfer capability.

As shown in Table GR-1, the objectives listed by SCE in its PEA for the Proposed Project included no minimum generation level goals. (See also, EIR Section A.2.1.2). Similarly, SCE did not include minimum generation levels in its statement of Project Purpose and Need (EIR Section A.2.1.1). Because SCE did not define a minimum targeted capability for the corridor, the EIR Basic Project Objective 1 aligns with the assessment in 2010 by CAISO that the Proposed Project would be a required Delivery Network Upgrade for 2,200 MW from five renewable energy generation projects (EIR Section A.2.1.4.1). The Proposed Project was initiated by SCE as a result of the Transition Cluster Generation Interconnection study process in mid-2010. That study, based on CAISO queued generation projects and generation levels at the time, identified the West of Devers 220 kV system upgrades as necessary to support the deliverability of 2,200 MW of new generation in eastern Riverside County. Given no minimum level of generation to be

accommodated by the project in SCE's Project Purpose and Need (EIR Section A.2.1.1) or SCE's Project Objectives (EIR Section A.2.1.2), the EIR Basic Project Objective 1 was set at the original 2,200 MW level. Detailed discussion of the consistency of the Phased Build Alternative with Basic Project Objective 1 is presented below.

Basic Project Objective 2 and Basic Project Objective 3 are qualitative in nature. The application submitted by SCE clearly established various objectives to "integrate and fully deliver" the output of generation projects and to facilitate progress toward achieving renewable energy goals. The EIR reflects the position of several commenters that increasing the capacity of the WOD transmission lines directly improves the ability for numerous renewable generation projects to interconnect (EIR Section A.2.3). Recognizing that the generation projects that plan to rely on the Proposed Project are primarily solar generation projects, Basic Project Objective 2 was established as a means of supporting access to renewable energy by increasing the capacity of the WOD transmission lines.

Lead agency modification and development of project objectives is authorized by law. Under CEQA, a lead agency has discretion to modify an applicant's proposed project objectives. *Save Round Valley Alliance v. County of Inyo* (2007) 157 Cal.App.4th 1437, 1457. The principles underlying this modification authority are sound. CEQA charges lead agencies with developing a reasonable range of feasible alternatives so that the public and decision-makers can make informed evaluation of the merits of a proposed project as compared to the developed alternatives. *Id.* at 1456-1457; *see also* CEQA Guidelines section 15126.6(a). Reasonable alternatives are those that achieve the most of the **basic** objectives of a proposed project. *See* CEQA Guidelines section 15126.6(a); *Center for Biological Diversity v. Department of Fish and Wildlife* (2015) 234 Cal.App.4th 214, 252. Thus, CEQA expressly contemplates situations where a project applicant will provide a lead agency with many objectives that the agency will then distill down, to a group of specific, fundamental objectives, as was the case here with the West of Devers Upgrade Project. *Id.*

### **Consistency with Basic Project Objective 1**

This response summarizes how the power flow analysis is used in the evaluation of the Phased Build Alternative and its capacity to attain Basic Project Objective 1. Other individual responses to comments provide information on the structural aspects of the alternative and details on the feasibility of construction and operation.

The ability of the Phased Build Alternative to meet Basic Project Objective 1 was confirmed with the power flow modeling presented in the EIR. The modeling analysis compared the SCE Proposed Project with the Phased Build Alternative in different power flow scenarios. The scenarios selected in the power flow modeling were posted by CAISO (EIR Appendix 5, Attachment 2), and all scenarios reflect at least 2,200 MW of generation that satisfies Basic Project Objective 1. The different scenarios were chosen by the EIR team as a means of reflecting executed Large Generator Interconnection Agreements (LGIAs), CAISO feedback regarding generators still in the queue located electrically upstream of the corridor (CAISO Response to CPUC Data Request 1), and the changes in planned generation levels observed over the past 5 years (EIR Section A.2.1.4.1). The ZGlobal Power Flow Analysis identifies little change in the potential level generation since the original 2,200 MW that triggered the project in 2010 (EIR Appendix 5, Attachment 2).

Detailed data on the generation assumptions appear in the EIR (Table A4 of EIR Appendix 5, Attachment 2), and the generation table for the 2024 Reliability Base Case includes 3,853 MW of installed capacity at Red Bluff and Colorado River Substations. The EIR finds that the Phased Build Alternative satisfies the level of generation modeled with the Reliability Base Case (in the power flow analysis of Case #3 in EIR

Appendix 5, Attachment 2). The EIR analysis does not include a formal study of deliverability. Conducting a comprehensive deliverability study in a manner consistent with the CAISO's deliverability study methodology is beyond the scope of the EIR, which focuses on determining whether the alternatives are feasible. Given this review of the potential levels of generation and by satisfying levels of generation in excess of 2,200 MW in the modeled scenarios, the Phased Build Alternative demonstrates consistency with Basic Project Objective 1.

As discussed in General Response GR-1, the information in the EIR must be balanced with information that will be considered during the evidentiary hearing on cost and project need. It is not appropriate for the EIR to attempt to define the overall level of need in the context of GO 131-D and the CPUC General Proceeding or to speculate on the level of development that must be accommodated by the project or alternatives as determined through the CPUC General Proceeding process.

### **GR-3. Renewable Energy Accommodated by the Phased Build Alternative**

**Responding to comments from:** SCE (Comment F1-1, F1-8, F1-9, F1-12, and Comment F2-10); Palen Solar Holdings (Comment B4-5, B4-6); Natural Resources Defense Council (Comment Set B5); and CAISO (Comment B9-2, B9-3, B9-13); and others.

Several commenters stated that the Phased Build Alternative would not properly support California's Renewable Portfolio Standard (RPS) goals. Specific comments from Palen Solar Holdings (Comment Set B4) claim that the EIR should provide an assurance that the Phased Build Alternative would not limit renewable energy development.

This General Response focuses on how renewable energy may be accommodated by the Phased Build Alternative with a focus on Basic Project Objective 2, and this General Response also addresses California's transmission planning process that occurs outside of, and separate from, the project-level environmental review process.

#### **Consistency with Basic Project Objective 2**

Basic Project Objective 2 states simply that alternatives should support achievement of State and federal renewable energy goals, by increasing the capacity of the transmission system in the WOD corridor. The EIR reviews the renewable energy projects that contribute to the need for the Proposed Project (EIR Table A-4, Projects Contributing to Need for WOD Upgrade Project). The EIR finds that the Phased Build Alternative would meet Basic Project Objective 2 because, by increasing transmission capacity from approximately 550 MW to about 3,000 MW, it would be supportive of achieving California's RPS goals.

The commenters disagree with the assessment of the Phased Build Alternative's compliance with Basic Project Objective 2. They assert that any alternative retained for analysis should fully accommodate the same level of renewable energy development that would be accommodated by the Proposed Project. These comments reflect an opinion that alternatives in the environmental review must precisely match the capabilities of the Proposed Project. The relevant threshold from CEQA Guidelines Section 15126.6(a), however, is whether the alternatives "feasibly attain most of the basic objectives of the project." Because the EIR does not define the overall level of need for the project, the EIR does not speculate on the level of development that must be accommodated. As described in General Response GR-1, the EIR discloses the level of renewable energy development that is likely to occur as connected actions as 1,474 MW (EIR Section A.3, Table A-6 and Section B, Table B-22).

## Transmission Planning Process as it Relates to Project-level Environmental Review

Comments related to RPS compliance are based on the position that the agency-defined Basic Project Objectives in the EIR, and the Phased Build Alternative, do not reflect the portfolios of renewable energy resources that are used in the transmission planning process. These comments generally assert that the Phased Build Alternative would not support meeting goals in excess of the 33 % RPS, which was the California standard for 2020 at the time of SCE’s application filing and at the time the Draft EIR/EIS was published (August 2015). Some comments note and recognize that the Draft EIR/EIS analysis was prepared and released before a higher 50 % RPS delineated in Senate Bill 350 (the Clean Energy and Pollution Reduction Act of 2015, SB 350) became law, as it was signed by the Governor on October 7, 2015. The comments claim that the EIR treatment of Basic Project Objective 2 does not align with the CAISO’s and CPUC’s processes for identifying and approving “public policy driven” transmission projects.

The CAISO’s most-recent transmission plan, Board-approved on March 27, 2015, summarizes how portfolios of plausible renewable energy development are used as a means of the “least-regrets” transmission additions at the planning level, as follows:

*The ISO’s transmission planning process has balanced the need for certainty by generation developers as to where this transmission will be developed with the planning uncertainty of where resources are likely to develop by creating a structure for considering a range of plausible generation development scenarios and identifying transmission elements needed to meet the state’s 2020 RPS. Commonly known as a least regrets methodology, the portfolio approach allows the ISO to consider resource areas (both in-state and out-of-state) where generation build-out is most likely to occur, evaluate the need for transmission to deliver energy to the grid from these areas, and identify any additional transmission upgrades that are needed under one or more portfolios (CAISO 2014-2015 Transmission Plan, pp. 8-9).*

The CPUC’s long-term procurement proceeding (LTPP) is the forum for developing the portfolios that are transmitted to CAISO for the transmission plan. While the CAISO transmission plan uses renewable energy portfolios that are developed through a CPUC planning-level proceeding, the transmission plan does not limit the CPUC from exploring project alternatives within the project-level environmental review. As described in General Response GR-1 (Project Need), each individual transmission element that is the subject of an application for a CPCN must be independently evaluated, and General Response GR-2 (Agency-defined Basic Project Objectives) shows that the scope of alternatives in the environmental review must not be unduly limited.

## Renewable Energy Resources Portfolios in the Transmission Planning Process

Since 2010, annual transmission planning in the jurisdiction of CPUC and CAISO has followed the collaborative “Revised CAISO Transmission Planning Process” (see CAISO letter, Comment Set B9). A Memorandum of Understanding (MOU) was signed by the CPUC and CAISO in May 2010 to formalize coordination between the Revised CAISO Transmission Planning Process and the CPUC’s transmission siting, permitting and the long-term transmission planning processes. The MOU outlined how the CAISO considers and incorporates portfolios of generation scenarios from the CPUC’s LTPP process in order to capture renewable energy growth consistent with state policies and 33 % RPS goals, as part of the annual CAISO Transmission Plan. The CPUC would then give substantial weight in its siting assessment to project applications that are consistent with the CAISO transmission plan. The 2010-2011 Transmission Planning Process and Transmission Plan, dated May 18, 2011, described this process and reflected the first cycle of CAISO’s studies of “public policy driven” renewable resource portfolios and the necessary transmission.

The 2010-2011 Transmission Planning Process occurred after the CAISO made its initial identification and recommendation of the West of Devers Upgrade Project to accommodate 2,200 MW of interconnection requests. Therefore, the Proposed Project predates the first implementation of the Revised CAISO Transmission Planning Process that was established in 2010.

Because the West of Devers Upgrade Project was originally designed for the purpose of fulfilling certain LGIAs (as described in EIR Section A.2.1.4), the 2010-2011 Transmission Plan and subsequent CAISO Transmission Plans define the Proposed Project as a “base case” transmission addition. As a base case project, under the Revised CAISO Transmission Planning Process outlined in the May 2010 MOU, the Proposed Project did not appear to be identified by CAISO as a “specific needed transmission facility” for unconditional approval under the least-regrets principle<sup>2</sup> (Category 1 per the May 2010 MOU). Instead, the Proposed Project was incorporated as a base case project into the 2010-2011 Transmission Planning Process and subsequent plans. In contrast, the 2010-2011 Transmission Plan did specifically identify the Path 42 and Mirage-Devers Upgrades in conjunction with the WOD Interim Solution as “needed” under the least-regrets principle (Category 1). The 2013 West of Devers Interim Project (EIR Section B.1.1) was installed for the LGIAs, and the “policy-driven” Path 42 and Mirage-Devers Upgrade projects subsequently moved forward towards commercial operation.

Because the West of Devers Upgrade Project predates the Revised CAISO Transmission Planning Process described in the May 2010 MOU and the 2010-2011 Transmission Plan, the Proposed Project technically predates the ability to be formally categorized as a “policy-driven” transmission addition necessary for RPS. Given its origin as a transmission addition driven by LGIAs, the EIR team properly treated the Proposed Project as a “facility that may be needed depending on the course of future generation development” (Category 2 per the May 2010 MOU).

As noted above, Basic Project Objective 2 simply considers whether potential project alternatives would facilitate progress toward achieving renewable energy goals. The overall need to accommodate the full breadth of public policy-driven renewable energy portfolios is not defined in the EIR or with Basic Project Objective 2. The EIR team recognizes that each individual transmission element that is the subject of an application for a CPCN must be independently evaluated within the CPUC general proceeding, as discussed in General Response GR-1 (Project Need). In this context, the EIR team developed the Phased Build Alternative by focusing on the potential level of generation under development (see Basic Project Objective 1) and whether the alternative would facilitate an unspecified level renewable energy growth.

The EIR does not evaluate whether the alternative is needed as a policy-driven transmission addition or whether it should accommodate some prescribed level of development beyond the basic project objectives in light of the CPUC’s renewable energy portfolios. These determinations are appropriately explored in the CPUC General Proceeding. The CPUC evidentiary hearing for the Proposed Project allows all parties to address the topic of the need.

### **Achieving California’s Future Renewable Energy Goals**

SCE filed its CPCN application on October 25, 2013. The CEQA Notice of Preparation (NOP) for the Draft EIR/EIS was published in May 2014 and the NEPA Notice of Intent (NOI) was published in July 2014. The

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<sup>2</sup> The “least-regrets principle” allows CAISO to find potential policy-driven solutions to identify those transmission elements that should be approved as Category 1 or Category 2 transmission elements. The May 2010 MOU states that the transmission plan “will distinguish between Category 1 facilities, which merit unconditional approval based on the concept of ‘least regrets,’ versus Category 2 facilities which may be needed depending on the course of future generation development.”

analysis in the Draft EIR/EIS was focused on compliance with the 33% Renewable Portfolio Standard (RPS) that was in place at the time that the application and Draft EIR/EIS were prepared. However, since that time the state legislature and the Governor have implemented a higher RPS requirement. While the EIR focuses on the requirements in place at the time of the NOP/NOI, it appears useful to present a summary of the RPS and energy-saving components of the new law.

On October 7, 2015, Governor Edmund G. Brown Jr. signed the Clean Energy and Pollution Reduction Act of 2015 (Senate Bill 350). With SB 350, California expanded the specific set of objectives to be achieved by 2030, with the following:

- To increase from 33 percent to 50 percent, the procurement of our electricity from renewable sources.
- To double the energy efficiency savings in electricity and natural gas final end uses of retail customers through energy efficiency and conservation.

SCE and some other parties, notably Palen Solar Holdings, claim that major transmission system additions like the Proposed Project are the key to satisfying the California's renewable energy goals, and that future expanded transmission capacity is practically certain to be needed within the corridor. For example, SCE (Comment F1-16) states that the demand for more transmission infrastructure to meet these evolving State policy goals is "inevitable." However, it is not inevitable that the West of Devers corridor will be the focus of this future need for transmission. While the 33% RPS requirements have been a primary driver of the development of large solar projects in eastern Riverside County, a continuation of this same trend may not be the automatic result of SB 350. This law has broader energy requirements, and ties to other energy policy changes now underway.

Some examples of policy changes that will influence how California achieves future renewable energy goals are:

- SB 350 includes other provisions that broaden California's energy demand, placing a priority on energy efficiency and distributed generation resources. This implies that urban load centers may be able to reduce demand and distributed generation closer to load allows a reduced reliance on utility-scale renewables such as those being developed in eastern Riverside County.
- The CPUC's RPS Calculator (Version 6.1) indicates that other areas of California (e.g., Westlands Water District in the San Joaquin Valley, Solano County, etc.) can provide high value renewable energy potential in areas with existing transmission.
- Energy-only functionality embedded in RPS Calculator Version 6.1 allows prudent planning in moving away from the assumption that all renewable resources would seek "deliverability" through "Full Capacity Deliverability Status" (FCDS) contracts that have historically driven the need for bulk transmission system additions.
- A growing emphasis on Preferred Resources (i.e., mix of energy efficiency, demand response, renewable distributed generation, and energy storage), which can reduce the reliance on bulk transmission<sup>3</sup> — as evidenced by the SCE Preferred Resources Pilot (PRP) program described in SCE's Distribution Resources Plan filed with the CPUC on July 1, 2015.

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<sup>3</sup> For example, as noted by CPUC President Picker (in R.14-08-013; 2/6/2015): "A significant component of the [distributed energy resources] net benefit calculation will be whether deeper penetration of DER in a particular location or on a specific feeder will be able to provide an alternative to the most costly upgrades of distribution (or eventually transmission) facilities that might otherwise be necessary to meet load. The deferral or avoidance of network upgrades may, in fact, offset much of the expected costs of accommodating new customer-side resources."

Finally, the CPUC and CEC have agreed to start a process for a second Renewable Energy Transmission Initiative (RETI), called “RETI 2.0.” This process was kicked off in a Joint Agency Workshop on September 10, 2015, and will define areas of current likely renewable development and the likely locations of transmission required to support it. This process is being started within the context of Federal and CAISO trends toward regional exchanges of electricity (via an Energy Imbalance Market and the transformation of the CAISO into a regional organization via SB 350) and regional GHG benefits (via SB 350 and the Federal Clean Air Act Section 111(d) Clean Power Plan).<sup>4</sup> One potential result of these trends would be to facilitate regional benefits by delivering surplus renewable energy from the Riverside East zone to the east, into Arizona.

## **GR-4. Analysis of Potential Future Construction under the Phased Build Alternative**

**Responding to comments from:** SCE (Comment F1-12, F1-13, and Comment F2-9); CAISO (Comment B9-10).

These comments similarly assert that the EIR improperly excludes descriptions and impact analyses of potential future phases from the environmental analysis of the Phased Build Alternative. The comments also request additional information on the potential future construction that would further increase the capacity of the WOD corridor, and the potential additional environmental impacts that may result.

The EIR demonstrates that the Phased Build Alternative would adequately allow for future capacity expansion within the existing ROW, which could be achieved through additional reconducting of newly constructed facilities and/or replacement of the retained double-circuit structures, if needed (EIR Appendix 5, Section 4.4). Although the EIR notes that the future capacity expansion of the corridor could occur with the Phased Build Alternative, this is not part of the description of this alternative because the need for such future expansion is not yet foreseeable. The EIR description of the Phased Build Alternative shows that it allows for the import of generation from all the reasonably foreseeable generation projects defined within the CAISO 2024 Reliability Base Case.

The need to add future capacity to the corridor depends on the outcome of determination on the overall level of need for the Proposed Project to be determined in the CPUC General Proceeding. If and when the CPUC decides the need for such an expansion is valid, the EIR discloses that certain expansions could be implemented later, building upon the initial components of the Phased Build Alternative.

The approach taken by the EIR reflects and complies with the principles set forth by the California Supreme Court in *Laurel Heights Improvement Assn. v. Regents of University of California*, 47 Cal.3d 376,

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<sup>4</sup> For example, as noted by CPUC President Picker and CEC Chair Weisenmiller (in RETI 2.0 kickoff letter to CAISO; 7/31/2015): “EPA’s pending [now final on August 3, 2015] regulations (111(d)) will encourage greater communication across the west. This presents many opportunities to take advantage of resource diversity as well as regional balancing of electricity. For example, through the Energy Imbalance Market, the CAISO has been able to sell cheap, low-carbon, excess power to other states in the west, which has resulted in lower greenhouse gas emissions for those states and reduced the need to curtail the resource in our state. For many states in the west (due to when the sun sets), their electricity consumption typically peaks two hours earlier than California does, through a regional market that can be taken advantage of and California can deliver clean solar power that is in excess to them. There are similar advantages in the western wind industry. Much of the Midwest and Great Plains wind resources tend to have the highest production during the 5:00 pm to 9:00 pm PST range, which is when load is greatest for California. California could take advantage of the low-cost, renewable energy with a more interconnected regional market in the West.”

396 (1988). In that case, the court announced a two-part legal test for when an EIR for a proposed project must describe and include analysis of the environmental effects of either a “future expansion” of the proposed project or some “other action” that is a reasonably foreseeable a consequence of the proposed project. For the West of Devers Upgrade Project, the environmental analysis of the Proposed Project describes what could happen if a large-enough need to expand the corridor is presently evident.

The EIR demonstrates, based on substantial evidence, that the need to expand the transmission capacity of the corridor is not currently a reasonably foreseeable consequence of the Proposed Project or any of its alternatives. This means that the EIR need not include environmental analysis of the potential impacts of such “future expansion” of the Phased Build Alternative because the need for such an expansion is not reasonably foreseeable at this time. The EIR fully discloses the environmental impacts of the Proposed Project because it is the project proposed by SCE and adequately describes and provides a comparative analysis of all project alternatives, including the Phased Build Alternative. If new information becomes available to the CPUC during its review of the West of Devers Upgrade Project demonstrating that transmission capacity beyond that to be accommodated by the Phased Build Alternative has become a reasonably foreseeable consequence of project approval, then it would have the discretion to deem the Phased Build Alternative infeasible and the Proposed Project could be approved as analyzed.

As noted in General Response GR-1 (Project Need), the EIR does not determine or define a specific level of need for the Proposed Project or any alternative to the project. These determinations are appropriately explored in the CPUC General Proceeding.

## GR-5. Property Values

**Responding to comments from:** Arrowhead Orthopaedics (Comment B3-3); Joe M. Rose (Comment E1-1); and David Doherty (Comment E29-4).

Several commenters expressed concerns about the effect of the Proposed Project and/or alternatives on property values. A discussion of impacts on property value can be found in Section D.8 (Socioeconomics and Environmental Justice), at Section D.8.3.3 (Impacts and Mitigation Measures). See in particular the discussion for Impact SE-5 (Construction of the project could adversely affect property values), where a review of pertinent literature on the subject is provided. The EIR analysis concludes that there are no definitive answers about whether and to what degree the presence of a transmission line may affect property value.

Under NEPA, effects on property value are a consideration as socioeconomic effects. They are not considered under CEQA. CEQA Guidelines § 15131(a) states that economic or social effects of a project shall not be treated as significant effects on the environment, and these effects only need to be considered in a chain of cause and effect if they would result in a physical change to the environment that was caused in turn by the economic or social changes.

Claims of diminished property value through decreased marketability are based on the reported concern about hazards to human health and safety and increased noise, traffic, and visual impacts associated with living in proximity to unwanted land uses such as power plants, freeways, high voltage transmission lines, landfills, and hazardous waste sites.

Studies of the impact of power lines on property values have produced mixed findings. A recent publication, *Towers Turbines and Transmission Lines Impact on Property Value* (Bond, et al., 2013) provides a comprehensive review of decades of studies of high-voltage transmission lines, cell towers, and wind farms in various countries. In particular, Chapter 6 of the book reviews high-voltage overhead transmis-

sion line studies in North America. Although concerns may arise with regard to effects on the value of businesses or vacant land, the emphasis here is on residences.

Three possible effects have been claimed, singly or in combination, as potential contributors to reduced market value:

- **Diminished Price**, which is identified by comparing prices of units that are proximate to power lines with prices of similar and competitive properties more distant from power lines.
- **Increased Marketing Time** – Even when proximate properties sell at or near the same prices as more distant properties, claimants argue that proximate properties take longer to sell. Such increased marketing time can represent a loss to the seller by deferring receipt, availability, and use of sale proceeds.
- **Decreased Sales Volume** – A more subtle indicator of diminished property value if potential buyers decide not to buy in the impact area. A measurable decrease in sales volume in the impact area compared with sales volume in the control area where otherwise similar properties purportedly still are selling can represent evidence of decreased market value from proximity to the high voltage transmission lines (or claimed hazard).

A 2003 Electric Power Research Institute (EPRI) study, “Transmission Lines and Property Values: State of the Science,” stated that differences in location and time of data collection, as well as research design, make direct comparisons of results from the various studies very difficult. Although quantitative generalizations from studies cannot be reliably made, the following conclusions from studies seem to be similar across numerous studies:

- There is evidence that transmission lines have the potential to decrease nearby property values, but this decrease is usually small.
- Lots adjacent to the ROW often benefit, because they have open space next to them; lots next to adjacent lots often have value reduction.
- Higher-end properties are more likely to experience a reduction in selling price than lower-end properties.
- The degree of opposition to an upgrade project may affect size and duration of the sales-price effects.
- Setback distance, ROW landscaping, shielding of visual and aural effects, and integration of the ROW into the neighborhood can significantly reduce or eliminate the impact of transmission structures on sales prices.
- Although appreciation of property does not appear to be affected, proximity to a transmission line can sometimes result in increased selling times for adjacent properties.
- Sales-price effects are more complex than they have been portrayed in many studies. Even grouping adjacent properties may obscure results.
- Effects of a transmission line on sales prices of properties diminish over time and all but disappear in five years.
- Opinion surveys of property values and transmission lines may not necessarily overstate negative attitudes, but they understate or ignore positive attitudes.
- The release of findings from the Swedish study on EMF and health effects had no measurable influence on sales prices.

As discussed above, concerns regarding effect on property values typically result from visual impacts, or health and safety concerns such as EMF. Implementation of mitigation measures in Section D.18 (Visual Resources), such as Mitigation Measures VR-9a (Treat structure surfaces) would reduce the visual impacts of the project by reducing contrast and reflectance. Also, if adopted, the Phased Build Alternative and the Tower Relocation Alternative would locate certain transmission structures in Segments 4, 5, and 6 of the project farther from existing homes than would be the case under the Proposed Project. In addition, the CPUC has implemented a decision requiring utilities to incorporate “low-cost” or “no-cost” measures for managing EMF from power lines. These measures for mitigation of magnetic fields would be incorporated into the Proposed Project and may help to reduce perceived health effects of transmission lines that would adversely affect property values.

## **GR-6. Electric and Magnetic Fields (EMF)**

**Responding to comments from:** Arrowhead Orthopaedics (Comment B03-2); Joe M. Rose (Comment E01-1); Michael Gilbert (Comment E10-1).

Commenters were concerned about the public health effects of EMF from transmission lines as they relate to the Proposed Project and alternatives. The EIR addresses EMF in Section B.5 (Electric and Magnetic Fields Management) as it pertains to 220 kV transmission and 66 kV subtransmission lines. SCE’s EMF Field Management Plan is included in Appendix 4 of the EIR. This response includes the following topics:

- Approach to EMF Assessment and Studies about EMF Health Impacts
- Levels of EMF Exposure
- Methods to Reduce Magnetic Fields

### **Approach to EMF Assessment and Studies about EMF Health Impacts**

The CPUC and BLM recognize that there is a great deal of public interest and concern regarding potential health effects from exposure to electric and magnetic fields (“EMF”) from power lines. To address public concerns about EMF, the EIR provides information regarding EMF associated with electric utility facilities and the potential effects of the Proposed Project and the Alternatives related to public health and safety. Section B.5.1 of the EIR summarizes the results of scientific review panels that have considered the body of EMF health effects research. As the EIR explains, potential health effects from exposure to electric fields from power lines is typically not of concern since electric fields are effectively shielded by materials such as trees, walls, etc. Therefore, the information in Section B.5 of the EIR related to EMF focuses primarily on exposure to magnetic fields from power lines. However it does not consider magnetic fields in the context of CEQA, NEPA, or the determination of environmental impacts. This is because there is no agreement among scientists whether exposure to EMF creates a potential health risk and because there are no defined or adopted CEQA or NEPA standards for defining health risk from EMF. The correlation between proximity to high voltage power lines and increased leukemia and other cancer rates has been found to be true in some scientific studies and is supported by anecdotal evidence, but has not been found to be true in other studies nor has it been proven in laboratory experiments.<sup>5</sup> As a result, EMF information is presented in response to public interest and concern. Disclosure of such information is consistent with the EIR’s role as “an informational document.” (Pub. Res. Code § 21061; see also 42 U.S.C. § 4321.)

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<sup>5</sup> Rob Smerling, Harvard Health Publications. *Power lines and your health*. 2008. <http://health.msn.com/health-topics/cancer/articlepage.aspx?cp-documentid=100202335&page=2>. May 2008.

For more than 20 years, questions have been asked regarding the potential effects within the environment of EMFs from power lines. Early studies focused primarily on interactions with the electric fields from power lines. In the late 1970s, the subject of magnetic field interactions began to receive additional public attention and research levels increased. A substantial amount of research into the health impacts of electric and magnetic fields has been conducted over the past several decades; however, much of the body of national and international research regarding EMF and public health risks remains contradictory and inconclusive.

In 1993, the CPUC implemented decision D.93-11-013<sup>6</sup> that requires the utilities use “low-cost or no-cost” mitigation measures<sup>7</sup> for facilities requiring certification under General Order 131-D.<sup>8</sup> This decision is precautionary in nature and was implemented in recognition that “[i]n the absence of a final resolution of the question of such impact...the best response to EMFs is to avoid unnecessary new exposure to EMFs if such avoidance can be achieved at a cost which is reasonable in light of the risk identified.” (52 CPUC2d 1, 2.) The decision directed the utilities to use a four percent benchmark on the low-cost mitigation. The decision also implemented a number of EMF measurement, research, and education programs, and provided the direction that led to the preparations of a DHS study described in Section B.5.1.

Most recently the CPUC issued Decision D.06-01-042,<sup>9</sup> on January 26, 2006, affirming the low-cost/no-cost policy to mitigate EMF exposure from new utility transmission and substation projects. This decision also adopted rules and policies to improve utility design guidelines for reducing EMF. The CPUC stated “at this time we are unable to determine whether there is a significant scientifically verifiable relationship between EMF exposure and negative health consequences.” The CPUC has not adopted any specific limits or regulation on EMF levels related to electric power facilities.

As stated in the article “Power Lines and Your Health,” encounters with electric and magnetic fields occur on a daily basis and it is still not possible to say with certainty if these impacts are negative, positive or negligible.<sup>10</sup> Reports from major research centers in at least nine countries have come to similar conclusions that there is no compelling evidence of any health hazard from power lines and that if power lines do have any effect on human health, it is small. They do, however, support continued research to look for even small effects on health.

### Levels of EMF Exposure

Sections B.5.2 and B.5.3 of the EIR presents the existing and estimated EMF levels from SCE’s Proposed Project. For the existing overhead 220 kV line configuration, magnetic fields are shown as ranging from 22.3 to 75.0 milliGauss (mG) on the west or north edge of the ROW and from 21.0 to 72.6 mG on the east or south edge of the ROW. For the proposed overhead 220 kV line configuration with phasing and increased conductor heights, magnetic fields are shows as ranging from 0.4 to 56.1 mG on the west or north edge of the ROW and from 2.2 to 68.6 mG on the east or south edge of the ROW. Tables B-18 and B-19 show the existing and estimated magnetic field levels along the corridor, respectively.

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<sup>6</sup> <http://www.cpuc.ca.gov/Environment/emf/emfopen.htm>. Accessed May 2008.

<sup>7</sup> The mitigation measures discussed here are precautionary in nature and are not “mitigation measures” within the context of CEQA or NEPA.

<sup>8</sup> General Order 131-D is entitled “Rules Relating to the Planning and Construction of Electric Generation, Transmission/Power/Distribution Line Facilities and Substations Located in California.”

<sup>9</sup> [http://docs.cpuc.ca.gov/PUBLISHED/FINAL\\_DECISION/53181.htm](http://docs.cpuc.ca.gov/PUBLISHED/FINAL_DECISION/53181.htm). Accessed May 2008.

<sup>10</sup> Smerling, *op. cit.*

The public routinely experiences exposure to EMF in the community from sources other than electric transmission lines and substations. Research on ambient magnetic fields in homes and buildings in several western states found average magnetic field levels within most rooms to be approximately 1 mG, while in a room with appliances present, the measured values ranged from 9 to 20 mG (Severson et al., 1988, and Silva, 1988). Immediately adjacent to appliances (within 12 inches), field values are much higher and can range from 3 to 20,000 mG.

Outside of the home, the public also experiences EMF exposure from the electric distribution system that is located throughout all areas of the community. Estimates of the magnetic field exposures to the public from overhead 12.5 kV distribution lines range from 22mG directly below the lines, to 8 mG at 40 feet from the lines, and 2 mG at 100 feet from the lines. In areas of underground distribution, which typically occurs in residential areas, the 12.5 kV circuits are not buried as deeply as transmission lines, and are not arranged to optimize field cancellation. The estimated fields for underground distribution lines range from 31 mG directly above the line, 4 mG 40 feet from the line, and 1.9 mG 100 feet from the line.<sup>11</sup>

### **Methods to Reduce Magnetic Fields**

As discussed in Section B.5.1 of the EIR, magnetic fields can be reduced either by cancellation or by increasing distance from the source. Cancellation is achieved in two ways. A transmission line circuit consists of three “phases”: three separate wires (conductors) on a transmission tower. The configuration of these three conductors can reduce magnetic fields. First, when the configuration places the three conductors closer together, the interference, or cancellation, of the fields from each wire is enhanced. This technique has practical limitations because of the potential for short circuits if the wires are placed too close together. There are also worker safety issues to consider if spacing is reduced. Second, in instances where there are two circuits (more than three phase wires), such as in most 220 kV portions of the Proposed Project, cancellation can be accomplished by arranging phase wires from the different circuits near each other. In underground lines, the three phases are typically much closer together than in overhead lines because the cables are insulated (coated), but field cancellation still occurs.

The distance between the source of fields and the public can be increased by either placing the wires higher aboveground, burying underground cables deeper, or by increasing the width of the ROW. For transmission lines, these methods can prove effective in reducing fields because the reduction of the field strength drops rapidly with distance.

### **SCE’s Proposed EMF Mitigation**

In accordance with CPUC Decisions D.93-11-013 and D.06-01-042, SCE evaluated “no-cost” and “low-cost” magnetic field reduction steps for the proposed transmission and substation facilities for facilities requiring certification under General Order 131-D.<sup>12</sup> Appendix 4 (Field Management Plan) presents details of the EMF Plan proposed by SCE. Specific measures to reduce EMF which SCE has proposed in its plan for inclusion in the Proposed Project are summarized below:

- Utilize subtransmission structure heights that meet or exceed SCE’s EMF preferred design criteria,
- Utilize underground subtransmission construction for crossing other transmission structures and other engineering reasons,

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<sup>11</sup> Washington State Department of Health. *Electric and Magnetic Field Reduction: Research Needs*. January, 1992.

<sup>12</sup> General Order 131-D, *op. cit.*

- Utilize double-circuit construction that reduces spacing between circuits as compared with single-circuit construction,
- Utilize taller structure heights or increased conductor ground clearance where the proposed transmission lines run adjacent to populated areas, and
- Arrange conductors of the proposed transmission lines for magnetic field reduction (“phasing”).

Final engineering and selection of the alignment of the line would include seeking opportunities to strategically place the line farther from sensitive land uses, where feasible.

Additional information regarding EMF and Proposed Project can be found in Appendix B of SCE’s CPCN application (A.13-10-020). SCE’s CPCN application and Proponent’s Environmental Assessment are available for public review at the CPUC Energy Division CEQA Unit and on the project website at:

<http://www.cpuc.ca.gov/environment/info/aspn/westofdevers/westofdevers.htm>

If the project or an alternative is approved by the CPUC in a decision, SCE would prepare and submit to the CPUC a Final EMF Management Plan containing the precise EMF measures to be employed for the project. This CPUC decision could include certain specific requirements for the final EMF Plan based on consistency with the adopted SCE EMF Guidelines.

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